

Description of Physical Fatigue Among Brickmakers in Pangkah Village

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Submition : 2025-08-24; Accepted : 2025-12-17; Published : 2026-01-01

ABSTRACT

Introduction: Fatigue is a protective mechanism that the body activates to prevent further damage, and recovery can occur after adequate rest. Occupational fatigue is often characterised by decreased energy in performing daily tasks or activities, which can lead to increased errors and, in more serious cases, accidents. The effects of fatigue can reduce work capacity and endurance, as seen in the sensation of tiredness, slowed reactions, difficulty in decision-making, and decreased motivation. When fatigue levels are high, this can hinder worker productivity. This study aims to determine the picture of physical fatigue in brick makers in Pangkah village. **Methods:** This study uses a quantitative descriptive research design to provide an overview of the physical job fatigue experienced by brick-making workers in Pangkah village. Determination of the sample using purposive sampling technique, the number of samples is 59 people who are brick making workers in Pangkah village. Physical work fatigue in brick-making workers is measured using the Subjective Self Rating Test (SSRT) questionnaire. **Results:** Based on the research that has been done, the results of measurements using the Subjective Self Rating Test (SSRT) questionnaire show that workers experience work fatigue in the low category, namely 64.4%, moderate fatigue as much as 33.9%, and high fatigue of 1.7%. **Conclusion:** All brick makers in Pangkah village experience work fatigue caused by several factors, both internal and external, which interfere with their work activities.

Keywords: Physical Labour Fatigue, brick maker, SSRT

ISSN 2722 – 9610
E –ISSN 2722 - 9629

INTRODUCTION

The rapid development of industry, both in the formal and informal sectors, has increased the risks faced by workers. Production processes in the informal sector, which are generally carried out using traditional methods, expose workers to risks that are very different from those in the formal sector. One of the industries in the informal sector that is in high demand among Indonesians is brick making. Unfortunately, there is currently no clear data on jobs in the informal sector, including the number of workers, the risks they face, injuries or accidents, or other information (Wahyuni & Ekawati, 2016).

Brick-making businesses are part of the informal household industry, owned by individuals and found in several areas (Fitriyani et al., 2023). Brick makers often perform their work with poor posture and work habits. Such

postures can affect the effectiveness and efficiency of workers in performing their tasks. Workers require a comfortable environment to optimise their work, so it is necessary to condition the workplace with proper handling and design to create a conducive working environment (Siska & Teza, 2012).

Fatigue is a protective mechanism activated by the body to prevent further damage, and recovery can occur after getting adequate rest. Work fatigue is often characterised by a decrease in workers' energy in carrying out daily tasks or activities, which can lead to an increase in errors and, in more serious cases, can cause workplace accidents. The effects of fatigue can reduce work capacity and endurance, as evidenced by feelings of tiredness, slower reactions, difficulty in decision-making, and decreased motivation.



When fatigue levels are high, it can hinder worker productivity. If workers are forced to continue working while fatigued, the risk of fatigue will increase, which can disrupt work and have a negative impact on their health. This decline in performance not only increases the likelihood of errors, but also opens up opportunities for workplace accidents in industrial environments (Santriyana et al., 2023).

One questionnaire that can be used to measure a person's level of fatigue is the Subjective Self Rating Test (SSRT) from the Industrial Fatigue Research Committee (IFRC) in Japan. This questionnaire contains 30 questions consisting of 10 questions about activity impairment, 10 questions about motivation impairment, and 10 questions about physical fatigue that can be filled out subjectively (Bramantyo & Pramono, 2021).

Ergonomics is the science, art and application of technology to balance or harmonise all facilities used by workers, both during activities and rest periods, with human capabilities and limitations, both physical and mental, so that overall quality of life is improved (Tarwaka & Bakri, 2016). This study was conducted to determine the extent of physical work fatigue experienced by brickmakers in Pangkah village.

METHODS

The study was conducted in April 2025 using a quantitative descriptive research design to provide an overview of the physical work fatigue experienced by brick makers in Pangkah village. The sample was determined using purposive sampling, with a sample size of 59 brick makers in Pangkah village. Physical work fatigue was measured using the Subjective Self Rating Test (SSRT) questionnaire. The research results were analysed using univariate analysis for the s to determine the frequency distribution of physical work fatigue among brick makers using IBM Statistics version 20.

RESULTS

Based on the results of research conducted in April 2025 on 59 brick makers in Pangkah village, the results of measurements using the

Subjective Self Rating Test (SSRT) questionnaire are as follows:

Table 1. Work Fatigue Categories of Brickmakers

Category	Frequency	Percentage (%)
Low fatigue	38	64.4
Moderate fatigue	20	33.9
High fatigue	1	1.7
Total	59	100

(Source: primary data, 2025)

Based on the table 1, the results of measurements using the Subjective Self Rating Test (SSRT) questionnaire show that workers experience low work fatigue at 64.4%, moderate fatigue at 33.9%, and high fatigue at 1.7%.

DISCUSSION

The results of research conducted on 59 brick makers in Pangkah village show that brick makers in Pangkah village experience work fatigue that is felt during work until completion. Measurements using the Subjective Self Rating Test (SSRT) questionnaire show that workers experience low fatigue (64.4%), moderate fatigue (33.9%), and high fatigue (1.7%).

Work arrangements, including working hours, working time, rest periods, and incentives, can affect productivity directly or indirectly. Working hours that exceed capacity, combined with overtime, will accelerate work fatigue, thereby reducing accuracy, precision, and speed. Therefore, the body requires a balance between rest and energy or nutritional intake. Thus, proper rest period arrangements that allow workers to meet their energy needs can maintain work efficiency and performance (Tarwaka & Bakri, 2016).

Work posture refers to the way a worker interacts with the tasks they perform. Meanwhile, workplace layout relates to the placement of equipment so that it can be easily reached and seen. This indicates that equipment or machinery should be designed with user compatibility in mind. If equipment or machinery is not ergonomically designed, accompanied by an un ic posture, it can cause fatigue in workers (Bramantyo & Pramono, 2021).

Work can be done productively and optimally if the working environment is comfortable. Therefore, it is necessary to have a design or management that is carried out in such a way that the working environment is conducive and a comfortable and safe atmosphere is created (Tarwaka & Bakri, 2016). Work fatigue can have an impact on decreased motivation, feelings of discomfort, decreased performance, and ultimately decreased productivity. Additionally, work fatigue can also lead to workplace accidents that consume time, money, effort, and productivity, thereby causing losses for the company (Srinadi, 2024).

Most workers experience mild fatigue, but efforts must be made by both individuals and companies to prevent more severe fatigue and other complaints that could interfere with daily activities.

CONCLUSION

Based on the results of the research that has been conducted, all brick makers in Pangkah village experience work fatigue caused by several factors, both internal and external, which interfere with their work activities. It is hoped that workers can make good use of their breaks and pay attention to their nutrition and health so that they do not experience higher levels of fatigue.

ACKNOWLEDGEMENT

The author would like to thank all those who contributed to this research, especially the brick makers in Pangkah village who were willing to participate as respondents in this study.

REFERENCES

Bramantyo, M. F., & Pramono, S. N. W. (2021). Analysis of Factors Causing Work Fatigue Using the Subjective Self Rating Test

Nooryana,S., Khofifah., & Amanah,S
Fisiomu. 2026, Vol 7(1):19-21
DOI : <https://10.23917/fisiomu.v7i1.12563>

Method (Case Study: Production Floor Workers at PT. Marabunta Berkarya Ceperindo). *Gadjah Mada University National Seminar on Industrial Engineering, September*, 124–129.

Fitriyani, Gusti, A., & Hermawati, F. (2023). Analysis of Occupational Safety and Health Risks among Brick Industry Workers in Padang Pariaman Regency. *Journal of Occupational Safety, Health and Environment (JK3L)*, 04(1), 47–56.

Santriyana, N., Dwimawati, E., & Listyandini, R. (2023). Factors Associated with Work Fatigue among Kujang Taro Cake Makers in the Home Industry of Bubulak Village in 2022. *Promotor, Journal of Public Health Students*, 6 (4), 402–409. <https://doi.org/10.32832/pro.v6i4.273>

Siska, M., & Teza, M. (2012). Analysis of Work Positions in the Brick Manufacturing Process Using the NIOSH Method. *Industrial Engineering Scientific Journal*, 11(1), 61–70.

Srinadi, N. L. K. D. (2024). *The Relationship Between Age and Length of Service and Subjective Fatigue Among Truck Drivers at the Terminal in 2024*. Denpasar Ministry of Health Polytechnic.

Tarwaka, & Bakri, S. H. A. (2016). *Ergonomics for Safety, Occupational Health and Productivity*. <http://shadibakri.uniba.ac.id/wp-content/uploads/2016/03/Buku->

Wahyuni, I., & Ekawati, E. (2016). Hazard Analysis and Assessment of Personal Protective Equipment (PPE) Needs for Brickmakers in Demak, Central Java. *Kes Mas: Journal of the Faculty of Public Health, Ahmad Daulan University*, 10(1), 29–36.

