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A Review of Work Effectiveness among Military Armored Vehicle Crews: Theory and Concepts

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Abstract

This conceptual paper investigated the role of workload and the role of training, and its relationship with the work effectiveness of armored vehicle crews among Malaysia Armed Forces. This study proposed a working group effectiveness model that outlined the dimensions of workload, training and job effectiveness. There are several theories were discussed to have a better understanding about the study such as contingency theory, theory of workload and working group effectiveness theory. The findings from the previous studies show that the dimensions of workload and training contributed to job effectiveness and played a role in increasing the performance of employees within the organization. In addition, this study also explored on leader's support as mediating variable between the relationship of workload and training with job effectiveness in the research sample. This paper will further elaborate empirical evidence on selected constructs.

Keywords: Work Effectiveness, Workload, Training, Leadership Support, Military Armored Vehicle Crews

Introduction

The diversity of the scope of security operations around the world to promote peace and security has demanded a country's military organizations, commanders, and soldiers to put more emphasis on the performance and effectiveness of forces. Crisis response operations, anti-terrorism operations, peacekeeping operations, humanitarian aid operations and even war are very diverse in nature, seen as requiring a variety of qualities and skills of the soldiers involved (Essens, Vogelaar, Tanercan, & Winslow, 2001). These missions have become complex, when they involve clear military objectives but also face political and societal constraints. Accordingly, the effectiveness of a team in carrying out a mission or operation has been defined differently by various parties. However, there is a growing need to bring

issues such as critical team workload, training, skills, leadership, communication, cultural diversity, and their impact on the effectiveness of a team into focus and attention.

The NATO Research and Technology Organization (RTONATO) since 2005 to the following years has done a study regarding the importance of studying the effectiveness of military forces (Essen et al. 2005). The approach used in the studies that have been developed has examined existing work effectiveness models, such as the Driskell, Salas and Hogan (1987) model, Salas, Dickinson, Converse and Tannenbaum (1992), Tannenbaum, Beard and Salas (1992), Cannon-Bowers, Tannenbaum, Salas and Volpe (1995), Klimoski and Jones (1995), Rasker, van Vliet, van den Broek and Essens (2001) and the model of Blendell, Henderson, Molloy and Pascual (2001), regarding team effectiveness as well as existing literature on effectiveness in the areas of command and control, decision making, human resource management, organizational design and team effectiveness factors. RTONATO has scanned hundreds of books, articles, models, and reports to obtain the necessary data including collecting interview data from the experience of military command teams to identify the factors that are important for team effectiveness in a military context and finally develop an appropriate model to debate the critical factors for team effectiveness.

This research is inspired due to the increase in the requirement of optimal level of readiness and effectiveness among the AV8 Gempita crew. In the age of fast-paced defense and technology changes, understanding human capital aspects related to training, skill and leadership support is essential to achieve peak performance. Not much by way of empirical studies have been conducted on testing the mediating effect of support from leader in Malaysian military context particularly so for defense operations. By doing so, the current study makes a novel empirical contribution to the literature on the indirect impacts of training and skills on work effectiveness via leader's support and does so with a distinct and under-studied class of military personnel. Additionally, implications to defense policymakers and leaders charged with training of the military to develop successful leadership development programs that are reflective of actual operating environment experiences incurred by the armored vehicle operators are discussed.

Military Work Effectiveness

Gibson (2006) in Kuswati (2019) says that effectiveness is "the achievement of goals set by the organization". Clearly, if the target or goal has been achieved as planned, it can be categorized as "effective". The success and failure of an organization to achieve its set goals depends on the ability of employees to carry out their duties and responsibilities towards the tasks assigned to them. If the work results according to what has been determined, the situation can be said to be effective (Kataria 2013). Sugandha (1991) suggests that effectiveness is work that successfully achieves a set goal, because the word "effective" is a state of success in achieving a target or goal. While Handayaningrat (2002) also defines effectiveness as achieving targets or goals that have been set. Clearly, if the target or goal has been achieved as planned, it can mean "effective". In principle, the definition of effectiveness is the evaluation of whether an activity/system is achieved or not. In the organizational context, employee effectiveness can be assumed as the level of employee performance improvement that will lead to higher productivity (Teo & Low, 2016). This assumption is supported by Terpstra and Rozell (1994) who have done a qualitative (Latham & Lee, 1986;

Latham & Yukl, 1975; Locke, Shaw, Saari & Latham, 1981) and quantitative (Mento, Steel & Karren, 1987) literature review.

"Work effectiveness" in the context of this study refers to the armored vehicle crew's ability to complete assigned tasks and objectives efficiently and successfully. Work effectiveness includes factors such as mission accomplishment, adherence to operational standards and procedures, utilization of resources, teamwork, adaptability, and ability to respond to changing circumstances. It involves maximizing the use of available resources, including machinery, equipment, and personnel to achieve desired results while maintaining a high level of safety and operational readiness. This aspect is important because it directly affects the operational success of the overall military mission. Effective work performance ensures that crews can accurately target enemy targets, maintain situational awareness, communicate effectively, and carry out their responsibilities in a coordinated and efficient manner. By prioritizing work effectiveness, crews can contribute to the overall effectiveness of military forces, increase mission success rates, and protect the well-being of personnel involved in military operations.

Workload

Everly and Girdano (1980) in Susiarty, Lalu and Suryatni (2019) say that workload is a situation where employees are faced with tasks that need to be completed at a certain time. Another category of workload is a combination of quantitative and qualitative workload. Quantitative workload arises from too many or too few tasks, while qualitative workload occurs if the employee feels unable to perform a task or the task does not use the employee's skills or potential. According to Tarwaka et al (2015), workload is defined as the difference between the employee's capacity or ability to meet the demands of the job that must be addressed considering that the human workforce is physical and mental, so each has a different level of workload. Too high a level of loading allows for excessive energy consumption and overstress, but if not overwhelming, too low an intensity allows for a feeling of overload and boredom. Therefore, it is necessary that there is an optimal level of load intensity that exists between these two extreme limits and is certainly different between individuals.

According to the United States Army Aeromedical Research Laboratory, the term workload can be defined as the cost to complete a task handled by humans (Webb, Gaydos, Estrada and Milam, 2010). These costs can consist of several aspects such as fatigue, stress, and mistakes. According to the information processing model, the operator has only a limited number of resources, both physically and mentally, to complete the task. High workload tasks may demand more resources than are available and task performance may decrease. Wickens, et al., (1986) in Devlin et al, (2020) explained that when the workload of a task is high, there is a decrease in work effectiveness that can have a negative impact on the crew operating defense machinery such as aircraft or other vehicles such as armored vehicles.

In the context of this study, workload refers to a quantitative or qualitative assessment of the cognitive, physical, and psychological demands placed on crew members while performing their operational duties. It includes factors such as task complexity, decision making, situational awareness, physical exertion, repetitive movements, time-related demands, effective communication, and the influence of the operating environment. Understanding

and managing the workload within the crew is critical to optimizing mission effectiveness, crew well-being and operational planning.

Training

According to Cascio (2019), training consists of a planned program designed to improve performance at the individual, group and/or organizational level. Better performance can lead to measurable changes in knowledge, skills attitudes, and/or social behavior. Training is considered as a tool for human resource development (HRD). It also has great potential in the transfer and use of the latest technical knowledge, leadership development, organization of people, formation of self-help groups, mobilization of people and resources, empowerment of rural people who are poor in resources, entrepreneurship development and so on which can be considered as an important component in HRD. According to Abu Bakar et al. (2019), training is a process of learning a programmed sequence of behaviors. It is the application of knowledge that can improve the employee's performance on the current job and prepare them for the job being performed. "Training" in the context of this study refers to the systematic and organized process of acquiring and developing the knowledge, skills and abilities necessary for effective operations. Training for crews typically includes a combination of classroom instruction, simulator-based training and hands-on practical training in operating armored vehicle systems, tactical procedures, communication protocols, and decision-making under various scenarios. In addition, training plays an important role in increasing the effectiveness of the crews by ensuring their competence, confidence and readiness to carry out the assigned mission. It helps crew members develop technical competence, teamwork skills, situational awareness, and the ability to execute missions under high pressure and challenging conditions. By providing realistic and challenging training scenarios, military organizations can respond efficiently and effectively to complex operational environments, contributing to mission success and maintaining overall operational readiness of the military force.

Leader's Support

"Leader support" refers to the act of leaders in aiding, encouragement or resources to individuals or groups in their organization (Waldan, 2020). This shows that leaders are actively involved in helping others to achieve their goals, address their needs, and promote their well-being. Leaders support their team members, subordinates, or followers by offering guidance and resources to facilitate their success. The support of the head or leader is important in an organization and can bring a meaningful effect on the attitude and behavior of employees (Ford et al., 2021). Basically, leader support can help subordinates cope with the demands of their roles, producing positive outcomes for the organization such as employee engagement, motivation, and well-being (Breevaart et al., 2014). This effect persists in the context of organizational change as support that leads to a more positive employee attitude towards change, which in turn helps employees to carry on with their tasks more effectively. "Leader support" in the context refers to the actions, guidance and resources provided by leaders in the hierarchy to facilitate and improve the crew's overall effectiveness. The support of the leader or superior covers various aspects, including clear communication of objectives, effective delegation of tasks, provision of necessary resources and equipment, guidance for skill development, monitoring and evaluation of performance and fostering a positive and cohesive team environment. Effective leader support is essential in promoting the morale,

motivation, and confidence of the crews, which in turn increases their overall effectiveness in working together.

Contingency Theory

The concept of contingency theory, initially introduced by Lawrence and Lorsch in 1967 and later developed by Kast and Rosenzweig in 1973. The idea of this theory is concerned with the "best way" that can be used universally for organizations to achieve effectiveness. On the other hand, it asserts that the effectiveness of an organization depends on the compatibility and alignment between various internal and external factors. According to contingency theory, organizational design structures, activities, and competencies must be appropriate to its objectives and environmental conditions to achieve optimal results. In other words, there needs to be a fit or alignment between the characteristics of the organization and the context in which it operates.

Contingency theory asserts that the effectiveness of an organization depends on a combination of internal and external factors. In the context of work effectiveness, this theory highlights the importance of various internal supports, such as professionalism or high-level skills, human resources, and other related factors, as well as external supports, including leadership support and peer support, management practices, and strategic considerations. Internally, contingency theory emphasizes factors such as professionalism and the quality of human resources play an important role in determining work effectiveness. A high level of professionalism can ensure that employees have the necessary skills, knowledge, and expertise to perform their duties effectively. This can be achieved through proper recruitment, training and development programs aimed at increasing the efficiency of the workforce. Additionally, creating a supportive work environment that promotes professionalism and fosters continuous learning and improvement can contribute to higher levels of work effectiveness. Furthermore, internal factors related to human resources, such as employee motivation and job satisfaction, are also important for work effectiveness. Employees who are motivated and satisfied with their work are more likely to be productive, engaged and committed to achieving organizational goals, while dissatisfied employees will reduce their motivation and work effectiveness.

Social Exchange Theory

Social Exchange Theory is a dynamic framework that addresses social interactions in the context of work. It emphasizes reciprocity in relationships and the impact on work effectiveness.

At its core, Social Exchange Theory holds that individuals engage in social interactions to obtain mutual benefits. When leaders provide support to their subordinates, such as providing guidance, resources, and recognition, they have created a positive social exchange. This support contributes to a positive relationship between leaders and employees, fostering trust, respect, and loyalty to the organization. Employees who feel supported by their leaders are more likely to respond by increasing commitment, having better motivation to work, and increasing effort in their work. This reciprocal exchange increases job satisfaction, employee engagement and overall work effectiveness. This mutual support fosters a sense of belonging and teamwork, leading to increased trust, communication, and team cohesion. When employees feel supported by colleagues, they are likely to experience higher job satisfaction,

lower stress levels and improve psychological well-being. A positive work environment is also able to increase work effectiveness by encouraging collaboration, knowledge sharing and problem solving among team members.

The impact of leader on individuals can lead to maximum satisfaction and engagement in teamwork. Research has shown that supportive leaders can contribute to better levels of organizational behavior, where employees voluntarily go beyond their formal job requirements to support the organization and their colleagues. Organizational behavior is actions such as helping others, offering suggestions for improvement, and showing a positive attitude. These behaviors contribute to a positive work culture, higher team performance, and ultimately, increased work effectiveness.

Workload Theory

Everly and Girdano (1980) in Susiarty, Lalu and Suryatni (2019) say that workload is a situation where employees are faced with tasks that need to be completed at a certain time. Another category of workload is a combination of quantitative and qualitative workload. Quantitative workload arises from too many or too few tasks, while qualitative workload occurs when employees feel unable to perform a task. According to Tarwaka et al (2015), workload is defined as the difference between the employee's capacity or ability to meet the demands of the job that must be addressed considering that the human workforce uses both physical and mental energy, so each has a different level of workload. The level of workload that is too high requires the use of excessive energy and there is excessive stress, but if the workload is too low it can cause a feeling of boredom. Therefore, the level of the workload placed must be balanced and coincide with the task in charge.

According to the United States Army Aeromedical Research Laboratory, the term workload can be defined as the cost to complete a task handled by humans (Webb, Gaydos, Estrada and Milam, 2010). These costs can consist of several aspects such as fatigue, stress, and mistakes. According to the information processing model, an individual only has a limited amount of physical and mental resources to complete a task. Tasks that require a high workload may also demand more resources than are available and task performance may decrease.

Conceptual Model

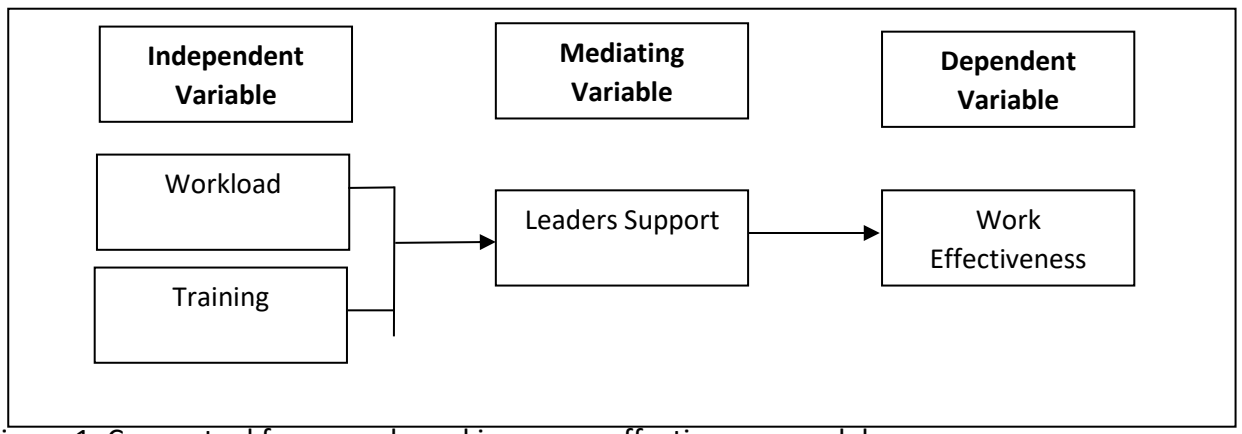

Figure 1: Conceptual framework working group effectiveness model.

Conclusion

This concept paper has discussed the relationship between workload and training with the work effectiveness of armored vehicle team in Malaysia Armed Forces. This study proposed a working group effectiveness model that outlined the dimensions of workload, training, and job effectiveness. There are several theories were discussed to have a better understanding about the study such as contingency theory, theory of workload and working group effectiveness theory. The findings from the previous studies show that the dimensions of workload and training contributed to job effectiveness and played a role in increasing the performance of employees within the organization. In addition, this study also explored on leader's support as mediating variable between the relationship of workload and training with job effectiveness in the research sample. This paper will further elaborate empirical evidence on selected constructs.

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