



## THE RELATIONSHIP BETWEEN KNOWLEDGE AND ATTITUDES IN THE USE OF PPE BY MOSAIC CRAFTSMAN

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### ABSTRACT

In the mosaic craftsmen it was found that the craftsmen did not use the correct PPE. The study aims to determine the relationship between knowledge and attitudes in using PPE on the level of work safety in mosaic makers in the Tegallalang sub-district, Bali. This study intends to provide input and information to craftsmen about the Personal Protective Equipment needed when working so that craftsmen are protected. This research is a type of analytic survey research. Based on the tabulation results of 13 mosaic makers who had a low level of knowledge about PPE, 12 people or 66.7% of them did not use complete PPE, 1 person or 14.3% of them wore or used complete PPE. As many as 6 mosaic craftsmen who have sufficient level of knowledge, 5 people or 27.8% of them use incomplete PPE, 1 person or 14% use complete PPE. Meanwhile, 6 mosaic makers who had a good level of knowledge included 1 person or 5.6% using incomplete PPE, 5 using complete PPE. Based on the results of the tabulation, it was found that 15 craftsmen had a negative attitude towards using PPE, 12 people or 66.7% of them did not use complete PPE, 3 of them or 42.9% of them used complete PPE. There were 10 craftsmen who had a positive attitude towards using PPE, 6 people or 33.3% of them did not use complete PPE, 4 people 57.1% used complete PPE. Based on the results of this study, it can be concluded that there is a relationship between knowledge and attitudes with the use of personal protective equipment for mosaic makers in the Tegallalang sub-district, the results obtained that there is a relationship between knowledge and attitudes in using PPE on the level of work safety in mosaic makers in the Tegallalang sub-district, Bali with  $p\text{-value} = 0.002$  but there is no relationship on attitudes with  $p\text{-value} = 0.378$  ( $\rho$  value  $< 0.05$ ).

Keywords: attitude; knowledge; mosaic craftsmen; PPE

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### INTRODUCTION

Various industrial developments in Indonesia in this era of globalization are growing rapidly and are very competitive both nationally and internationally. Moreover, now we are heading to MEA. So any form of industry will compete with intense market demand at home and abroad, giving rise to many small, medium or large scale industries. To be precise, it leads to the handicraft sector made from wood (wood carving). Crafts in Bali are not only wooden crafts, to be precise, Tegallalang sub-district, Gianyar district is a center for making handicrafts made from wood, mosaic glass, fiber glass, iron and other materials. An industry

that is growing rapidly following market share, one of which is mosaic craftsmen. The mosaic handicraft business in Tegallalang District is a small and medium industry that is managed independently, where currently there are three companies that manage mosaic handicrafts in the village. The product raw materials that are often used are glass fiber and glass.

The use of personal protective equipment is the final stage of the method of controlling work-related accidents and diseases. However, the use of personal protective equipment will be very important if technical and administrative controls have been carried out optimally but the potential is relatively high. The large benefits of using personal protective equipment when working does not guarantee that all workers will use it because it turns out that there are still many workers who do not use it. Personal protective equipment is commonly used by workers, but in reality not all workers use it as they should. The effectiveness of using personal protective equipment depends on the workforce itself. There are many factors that influence workers' behavior so that they do not use personal protective equipment provided by the company, including discipline in using personal protective equipment, as well as the attitude of workers who still feel uncomfortable using personal protective equipment (PPE). (Amaludin,2020)

Law number 1 of 1970 concerning work safety, chapter v coaching, article 9 paragraph 1 administrators are required to show and explain to each new worker about the conditions and dangers that can arise in the workplace. All safeguards and protective equipment that required in the workplace. Personal protective equipment for the workers concerned. Ways to behave safely in carrying out work. Minister of Manpower and Transmigration Regulation number PER.08/MEN/VII/2010 concerning Personal Protective Equipment defines personal protective equipment (PPE) as a tool that has the ability to protect a person whose function is to isolate part or all of the body from potential dangers in the workplace. According to OSHA or the Occupational Safety and Health Administration, personal protective equipment or personal protective equipment (PPE) is defined as equipment used to protect workers from injuries or illnesses caused by contact with hazards in the workplace, whether chemical, biological, radiation, physical, electrical, mechanical and others.

Based on the results of a preliminary study of 30 mosaic craftsmen, it was found that the craftsmen did not wear long sleeves, the mosaic craftsmen did not wear long trousers, not all craftsmen wore nose and mouth coverings, not all craftsmen wore gloves, not all workers wore shoes to protect their feet. . Based on the problems above, researchers are interested in further research regarding the relationship between knowledge and attitudes in the use of PPE and the level of work safety among mosaic craftsmen in Tegallalang sub-district, Bali. This research aims to provide input and information to craftsmen about the Personal Protective Equipment needed when working so that craftsmen are protected.

## **METHOD**

This research is a type of analytical survey research. An analytical survey is research that is directed at explaining a condition or situation, with a Correlational approach, namely research in which the relationship between variables that occur in the research object is measured or collected simultaneously at the same time (Notoatmodjo, 2002). Based on the tabulation results of 13 mosaic makers who had a low level of knowledge about PPE, 12 people or 66.7% of them did not use complete PPE, 1 person or 14.3% of them wore or used complete PPE. As many as 6 mosaic craftsmen who have sufficient level of knowledge, 5 people or 27.8% of them use incomplete PPE, 1 person or 14% use complete PPE. Meanwhile, 6

mosaic makers who had a good level of knowledge included 1 person or 5.6% using incomplete PPE, 5 using complete PPE.

## RESULTS

### Descriptive Analysis Results

The subjects in this research were mosaic craftsmen in Pejeng Aji Village, Tegallalang District, Gianyar Regency, Bali. With a total of 25 respondents. Data on the characteristics of the research subjects were recorded including age, length of service and education. The recording results are shown in table 1.

Table 1  
Description of the characteristics of Mosaic Craftsmen

Variable	Mean	Standar Deviation
Age	34,37	7,22
Wprk experience	7,28	3,10

In this study it was found that the mean age of the subjects was  $34.37 \pm 7.22$  years, the working period of the subjects had an average of  $7.28 \pm 3.10$  years, when viewed in terms of age it was in the normal category, while the working period of the subjects was in the quite long category and experienced.

Table 2.  
Description of subject characteristics based on Education

Education	f	%
D1	1	4,0
SMA	10	40
SMP	14	46

Based on the results of this research, it was found that 14 research subjects had junior high school education or 56%, 10 research subjects had a high school education or 40% and 1 person had a D1 education or 4%.

### Knowledge of Mosaic Craftsmen's PPE

This knowledge research was carried out on mosaic craftsmen by measuring PPE knowledge. Based on the research results, the level of knowledge is divided into three categories, namely: poor, sufficient, good. The measurement results can be seen in table 3.

Table 3  
Distribution of subjects based on knowledge of PPE

Knowledge Level	f	%
Not Enough	13	52
Enough	6	24
Good	6	24

The results of this research explain that the majority of subjects had a low level of knowledge regarding the use of PPE, namely 13 people or 52%, 6 people or 24% had a sufficient level of knowledge and 6 people had a high level of knowledge or 24%.

### Mosaic Craftsman's Attitude

In this research, the measurement of mosaic craftsmen's attitudes towards the use of PPE was obtained from the questionnaire. Based on the research results, attitudes are divided into 2 categories: positive and negative. The measurement results can be seen in table 4

Table 4.  
Distribution of Subjects based on Attitudes towards PPE

Attitude Criteria	f	%
Negatif	15	60
Positif	10	40

The results of this research explain that the majority of subjects, namely 15 people or 60% of the craftsmen's attitudes regarding the use of PPE were negative and 10 craftsmen or 40% had a positive attitude.

### Use of Craftsmen's PPE

Based on the research results, most subjects did not use PPE. The measurement results can be seen in table 5 /

Table 5.  
Distribution of Craftsmen based on PPE usage

PPE usage	f	%
Complete	7	28
Incomplete	18	72

The results of this research explained that some of the subjects did not completely use PPE, namely 18 people or 72%, while those who used complete PPE were 7 craftsmen or 28%.

### Bivariate Analysis

The Relationship between Knowledge and the Use of PPE for Mosaic Craftsmen in Tegallalang District

Table 6.  
Relationship between mosaic craftsmen's knowledge about PPE and Use of PPE

Knowledge level	Use of PPE					
	incomplete		Complete		Amount	
	f	%	f	%	f	%
Not enough	12	66,7	1	14,3	13	54,0
Enough	5	27,8	1	14,3	6	24,0
Good	1	5,6	5	71,4	6	24,0

Based on the tabulation results of 13 mosaic craftsmen who had insufficient knowledge of PPE, 12 people or 66.7% of them did not use complete PPE, 1 person or 14.3% of them wore or used complete PPE. A total of 6 mosaic craftsmen had a sufficient level of knowledge, 5 people or 27.8% of them used incomplete PPE, 1 person or 14% used complete PPE. Meanwhile, of the 6 mosaic craftsmen who had a good level of knowledge, 1 person or 5.6% used incomplete PPE, 5 people used complete PPE. Based on analysis with Somers'D, a p-value of 0.002 was obtained, which is smaller than 0.05, which means there is a significant relationship between knowledge and the use of PPE for mosaic craftsmen in Tegallalang sub-district.

### The relationship between attitudes and the use of PPE among mosaic craftsmen in Tegallalang sub-district

Table 7  
The relationship between the attitudes of mosaic craftsmen towards the use of PPE

Attitude	Use of PPE					
	incomplete		Complete		Amount	
	n	%	n	%	n	%
Negatif	12	66,7	3	42,9	15	60,0
Positif	6	33,3	4	57,1	10	40,0
Amount	18	100,0	7	100,0	25	100,0

Based on the tabulation results, it is known that 15 craftsmen have a negative attitude towards the use of PPE, 12 people or 66.7% of the craftsmen do not use complete APT, 3 of them or 42.9% of them use complete PPE. There were 10 craftsmen who had a positive attitude towards the use of PPE, 6 people or 33.3% of them did not use complete PPE, 4 people 57.1% used complete PPE. The p value obtained using the chi square test is 0.378 (p value > 0.05), which means there is no significant relationship between attitude and the use of PPE for mosaic craftsmen.

## **DISCUSSION**

The age of the subjects involved in this research was  $34.37 \pm 7.22$  years old. The average age is within the productive age range, where the sample can carry out activities with optimal physical strength, because a person's physical capacity is directly proportional to age to certain limits and reaches its peak at the age of 25 years (Manuaba, 1998). Age gets attention because it affects a person's physical, mental condition, willingness to work, and responsibility. Young adult workers are believed to be able to build their health by preventing disease or overcoming disease disorders. To carry out these activities, young workers will be more disciplined in maintaining their health. with criteria (1) employees aged 18-40 years, because at this age they are productive and ready to accept activities (Irwanto, 2002), whereas older workers will experience release and freedom in social life (Irwanto, 2002).

Based on the results of research on educational mosaic craftsmen, most of the subjects were junior high school graduates, namely 14 people or 56%. Slamet, (2003) formal education has a big influence in opening insight and understanding of new values in the environment. A person with a high level of education will find it easier to understand the changes occurring in their environment and that person will absorb these changes if they feel they are beneficial for themselves. It is estimated that someone who has received formal education will find it easier to receive and understand health messages through counseling and mass media. Respondents' lack of knowledge about the use of PPE is due to the absence of complete information about occupational safety and health or a detailed explanation of the potential dangers faced at work. (Rukmana,2020). Workers will of course increase the risk of work accidents if compliance with the use of PPE is not implemented. This happens because every day workers are always exposed directly to the environment which causes various types of diseases. One of the factors that influences compliance is knowledge, (Inge,2021). The results of research conducted on mosaic craftsmen in Tegalalang sub-district, the subject's work period was  $\geq 8$  years. 14 people or 56.8%. So that the subject has experience and expertise in working. The longer the subject works, the more experience they gain, whereas for workers who work for a short period of time, their experience will be less

### **Subject Knowledge**

The results of the research conducted show that the majority of craftsmen have a low level of knowledge regarding the correct use of PPE, namely 13 people or 52%, 6 people or 24% have a sufficient level of knowledge and 6 people or 24% have a high level of knowledge. So the results of this study illustrate that although the subject's level of knowledge is considered sufficient and good, their level of awareness of the importance of wearing complete PPE is still low. The reason the subject did not wear complete PPE was due to the subject's lack of knowledge about personal protective equipment and the subject's ignorance about the meaning of personal protective equipment itself. Subjects also did not know the benefits of personal protective equipment.

### **Subject Attitude**

Based on the research results, information was obtained that the majority of craftsmen, namely 15 people or 60% of people's attitude regarding the use of PPE was negative and 10 people or 40% had a positive attitude. Attitude is a person's reaction or response to the stimulus or object they receive. Attitudes are not necessarily actions, but are a predisposition to action (Notoatmodjo, 2003). Most of the subjects in this study had a negative attitude, the negative attitude of the subjects was because they were not used to using PPE or were not used to using it, which led the subjects not to wear PPE, in this case it was also influenced by the craftsmen's discomfort in wearing personal protective equipment.

### **Subject's use of PPE**

Some of the craftsmen did not use complete PPE, namely 18 people or 72%, while those who used complete PPE were 7 people or 28%. Craftsmen have their own thoughts and opinions regarding PPE, such as something obstructing their work and craftsmen feel that wearing full PPE will only disturb work comfort and slow down work. According to the theory put forward by Notoatmodjo (2003), an attitude is not automatically manifested in an action. For an attitude to become a real action, supporting factors or enabling conditions are needed, including facilities. If acceptance of behavior is based on knowledge and attitudes, then the behavior will be lasting.

### **The Relationship between Knowledge and the Use of PPE for Mosaic Craftsmen**

Workers' knowledge in this study was divided into two categories, namely good and poor. It is known that there are workers who lack knowledge and there are still workers who have negative work safety behavior, for example not wearing complete PPE. Good and the higher a worker's knowledge, the better the worker's behavior will be in using PPE during work activities, because workers who have good knowledge know the dangers and risks of not using PPE completely, such as it can cause work accidents and work-related illnesses, so These workers have good behavior in using PPE to avoid risks and dangers that would arise if they did not wear PPE properly. (Ghassani, 2023)

Based on the research results, it shows that there is a significant relationship between knowledge and the use of PPE for mosaic craftsmen in Tegallalang sub-district. This is based on the results of the Somers' D test with a p-value of 0.002 ( $p < 0.05$ ), which means there is a significant relationship between knowledge and the use of PPE for mosaic craftsmen in Tegallalang sub-district. From the research results, it was found that 13 mosaic craftsmen had insufficient knowledge of PPE, 12 people or 66.7% of them did not use complete PPE, 1 person or 14.3% of them wore or used complete PPE. A total of 6 mosaic craftsmen had a sufficient level of knowledge, 5 people or 27.8% of them used incomplete PPE, 1 person or 14% used complete PPE. Meanwhile, of the 6 mosaic craftsmen who had a good level of knowledge, 1 person or 5.6% used incomplete PPE, 5 people used complete PPE.

The results of this research are in accordance with the theory put forward by Notoatmodjo (2003), which states that behavior that is based on knowledge will be more lasting than behavior that is not based on knowledge. Based on Roger's research quoted by Soekidjo Notoatmodjo (2003: 128), it was revealed that before a person adopts a new behavior, within that person a sequential process occurs, namely Awareness, Interest, Evaluation, Trial, and Adoption. Efforts made to increase the knowledge of craftsmen from the mosaic craft industry are: (1) Health education, counseling about the importance of wearing complete PPE is very important to open the insight of craftsmen, such as in the use of long-sleeved shirts, trousers, gloves, covering the nose and mouth, boots and hats and (2) Posters regarding personal

protective equipment for craftsmen in order to know, understand and increase and grow craftsmen's awareness of occupational safety and health.

### **The relationship between attitudes and the use of PPE for mosaic craftsmen on craftsmen**

Based on the research results, it shows that there is no significant relationship between attitudes and the use of PPE for mosaic craftsmen in Tegalalang sub-district. This is based on the results of the chi square test which obtained a  $p$ -value of 0.378 ( $p > 0.05$ ). Based on the tabulation results, it was found that 15 craftsmen had a negative attitude towards the use of PPE, 12 people or 66.7% of the craftsmen did not use complete APT, 3 of them or 42.9% of them used complete PPE. There were 10 craftsmen who had a positive attitude towards the use of PPE, 6 people or 33.3% of them did not use complete PPE, 4 people 57.1% used complete PPE. The results of this research are in accordance with the theory put forward by Notoatmodjo (2003), which explains that attitude is a tendency to take action towards an object, in a way that indicates signs of liking or disliking the object. Attitude is only part of human behavior. Attitude is not yet an action or activity, but is a predisposition to the action of a behavior. Attitude is still a closed reaction, not an open reaction and is a readiness to act on objects in a certain environment as an appreciation of the object.

### **CONCLUSION**

Based on the results of this research, it can be concluded that there is a relationship between knowledge and the use of personal protective equipment for mosaic craftsmen in Tegalalang sub-district, but there is no relationship between knowledge and the use of personal protective equipment for mosaic craftsmen in Tegalalang sub-district.

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