

The Effect of Training, Job Stress, and Motivation on Work Productivity with Unsafe Actions as An Intervening Variable

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This research aims to test the direct and indirect influence between training, work stress, and motivation on work productivity with unsafe actions as an intervening variable. The study was conducted on employees of a Steam Power Plant contractor in Cirebon Regency. Sampling was carried out using a proportional start-up random sampling technique, with a total sample size of 152 samples, who were active employees at PT Cipta Anugrah Sejahtera and PT Star Plus. The research instrument used was a questionnaire with a Likert scale. The analysis technique used is path analysis using the SPSS version 27 application. The results of this study show that 1) Job stress, motivation and productivity variables are in the good category, while training and unsafe actions very good category. 2) Training has a negative and significant effect on unsafe actions. 3) Work stress has a positive and significant effect on unsafe actions. 4) Motivation has a negative and insignificant effect on unsafe actions. 4) Training, work stress and motivation simultaneously have a significant effect on unsafe acts. 5) Training, work stress, motivation and unsafe actions simultaneously has a significant effect on work productivity.

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INTRODUCTION

The goals of an industry cannot be achieved without supporting resources. The resources needed for an industry are human resources, raw materials, machines, capital, and markets. Without the role of human resources, an industry cannot achieve its goals. Industrial progress by utilizing technology in its production activities cannot eliminate the role of human resources. Industry still needs the role of human resources because human resources can process and transform other resources in their production activities. So human resources are the most important resources for an industry.

Considering the important role of human resources for industry, efforts are needed to protect and maintain human resources, to achieve organizational goals. Human resource management is a process to plan, manage and control human resources, to achieve predetermined goals. According to (Edwin, 2012) the

main goal of human resource management is to maintain the work life of employees from the moment they join the organization, to the moment they leave, while ensuring the best cooperation in achieving the organization's goals and objectives.

Human resource management plays a role in achieving organizational goals, by increasing employee work productivity. Work productivity according to (Wijaya & Ojak, 2021) is the result achieved when compared to the resources used input, which is related to a productive mental attitude, namely: professionalism, dynamic, creative innovative, disciplined, motivating and spirit. Ideally, when running an organization, it must be supported by high employee work productivity so that it can achieve its goals. This is agreed with (Tsauri, 2013) Employee work productivity is one of the company's measures in achieving its goals. Data on work productivity of employees of steam power plant contractors in Cirebon Regency, collected from June to November 2023, can be seen in Figure 1 below.

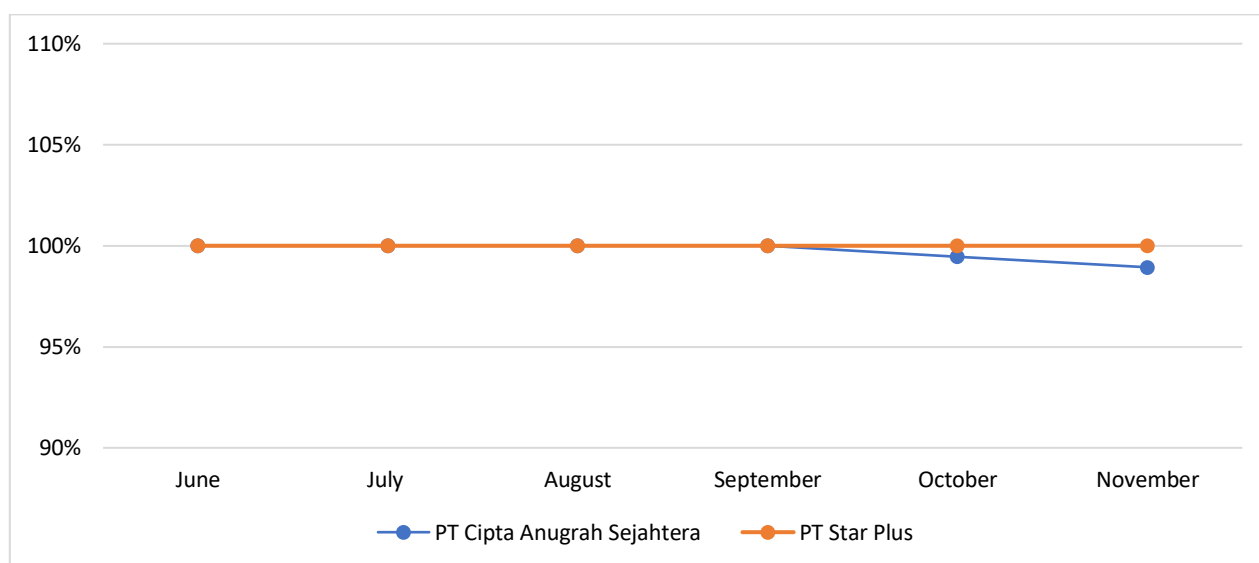


Figure 1 Contractor Employee Work Productivity Data

From the graph above, the level of employee work productivity at PT Star Plus tends to be stable at 100%. This data is obtained from the company's monthly report, which compares the number of work order what was planned and what was completed. This is inversely proportional to the work productivity of PT Cipta Anugrah Sejahtera employees which decreased from September 2020 to October 2023 with a decrease of 0.5%. Furthermore, in November 2023 there will be another decline of 0.6% from the previous month. The decline that occurred resulted in a decrease in workers which could be resolved because of a decrease in employee work productivity.

A decrease in work productivity can have several negative effects, both for individuals and the

organization. Some of these effects involve financial aspects, employee welfare, and company competitiveness. If workers do not work efficiently, production costs tend to increase. Besides that, a lack of productivity can result in suboptimal use of resources, including time and labor.

It is important to remember that work productivity is dynamic and can change over time. Wise management of human resources can help increase productivity if a decline occurs, both individually and in the organization. Increasing productivity often involves continuous learning strategies, adapting to technological changes, and improving working conditions to support employee well-being.

Apart from that, the importance of human resources in carrying out operational activities must be accompanied by the company's efforts to provide a sense of security for workers. Corresponding (Yunus & Titien, 2013) believes that increasing company productivity both in quality and quantity by implementing work safety programs for workers, remembering that workers are the most asset for

companies. In industry there are types of workers who work technically with a high level of risk of work accidents. Data compiled by the Ministry of Manpower of the Republic of Indonesia for 2022, which is published in (Indonesia, 2022) The number of work accidents and work-related diseases that occur based on the location of the incident can be seen in Figure 2 below:

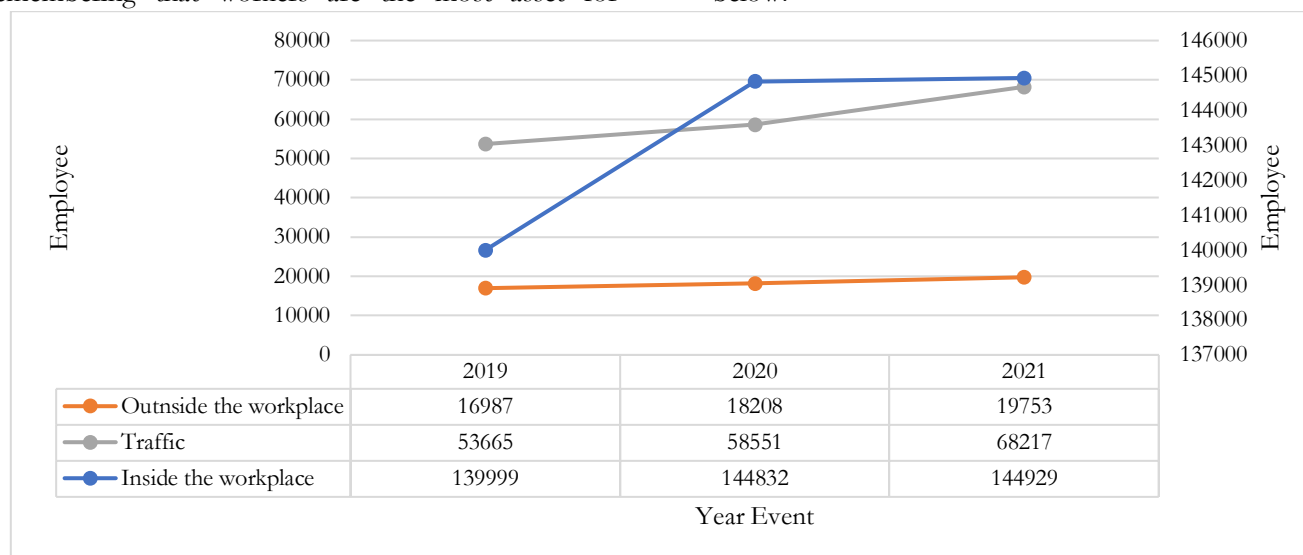


Figure 2 Graph of accidents and occupational diseases for 2019-2021

Based on the data above, the highest work-related accidents and illnesses occur in the workplace, with an increasing trend from 2019 to 2021. This figure indicates that there is still low attention to protecting human resources from work-related accidents and illnesses. According to (Reese, 2009) preventing accidents is very complex involving workers, top management, machines, and the environment. Cooperation from all parties is needed so that work accidents and work-related diseases can be reduced.

According to (Reese, 2009) 88% of the causes of work accidents are due to unsafe actions of workers, 10% are unsafe conditions, and 2% are due to other uncontrolled consequences. According to (Meilin et al., 2021) unsafe actions are dangerous actions of workers which may be motivated by various consequences, which can lead to work accidents. Furthermore, (Meilin et al., 2021), believes that many experts suspect that 4 out of 5 work accidents that occur are caused by humans.

Low levels of skills and knowledge can reduce employee work productivity, where the employee does not have the competence to do a job. Referring to research conducted by (Astuti, 2020) revealed that skills have a positive and significant effect on employee work productivity. By improving work skills, employee work productivity will increase so that organizational goals will be achieved. Providing training to employees can improve skills and knowledge, so that employees will be

more competent in carrying out a job. According to (Pynes, 2016), training and development is a program to improve employee skills, knowledge, or behavior. Programs are focused on increasing individual levels, increasing individual competence in one or more areas of expertise, or increasing individual motivation to perform their duties or work well.

Apart from that, work stress is an aspect of worker psychology which is an important component that workers must fulfill, to protect workers from accidents while working, to increase the level of employee work productivity. The conditions of workers who go to work vary, some are in good or poor condition. Poor worker conditions will increase the risk of work accidents and reduce work productivity levels. According to (Pynes, 2016), an individual who is under stress can produce less than optimal performance, therefore stress can affect productivity, quality, and work safety.

The motivation level of an employee will always work well, so that it can increase work productivity and influence employee compliance in work. Theory about motivation according to (Pynes, 2016) Motivation is a desire within a person that causes that person to act. The content of motivation theory refers to the needs, motives, and rewards that people want to satisfy. Referring to Maslow's needs theory, physiological needs encourage employees to continually increase their level of work productivity, to fulfill their physiological needs.

This is in line with research conducted by (Putu et al., 2019), in this study it was concluded that work motivation has a positive and significant effect on employee work productivity, which is indicated by a positive regression coefficient, if work motivation is higher, then employee work productivity will also be higher.

Besides that, the need for a sense of security encourages a worker to work safely so that work accidents can be avoided. According to (Glendon et al., 2016), several psychological factors, both social and motivational, influence the extent to which individuals will comply with or violate occupational safety and health rules. Motivation for safety at work is determined by an individual's view of the importance of work safety, not influenced by environmental factors. The need for a sense of security at work, and this is in line with the concept of occupational safety and health which requires a worker to be in good condition when going to and returning from work. By increasing work motivation, a worker will better comply with work safety rules, so that work accidents can be avoided and increase employee work productivity.

LITERATURE REVIEW

The training itself was invented by (Rahardjo, 2022), is the process by which individuals gain the ability to do work. To support the work of employees, they need to be given specific knowledge and skills that have been identified. According to (Durai, 2012), to increase the value of core assets, training is needed. Training is basically a value adding activity carried out by an organization.

Training is a learning process that helps employees acquire new knowledge and skills needed to perform their jobs efficiently. Furthermore (Rahardjo, 2022), revealed that training and development sometimes have differences. Development focuses on a broader scope that focuses on individuals acquiring new abilities, which are useful for the future. Training programs are designed to make employees work well in their field of work, to achieve organizational goals.

Occupational safety and health training programs need to be developed by the company. The occupational safety and health training program according to (Glendon et al., 2016, p. 351) focuses on developing safety knowledge, skills and values regarding the introduction of important awareness regarding the dangers of work accidents. Based on research by (Yuxin et al., 2023), Lack of safety education and skills training for miners is the most influential factor in unsafe actions

This training aims to provide an overview of the situations and conditions of the workplace that will be faced, so as to reduce work accidents that will occur, as

a result of unsafe actions of workers. According to research conducted by (Qiao et al., 2018), training factors have the greatest impact on unsafe behavior. This result is mainly due to workers requiring more operational skills and experience dealing with hazardous work area conditions.

The definition of work stress, one of which was put forward by (Durai, 2012), work stress is a person's normal response to a situation or stimulus. In fact, the presence or absence of stress in a situation is determined by the way a person views, interprets, and evaluates that situation. Naturally, environmental factors that cause stress in one person may not cause stress in another person, even though both interact with the same environment. Furthermore, work stress according to (Sinambela, 2016), reveals that stress is a form of reaction, odd to the pressure placed on it.

The concept of work stress is individualistic because work stress affects individuals in different ways. Work stress is not always negative, some is positive. For example, there are times when an individual is put under pressure, which will give rise to creative ideas. Work stress, which appears in employees, is certainly influenced by several factors. According to (Sinambela, 2016) factors that influence stress in individuals are:

- 1) Organizational factors.
- 2) Personal factors.
- 3) General environmental factors.

Workers who work under stressful work conditions, will reduce their level of concentration and alertness, thereby triggering unsafe actions when carrying out work, which can increase the occurrence of accidents due to unsafe actions. According to research conducted by (Tong et al., 2022), work stress has a significant effect on unsafe behaviors. Furthermore (Leung et al., 2012) reveals that there is positive linear association between physical stress on safety behaviors. This is due to the large workload, injury time, compounded by poor mental health, can trigger stress and increase the occurrence of work accidents due to unsafe actions.

Theories about motivation according to (Pynes, 2016) Motivation is a desire within a person that causes that person to act. The content of motivation theory refers to the needs, motives, and rewards that people want to satisfy. Whereas (Rahardjo, 2022), stated that motivation is the process of channeling encouragement from within a person so that he wants to achieve organizational goals. The concept of motivation refers to the actions carried out by individuals in behaving.

Theories regarding motivation, one of which is known as Maslow's hierarchy of needs theory, is quoted from (Rahardjo, 2022), a person will identify a need that

is not satisfied, so that this need can be satisfied, this is called a goal. Next, a person will act after the goal is identified and thus the need is met. Motivation is individualistic and social, so that the motivation for a need between one individual and another will be different from one another. According to (Rahardjo, 2022), needs are arranged based on certain levels with 5 consecutive categories.

The five levels of needs according to the theory put forward by Maslow, namely:

- 1) Physiological needs: The need for food, drink, shelter, these are basic human needs.
- 2) Need safety and security: this is a need for protection from danger and threats.
- 3) Social needs: is a need for a sense of belonging to a social group.
- 4) The need for esteem is the need for appreciation, self-esteem, recognition from other people, community groups. This need for individuals to feel respected and appreciated.
- 5) Self-actualization needs: are the needs for self-development, achievement, mental, material, and social growth.

Motivating means providing motivation to workers to always work safely. By providing motivation, workers are encouraged to always work safely and are able to reduce the risk of work accidents occurring due to unsafe actions. According to research conducted by (Leung et al., 2012), motivate safety behavior, not only benefit to the establishment of more targeted unsafe behavior prevention measures, but also to the improvement of the safety management level.

According to Miner (1994) in (Kawiana, 2020) What is said to be unsafe behavior is behavior that is likely to cause work accidents due to working with a disturbed emotional state, lack of knowledge, using work equipment that does not comply with standards, working without permission, not using safety equipment, operating work not in accordance with the rules or work safety standards and acting rudely.

Meanwhile, according to (Durai, 2012) Unsafe actions are behaviors that refers to any action taken by an employee while carrying out their work, without paying attention to the necessary work safety provisions, which ultimately results in an accident. These cases may involve machine breakdown, incorrect operation, non-compliance with work safety procedures, improper handling of safety equipment due to lack of safety training, and willful disregard of superior instructions that have been given.

Increasing employees' understanding of work safety will certainly really help companies reduce accidents caused by human factors. According to

(Attwood et al., 2007), the benefits of increasing employee understanding of work safety, namely:

- 1) Fewer accidents.
- 2) Fewer near misses.
- 3) Reduce the potential for human error and its consequences.
- 4) Increased efficiency.
- 5) Increasing machine life by maintenance and system re-engineering.
- 6) A more productive workforce.

In line with that, several things that might motivate someone to carry out unsafe actions while working were stated by (Meilin et al., 2021), that is:

- 1) Lack of skills and knowledge.
- 2) Inability to work normally.
- 3) Due to invisible defects.
- 4) Saturation and exhaustion.
- 5) Unsafe behavior and attitudes.
- 6) Stress and confusion.
- 7) New equipment or machines have not yet been mastered (lack of skill).
- 8) Ignorance.
- 9) Lack of work motivation.
- 10) Lack of job satisfaction.

A worker needs to do a job, to expect compensation for the work that has been done. Apart from fulfilling their needs, work can produce value for their lives. A job is considered successful if it has been carried out and in accordance with the targets that have been set. This is closely related to productivity or performance. Productivity itself according (Wijaya & Ojak, 2021) the relationship between real and physical results in the form of goods or services and the input, which is related to the overall resources used which are closely related to productive mental attitudes, namely: regarding attitude, spirit, motivation, discipline, creativity, innovation, professionalism and dynamic. Furthermore (Tsauri, 2013) stated that productivity is a comparison between the results of an employee's work and the sacrifices that have been made.

In line with that (Yunus & Titien, 2013, p. 154), argue that increasing company productivity both in quality and quantity by implementing work safety programs for workers. Workers' unsafe actions can cause work accidents, whether minor or even fatal, thereby reducing productivity levels. This is proven by research by (Chantith et al., 2021), road traffic accidents in Thailand in 2017 impacted to loss of productivity.

RESEARCH METHODOLOGY

The type of research used is descriptive quantitative research (descriptive quantitative research) and inferential. This is in line with the statement (Sugiyono, 2013), quantitative research is called a positivistic method because it is based on the philosophy of positivism, this method is a scientific method because it meets scientific principles, namely concrete/empirical, objective, measurable, rational, and systematic. Meanwhile, the nature of this research describes and explains (descriptive explanatory) which is related to the position of a variable and its relationship with other variables.

The independent variable used in this research is training (X_1), work stress (X_2) and motivation (X_3), and the dependent variables are unsafe acts (Y) and work productivity (Z). The sampling technique uses the

proportional random sampling method, with a total population of 244 employees, so the total sample is 152 people. The types of data used in this research are primary data and secondary data, with collection techniques using interviews and questionnaires.

RESULTS AND DISCUSSION

The research data was obtained by distributing questionnaires to several respondents. In taking respondents to complete the research data, 152 respondents were taken, of which 117 respondents came from employees of PT Cipta Anugrah Sejahtera and 35 respondents came from employees of PT Star Plus. The characteristics of the respondents taken came from different levels of education, age and work experience. The following are responses from respondents, which can be seen in Table 1.

Table 1 Employee Responses Regarding Research Variables

No	Variable	Score Value					Total Score	Remarks
		Very Agree	Agree	Netral	Disagree	Very Disagree		
1	Training	2735	2712	360	40	3	5850	Very good
2	Job Stress	75	296	534	1526	338	2769	Good
3	Motivation	2315	2964	669	144	21	6113	Good
4	Unsafe Actions	65	148	189	1576	467	2445	Very good
5	Work productivity	3050	3476	375	84	26	7011	Good

Based on Table 1, the total score obtained for the training variable is 5850 with a very good assessment category. The total score obtained for the good variable is 2769 with a good assessment category. The total score obtained on the training variable was 6113 with a very good assessment category. The total score obtained for the unsafe action variable was 2445 with a very good

assessment category. The total score obtained on the work productivity variable is 7011 with a very good assessment category.

The following are the results of the correlation test using Pearson Correlation in the SPSS version 27 application, it can be seen in Table 2 below.

Table 2 Results of the Correlation Test Using Pearson Correlation

		X1	X2	X3	Y
X1	Pearson Correlation	1	-.140	.530**	-.346**
	Sig. (2-tailed)		.085	.000	.000
	N	152	152	152	152
X2	Pearson Correlation	-.140	1	-.379**	.481**
	Sig. (2-tailed)	.085		.000	.000
	N	152	152	152	152
X3	Pearson Correlation	.530**	-.379**	1	-.372**
	Sig. (2-tailed)	.000	.000		.000
	N	152	152	152	152
Y	Pearson Correlation	-.346**	.481**	-.372**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	152	152	152	152

** . Correlation is significant at the 0.01 level (2-tailed).

Based on the results of the correlation test, the path analysis chart can be depicted in Figure 3.

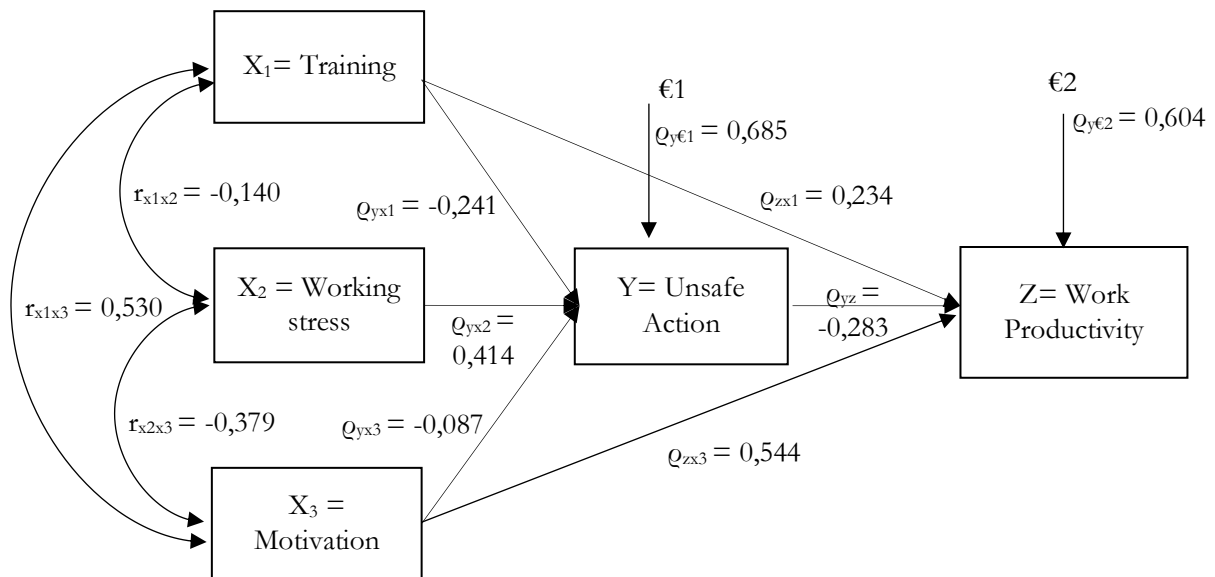


Figure 3 Path Analysis Chart

Based on the path analysis model, the direct and indirect influence between training, work stress and motivation variables on insecurity can be determined unsafe action and its effect on work productivity, can be seen in Table 3 below.

Table 3 Directly and Indirectly Relationship Between Variable

Relationship Between Variables	Formulation	Results	
Sub Structural 1			
The Effect of Training on Unsafe Actions			
Direct influence	$(\rho_{YX_1})^2$	0,058	5,8%
Indirect influence via X2	$(\rho_{YX_1})(r_{X_1X_2})(\rho_{YX_2})$	0,014	1,4%
Indirect influence via X3	$(\rho_{YX})(r_{X_1X_3})(\rho_{YX_3})$	0,011	1,1%
Total effect of training on Unsafe Actions	A+B+C	0,083	8,3%
The Effect of Job Stress on Unsafe Actions			
Direct influence	$(\rho_{YX_2})^2$	0,171	17,1%
Indirect influence via X1	$(\rho_{YX_2})(r_{X_1X_2})(\rho_{YX_1})$	0,014	1,4%
Indirect influence via X3	$(\rho_{YX_2})(r_{X_2X_3})(\rho_{YX_3})$	0,014	1,4%
Total influence of work stress on Unsafe Actions	E+F+G	0,199	19,9%
The Influence of Motivation on Unsafe Actions			
Direct influence	$(\rho_{YX_3})^2$	0,008	0,8%
Indirect influence via X1	$(\rho_{YX_3})(r_{X_1X_3})(\rho_{YX_1})$	0,011	1,1%
Indirect influence via X2	$(\rho_{YX_3})(r_{X_2X_3})(\rho_{YX_2})$	0,014	1,4%
Total influence of motivation on Unsafe Actions	I+J+K	0,032	3,2%
Total influence of training, work stress and motivation on Unsafe Actions	D+H+L	0,315	31,5%
Sub Structural 2			
The Effect of Training on Work Productivity			
Direct influence	$(\rho_{ZX_1})^2$	0,055	5,5%
Indirect influence via X2	$(\rho_{ZX_1})(r_{X_1X_2})(\rho_{ZX_2})$	-0,004	-0,4%
Indirect influence via X3	$(\rho_{ZX_1})(r_{X_1X_3})(\rho_{ZX_3})$	0,067	6,7%
Indirect influence via Y	$(\rho_{ZX_1})(\rho_{YX_1})(\rho_{YZ})$	0,016	1,6%
Total effect of training on work productivity	N+O+P+Q	0,134	13,4%
The Effect of Job Stress on Work Productivity			
Direct influence	$(\rho_{ZX_2})^2$	0,013	1,3%
Indirect influence via X1	$(\rho_{ZX_2})(r_{X_1X_2})(\rho_{ZX_1})$	-0,004	-0,4%
Indirect influence via X3	$(\rho_{ZX_2})(r_{X_2X_3})(\rho_{ZX_3})$	-0,024	-2,4%
Indirect influence via Y	$(\rho_{ZX_2})(\rho_{YX_2})(\rho_{YZ})$	-0,013	-1,3%

Relationship Between Variables	Formulation	Results	
Total influence of work stress on work productivity	$S+T+U+V$	-0,028	-2,8%
The Influence of Motivation on Work Productivity			
Direct influence	$(\rho_{ZX_3})^2$	0,296	29,6%
Indirect influence via X1	$(\rho_{ZX_3})(r_{X_1X_3})(\rho_{ZX_1})$	0,067	6,7%
Indirect influence via X2	$(\rho_{ZX_3})(r_{X_2X_3})(\rho_{ZX_2})$	-0,024	-2,4%
Indirect influence via Y	$(\rho_{ZX_3})(\rho_{YX_3})(\rho_{YZ})$	0,013	1,3%
Total influence of motivation on work productivity	$X+Y+Z+AA$	0,353	35,3%
The Effect of Unsafe Actions on Productivity	$(\rho_{YZ})^2$	0,080	8,0%
Total influence of training, work stress, motivation, and unsafe actions on work productivity	$R+W+AB+AC$	0,540	54,0%

Chapter 1 : The Effect of Training on Unsafe Actions Directly and Indirectly

Training is a process of increasing employee knowledge and skills, in increasing work competence and knowledge regarding work safety so that they always work safely, so that the goals that have been set are achieved. Direct influence of training variables on unsafe actions namely 0.058, meaning that the training variable influences unsafe actions directly by 5.8%. Indirect influence between training variables on unsafe actions through the work stress variable of 0.014 or 1.4%. Indirect influence between training variables on unsafe actions through a motivation variable of 0.011 or 1.1%. So, the value of the influence of training on unsafe actions among Steam Power Plant contractor employees in Cirebon Regency was 8.3%.

Can be seen and measured from training indicators such as reaction, learning, behavior, organizational result, cost effectivity, based on the results of the t test, the significance value (sig) of the training variable was 0.003, which is smaller than 0.05. Meanwhile, the t value_{count} the training variable is 2.99 greater than t_{table}Of 1.655 (df= 147 and $\alpha=0.05$) in the negative direction. Thus, this indicates H0 rejected, and Ha accepted, that there is a negative and significant influence between the training variable and the unsafe action variable. The negative direction means that when the training program is improved, unsafe actions will decrease, or it will become safer for Steam Power Plant contractor employees in Cirebon Regency to work.

The results of this research are match with research conducted by (Larasatie et al., 2022), in the study concluded that training found a significant relationship between K3 training and unsafe actions. And this research are match with (Liku et al., 2021), which concluded that the knowledge and training of workers at PT. Pelindo IV Balikpapan can influence unsafe actions. Besides that, the research results are in line with the (Meilin et al., 2021) One of the factors that

influence employees to carry out unsafe actions is a lack of knowledge and skills.

Chapter 2 : The Effect of Job Stress on Unsafe Actions Directly and Indirectly

Work stress is an odd reaction felt by employees because of work pressure. Direct influence of work stress variables on unsafe acts namely 0.171, meaning that the work stress variable influences unsafe actions directly by 17.1%. Indirect influence between work stress variables on unsafe acts through the training variable of 0.014 or 1.4%. Indirect influence between work stress variables on unsafe acts through the motivation variable of 0.014 or 1.4%. So, the value of the influence of work stress on unsafe actions among Steam Power Plant contractor employees in Cirebon Regency was 19.9%.

It can be seen and measured from work stress indicators such as role overload, role overload, role ambiguity and employee careers, based on the results of the t test, the significance value (sig) of the work stress variable was obtained at 0.000, which is less than 0.05. Meanwhile, the t value_{count} the work stress variable is 5.619 greater than t_{table}Of 1.655 (df= 147 and $\alpha=0.05$) in the positive direction. Thus, this indicates H0 rejected, and Ha accepted, that there is a positive and significant influence between the work stress variable and the unsafe action variable. The positive direction means that when employees feel stressed at work, they can increase unsafe actions carried out by employees of the Steam Power Plant contractor in Cirebon Regency while working.

The results of this research are in line with research conducted by (Fam et al., 2018), which concluded that work stress had a significant effect on unsafe acts, in a positive direction. Besides that, the results of this research are in line with research conducted by (Rinny et al., 2020), the research concluded that there was a relationship between work stress and unsafe actions among boiler and turbine operator workers at the Amurang Steam Power Plant.

Besides that, the results of this study are in line with (Durai, 2012), where work stress can cause work-related problems, such as not complying with work safety procedures, poor performance and poor work quality.

Chapter 3 : The Influence of Motivation on Unsafe Actions Directly and Indirectly

Motivation is positive encouragement, given by superiors or co-workers which can trigger enthusiasm in doing work. Motivation is also related to something that motivates an employee to always work safely. Motivating employees to work safely, by paying attention to work safety rules. Apart from that, providing motivation to fulfill the need for a sense of security is expected to foster a safe attitude when working, thereby reducing the level of work accidents.

The direct influence of motivational variables on unsafe actions namely 0.008, meaning that the motivation variable influences unsafe actions directly by 0.8%. Indirect influence between motivational variables on unsafe actions through the training variable of 0.011 or 1.1%. Indirect influence between motivational variables on unsafe actions through the work stress variable of 0.014 or 1.4%. So, the value of the influence of motivation on unsafe actions among Steam Power Plant contractor employees in Cirebon Regency was 3.2%.

It can be seen and measured from motivational indicators such as physiological needs, safety needs, social needs, esteem needs, and self-actualization needs. Based on the results of the t test, the significance value (sig) for the motivation variable was 0.313, greater than 0.05. Meanwhile, the t value_{count} the motivation variable is 1.013 smaller than t_{table} of 1.655 (df= 147 and $\alpha=0.05$) in the negative direction. Thus, this indicates that H0 is rejected, and Ha is accepted, that there is a negative influence, but not significant, between the motivation variable and the unsafe action variable. The negative direction means that when motivation is increased, actions are unsafe will decrease or become safer for Steam Power Plant contractor employees in Cirebon Regency at work.

The results of this research are in line with research conducted by (Amalia et al., 2021) in this research it was concluded that there was a relationship between motivation and unsafe actions. This research is also in line with research conducted by (Agustiya et al., 2020), concluded that there is a relationship but not significant between motivation and unsafe action. Besides that, the research results are in line with the statement (Meilin et al., 2021) One of the factors that influence employees to carry out unsafe actions is a lack of motivation.

Chapter 4 : The Influence of Training, Job Stress and Motivation on Unsafe Actions Directly and Indirectly

The influence of training, work stress and motivation on unsafe actions on employees of the Steam Power Plant contractor in Cirebon Regency, it can be seen from the results of the sub-structural F test 1, in the ANOVA table. The results show that the significance value (sig) is $(0.003) \leq \alpha (0.05)$. The calculated F value is $22.711 \geq F \text{ table } 2.43$ (df₁=4 and df₂= 147). This indicates that H0 rejected, and Ha accepted, so that simultaneously the variables training, work stress and motivation influence unsafe actions on employees of the Steam Power Plant contractor in Cirebon Regency.

Based on the results of the analysis, the total influence of training, work stress and motivation on unsafe actions 31.5%. This value is an accumulation of the coefficient values for the influence of training, work stress and motivation variables on insecurity, both directly and indirectly. Where is the total effect of training on unsafe actions by 8.3%. The total influence of stress on unsafe actions amounted to 19.9%. Total influence of motivation on unsafe actions by 3.2%. Of these three variables, the work stress variable has the greatest influence on not being insecure on employees of the Steam Power Plant contractor in Cirebon Regency. This means that the work stress variable is a key variable that can determine that employees of the Steam Power Plant contractor in Cirebon Regency can work safely.

The magnitude of the influence of training, work stress and motivation variables on insecurity, of 0.315 which means that 31.5% of the variables training, work stress and motivation can influence not being unsafe Steam Power Plant contractor employees in Cirebon Regency and the remaining 68.5% were influenced by other variables not studied.

Chapter 5 : The Effect of Training, Job Stress, Motivation and Unsafe Actions on Work Productivity Directly and Indirectly

The influence of training, work stress, motivation, and unsafe actions on work productivity among Steam Power Plant Contractor Employees in Cirebon Regency, can be seen from the results of the sub-structural F test II, in the ANOVA table. The results show that the significance value (sig) is $(0.000) \leq \alpha (0.05)$. The calculated F value is $63.696 \geq F \text{ table } 2.43$ (df₁=4 and df₂= 147). This indicates that H0 rejected, and Ha accepted, so that simultaneously the variables training, training, work stress, motivation, and unsafe actions on work productivity of Steam Power Plant contractor employees in Cirebon Regency.

Based on the results of the analysis, the total influence of training, work stress, motivation, and unsafe actions on work productivity by 54%. This value is an accumulation of the coefficient values for the influence of training, work stress, motivation, and unsafe actions on work productivity, both directly and indirectly. Where the total effect of training on work productivity is 13.4%. The total effect of stress on work productivity is -2.8%. Total influence of motivation on work productivity amounting to 35.3%. Meanwhile, the influence of unsafe actions on work productivity by 8%. Of these four variables, the motivation variable has the greatest influence on work productivity for employees of the Steam Power Plant contractor in Cirebon Regency. This means that the motivation variable is a key variable that can determine the increase in work productivity of Steam Power Plant contractor employees in Cirebon Regency.

The magnitude of the influence of training, work stress, motivation, and unsafe actions on work productivity of 0.634, which means that 63.4% of the variables are training, work stress, motivation and unsafe actions can influence the work productivity of Steam Power Plant contractor employees in Cirebon Regency and the remaining 36.6% is influenced by other variables not studied.

CONCLUSION

Based on the discussion of research results and discussion entitled the influence of training, work stress and motivation on work productivity with unsafe actions then it can be concluded as follows:

- 1) Work stress, motivation, and work productivity among Steam Power Plant contractor employees in Cirebon Regency are in the good category. Meanwhile training and actions are unsafe the employees of the Steam Power Plant contractor in Cirebon Regency are in the very good category.
- 2) Training has a negative and significant effect on unsafe actions for Steam Power Plant contractor employees in Cirebon Regency.
- 3) Work stress has a positive and significant effect on unsafe actions for Steam Power Plant contractor employees in Cirebon Regency.
- 4) There is no influence between motivation and unsafe acts for Steam Power Plant contractor employees in Cirebon Regency.
- 5) Training, work stress and motivation simultaneously have a significant effect on unsafe acts for Steam Power Plant contractor employees in Cirebon Regency.

- 6) Training, work stress, motivation and unsafe acts simultaneously has a significant effect on work productivity for Steam Power Plant contractor employees in Cirebon Regency.

More in-depth studies and further research are needed regarding other variables that can influence unsafe actions and employee work productivity.

REFERENCES

- Agustiya, Hasma, Rahma Listyandini, & Rubi Ginanjar. (2020). Faktor-Faktor Yang Mempengaruhi Tindakan Tidak Aman (Unsafe Action) Pada Pekerja. *Jurnal Mahasiswa Kesehatan Masyarakat* , 3(5), 473–487.
- Amalia, Siti, Fierdania Yusvita, & Putri Handayani. (2021). Faktor-Faktor Yang Berhubungan Dengan Unsafe Action Pada Pekerja Ketinggian Di Proyek Pembangunan Apartemen Pt Nusa Raya Cipta Tbk. *Forum Ilmiah*, 18(3), 340–350.
- Astuti, R. W. (2020). Pengaruh Pendidikan, Keterampilan Kerja Dan Lingkungan Kerja Terhadap Produktivitas Kerja Karyawan. *Jsmbi (Jurnal Sains Manajemen Dan Bisnis Indonesia)* , 1(1), 24–29.
- Attwood, D., Paul, B., Devlin, C., Walter, F., Gareth, H., Isaacson, Phil, J., Eugene, L., Don, L., Lisa, M., & Bob, O. (2007). *Human Factors Methods For Improving Performance In The Process Industries*. John Wiley & Sons, Inc.
- Chantith, C., Permpoonwivat, C. K., & Hamaide, B. (2021). Measure of productivity loss due to road traffic accidents in Thailand. *IATSS Research*, 45(1), 131–136.
<https://doi.org/10.1016/J.IATSSR.2020.07.001>
- Durai, P. (2012). *Human Resource Management For Vtu*. Dorling Kindersley Pvt Ltd.
- Edwin, B. F. (2012). *Human Resource Management*. Dorling Kindersley Pvt. Ltd.
- Fam, I. M., Ali, K., & Shahram, M. (2018). Evaluation Of Relationship Between Job Stress And Unsafe Acts With Occupational Accident Rates In A Vehicle Manufacturing In Iran. *International Journal Of Occupational Hygiene*, 2(2), 85–90.
- Glendon, I. S. G., Clarke, & Eugene F. Mckenna. (2016). *Human Safety And Risk Management* (Second). Crc Press Taylor And Francis Group.
- Indonesia, K. K. R. (2022). *Profil Keselamatan Dan Kesehatan Kerja Nasional Indonesia Tahun 2022*.

- Kawiana, I. G. P. (2020). *Manajemen Sumber Daya Manusia "Msdm" Perusahaan*. Unhi Press.
- Larasatie, A., Fauziah, M., & Herdiansyah, D. (2022). Faktor-Faktor Yang Berhubungan Dengan Tindakan Tidak Aman (Unsafe Action) Pada Pekerja Produksi Pt X. *Environmental Occupational Health and Safety Journal*, 2(2), 133.
- Leung, M., Chan, I. Y. S., & Yu, J. (2012). Preventing construction worker injury incidents through the management of personal stress and organizational stressors. *Accident Analysis & Prevention*, 48, 156–166. <https://doi.org/10.1016/j.aap.2011.03.017>
- Liku, J. E. A., Didik, H., & Aftonun N. Hasmana. (2021). Analisa Faktor-Faktor Yang Mempengaruhi Tindakan Tidak Aman Di Pt Pelindo Iv Balikpapan. *Jurnal Keselamatan, Kesehatan Kerja Dan Lingkungan Lingkungan*, 7(1), 390–398.
- Meilin, Angky, Farida W, U., Ika P, R., Pudji, L., Ulfah, K., Wahyu. Sriharini, Yulita, A., Dina, A., & Eval B. Athatur. (2021). *Manajemen Keselamatan Dan Kesehatan Kerja*. Strada Press.
- Putu, N., Laksmiari, P., & Ekonomi, J. P. (2019). Pengaruh Motivasi Kerja Terhadap Produktivitas Kerja Karyawan Pada Perusahaan Teh Bunga Teratai Di Desa Patemon Kec Serrit. In *Jurnal Pendidikan Ekonomi Undiksha* (Vol. 11, Issue 1).
- Pynes, J. E. (2016). *Human Resources Managemen For Public And Non Profit Organization* (Third). Jossey Bass.
- Qiao, W., Liu, Q., Li, X., Luo, X., & Wan, Y. L. (2018). Using data mining techniques to analyze the influencing factor of unsafe behaviors in Chinese underground coal mines. *Resources Policy*, 59, 210–216. <https://doi.org/10.1016/J.RESOURPOL.2018.07.003>
- Rahardjo, D. (2022). *Manajemen Sumber Daya Manusia*. Yayasan Prima Agus Teknik.
- Reese, C. D. (2009). *Industrial Safety And Health For Infrastructure Service*. Crc Press.
- Rinny, S. P., Kawatu A. T. Paul, & Engkeng Sulaemana. (2020). Hubungan Antara Pengetahuan Keselamatan Dan Kesehatan Kerja Dan Stres Kerja Dengan Tindakan Tidak Aman Pada Pekerja Operator Boiler Dan Turbin Di Pjbs Pltu Amurang. *Jurnal Kesmas*, 9(3), 1–7.
- Sinambela, L. P. (2016). *Manajemen Sumber Daya Manusia*. Bumi Aksara.
- Sugiyono. (2013). *Metode Penelitian Kuantitatif Kualitatif Dan Re&D*. Alfabeta.
- Tong, R., Wang, X., Wang, L., & Hu, X. (2022). A dual perspective on work stress and its effect on unsafe behaviors: The mediating role of fatigue and the moderating role of safety climate. *Process Safety and Environmental Protection*, 165, 929–940. <https://doi.org/10.1016/j.psep.2022.04.018>
- Tsauri, S. (2013). *Manajemen Sumber Daya Manusia*. Stain Jember Press.
- Wijaya, C., & Ojak, M. (2021). *Produktivitas Kerja*. Kencana.
- Yunus, & Titien, S. (2013). *Manajemen Sumber Daya Manusia*. Universitas Majalengka.
- Yuxin, W., Gui, F., Qian, L., Xiao, L., Yiran, C., Yali, W., & Xuecai, X. (2023). Modelling and analysis of unsafe acts in coal mine gas explosion accidents based on network theory. *Process Safety and Environmental Protection*, 170, 28–44. <https://doi.org/10.1016/j.psep.2022.11.086>