

# **Analysis of Relationship Bbetween Individual Characteristics and Personality Dimensions with unsafe action in PT. Gunawan Dianjaya Steel Tbk. Surabaya**

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**Abstract-** Workplace accidents are generally caused by two major issues: unsafe behavior or unsafe act and unsafe conditions. Efforts to control work accidents can be done either by administrative phases in the hierarchy of controls, in compliance with the standard working procedure. Someone behaving is influenced by internal and external determinantal factors, one of which is personality. The purpose of this study was to analyze the relationship between individual characteristics and personality dimensions with unsafe action. This study was conducted in 2016. This study uses a quantitative method with cross sectional approach. The population in this study consisted of 39 respondents and obtained a sample of 36 respondents. The results of this study showed that there is a relationship between individual characteristics and personality dimensions with unsafe action of workers. The results showed that companies need to conduct safety training on a regular basis, arrange the tool box meetings and conduct safety patrols on a regular basis to remind workers to comply with the working procedure.

**Index Terms-** Keyword1, keyword2, keyword3 (Separate Index Terms with semicolon).

## **1. INTRODUCTIONS**

Workplace accidents are generally caused by 2 major issues: unsafe behavior or unsafe act and unsafe condition. Heinrich (1980) said statistically the cause of the work accident caused by the dangerous act (unsafe action or substandard action) of 88 %, a dangerous condition (unsafe condition) by 10% and fate or destiny (act of god) of 2 %. Bird theory said that repeated near miss and mostly caused by unsafe act or unsafe behavior can increase risk of work accident more serious. According to DuPont (2005) accidents that had occurred caused by 96% unsafe act and unsafe condition of 4%.

Efforts to control work accident can be done by concerning a hierarchy of control consisting of engineering control, administrative control, and personal protective equipment. One of the stages of administrative control are applying standard working procedure which is a guidance in the work process with concern about aspects of occupational health and safety. Working procedures or known as standard operational procedure (SOP). Working Procedures is a specific safety behavior toward a work environment. Obedience following work procedures are important role of creating safety at work. Basically non-compliant behavior towards the working or operation procedure, such a run a machine or equipment without authority, ignoring warning and security, mistake, hasty when operate equipment, not using personal protective equipment and repair equipment when it is being moved or in other words not following a working procedures.

Behavior that is on an individual or organism not arising by itself, but as a result of a stimulus received by organism concerned, either external stimulus and internal, but in giving a response to stimulus is highly depend on characteristic or other factors of a person concerned. The behavior determinant can be divided into two, namely internal determinant like the intelligence of education obtained, sex, knowledge, physical activity, perception, and attitude. Next determinant is external determinant such as social environment, culture, economic, work, and other (Notoatmodjo, 2007). One of internal determinant behavior is personality.

Personality is a typical parts of every individual. This is the difference between one individual by other individuals. According to Feist & Feist (2009) personality is a pattern of nature that being relatively settled and unique characteristics, giving consistency and individuality on a person behavior. While the nature (trait) showed individual differences in behave, behavior that the consistency of all time, and behavior stability in many situations.

Wood, Wood, and Boyd (2005) explain that the most common used theory of the personality is the Big Five Personality theory. Big Five personality is personality with the trait approach supported by deep research and the result personality can be observed in five dimensions namely neuroticism (anxiety), extraversion (social inclusion), agreeableness (respect to the other) , openness to experience (openness against new things) and conscientiousness (regularity). Basically, within individual there are all dimensions of

personality, but there are specific dimensions that are more dominant than the other dimensions which will give a description of the nature of individual behavior.

Research conducted by Hayati (2004) produce that there is a relationship between internal and external factor level of compliance to the implementation of the working procedures (SOP) on welding workers PT. Krama Yudha Ratu, getting results 60,4 % of workers not obey to the implementation of SOP. One of the internal factor that affects inside of this research is personality. In addition, another research conducted by riyadi (2005) about the factors which related with the compliance of operators workers in following procedures, produce that there are several factors that affect compliance one of them is personality.

According to the results of several study, one of factor that related with unsafe behavior on workers particularly associated with compliance to work procedures that is the internal determinant of individual behavior factor such as knowledge and personality. This proved that the internal determinant have influence or related to safe and unsafe behavior of individuals.

## 2. METHODS

This study used a cross-sectional study design. The population in this research is workers from mechanical division and gas cutting plate division in PT.Gunawan Dianjaya Steel Tbk. Surabaya a number of 39 people. In this study, sampling techniques using stratified random sampling technique, since sampling done by considering the members of the population strata that exist in the population. The sample in this study is 36 workers. Techniques of data retrieval is done by using filling the questionnaire. Unsafe action is the dependent variable and individual characteristics and dimension of personality are the independent variable. Logistic regression analysis is used to determine the relationship between individual characteristics, dimension of personality with unsafe action of workers. Therresults were considered statistically significant if the p-value of <0.05.

## 3. RESULT

Based on the data in Table 1 it is known that the respondents consisted of 21-50 years of age were included in the population who are of working age. The minimum education level of respondents are junior high school which may mean that respondents are able to analyze and evaluate information and regulations applicable in the working environment of respondents. The tenure of the large respondents over 10 years so as to understand the working procedures each division of the company.

Tabel 1. Characteristics of Respondent in PT. Gunawan Dianjaya Steel Tbk. Surabaya 2016

Characteristics of Respondents	Frequency	Percentage (%)
<b>Age</b>		
<b>21-30 years</b>	2	5.6
<b>31-40 years</b>	6	16.7
<b>41-50 years</b>	28	77.8
<b>Working Time</b>		
<b>1-10</b>	2	5.6
<b>11-20</b>	5	13.9
<b>&gt;21</b>	29	80.6
<b>Level of Education</b>		
<b>Junior High School</b>	1	2.8
<b>Senior High School</b>	33	91.7
<b>Bachelor Degree</b>	2	5.6

Relations dependent and independent variables are shown in Table 2. The relationship of these variables are viewed using logistic regression test values.

Tabel 2. Relationship between Knowledge, Training and Personality With Unsafe Action

Variable	r	Significance
<b>Knowledge</b>	0,573	0,0001
<b>Training</b>	0,551	0,0001
<b>Personality</b>	-0.414	0.012

According to the table three statistically independent variables and the dependent variable has a significant relationship with the p value 0.0001 <0.05.

## 4. DISCUSSION

According to H.W. Heinrich in the occurrence of work accident influenced by 2 (two) direct causes, that is unsafe action (the act of unsafe) and unsafe condition (insecure condition). The act of unsafe is an act that does not fulfill safety so that caused risk for work accident (Ramli, 2010). Insecure condition is a condition of insecure environment and caused risk for work accident. A study conducted by Heinrich 1928 on 75 thousand cases of an industrial accident obtained 88% caused by the act of unsafe, 10% by insecure condition and 2% unavoidable such as a natural disaster (Ramli, 2010).

Unsafe action in a work process can be reduced by making program of occupational safety and health by the company. The programs can be formed into safe behavior on workers. Safe behavior influenced by individual factors and workplace. Safe behavior can avoid accidents. Safe behavior also able shows a value, beliefs and attitude toward workers safety (Suma'mur,2009).

Characteristic and personality workers have a role in making decisions and behave of a person, one of them is doing unsafe action while working. Unsafe acts of workers is crucial in determining safety in the

workplace. Unsafe action in this research that worker compliance to Standard Operating Procedure (SOP).

The results of correlation analysis shows that knowledge has a correlation with the unsafe action, with a correlation coefficient of 0.573. This indicates that the strength of the correlation between knowledge and the unsafe action has the strength of the medium correlation (Sugiyono, 2010). Therefore, the better the knowledge workers of the safety, the better workers safe action.

Knowledge possessed by a person is a factor that was instrumental in interpreting stimulus obtained. Knowledge is the result of human senses or result to know a person against an object through its senses through the eyes, the nose, ears, and so on. Workers are able to identify the dangers through the sensing. Therefore, workers with good knowledge can avoid accidents both on themselves and others (Notoatmodjo, 2007).

The results of this research in line with the research from Septiana (2014), which resulted that there is a significant relationship between knowledge and unsafe action. This is consistent with a statement declaring that the behavior based on knowledge will be more lasting than the behavior that is not based on knowledge, and each person's behavior is determined by knowledge (Maulidhasari, 2011).

Meanwhile, according Notoatmodjo (1993) training is one of the educational process, through training learning goals will gain experience that would eventually result in behavioral changes. Pierewan (1999) states that the training is effective in improving the ability of the trainees, because the learning process. And according to Green (1980) training can improve their knowledge and skills.

The results of the correlation analysis indicate that safety training has a correlation with the unsafe action. The more often workers attend training for safety, the lower the unsafe action that occurred. Safety training is used to train the specific knowledge and skills, using of equipment and machinery and working procedures that must be implemented by each worker in order to avoid disruptions or accidents.

The results of the correlation analysis indicate that personality dimensions has a correlation with the unsafe action. Correlation between dimensions of personality with unsafe action produces a negative correlation shown by the negative sign in front of the correlation coefficient is -0.414. Therefore, it can be concluded that there is a significant negative relationship between personality dimensions with unsafe action. The higher the value of personality, the more it will arise unsafe.

The results are consistent with research conducted by Hayati (2004) about the relationship of internal and external factors the level of compliance to the implementation of the working procedures (SOP) on the part of welding workers PT. Krama Yudha

Ratu, getting results 60.4% of workers do not comply with the implementation of the working procedures. One of the internal factors that affect in the study is a personality. In addition other studies conducted by Riyadi (2005) on factors related to the compliance of operators workers in following working procedures, resulted in that there are several factors that influence compliance one of which is personality.

Personality formed in this study most affected by the high neuroticism dimension of 86.6%. Neuroticism is understood as a general tendency to experience negative effects such as fear, sadness, anger, anxiety, guilt and difficult of coping with stress. Neuroticism is described as individuals who have the personality characteristics associated with the problem of negative emotions such as anxiety and insecurity (Feist, J. & Feist, J. G., 2009).

According Pervin (2005), a high score of neuroticism is easy to worry, nervousness, emotional, insecure, inadequate, and easy to panic. That if it appears when doing the work so can lead to unsafe action. The prominence of trait neuroticism on a respondent does not necessarily eliminate the influence of trait Big Five Personality others such as openness to experience, conscientiousness, extraversion and agreeableness, fourth trait will always remain influence of personality of respondents include compliance to the implementation of working procedures individually, just only less appeared when compared with trait neuroticism.

## **5. CONCLUSION**

Based on the results of this study can be concluded that there is a relationship between individual characteristics and personality dimensions with unsafe action. Workers who have a personality that is vulnerable to unsafe action recommended to be rotated at another workplace safer.

## **6. SUGGESTION**

The Company needs to conduct regular training so that workers are always reminded of the hazards in the workplace. In addition, the needed safety meeting or tool box meeting at the time of shift change so that workers can minimize danger at the moment will start the work. And the need for regular safety patrols of the Health Safety & Environment (HSE) division to remind workers to comply with the working procedures in the work.

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