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Application of Health Belief Model and Social Cognitive Theory on the Use of Personal Protective Equipment among Workers at the Plywood Plant: Path Analysis Evidence from Lumajang, East Java

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ABSTRACT

Background: Work safety and health is one of the efforts in preventing work accidents. One of the protective measures for factory workers is to use personal protective equipment (PPE) when carrying out work activities in the workplace. In the production of plywood wood dust exposure and formaldehyde can cause acute irritation to the skin, eyes and respiratory tract can also be associated with chronic respiratory symptoms. Awareness of the use of personal protective equipment needs to be instilled in every factory worker. This study aims to analyze the determinants of the behavior of the use of personal protective equipment in plywood factory workers.
Subjects and Method: This study was conducted using a cross sectional study design. This was done at the plywood factory of PT Mustika Buana Sejahtera Lumajang, East Java, in December 2019. Sampling was carried out by 200 factory workers using simple random sampling. The dependent variable is the behavior of using personal protective equipment. The independent variables are motivation, training, attitude, outcome expectation, perceived benefits, vicarious experience, observational learning, obedience to regulations on the use of PPE, and reinforcement. Data were collected using a questionnaire. The data were analyzed by path analysis run on Stata 13.
Results: The behavior of using personal protective equipment on workers directly increased with high motivation (b= 2.65; 95% CI= 1.36 to 3.95; p<0.001), observational learning (b= 3.82; 95% CI= 2.25 to 5.39; p<0.001), vicarious experience (b= 2.19; 95% CI= 0.90 to 3.48; p= 0.001), positive attitude (b= 2.38; 95% CI= 1.02 to 3.73; p= 0.001), obedient to the rules (b = 2.16 ; 95% CI= 0.83 to 3.49; p= 0.001), and experienced a reinforcement (b= 2.64; 95% CI= 1.34 to 3.93; p <0.001). The use of PPE on workers was indirectly influenced by outcome expectation, perceived usefulness, and training.
Conclusion: PPE use directly increases with high motivation, observational learning, vicarious experience, having a positive attitude, obeying the rules, and experiencing reinforcement. The possibility of using PPE indirectly is influenced by outcome expectation, perceived usefulness, and training.

Keywords: PPE, factory workers, social cognitive theory, health belief model

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BACKGROUND

Occupational safety and health, both now and in the future, are a means of creating safe, comfortable and healthy work conditions, environmentally friendly, so as to encourage efficiency and productivity which in turn can improve the welfare of all parties, both employers and workers (Silaban, 2016). Work accidents directly affect the construction of social reality. In fact, they represent a serious public health problem, especially because they incapacitate and even injure young people and workers (Melchior and Zanini, 2019).

One of the first steps in preventing accidents is to identify the factors that influence

them. Factors such as workload and mental load, social support for colleagues, family conflict, management feedback, job rewards, leadership quality, and work-related stress can also influence workers in doing their jobs (Barkhordari et al., 2019).

According to the Law of the Republic of Indonesia No. 13 of 2003 concerning Manpower in article 86 paragraph 1 confirms that every worker/laborer has the right to obtain protection for occupational safety and health. Article 86 paragraph 2 emphasizes that protecting worker / labor safety in order to realize optimal work productivity is carried out with occupational health safety measures (Law Number 13 article 86, 2003).

It is important for workers to be informed of health hazards and why control measures are needed. Otherwise, workers do not always use PPE, even in high-risk situations at work. However, information alone may not be enough to change workers' attitudes and practices (Asgedom et al., 2019).

In practice factory workers are constantly exposed to various physical, chemical and accident hazards, which make them a vulnerable group. The main reasons for their vulnerability are lack of education, lack of knowledge, lack of awareness of the dangers of OSH, and unavailability or use of PPE. Most Industrial workers are less aware of the use of PPE from exposure, activities, and materials in the workplace (Balkhyour et al., 2019).

BPJS Employment noted, in 2017 the number of reported work accidents reached 123,041 cases, while in 2018 it reached 173,105 cases with JKK claims of Rp 1.2 trillion. The Director of BPJS Employment Services revealed that on average each year BPJSTK serves 130 thousand cases of work accidents, from minor cases to fatal cases (BPJS Employment, 2019).

The use of PPE is very necessary for workers, especially for workers in plywood factories. Plywood is fabricated wood made from solid wood that is processed into thin sheets. One of the adhesives that have an impact on health is formaldehyde which can cause pulmonary edema, pneumonia, and even endanger lives (Zhou et al., 2019). Exposure to wood dust in plywood production can cause acute irritation to the skin, eyes and airways and can also be associated with chronic respiratory symptoms. Wood dust and formaldehyde are classified as Group 1 carcinogenic by the International Agency for Research on Cancer (Asgedom et al., 2019).

This study aims to analyze the factors that influence the behavior of the use of PPE in plywood factory workers using Health Belief Model and Social Cognitive Theory.

SUBJECTS AND METHOD

1. Study Design

This study is an analytical observational method with a cross sectional approach which was carried out at the plywood factory of PT Mustika Buana Sejahtera, the Extended Production Line (EPL) unit, the production unit that makes plywood and wood waste in November 2019.

2. Population and Sample

The population in this study was all workers in the PT Mustika Buana Sejahtera plywood factory section of the Extended Production Line (EPL). A sample of 200 workers was selected by simple random sampling.

3. Study Variables

The dependent variable was the use of PPE. The independent variables include motivation, training, attitude toward PPE, outcome expectation, perceived benefit, vicarious experience, observational learning, obedience to regulations on the use of PPE, and reinforcement.

4. Operational Definition of Variables

Motivation was the desire or tendency of someone to use or not use PPE. The data were collected by questionnaire. The mea-

surement scale was continuous, and transformed into dichotomous, coded 0= low (<2), 1 = high (≥2).

Training was an activity carried out to improve workers' skills and knowledge in terms of using PPE. The data were collected by questionnaire. The measurement scale was continuous, and transformed into dichotomous, coded 0= low (<4), 1 = high (≥4).

Attitude toward PPE (expectancy) is an attitude in evaluating positively or negatively the behavior of using PPE. The data were collected by questionnaire. The measurement scale was continuous, and transformed into dichotomous, coded 0= low (<4), 1 = high (≥4).

Outcome expectation was a personal belief in the effect of an action to achieve certain results in the use of PPE. The data were collected by questionnaire. The measurement scale was continuous, and transformed into dichotomous, coded 0= low (<3), 1 = high (≥3).

Perception of benefits was one's belief about the benefits of actions taken as an effort to prevent the emergence of a disease including non-health measures. The data were collected by questionnaire. The measurement scale was continuous, and transformed into dichotomous, coded 0= low (<3), 1 = high (≥3).

Observational learning was a worker learning a behavior by witnessing and observing a behavior carried out by someone else, then repeating the behavior to use PPE. The data were collected by questionnaire. The measurement scale was continuous, and transformed into dichotomous, coded 0= low (<3), 1 = high (≥3).

Vicarious experience was observing the behavior and experiences of others regarding the use of PPE. The data were collected by questionnaire. The measurement scale was continuous, and transformed into dichotomous, coded 0= low (<2), 1 = high (≥2).

Compliance with regulations on the use of PPE is the effect of regulations applied and socialized to workers in using PPE on the behavior of using PPE. The data were collected by questionnaire. The measurement scale was continuous, and transformed into dichotomous, coded 0= low (<2), 1 = high (≥2).

Reinforcement is an internal and external response that will affect workers in continuing or stopping the behavior of using PPE. The data were collected by questionnaire. The measurement scale was continuous, and transformed into dichotomous, coded 0= low (<2), 1 = high (≥2).

5. Data Analysis

Univariate analysis is used to describe each dependent and independent variable. Data is grouped according to data types and entered in the frequency distribution table. Bivariate analysis explains the effect of one independent variable on a dependent variable. The method used is the chi-square test, with a confidence level of 95%. Path analysis to analyze the influence of motivation, training, attitude toward PPE, outcome expectation, perceived benefit, vicarious experience, observational learning, obedience to regulations on the use of PPE, and reinforcement, on the use of PPE directly and indirectly. The data were analysis by Stata 13.

6. Research Ethics

The research ethics includes informed consent, anonymity, confidentiality, and ethical eligibility. Ethical eligibility in this study originated from the Hospital Health Research Ethics Committee Dr. Moewardi Surakarta with no. 1,248/XI/HREC/2019.

RESULTS

1. Univariate Analysis

The results of univariate analysis showed the characteristics of study subject. Table 1 shows that the average motivation of workers to use PPE was 2.65 (Mean= 2.65; SD= 1.41).

Table 1. Univariate analysis (continuous data)

Variable	n	Mean	SD	Min.	Max.
Motivation	200	2.65	1.41	0	4
Training	200	4.32	2.73	0	7
Attitude	200	4.82	1.85	1	7
Outcome expectation	200	3.21	1.35	0	5
Perception of benefits	200	3.44	1.52	0	5
Vicarious experience	200	1.93	1.07	0	3
Observational learning	200	2.97	1.37	0	5
Obedience of regulations	200	2.11	1.05	0	3
Reinforcement	200	2.00	1.19	0	4

The average score of attitude was 4.82 (Mean= 4.82; SD= 1.85). The average score of expectation outcome was 3.21 (Mean= 3.21; SD= 1.35). The average score of perceived benefit was 3.44 (Mean= 3.44; SD= 1.52). The average score of vicarious experience was 1.93 (Mean= 1.93; SD= 1.07). The average score of observational learning was 2.97 (Mean= 2.97; SD= 1.37). The average score of observational learning was 2.11 (Mean= 2.11; SD= 1.05). The average score of reinforcement was 2.00 (Mean= 2.00; SD= 1.19).

Table 2. Univariate analysis (dichotomous data)

Independent Variable	Criteria	Frequency (n)	Percentage (%)
Motivation	Weak	72	36.00
	Strong	128	64.00
Training	Never	81	40.50
	Ever	119	59.50
Attitude	Negative	69	34.50
	Positive	131	65.50
Outcome expectation	Low	78	39.00
	High	122	61.00
Perceived benefits	Small	79	39.50
	Big	121	60.50
Vicarious experience	Low	79	39.50
	High	121	60.50
Observational learning	Low	79	39.50
	High	121	60.50
Obedience in following the rules	Low	80	40.00
	High	120	60.00
Reinforcement	Weak	81	40.50
	Strong	119	59.50

Table 2 shows that of the 200 workers, the majority of factory workers had a strong motivation of 128 people (64%). Most of the factory workers have done training, as many as 119 people (59.5%). Factory workers have a positive attitude of 131 people (65.5%). Factory workers have a high outcome expectation of 122 people (61%). Factory workers have a perception of great benefits as many as 121 people (60.5%). Factory workers conducted high observational learning, namely 121 people (60.5%). Factory workers experienced a high vicarious experience of 121 people (60.5%). Factory workers obey high regulations of 120 people (60%). Factory workers experienced a high increase of 119 people (59.5%).

2. Bivariate Analysis

The bivariate analysis in this study aims to explain the relationship between the independent variables (motivation, training, attitude, outcome expectation, perceived benefit, vicarious experience, observational learning, obedience to regulations to use PPE and reinforcement) with behavior of using PPE. The analytical test used in the bivariate analysis was the chi square test with a 95% confidence level (p<0.05).

Table 3. Bivariate analysis of differences in the percentage of behavior of the use of PPE according to a number of variables

Independent Variable	Behavior of PPE Use				Total		OR	p
	No		Yes					
	n	%	n	%	n	%		
Motivation								
Weak	51	70.83	21	29.17	72	100	8.67	<0.001
Strong	28	21.88	100	78.13	128	100		
Training								
Never	65	80.25	16	19.75	81	100	30.46	<0.001
Ever	14	11.76	105	88.24	119	100		
Attitude								
Negative	49	71.00	20	28.99	69	100	8.24	<0.001
Positive	30	22.90	101	77.10	131	100		
Outcome expectation								
Low	47	60.26	31	39.74	78	100	4.26	<0.001
High	32	26.23	90	73.77	122	100		
Perception of benefits								
Small	56	70.89	23	29.11	79	100	10.37	<0.001
Big	23	19.01	98	80.99	121	100		
Vicarious experience								
Low	52	65.82	27	34.18	79	100	6.70	<0.001
High	27	22.31	94	77.69	121	100		
Observational learning								
Low	59	74.68	20	25.32	79	100	14.89	<0.001
High	20	16.53	101	83.47	121	100		
Obedience of regulations								
Low	50	62.50	30	37.50	80	100	5.22	<0.001
High	29	24.17	91	75.83	120	100		
Reinforcement								
Weak	56	69.14	25	30.86	81	100	9.34	<0.001
Strong	23	19.33	96	80.67	119	100		

Table 3 shows that more workers (88.24%) had used PPE than workers who had never received training (19.75%) (p <0.001). Highly motivated workers (78.13%) use PPE compared to workers who have weak motivation (29.17%) (p <0.001). Workers had more positive attitudes (77.10%) who used PPE than workers who had negative attitudes (28.99%) (p <0.001). Workers had higher expected outcomes (73.77%) who used PPE compared to workers who had low expectation results (39.74%) (p <0.001).

Workers had higher perceived benefits (80.99%) using PPE than workers who had low perceived benefits (29.11%) (p <0.001). Workers doing high observational learning more (80.99%) who use PPE than workers who do low observational learning (29.11%) (p<0.001). Workers experiencing higher vicarious experience (77.69%) used PPE than

workers who experienced low vicarious experience (34.18%) (p<0.001). More workers who obeyed the rules (75.83%) used PPE than workers who disobeyed the rules (37.50%) (p <0.001). Workers who experienced more reinforcement (80.67%) used PPE than workers who did not experience reinforcement (30.86%) (p<0.001).

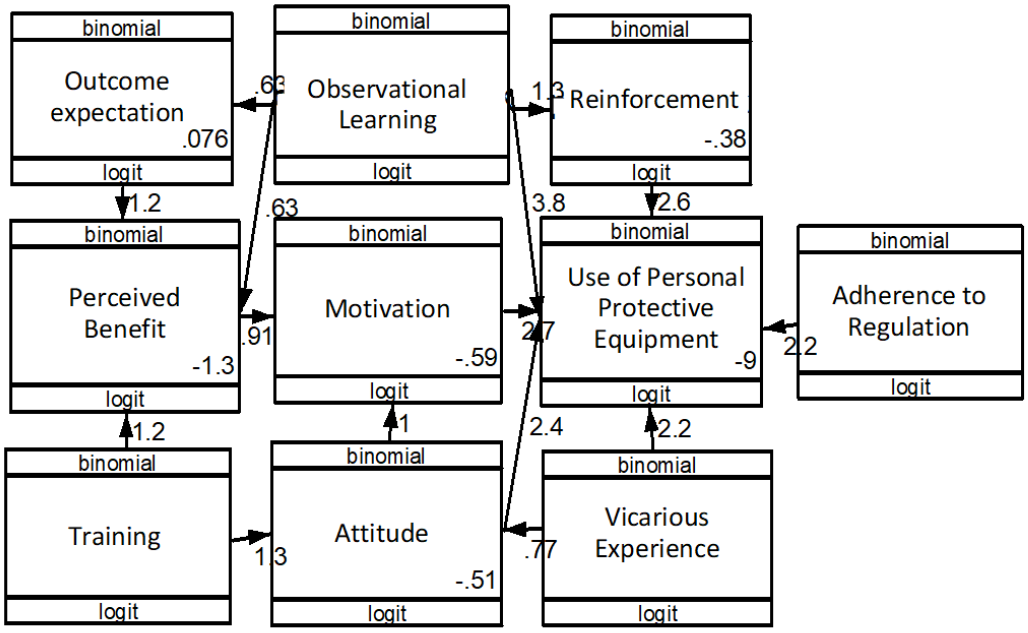

Figure 1. Path analysis model on the determinants of use of PPE among workers

3. Pathway Analysis

Multivariate analysis with a path analysis model was performed using Stata 13. The path analysis model was made in accordance with the application of the Health Belief Model and Social Cognitive Theory within the framework of the study concept, illustrated in Figure. The variables in the model consist of 9 endogenous variables and 1 exogenous variable. Degree of freedom (df) is 35 which means that df is over identified so that path analysis can be carried out.

Table 4 shows that the behavior of using personal protective equipment on workers directly increases with high motivation, observational learning, experiencing vicarious experience, having a positive attitude, obeying the rules, and experiencing reinforcement. The use of PPE is indirectly influenced by outcome expectation, perceived usefulness, and training.

Table 4 shows that the behavior of the use of personal protective equipment on workers increased with high motivation to have a logodd (possibility) to use a PPE 2.65 units larger (b = 2.65; 95% CI = 1.36 to 3.95; p<0.001). High observational learning had logodd (possibility) to use PPE 3.82 units larger (b = 3.82; 95% CI = 2.25 to 5.39; p <0.001). High vicarious experience has a logodd (possibility) to use PPE 2.19 units larger (b= 2.19; 95% CI= 0.90 to 3.48; p= 0.001). Positive attitude has logodd (possibility) to use PPE 2.38 units bigger (b= 2.38; 95% CI = 1.02 to 3.73; p = 0.001). Obedience to regulations having logodd (possibility) to use PPE 2.16 larger units (b= 2.16; 95% CI= 0.83 to 3.49; p = 0.001). The reinforcement has a logodd (possibility) to use a larger PPE 2.64 unit (b= 2.64; 95% CI= 1.34 to 3.93; p<0.001).

Table 4. Path analysis results on the determinants of PPE use

Dependent variable		Independent variables	Path Coef. (b)	95% CI		p
				Lower limit	Upper limit	
Direct effect						
The use of PPE	←	Motivation (High)	2.65	1.36	3.95	<0.001
	←	Observational learning (High)	3.82	2.25	5.39	<0.001
	←	Vicarious experience (High)	2.19	0.90	3.48	0.001
	←	Attitude (positive)	2.38	1.02	3.73	0.001
	←	Obedience in following rules	2.16	0.83	3.49	0.001
	←	Reinforcement	2.64	1.34	3.93	<0.001
Indirect effect						
Outcome expectation (High)	←	Observational learning (High)	0.62	0.04	1.21	0.034
Perceived benefit (Strong)	←	Observational learning (High)	0.63	-0.05	1.32	0.073
	←	Joining training	1.21	0.51	1.90	0.001
	←	Outcome expectation (High)	1.17	0.52	1.81	<0.001
Reinforcement	←	Observational learning (High)	1.32	0.72	1.92	<0.001
Attitude (Positive)	←	Vicarious experience (High)	0.77	0.12	1.41	0.019
	←	Joining training	1.31	0.67	1.95	<0.001
Motivation (Strong)	←	Perceived benefits (strong)	0.90	0.29	1.52	0.004
	←	Attitude (Positive)	1.02	0.39	1.65	0.001
N Observation = 200						
Log likelihood = -642.46						

DISCUSSION

1. The effect of observational learning on the use of PPE

The results of this study indicate that there is a direct and positive influence between observational learning (b = 3.82; 95% CI = 2.25 to 5.39; p <0.001) on the behavior of using PPE. Workers who have high observational learning have a logodd (possibility) to use a PPE of 3.82 larger units and the effect is statistically significant.

This is in accordance with study conducted by Olson et al. (2009) results show that new employees tend to use PPE at a level comparable to the collective use of PPE that is observed among their peers. According to Fishman et al. (2019), observational learning is important when individuals are uninformed.

Observational learning is indirectly and positively related to PPE usage behavior through outcome expectation (b= 0.62; 95% CI= 0.04 to 1.21; p= 0.034) and is statistically significant. Like someone in predicting results on themselves from observing others by expanding opportunities to obtain and modify comparisons and review comparative tests against others can change self-concepts (Alicke et al, 2013).

Observational learning is indirectly associated with the use of PPE through perceived benefits (b= 0.63; 95% CI= -0.05 to 1.32; p = 0.073) and statistically significant. Benefit perception shows the preferred way to perform healthy behaviors, if someone believes or perceives that a behavior will be effective in reducing his vulnerability to experience or reduce the risk of severity, then it is likely that the person will engage in healthy behavior (Murti, 2018). And someone tends to adopt healthy behaviors when they believe that new behavior will reduce risk (Sulaeman, 2016), which means that someone feels the benefits by observing the

behavior of others and the environment to feel the benefits.

Observational learning is indirectly and positively related to the use of PPE behavior through reinforcement (b= 1.32; 95% CI= 0.72 to 1.92; p<0.001) and statistically significant. This is consistent with a study by Borsa et al. (2009) observational-vational learning can emerge from reinforcement that can cause various behaviors, starting with imitation and information search. In this case the individual's perception of the perceived benefits refer to an individual's assessment of values or possibilities in reinforcement of a behavior (Sulaeman, 2016).

Observational learning is behavior that is learned from the environment through a process of observing learning (Murti, 2018). From the description above the authors conclude that workers can behave well in the use of PPE by observing and seeing the actions of others, the worker will try to repeat the behavior.

2. The effect of motivation on the use of PPE

The results of this study indicate that there is a direct and positive influence between motivation (b= 2.65; 95% CI= 1.36 to 3.95; p<0.001) on the behavior of using PPE. Highly motivated workers have a logodd (possibility) to use PPE 2.65 more units and the effect is statistically significant.

Motivation is a feeling that drives someone to do an action or work to achieve the goals to be achieved. Can originate from the individual (internal) and from the external environment (external) (Chotimah et al, 2019). This is consistent with Chotimah et al. (2019) motivation of health workers in the use of basic PPE is one of the factors that underlies the behavior of the use of basic PPE derived from the need for a sense of security. The need for security creates a desire and hope for someone to avoid dangerous things that come from the work environment. It was strengthened in study by Gunawan and Mudayana. (2016) that motivation has an influence on PPE use behavior.

From the description above, it can be concluded that behavior change can be influenced by intention and motivation and can function in increasing adjustments aimed at encouraging healthy behavior (Hansstein and Echegaray, 2018).

3. The effects of vicarious experience on the use of PPE

The results of this study indicate that there is a direct and positive influence between vicarious experience (b= 2.19; 95% CI= 0.90 to 3.48; p= 0.001) on the behavior of PPE use. Workers who have high vicarious experience have the logodd (possibility) to use PPE 2.19 larger units and the effect is statistically significant. And vicarious experience is indirectly and positively related to PPE usage behavior through attitude (b= 0.77; 95% CI= 0.12 to 1.41; p= 0.019) and statistically significant.

A study conducted by Berkowitz et al. (2012) shows that vicarious experience influences the behavior of the more someone has information from vicarious experience, then the person has better behavior. Conversely, someone who lacks vicarious experience has a negative attitude toward his behavior. Rowland et al. (2019) reported that vicarious experience has a relationship through a process of social comparison and make changes in health behavior towards someone.

From the description above it can be concluded that vicarious experience has a role in changing one's behavior and this study is in line with the above study that the higher vicarious experience, the better a person is in healthy behavior.

4. The effect of attitude on the use of PPE

The results of this study indicate that there is a direct and positive influence between attitude (b= 2.38; 95% CI= 1.02 to 3.73; p=

0.001) on PPE usage behavior. Workers who have a high attitude have a logodd (possibility) to use PPE 2.38 units larger.

A study conducted by Ayuningtyas et al. (2018) shows that a positive attitude influences someone in positive behavior as well. This is also in line with study conducted by Jayanti et al. (2017) shows that negative and positive attitudes can affect a person's behavior.

This is also consistent with the results of this study which showed that attitude was indirectly and positively related to PPE usage behavior through motivation (b= 1.02; 95% CI= 0.39 to 1.65; p= 0.001) and statistically significant. Workers with high attitude have a logodd (possibility) for motivation of 1.02 greater units. The results of this study are in line with the results of the analysis in a study by Ayuningtyas et al. (2018) shows a positive correlation between attitude and intention to behave.

From the description above it can be concluded that a person's positive and negative attitudes can influence a person's behavior either directly or indirectly which impacts on a person's behavior in doing good or bad.

5. The effect of regulatory compliance on the use of PPE

The results of this study indicate that there is a direct and positive influence between regulatory compliance (b= 2.16; 95% CI= 0.83 to 3.49; p= 0.001) on the behavior of using PPE. Workers who adhere to regulations have a logodd (possibility) to use PPE 2.16 more units and the effect is statistically significant.

A study conducted by Raodhah (2014) shows the relationship between policies and the use of PPE on employees which means that policies made by companies that are implemented with good commitment affect employees in using PPE while working. This is in accordance with the study that has been done and the existence of clear rules regarding the use of PPE will make workers to comply with these regulations because they do not want to accept the risk that will occur if it violates (Arpian, 2018).

From the description above it can be concluded that the more obedient a person is with the rules, the person will avoid work accidents and will affect one's behavior.

6. The effect of reinforcement on PPE usage behavior

The results of this study indicate that there is a direct and positive effect between reinforcement (b = 2.64; 95% CI = 1.34 to 3.93; p<0.001) on the behavior of PPE use. Workers who have high reinforcement have the logodd (possibility) to use PPE 2.64 larger units and the effect is statistically significant.

Study by Lombardi et al. (2009) states that the influence of supervisors in providing positive feedback can influence worker behavior in the use of PPE. This is consistent with study conducted and strengthened by study by Hendriansyah et al. (2019) there is a significant relationship between the reinforcing factors on the behavior of the use of PPE.

From the description above it can be concluded that the communication, supervision, support, punishment and reward relationships have an important role in the reinforcement that influences a person's behavior in the behavior of using PPE both internally and externally.

7. The effect of training on the use of PPE

The results of this study indicate that training is indirectly and positively related to PPE usage behavior through perceived benefits (b= 1.21; 95% CI= 0.51 to 1.90; p= 0.001) and statistically significant. And training is indirectly and positively related to the behavior of using PPE through attitude (b= 1.31; 95% CI= 0.67 to 1.95; p <0.001) is statistically significant.

A study conducted by Ndayambaje et al. (2019) revealed that from training someone will feel more prepared, safe, calm and reduce anxiety so that they will implement safe behavior. Nakua et al. (2019) reported that new workers need training to master safety procedures and identify prominent hazards. As well as revealing that workers' attitudes about using PPE are bad if training and law enforcement in the workplace are not emphasized. This is confirmed by study conducted by Dalju et al. (2019) which states that safety training positively influences worker behavior in promoting safety culture and practices in the workplace.

It can concluded that training is an important thing to do to make workers feel more prepared, safe, calm and reduce anxiety. If done, safety training can positively influence worker behavior in the use of PPE

8. The effect of outcome expectation on the use of PPE

The results of this study indicate that outcome expectation is indirectly and positively related to PPE use behavior through perceived benefits (b= 1.17; 95% CI= 0.52 to 1.81; p<0.001) to PPE use behavior. Workers who have high expectation outcomes have the logodd (likelihood) to use PPE 1.17 for larger units and the effect is statistically significant.

This is in line with a study by Atmojo et al. (2017) who revealed that a person with a positive expectation outcome from benefits is more likely to influence his perception in controlling behavior. This is supported by Liao et al. (2019) which states that the positive expectation outcome influences behavior change for the better by predicting what will be done next.

From the description above it can be concluded that the outcome expectation is the anticipated results of a behavior. To learn a behavior, the individual must know the potential results if the behavior will be done alone (Murti, 2018). It means that before becoming an individual behavior, it is necessary to know the perceived benefits of outcome expectation to finally be done alone.

9. The effect of perceived benefit on the use of PPE

The results of this study indicate that the perceived benefits are indirectly and positively related to PPE use behavior through motivation (b= 0.90; 95% CI= 0.29 to 1.52; p= 0.004) to PPE use behavior. Workers who have a perception of large benefits have the logodd (possibility) to use PPE 0.90 units higher and the effect is statistically significant.

Based on the results of study by Setiyaningsih et al. (2016), stated that there is a positive relationship between perceived benefits and preventative behavior. The benefits of action directly motivate behavior and indirectly determine activity plans to achieve benefits as a result. Study conducted by Sari et al. (2019) revealed that perceived benefits have an influence on actions in performing healthy behaviors. This is supported by study conducted by Jemberu et al. (2015) which shows that perception significantly influences intention on one's behavior.

From the description above it can be concluded that the perceived benefits refer to the individual's assessment of the effectiveness to reduce the risk of disease (Resenstock 1974 in Sulaeman, 2016), if the benefits felt by large individuals then the behavior to be better will increase.

AUTHOR CONTRIBUTION

Bayu Putra Dewantara as the main author plays a role in coordinating study, conducting all stages of study, and completing study scripts. Bhisma Murti has a role in preparing the study framework, processing study data, representing the results of study analysis, and preparing manuscript. Vitri Widyaning-

sih was instrumental in developing ideas, study designs, and study hypotheses.

CONFLICT OF INTEREST

There is no conflict of interest in this study.

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