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THE EFFECT OF PHYSICAL READINESS AND HEALTH OF DRIVERS AND PERFORMANCE ON THE SAFETY OF TRANSJAKARTA BUS PASSENGERS IN 2022

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Abstract: This research was conducted because there are often accidents involving Transjakarta buses and resulting in victims, the majority of whom are Transjakarta bus passengers. The purpose of this study is that the management of PT Transportation Jakarta can validate the performance of its drivers and further optimize their readiness to drive buses with excellently maximum performances . The research method used was quantitative research. Data collection technique used online questionnaires distributed as many as 100 samples. The research testing technique included validity and reliability tests. Moreover, multiple linear regression analysis was used for hypothesis testing. The results of the study show that Physical and Health Readiness (X1) 0.000 < 0.05 means that both variables have a significant influence on Passenger Safety (Y). Moreover, the Adjusted Square R number shows a determinant coefficient of 0.703, so it can be determined that the contribution of Physical Readiness and Health (X1) and Performance (X2) variables to Passenger Safety (Y) is 70.3%. Transjakarta management is expected to improve services for passengers and provides health clinics for bus drivers to ensure the health of Transjakarta drivers periodically, so drivers can work optimally.

Keywords: *Physical Readiness, Health, Performance, Passenger, Driver.*

Introduction

Public transportation is getting faster every year. This relates to the enhancement of employee performance, particularly that of the driver, to enhance passenger safety and security. The guarantee of safety that can be felt by passengers is not only assessed when they are in public transportation facilities, but safety can also be felt when passengers can see the performance of the employees, such as driver attendants having a high spirit of work and providinggood service to passengers. Public transportation operators must be able to adapt to the minimum service requirements that have been implemented to meet service standards that include providing safety and security to users of public transportation. The study discussed the

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performance of Transjakarta passenger safety. Transjakarta drivers are owned by PT Transjakarta which is regulated in Gubernatorial Regulation (Pergub) No.11 of 2019 replaced by Gubernatorial Regulation No.96 of 2018 concerning the integration of feeder transportation into the bus rapid transit system.

A job evaluation is a technique for contrasting distinct jobs using official and systematic procedures to establish the hierarchy of tasks by figuring out the relative importance of each worker. Performance is the assessment's output, and it can serve as the foundation for a just wage structure (Luis & Moncayo, n.d.). The corporation must focus on several factors in order to deliver high performance, including recruitment and selection. A position analysis can assist management in identifying the kind of individuals required to fill a position or to carry out a certain task. The objective is to hire the right individual for the job or to place them in the appropriate position. Additionally, training and development in the form of a position or job analysis can be utilized to determine the needs of the employees in terms of training and development. The amount of training that has to be given to the person depends on the discrepancy between the expected job results and the actual performance of the employees. With the help of this job analysis, management may decide on the training's content, techniques, and tools that will be used to carry it out (Adi Robith Setiana, SE., 2019)

According to research results, the performance of Transjakarta drivers as a whole is still regarded as insufficient to meet passenger safety standards due to factors like the conditions that the drivers face, such as working more than eight hours, needing increased concentration because the bus travels on a special lane, and having bus unsuitable design for an Asian bus driver's posture. In this case, the President Director of PT Transportasi Jakarta will make improvements to the safety side of its service business, including the maximum driving of the drivers as much as eight hours per day, and the rest

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at least half an hour in every four hours . This is done, so the driverscan be fresher and are not fatigued when operating the vehicle.

Here are some previous studies related to this research :

1. In the journal article, Caecilia Sri Wahyuning's **"Service Study of Designing Readiness Level Measurement Instruments Based on Physical and Mental Fatigue"** the research method designed goal setting to obtain a description product, continued with planning, conceptualizing, and ending with design. The conclusion shows that the instrument to measure the driver's level of physical and mental readiness is worth designing. The existence of this instrument can improve road safety. This can have an impact on increasing public confidence in public transportation; thus, helping in solving the problem of congestion.
2. Rida Zuraida's journal article titled "**Driver Fatigue Rate Bus Rapid Transport (BRT) Jakarta,**" points out that based on the Swedish Occupational Fatigue Index (SOFI), "the research method is that SOFI is used as a subjective fatigue measurement tool. The conclusion showed that changes in the level of motivation before and after work were most reduced in drivers taking shift two compared to shift one. In shift one, after duty, the driver has a relatively long time to rest, socialize, and gather with family compared to the driver of shift two.

The basic idea of the study is that the measurement of parameters is indicated as the aspects of physical fatigue or physical readiness. Referring to the study above, the parameters that will be used in the instrument to measure the readiness level based on the physical and mental fatigue of the drivers are the heart rate (HR), stress level, and reaction speed of the drivers. The reason for using this parameter is to look at the ease of measurement and to interpret the measurement results.

Based on the data, the number of Transjakarta passengers in 2021 were 98,000,000 people. The Transjakarta bus fleet has 872 buses with 8000 drivers, with 3 shifts from 05.00 to 13.00, and the second from 13.00 to 22.00.

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Physical Readiness, according to (Dalyono, 2005) means that "Physically and mentally, preparedness is a respectable ability. While being mentally prepared implies having enough desire and determination to complete a task, being physically prepared entails having enough energy and being in excellent condition."

Based on (Zamrodah, 2016) readiness is the will, desire, and ability to strive for activities that depend on maturity, experience, mentality, and emotions. While according to Slameto (2010:113) in (Qadrya Ayu, 2013) The state of being prepared to respond or provide an explanation to someone who reacts in a particular way to a circumstance is known as preparedness.

According to Kuswahyuni (2009:27) (Diasti, 2021), readiness is an action that a person performs to design something. Physical readiness, for example, is that the body does not hurt (far from the disturbance of lethargy, drowsiness, and so on), and it will make it easier for the drivers to concentrate on driving the vehicle. Fit physical condition is certainly what determines the safety of passengers. While according to (Wahyuning, 2018), a base is a tool that can measure these three parameters, so this study is a development of existing measuring instruments, namely: 1). HR monitor instrument is used to measure HR, which is usually used in the wrist of the device. This tool can provide information on the condition of the HR and zone of the HR condition, as well as can store data on the results of measurements. 2). When measuring skin conductance or electrodermal as a stress indicator, equipment called galvanic skin response is typically wrapped around the upper arm or touched to the pad. This tool will provide information on the condition of skin conductance and will store the measurement data. 3). Reaction time is the method used to measure the reaction speed. This method has been widely made in the form of smartphone applications and simple instruments, which are used by touching the screen just after the image or sound appears namelystimulus. This tool will provide information regarding the speed of reaction to the stimulus.

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Health, according to (Dra. SriRedjeki'si, 2015), is that the goal of occupational health is to help workers and working communities achieve the highest level of physical, mental, and social well-being through preventative and therapeutic measures against specific diseases and health conditions brought on by occupational factors and the workplace environment, as well as against common diseases. Occupational health is a specialty in the health sciences and medicine. The definition of occupational health has been evolving nowadays, moving beyond "health in the industrial sector" to initiatives to promote health in all aspects of work.

According to (Akmal Shamsuddin et al., 2015), Safety, Health, and Environment (SHE) are concerns by protecting the welfare of workers in each workplace. Because employees must follow the rules in order to prevent the collapse of the firm, health and safety play a crucial role in the workplace. Additionally, health and safety work to keep everyone safe while also protecting companies and employees. Two instruments they must utilize to guarantee a company's success are health and safety. If their staffs are always ill and wounded, they cannot achieve good outcomes. Safety and environmental health must be protected first. Construction workers have pushed for this privilege throughout the years, often at great personal risk. Work-related or workplace security concerns are addressed by departments of SHE\.

Performance, according to (Lian, 2017) is "a process that necessitates the use of energy or effort to turn raw materials into the goods or services that people value." Work is the process of adding value to a unit of resources. Along with contrasting work and leisure, it also challenges the term "work" even though there is a fact that the activity has no economic value to others. While, according to Borivali (Yullyanti, 2011), the following factors primarily affect an individual's performance: (1) reward expectations; (2) encouragement; (3) needs, abilities, and attributes; (4) task perceptions; (5) external and internal rewards; (6) perceptions of reward levels; and (7) job satisfaction.

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According to Tiffin and McCormick, (1974); Sukasah, (2005) (Yullyanti, 2011), it is important to have a tool that can accurately characterize performance when evaluating an employee's output. According to opposing views, performance can be evaluated based on the quantity of work, the quality of the work, the sample of a task that is included in the work, the amount of time required to study a task, and the number of promotions that have been attained.

Transportation safety, according to (Putra & Tangkudung, 2018), is a condition of meeting the requirements so that everyone avoids the risk of accidents during the trip caused by humans, modes of transportation, and the environment. While (Safitri et al., 2020) stated thatthe determining factors of safety culture are divided into three parts including the characteristics of the organization, engineering facilities or sources, and the characteristics of employees. The characteristics of the organization include leadership, commitment, communication, and, training. Meanwhile, employee characteristics include attitudes, knowledge, risk awareness, and perceptions. Engineering facilities or sources include equipment and facilities.

Method

To evaluate the physical and health capability and performance of Transjakarta passenger safety in 2022, this study was carried out. Utilizing linear regression and a descriptive methodology, this research design employed quantitative research techniques. The design of study was based on testing hypotheses. This study, conducted by PT Transportation Jakarta, attempted to determine the impact of physical and mental fitness on passengers' satisfaction with safety. The population in this study was carried out using driver attendants and service users who had used Transjakarta services in the DKI Jakarta area. The population in this study was 98,000,000. the size of the sample was determined by using the slovin formula. Then, they obtained a sample of 99,99 which equalled to 100 respondents.

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Discussion and Result

This study aims to analyze the driver's physical readiness, health, and performance for the safety of Transjakarta passengers. In this study, 100 passengers and Transjakarta bus drivers contributed their knowledge.

A. t-Test (Partial)

Table 1 **t-Test Analysis Result**

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.788	1.554		1.794	.075
	PHYSICAL READINESS AND HEALTH (X1)	.298	.044	.443	6.704	.000
	PERFORMANCE (X2)	.476	.068	.460	6.952	.000

Dependent Variable: safety of passengers (Y)

Source: processing data output from SPSS version 24

The independent test turned out to be two significant variables because the Performance value (X2) of the Sig was 0.000 < 0.05. Moreover, Physical and Health Readiness (X1) of Sig 0.000 < 0.05 means that both variables have a significant effect on Passenger Safety (Y). Therefore, if performance was raised, passenger safety may have also risen. The boost from the Transjakarta drivers came after PT Transjakarta Performance Improvement.

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B. F-Test (Simultaneous)

Table 2 **F-Test Analysis Result**

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1515.871	2	757.935	176.417	.000[b]
	Residual	627.257	146	4.296		
	Total	2143.128	148			

A. Dependent variable: Total_Y

B. Predictors: (Constant), Total_X2, Total_X1

Source: processing data output from SPSS version 24

The preceding table's findings from the ANOVA calculations demonstrated that the hypothesis was credible, which was indicated by the significance value of (0.000 < 0.05). Thus, it was proven that physical readiness, health, and performance simultaneously affected service user satisfaction. From these results, it was known that the F-count was 176,417 while the F-table was 3.09. It was required to establish the degree of freedom in order to view the F-table when testing regression model hypotheses (df). The following formulas can be used to accomplish this:

df1 = k - 1 and df2 = n - k

Information:

n = number of observations in the data period

k = number of variables (free and dependent)

Therefore, it can be observed that df1 had a value of 3 - 1 = 2, and df2 had a value of 100 - 3 = 97. The confidence interval for this test was 5%, or 0.05. It was showned that the F-table was located by looking at column 2 on row 106. The F-table was then obtained at 3.09 seconds.

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According to the output's results, the F-count was greater than the F-table, where 176,417 was greater than 3.09, with a significant level below 0.05, which was 0.000. Passenger safety was significantly impacted by these tests while being run simultaneously.

C. Coefficient of Determination Test

The coefficient of determination measured how well the independent variables accounted for the linked variables. The following table, created using the SPSS application, showed the coefficient of determination in the summary model and the coefficient results in the R Square column:

Table 3 **Coefficient of Determination Test Result**

Model Summary

Model	R	R Square	Adjusted R Square	Std. The error in the Estimate
1	.841[a]	.707	.703	2.073

a. Predictors: (Constant), X2, X1

The table above showed the determinant coefficient of 0.703, so it can be determined that the contribution of the variables of Physical Readiness and Health (X1) and Performance (X2) to Passenger Safety (Y) was 70.3%.

Conclusion

This research relates to the issue of the number of accidents brought on by Transjakarta drivers or human mistakes. Therefore, this research aims to analyse the Physical Readiness, Health, and Performance of the driver for the Safety of Transjakarta passengers. With the data that have been obtained and processed, it can be concluded that Physical and Health Readiness (X1) of Sig 0.000 < 0.05 means that both variables have a significant influence on Passenger Safety (Y). Furthermore, the Adjusted Square R number showed a determinant coefficient of 0.703, so it can be noticed that the contribution of Physical Readiness and Health (X1) and Performance (X2) variables to Passenger Safety (Y) was 70.3%. PT Transportation Jakarta is expected to be able to improve the performance of drivers, especially in physical condition

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and health. Also, PT Jakarta Transportation can prepare a medical clinic to check the physical condition and health of the drivers so that the passengers have a high sense of security and comfort. PT Transportation Jakarta is expected to improve the physical condition and health of the drivers as well as the performance of the drivers so that Transjakarta passengers feel that they do not have to fear or worry about using Transjakarta services.

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