Analysis of Stress Levels in Chess Games

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Abstract

The purpose of this study is to measure the stress level of classical chess, rapid chess, and lightning chess game categories. This research uses a descriptive quantitative approach as a non-experimental design. This research was conducted during the Junior Chess League competition in Banyuwangi on 26 June 2024 which took place at Mojopanggung Village Hall. The sampling technique used Cluster Sampling with a total of 12 athletes. Data analysis techniques using descriptive statistical methods. From the results of this study it was found that the classical chess game category had a 'mild' stress level with an average interval value of 14.75. In the category of fast chess games the stress level is 'mild' with an average interval value of 15.5. In the category of lightning chess games the stress level is 'normal' with an average interval value of 4. The overall results are influenced by the factors of game duration, playing style, and experience.

Keywords: Sport, Chess, Stress.

INTRODUCTION

Sport in most circles can be aimed at physical activities that can be done in several contexts such as athletics, recreation, and fitness that involve planned and structured body movements, and are often done to improve physical and mental health. Exercise is a basic need for every human being in life to keep the body in top condition (Prihatno, 2020). Meanwhile, according to Saleh (2019) Satisfaction and happiness when exercising or doing physical activity, with successful personal achievements, helps maintain a person's psychological condition to be better in living life. But not all sports always use physical activity, there are also sports that prioritise the psychological or mind when playing.

Branches of sport that use more psychology in playing, such as chess, e-sport, and yoga, sport is a physical and psychological activity that is useful for maintaining and improving the quality of one's health after doing it (Aditia, 2015). Meanwhile, Kenedi (2022) argues that sports can be used as an arena for achievement both individually and in groups. In achieving today's achievements can be done by anyone. Like children, adolescents, adults, and parents can also still excel, one of which is in the chess sport competition that does not look at age groups.

Chess sports can usually be followed by various age groups. Chess sport is one of the sports that prioritises psychic, because players are required to think quickly and precisely in organising strategies to win the game. The sport of chess, among others, is divided into several game categories including classic chess, fast chess, and lightning chess. What distinguishes between the three

categories of chess games is the time determined when playing. According to FIDE (Federation Internationale des Echecs) the time in playing classical chess is at least 90 minutes to 2 hours, fast chess is usually around 10 to 25 minutes, while lightning chess is around 3 to 5 minutes. With the time and also the pressure in the game allows players to experience stress in organising strategies to win the game.

In addition, players must also keep their minds focused so as not to make mistakes when moving chess pieces. Stress is a physical and psychological reaction from a sense of pressure or discomfort experienced by a person against a condition or incident both internal and external (Caroline et al., 2023). As cited by Piyeke et al. (2015) stress is the body's response or reaction to psychosocial stressors, namely mental pressure or the burden of life. In every chess competition the player must think of the right strategy to kill the opponent's king, but not all of these strategies run smoothly due to several pressures such as time pressure and also pressure from unexpected opponents to make players make mistakes moving chess pieces. With some conditions experienced while playing, it is possible for players to experience stress.

Players must be able to manage stress in various pressures experienced in the same situation, so that the strategy used remains optimal. Stress that is not handled properly can cause a person to be unable to interact positively (Sosiady & Ermansyah, 2020). Meanwhile, according to Putri (2022) stress is the inability of individuals to cope with threats faced mentally, physically, emotionally, and spiritually, which can affect the physical and psychological condition of the human being. To overcome stress, it is important for players to identify the factors that cause stress and find the right solution.

Especially with different kinds of chess games, with different times in each chess match. According to Gamayanti et al., (2018) Stress can also be understood as pressure, tension, or disturbance that comes from outside and is felt as an unpleasant experience. A player certainly experiences stress that is different from other players and each individual player also experiences different levels of stress. According to the stress measurement tool (DASS 42) stress has five levels including normal stress, mild stress, moderate stress, severe stress, and very severe stress. With various categories of chess games and strategies in chess, and the pressure experienced by each player is different, players also experience different levels of stress in each category of chess games.

Analysing the stress level of classic quick and lightning chess games is important because the possible stress level can more or less affect the player's performance. Fast and lightning games demand quick decision-making in a limited amount of time, which can increase stress levels. The mental well-being of players can be affected by the impact of high stress levels. Individuals can experience negative cognitive, physiological and behavioural impacts if they are unable to control and cope with stress (Sutjiato et al., 2015). By understanding stress levels, players can develop strategies to manage stress and design strategies to cope with it.

Based on previous information, the DASS 42 stress measurement tool defines five levels of stress: normal stress, mild stress, moderate stress, severe stress, and very severe stress. Whereas in the sport of chess there are three

categories of games including classic, fast, and lightning chess. With that the author wants to research related to stress levels in each category of chess games that have different time limits. Therefore, the author wants to investigate the Analysis of Stress Levels in Classic, Fast, and Lightning Chess Games.

METHOD

This research uses a descriptive quantitative approach as a non-experimental design. A descriptive approach is a type of research that emphasises the power of analysing current sources and data. By using existing theories and concepts, this research interprets the writings that have been written to provide an understanding of the issues discussed (R. K. Sari, 2021). Research that uses data in the form of numbers or numbers is called quantitative research (Abdullah, 2015).

The population observed in this study are chess athletes in Banyuwangi. The sampling method uses cluster sampling technique. The samples in this study were 12 chess athletes aged 15-18 years in Banyuwangi.

The research instrument used the DASS-42 Questionnaire consisting of forty-two questions, which consisted of three scales: depression, anxiety, and stress, with four answer options: never = 0, sometimes = 1, often = 2, and always feel = 3. The following classification categories are the results of the DASS 42 stress scale assessment.

Table 1. Classification of DASS 42 Stress Scale Assessment Results

Stress category	Value
Normal	0 – 14
Mild	15 – 18
Medium	19 – 25
Severe	26 – 33
Very western	>34

Descriptive statistical methods were used to analyse the data in this study. According to Lestari (2019) descriptive analysis is a data processing process or procedure that aims to provide an overview and summary of data in tabular form. In this study, the variables analysed were stress levels in classical, fast and lightning chess games presented in tabular form, as well as categorising the stress level variables of classical, fast and lightning chess games. Thus, this technique can provide an understanding of how stress levels among the three types of classic, fast and lightning chess games.

RESULT

Researchers will present the results of data analysis using non-test instruments in this chapter (DASS 42 questionnaire) related to stress levels that have been filled in by respondents, namely chess athletes aged 15-18 years in Banyuwangi. Below is a description of the research results obtained by researchers more specifically also shows the formulation of problems and research objectives.

Table 2. Results of Stress Level Questionnaire Data for Classic, Rapid, and Lightning Chess Game Categories

Game Category	Total	Average	Category
Classic	59	14,75	Mild
Fast	62	15,5	Mild
Lightning	16	4	Normal
Jumlah	137	11,42	Normal

DISCUSSION

According to the findings of the research data analysis using the DASS 42 stress scale questionnaire instrument distributed to the respondents, it was found that there were differences in stress levels in each category of chess games. The categories in question include 3 categories namely classical chess, fast chess, and lightning chess games. And each consists of 4 chess athletes aged 15-18 years in Banyuwangi.

1. Stress Level in Classical Chess Games

In the questionnaire that has been filled out by 4 chess athletes in the classical chess game category, there are results of stress levels, namely 2 athletes in normal stress levels, 1 athlete with mild stress levels, and 1 athlete with moderate stress levels. There are 2 athletes in the normal stress level category because the majority of athletes tend to have effective strategies in managing stress or because they have adequate experience in dealing with pressure in chess games. Stress management (management) can significantly affect athlete performance, the stress experienced by athletes will not develop and can even be controlled properly (Purnomo et al., 2021). Meanwhile, according to Ikhram et al. (2020) that athletes with a lot of experience competing can affect their anxiety reactions when facing matches. Like several questionnaires that have been filled out by one of the athletes choosing the answer 'Almost every time' on question number '4. Easily feel upset and 6. Impatient'. As well as two athletes who got the highest number of scores compared to the other two athletes, by choosing the answer 'sometimes' on questionnaire question number '5. Feeling a lot of energy spent because of anxiety'. With that, it can be concluded that athletes' competing experience and stress management greatly affect athletes' anxiety when competing and can have an impact on the athlete's performance.

2. Stress Level in the Rapid Chess Game

The category of fast chess games in the questionnaire that has been filled in by 4 athletes has the results of stress levels, namely 2 athletes with normal stress levels and 2 athletes with moderate stress levels. Two athletes who have a fairly high level of mental readiness, which allows them to deal with the pressure in the rapid chess game better. Meanwhile, the other two athletes experienced higher levels of stress, due to certain personal reasons. As each athlete has a different stress tolerance. Some athletes can handle pressure better than others with those who feel pressurised or uncomfortable with the fast tempo of the game. Anxiety is one of the psychiatric symptoms caused by emotional pressure that causes negative emotions in a person such as anxiety

(Aqobah & Rhamadian, 2022). Meanwhile, according to Sandy (2019) athletes who experience enormous competition anxiety will find it difficult to show their best performance because they cannot concentrate on the match but only experience anxiety. In the questionnaire that has been filled out by four athletes, it shows that two athletes chose the answer 'Often' and the remaining two athletes chose the answer 'Sometimes' to questionnaire question number '5. Feeling a lot of energy spent because of anxiety'. With that it can be concluded that stress can have an important effect on athlete anxiety during the match.

3. Stress Level in the Lightning Chess Game

The category of lightning chess games in the questionnaire that has been filled in by 4 athletes has the results of stress levels, namely 4 athletes with normal stress levels. The four athletes have an effective way to deal with stressful situations in the flash chess game by being able to utilise stress as a source of motivation and improve their performance, but not as a disturbing obstacle for them. This experience can also help them in developing effective mental strategies to cope with the pressure that arises during the game. During a match, motivation is very important to determine how much effort will be made to get the best results (Sin, 2019). Meanwhile, according to Rap'i et al. (2024) flying hours (experience) for athletes who have not much will also affect mental conditions during the match. From the results of the questionnaire that has been filled out by the four athletes shows the results of normal stress levels, with it can be concluded that athletes have good methods of managing stress. So see from one of the questions filled in by the three athletes on question number '12. Being in a state of tension' they chose the answer "Sometimes", it can be concluded that the athlete manages stress to be motivated when facing opponents when competing. And one athlete chose the answer did not feel tense in the questionnaire that had been filled in, because the athlete had a very good mentality with the experience he had during the match.

4. Stress Level in Classic, Fast, and Lightning Chess Games

By looking at the results of data processing, we can know that the frequency acquisition in the lightning chess game category has different results compared to the classic and fast chess game categories which have the same frequency results, namely the classic and fast chess game categories fall into the mild stress category, while the lightning chess game category falls into the normal stress category.

That is because firstly, the game of lightning chess encourages a spontaneous playing style and athletes often rely on their experience rather than trying new moves (in-depth analysis) because the playing time is shorter than classical chess and rapid chess with it can reduce mental load and stress. An athlete's performance depends heavily on their ability to solve problems, such as keeping up with the speed of the game (Wirawan, 2019). Meanwhile, according to Raibowo et al. (2023) say that anxiety can be caused by several factors, including stress.

Secondly, athletes generally understand that speed chess focuses on speed and decisions have to be made quickly with that small mistakes are part of the game, this can reduce the pressure felt compared to classical and speed

chess where every move has to be analysed in depth. Chess games can train your brain so that you are encouraged to think more deeply about each step (Mashuri, 2015). Meanwhile, according to Sari (2023) said that in a chess game, concentration of attention must be in accordance with the indicators to be achieved.

CONCLUSION

The results showed that the rapid chess game tended to produce the highest stress levels compared to the classic chess and lightning chess games. Although the classic chess game also falls into the same stress category as rapid chess, the percentage results of the rapid chess game are higher than the classic chess game. The concept of a chess game that prioritises in-depth analysis of each move can cause psychological pressure that can affect higher stress levels for athletes.

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