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## **Influence Of Perceptions Of Safety And Programs Occupational Health (POH) On Work Achievement Wear Personal Protective Equipment (PPE) Maritime Task**

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### **Abstrak**

Penelitian ini bertujuan untuk menganalisis dan membuktikan pengaruh persepsi keselamatan dan kesehatan kerja terhadap prestasi kerja prajurit KRI serta memediasi motivasi penggunaan alat pelindung diri (APD) antara persepsi K3 dengan prestasi kerja. Populasi penelitian adalah prajurit Tentara Nasional Indonesia (TNI) Angkatan Laut yang bertugas di Kapal Republik Indonesia (KRI) KRI, sedangkan jumlah sampel yang diteliti mencapai 370 orang. Teknik analisis menggunakan pemodelan persamaan struktural Structural Equation Modeling (SEM). Hasil penelitian menunjukkan bahwa terdapat pengaruh yang signifikan antara persepsi keselamatan kerja dan kesehatan kerja terhadap kinerja prajurit. Koefisien jalur antara X1 ke Y adalah 0,197 dengan p-value 0,032 sedangkan variabel X2 ke Y memiliki koefisien path 0,351 dengan p-value 0,000. Motivasi mediasi penggunaan APD juga signifikan antara variabel X1 dan X2 terhadap prestasi kerja. Koefisien X1 pada Z, misalnya, memperoleh nilai 0,316 dan koefisien X2 pada Z adalah 0,49, sedangkan pengaruh Z itu sendiri pada Y adalah 0,255. Semua variabel ini memiliki nilai p di bawah 5%. Besarnya efek tidak langsung X2 pada Y adalah 0,125 dan X1 pada Y adalah 0,081. Ini berarti bahwa Z lebih dominan dalam menengahi X2 ke Y daripada X1 ke Y.

**Kata kunci:** kinerja, analisis pemodelan persamaan struktural.

### **Abstract**

This study aims to analyze and prove the effect of perceptions of occupational safety and health on the work performance of KRI soldiers and to mediate the motivation to use personal protective equipment (PPE) between K3 perceptions and work performance. The study population was soldiers of the Indonesian National Armed Forces (TNI) Navy who served on the Republic of Indonesia Ship (KRI) KRI, while the number of samples studied reached 370 people. The analysis technique uses Structural Equation Modeling (SEM) structural equation modeling. The results showed that there was a significant influence between perceptions of occupational safety and occupational health on soldier performance. The path coefficient between X1 to Y is 0.197 with a p-value of 0.032 while the variable X2 to Y has a path coefficient of 0.351 with a p-value of 0.000. Mediating motivation to use PPE is also significant between variables X1 and X2 on work performance. The coefficient X1 on Z, for example, obtained a value of 0.316 and the coefficient X2 on Z was 0.49, while the effect of Z itself on Y was 0.255. All of these variables have a p-value below 5%. The magnitude of the indirect effect of X2 on Y is 0.125 and X1 on Y is 0.081. This means that Z is more dominant in mediating X2 to Y than X1 to Y.

**Keywords:** performance, structural equation modeling analysis.

### **PRELIMINARY**

Soldiers of the Indonesian Navy within the scope of their duties and responsibilities, in principle, still have the right to obtain safety and health in their work environment. Work safety

law no. 1 of 1970 has mandated it. Institutions have the responsibility of providing occupational safety and health equipment, as well as establishing standard procedures regarding the importance of occupational safety and health, and Managers are required to show and explain to each new worker regarding: a. Conditions and hazards as well as those that may arise in the workplace; b. All safeguards and protective equipment required in the workplace; c. Self-protection tools for the workers concerned; d. Safe ways and attitudes in carrying out their work (Abbas et al., 2022). (Undang-Undang Republik Indonesia Nomor 1 Tahun 1970 Tentang Keselamatan Kerja, 2016) The problem is that almost every time there are Navy Soldiers who are killed or injured, every month there is an increase in Navy Soldiers who are sick and who are absent from work due to illness and leave. The seriousness of establishing occupational safety and health in the task environment of the Indonesian Navy was announced by the Chief of Staff of the Indonesian Navy in 2008, to achieve and cultivate a zero accident program. (Bramast, 2018)

In general, an accident often occurs due to more than one cause. Accidents can be prevented by eliminating the things that cause them. There are two main causes of an accident. First, unsafe actions Framework for Process Analysis of Maritime Accidents Caused by the Unsafe Acts of Seafarers: A Case Study of Ship Collision (Wang & Fu, 2022). Second, unsafe working conditions, All users of sea transportation in Indonesia in particular and in the world in general, place great importance on safety and security issues. They are vital to avoid accidents which can include the sinking or burning of ships. (Latuheru, 2021) People who get injured in an accident are often caused by other people or because of their own actions that do not support safety. So this is a problem that needs to be fixed because high occupational safety and health will lead to high work motivation so as to produce the expected work performance. Good occupational safety and health will lead to good work motivation as well, with the hope that the work performance of Indonesian Navy Soldiers (Mutiani et al., 2021). Ship accidents that often occur consist of several types including collisions, equipment failures, explosions, fires, leaks, aground, overturning, sinking, and human error. (Hasugian et al., 2018) The statistics show the collision and contact types of marine accidents have always been the most frequent. Primary causes that contribute to ship collisions were collected from 513 collision accidents reported since 1977, which is the date the Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREGs) came into effect (Ugurlu & Cicek, 2022). Because in the operation of the ship there are many jobs, both light and heavy, which have a high level of risk of work accidents. By disclosing the factors that caused accidents to Indonesian Navy soldiers on ships while working, and the consequences arising

from these accidents, and upaya yang harus dilakukan untuk mengurangi resiko kecelakaan kerja bagi prajurit di kapal (Syaharuddin et al., 2022).

What problem will be solved is trying to keep the healthy healthy and not just treat, treat or cure health problems or diseases. The perception of TNI AL soldiers on occupational health will be known from 3 items which include giving periodic health attention, occupational health insurance and health facilities. In this regard, the TNI AL soldiers on board have a big duty and responsibility in preventing accidents that can cause losses (Salvi, 2021) and suffering for all (Salvi, 2021) starting from the TNI AL soldiers themselves up to the management level of the Navy, namely through good work safety efforts.

Why is it important to discuss because K3 will have a significant effect on the work motivation of TNI AL Soldiers which as a whole will more or less affect all activities in the Navy unit both on land and on KRI. Accident is an event that is uncertain. because it cannot be predicted when it will occur, where it will be and how big or small the losses will be. Accident prevention is at the core of every workplace safety program, and understanding how an accident happens is truly the first step in preventing future recurrence. The protection officer often plays a role in accident investigations. (DeCamp & Herskovitz, 2015) So people often assume that accidents are related to one's fate. Even though the accident is actually always preceded by symptoms that indicate the existence of an accident. In other words, the cause of the accident can be found, including: An incident which is an unwanted event that can reduce productivity (Jumriani et al., 2022). And a work accident is an accident that occurs to a person due to a work relationship and is most likely caused by a hazard related to workers and during working hours.

How to solve the problem by increasing understanding of the correct use of safety equipment, the level of education and training on safety (Utami, 2020), administrative control level (Ammad et al., 2021) and personnel, the level of safety assurance, and the level of completeness of the personal protective equipment carried out by the Navy are perceived by the TNI Soldiers as very good. A conducive organizational culture is needed so that employees are involved in the safety program, comply with work safety regulations and apply safety procedures actively (Ilhami, 2022). Organizational culture is needed to improve safety behavior because culture reflects the shared beliefs, values, attitudes, and values regarding the goals, functions, and safety procedures in the workplace that characterize the company. Smart PLS was further used for a detailed analysis of data acquisition. The study produced a conceptual model evaluation based on Smart PLS and recommends focusing on its role in safety, safety instruction and exercise, workers monitoring mechanism, and workers safety problems.

Reason The research was conducted to improve and increase the work performance of Indonesian Navy Soldiers which in the end will be beneficial for the implementation of the operational functions of the Navy's resources. This research can contribute to filling the existing gap by prioritizing work safety as an effort to create safe conditions for TNI AL soldiers by providing protection in the work environment so that workers feel comfortable in carrying out their work. The feeling of security at work is very vital for workers to renew their motivation in carrying out work both on land and at sea.

The innovation proposed by increasing the provision of quality health attention on a periodic basis is good by holding activities such as medical check-ups and morning exercises to maintain the health of Indonesian Navy soldiers. Research Questions (a) does work safety have a significant effect on the work motivation of Indonesian Navy Soldiers? (PANCASILA et al., 2020), (b) does occupational health have a significant effect on the work motivation of Indonesian Navy Soldiers? (Adler & Castro, 2013), (c) whether occupational safety and health simultaneously have a significant effect on the work motivation of Indonesian Navy Soldiers?(Pradja & Wibowo, 2022)

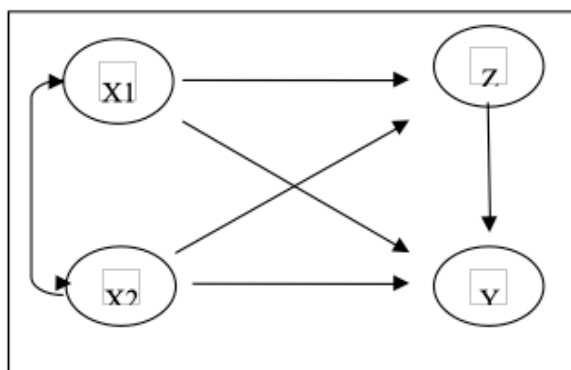
The zero accident program is based on the fact that there are still high cases of work accidents within the Indonesian Navy since December 2007, there have been several prominent accidents which are known to the public. The goal that the Navy wants to achieve is that all TNI AL soldiers have knowledge of advanced occupational safety and health that will be achieved well and realistically, which is a very important factor in giving excitement at work. In early January 2008 a maritime patrol aircraft of the Indonesian Navy Nomad N-22 registered number P-833 crashed in Sabang waters which resulted in 4 deaths and 3 injuries. February 2008 Marine Corps amphibious panzer sank in Situbondo waters during an amphibious landing during the 27th Armada Jaya Exercise on January 28 2008 which resulted in six soldiers dying and seven injuries. Two months later, on April 2008, a lifeboat belonging to KRI Imam Bonjol collided with a wooden ship in the waters of the Riau Islands which resulted in the death of one person. The fall of personnel and material casualties is very detrimental to the families left behind and the service itself. (Laut, 2023)

## **METHOD**

The Occupational Safety and Health (K3) program in the work environment has the aim of maintaining the workforce. The existence of the K3 program is to prevent work accidents that can cause harm to soldiers (Supriyadi et al., 2015) as well as organizations and can assist soldiers in motivating themselves to use Personal Protective Equipment in accordance with procedures determined by the organization/company.

Based on Social Security data during 2013 there were 37,390 cases. accidents resulting in 1,451 people died, 5,326 people were permanently disabled, and 58,697 people were injured. In general, all work accidents, whether direct or indirect, occur due to human error. Therefore, apart from being aimed at mechanical engineering, safety efforts must also pay special attention to the "human aspect". The human factor is described as daydreaming, not being careful, not following safety regulations and so on.

**Figure 1. Research Model**



The sampling technique used the proportionate stratified random sampling method, namely taking samples from each sub-population by taking into account the size of the sub-population. Test the validity using the Variance Extract formula, (Supriyadi et al., 2015) namely: In principle, the measurement of variance extract shows the amount of variance of the indicators extracted by the constructs/latent variables developed. The acceptable variance extract value is  $\geq 0.50$ . The reliability test uses the construct reliability formula, namely: The reliability test is used to show the extent to which a measuring instrument can give relatively the same results if measurements are made again on the same object. Construct reliability test in SEM (Hair et al., 2021) aims to prove that the indicators used can build a variable construct. The minimum reliability value of acceptable latent variable forming dimensions is  $\geq 0.70$

## **RESULTS AND DISCUSSION**

The three hypotheses proposed in the study can be proven. The first hypothesis put forward is proving the allegation that there is a significant influence between perceptions of work safety programs on the work performance of soldiers in KRI. According to the results of the analysis, the research findings show that the direct effect of perceptions of occupational safety on performance is 0.197 with a critical ratio value of 2.149 and the probability of receiving H0 is 0.032. The conclusions from these results provide empirical evidence that there is a significant influence between perceptions of work safety and performance in KRI TNI AL soldiers. Increasing the perception of KRI soldiers on the importance of work safety factors

both in human factors (Fabiano et al., 2019), material (Mohd Said et al., 2020), source of danger (Chua & Abdul Wahab, 2019), as well as the factors encountered, besides having a direct effect on performance, perceptions of work safety also have an indirect influence through the mediation of motivation to use Personal Protective Equipment of 0.081. The existence of a high perception of the importance of work safety and its factors besides having an impact on increasing work is usually followed by an increase in motivation to use protective equipment or PPE by soldiers when on duty and carrying out their mission (Putro et al., 2022). This motivation increased due to the soldiers' perceptions of the use of PPE in addition to improving their own safety, it will also have an impact on the work results achieved and the supervisor's assessment of their work performance.

The second hypothesis also shows the conclusion that there is a significant influence between perceptions of occupational health and the work performance of Indonesian Navy soldiers. The ability to estimate the variable perception of occupational health reaches 0.351 on the performance of soldiers. This means that an increase in perception in a standard deviation of 1 will be able to increase performance by 0.351 in a standard deviation. Significance test with a critical ratio is obtained a value of 3.344 with a probability of reaching 0.000. Thus it can be proven that respondents' perceptions of occupational health factors such as preventing the risk of health problems from chemical factors, biological factors, physiological factors, and psychological factors can improve the performance of Indonesian Navy soldiers in carrying out their duties.

In maritime, safety perceptions and Occupational Health and Safety (OHS) programs have a significant influence on job performance in the use of Personal Protective Equipment (PPE). Respondents who have a positive perception of safety and are actively involved in OHS programs tend to have better job performance in the use of PPE compared to those who do not.

The third hypothesis which aims to prove the mediation between perceptions of occupational safety and occupational health is also proven. Perceptions of work safety are proven to have a significant positive influence on the motivation of soldiers in using Personal Protective Equipment on duty (Abbas et al., 2021). Likewise, perceptions of occupational health can also be proven to have a direct influence on the motivation of soldiers to use Personal Protective Equipment. On the other hand, as an intervening variable, the motivation to use Personal Protective Equipment also has a significant effect on performance. The critical ratio value of the influence of perceptions of work safety on motivation to use Personal Protective Equipment is 3.547 with a probability of 0.000. Likewise, the perception of occupational health on the motivation to use PPE has a critical ratio value of 5,247 with a probability of 0.000.

Meanwhile, the critical ratio value for the path coefficient between motivation to use PPE and performance is 2.584. Thus the mediation effect between perceptions of occupational safety and perceptions of occupational health by the motivation to use PPE on performance is partial. This partial mediation occurs because the variable perceptions of occupational safety and occupational health besides having an indirect effect also has a significant direct effect.

The results show a relationship between safety perception, involvement in Occupational Health and Safety (OHS) programs, and job performance related to the use of Personal Protective Equipment (PPE) in the maritime field. If someone in maritime has a positive view of safety and is active in OHS programs, then they are likely to be better at using PPE. Conversely, those with a less important view of safety or less active in OHS programs may be less effective in using PPE. Therefore, perceptions and involvement in safety programs influence performance in the use of safety equipment.

Thus the increase in perception does not have to be mediated by motivation to improve performance but can also have a direct impact on performance. The magnitude of the direct effect of perceptions of work safety on performance through motivation to use PPE is 0.081 while the variable perceptions of occupational health is 0.125.

## **CONCLUSION**

The conclusions of the results of this study, among others: Perceptions of Occupational Safety have been shown to have a direct influence on the performance of Indonesian Navy soldiers serving on the KRI. Increasing the perception of work safety will be able to encourage increased performance of soldiers., Perceptions of Occupational Health have been shown to have a direct influence on the performance of Indonesian Navy soldiers serving on the KRI. Improved perceptions of occupational health will be able to encourage increased performance of soldiers and Motivation to use Personal Protective Equipment is also able to partially mediate the influence of perceived work safety and occupational health perceptions on performance. Perceptions of occupational safety and occupational health have been shown to have a significant direct influence on soldiers' motivation in using Personal Protective Equipment. Meanwhile the motivation to use Personal Protective Equipment also has a significant influence on the performance of Indonesian Navy soldiers.

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