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The Effect of Imagery Training on Anxiety Levels and Long Jump Results of Junior Athletes in Bantul District

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Abstract: This study aims to determine the effect of imagery training on the level of anxiety and long jump results of junior athletes in Bantul Regency. The benefits of this study are: (1) theoretically, this study opens a paradigm in the field of coaching in general, and specifically in athletics, to use imagery training; (2) this study is expected to increase coaches' knowledge so they can choose simple training that can nonetheless produce good performance; and (3) it serves as a reference for the quality of further research, since imagery training is effective in athletics. This study used an experimental method with a one-group pretest-posttest research design. The population in this study was 16 junior long jump athletes in Bantul Regency, and the sample was the same 16 athletes, selected using a total sampling technique. The data collection technique used was distributing questionnaires. The data analysis technique used was SPSS 26 software to conduct the Independent T-Test. The results showed a significant effect of imagery training on the level of anxiety and long jump results of junior athletes in Bantul Regency, with a value of 0.00 < 0.05. Imagery training is the best choice for athletic athletes, as it can reduce anxiety levels and improve long jump results.

Keywords: *Imagery Training; Anxiety Level; Long Jump; Junior Athletes.*

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I. INTRODUCTION

Sport is a physical activity that is a favorite of everyone for their daily needs [1]. Sport is used for all forms of physical activity which can be done on land, water, or air [2]. Sport is essentially a large muscle activity that uses certain energy to improve the quality of life [3]. Other researchers state that sport is a physical activity that is carried out routinely and regularly to improve cardiovascular health and can relieve anxiety [4], [5]. It can be concluded that sport is a physical activity to improve body health, but sport can also improve achievement.

In recent years, in Indonesia, there have been many developments and improvements in achievement in sports, one of which is the athletics branch [6]. In Indonesia, there is a parent branch of athletics, namely the All-Indonesian Athletics Association (PASI) [7]. The word athletics is taken from Greek, namely Athlon, which means match or competition; in English, athletics is known as "athletics," which means outdoor matches carried out on the track [8].

Athletics is a physical activity consisting of basic, harmonious, and dynamic movements, namely walking, running, throwing, and jumping [9]. In athletics, an athlete must have good physical condition, such as VO2max, agility, speed, muscle strength, and balance, and must have good focus, without feeling anxious in training or matches [10]. Each event in athletics has different physical and technical characteristics, but all require good physical condition from athletes [11]. Without good physical condition, an athlete cannot show their best performance and can even experience health problems and serious injuries [12].

To achieve good physical condition, athletes must undergo routine and programmed physical training [13]. Routine physical training not only affects physical condition physiologically but also has a major impact on the psychological aspects of athletes [14]. Sports psychology

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training is an important element supporting the success of a physical training program [15]. It aims to strengthen mental endurance, manage stress, increase focus, and maintain motivation and competitive spirit [16]. Hard physical training without mental support can cause imbalances that negatively impact athletes, such as excessive anxiety, stress, and lack of focus [17].

Anxiety is a psychological symptom characterized by feelings of worry, nervousness, restlessness, and fear experienced by a person at varying levels [18]. Anxiety, as a psychological factor, can affect a player's performance in a match [19]. Very high levels of anxiety can negatively impact an athlete's performance; a lack of mental readiness, control skills, and perception of incoming stimuli will disrupt the athlete's ability to bring out their physical abilities, preventing them from performing at their best [20].

Every athlete must have felt tension, excitement, and anxiety [21]. The relationship between anxiety and sports that often occurs is the anxiety experienced by athletes when competing; this can negatively affect performance and harm the athlete. The impact of tension on motor-skill performance in athletes includes anxiety, emotional disturbance, muscle tension, reduced flexibility, and impaired coordination [22]. This is in line with the findings of [23], who stated that when athletes experience excessive anxiety, their minds become increasingly disturbed and negative thoughts arise, such as fear of losing, resulting in suboptimal performance. To overcome athlete anxiety, coaches must be able to address it through sports psychology training, namely imagery training.

Imagery training is a form of mental training that aims to improve athlete performance [24]. In other words, imagery training aims to enhance the technical abilities athletes already possess in order to achieve the best results. Imagery training can be performed almost any time, before and after training, or before and after matches during breaks [25]. It can be used to improve technical performance in sports, especially techniques related to individual athlete abilities, and to help control athletes' anxiety levels [26].

Athletic athletes, especially in the long jump, rely heavily on control over technique and calmness. When anxiety increases, it can affect motor coordination and concentration [27]. Imagery training has been shown to be effective in reducing anxiety levels in athletic athletes. By training the brain to imagine facing competitive situations, athletes become more prepared, focused, and calm when facing real pressure [28]. Therefore, imagery training should be an integral part of a sports psychology training program, especially in athletics, which relies heavily on mental readiness and self-control. This is in line with [29], who stated that imagery training can reduce athletes' anxiety levels during training and matches, enabling athletes to give their best performance. Research conducted by [30] stated that imagery training can significantly increase athlete performance during competitions and reduce athletes' anxiety levels.

In addition to reducing and controlling athletes' anxiety levels, imagery training can also improve the performance of athletic athletes in the long jump event. The long jump is a movement of jumping forward and upward in an effort to carry the center of gravity through the air for as long as possible, performed quickly by pushing off with both feet to reach the greatest possible distance [31]. The jump distance is measured from the take-off board to the nearest mark made by any part of the body [32]. In the long jump, various styles are commonly used, namely the squat style, hang style, and hitch-kick (walking-in-the-air) style [33].

Good performance in the long jump needs to be supported by good training through an imagery training approach [34]. Athletes who are mentally trained will certainly be more skilled at dealing with emotional and mental problems, as the atmosphere and emotional condition of athletes during competition can change at any time [35]. Imagery training can improve long jump results by strengthening neuromotor connections, increasing self-confidence and mental control, correcting techniques, and simulating competitions [36]. Research conducted by [37] states that imagery training can have a significant effect on the performance of athletic athletes.

Imagery training performed by athletes in the long jump event can be used to imagine real competition situations (with spectators, referees, and time pressure), which helps athletes become better prepared when facing an actual match. Imagery training has been shown to have a positive relationship with improved long jump results. By systematically visualizing each phase of the jump, athletes can improve technique, increase focus, and build confidence [38].

A problem that often occurs in the athletics branch of sport, specifically the long jump, is that coaches have not implemented imagery training methods focused on improving the psychological aspects of athletes. The evaluation process carried out by coaches still describes athletes' abilities in general, without examining fundamental exercises that can increase athletes' motivation in training or competing. [39] noted that in athletics training, especially the long jump, coaches tend to focus more on physical and technical aspects, such as starting speed, push-off strength, jump angle, and landing technique, while mental factors—especially the level of athletes' anxiety—are often overlooked or receive little attention in daily training.

Many coaches do not properly understand the concept of imagery training or consider mental training less important than physical training [40]. Training programs are dominated by technical, strength, and speed training, while mental training (including imagery) is rarely incorporated into the daily training structure [41], [42]. This is consistent with field observations of junior long jump athletes in Bantul Regency, who experience anxiety when facing competitions. This is evidenced by match results that still fall short of targets; the anxiety experienced by these junior athletes causes jump results that do not meet the targeted criteria. This problem therefore requires special treatment through imagery training to help control or reduce anxiety levels and achieve the targeted long jump results among junior athletes in Bantul Regency.

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II. METHOD

This research is experimental in nature, meaning it involves a treatment given to the research sample [43], [44]. The experimental method was used to determine whether the treatment given to junior long jump athletes in Bantul Regency through imagery training had an effect [45]. The design used in this study was a one-group pretest-posttest design, as shown in Table 1.

Table 1 Research Design (One Group Pretest-Posttest)

Pretest	Treatment	Posttest
Q1	X	Q2

This research was conducted at the Sultan Agung Bantul Pacar Sewon Stadium, Jalan Sultan Agung, Ponggok II, Trimulyo, Jetis District, Bantul Regency, Special Region of Yogyakarta, an actively used training venue. The research was carried out over 8 weeks (2 months), from 8 January 2024 to 26 February 2024. Training frequency was 3 times a week, for a total of 16 training sessions, held on Monday, Wednesday, and Friday from 15.00-18.00 WIB. Population is the subject of a study [46]. The population in this study was the 16 junior long jump athletes in Bantul Regency. The sample is the part of the population that is studied and given treatment, then measured with a measuring instrument [47], [48]. The sample in this study was the same 16 junior long jump athletes from Bantul Regency, selected using a total sampling technique-that is, using the entire population as the sample to obtain research data [49], [50]. The instrument used in this study was a questionnaire completed by the sample, with a validity value of 0.830 and a reliability value of 0.760. The data analysis technique used SPSS 26 software to test normality using the Shapiro-Wilk test, homogeneity using the One-Way ANOVA test, and the effect (t-test) using the Independent Sample Test.

III. RESULTS AND DISCUSSION

Based on the results of the statistical analysis in Table 2: (a) the pretest and posttest values for the long jump obtained significance values greater than 0.05, so the data can be considered normally distributed; and (b) the pretest and posttest values for anxiety obtained significance values greater than 0.05, so the data can also be considered normally distributed.

Table 2 Normality Test - (a) Long Jump

Long Jump	Statistic	df	Sig.
Pretest (Shapiro-Wilk)	.932	10	.472
Posttest (Shapiro-Wilk)	.954	10	.716

(b) Anxiety

Anxiety	Statistic	df	Sig.
Pretest (Shapiro-Wilk)	.895	10	.194
Posttest (Shapiro-Wilk)	.945	10	.609

After obtaining the normality values, the homogeneity test was carried out to determine whether the data were homogeneously distributed. The results are shown in Table 3.

Table 3 Homogeneity Test

Variable	Levene Statistic	df1	df2	Sig.
Long Jump	.303	1	18	.589
Anxiety	.223	1	18	.642

From the results of the long jump and anxiety data analysis, the significance value was found to be greater than 0.05, so the data for both variables were homogeneously distributed. After obtaining a homogeneous data value, the effect test was carried out to examine the effect of imagery training on the anxiety level and long jump results of junior athletes in Bantul Regency. The results are shown in Table 4.

Table 4 T-Test (Effect)

Paired Difference	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Pretest - Posttest	122.422	8.613	44.947	9	.000

From the statistical analysis, a 2-tailed significance value of < 0.05 was obtained, so it can be concluded that there is a significant effect of imagery training on the anxiety level and long jump results of junior athletes in Bantul Regency.

Psychological factors play an important role in determining an athlete's success [51]. One psychological aspect that has been widely studied is anxiety, especially before competition [52]. Anxiety can appear in two forms: cognitive anxiety (related to negative thoughts or worries) and somatic anxiety (related to physiological responses such as increased heart rate, excessive sweating, or trembling) [53]. Long jump athletes who have already achieved success must have a good, controlled level of anxiety during training or matches so that their results are maximized in competition.

In athletics, uncontrolled anxiety can negatively impact performance, concentration, and decision-making. Excessive

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anxiety can affect the outcome of a match; the anxiety experienced by athletes has an impact on physiological, behavioral, cognitive, and affective reactions, which can be observed through a pounding heart, rapid breathing, restlessness, a pale face, tension, tremors, confusion, and fear [54]. This is in line with [55], who stated that numerous signs can be observed when someone experiences anxiety. From the opinions above, it can be concluded that athletes' anxiety levels must be well controlled in order to achieve the best performance in competition.

This study conducted an experiment providing imagery training to junior athletes in Bantul Regency to reduce their anxiety levels. The results showed a significant effect of imagery training in reducing the anxiety level of junior athletes in Bantul Regency. Imagery training not only reduces anxiety but also affects other aspects, such as increasing intrinsic motivation, maintaining mental readiness, and strengthening positive habits before competing. Therefore, the active role of coaches and sports psychologists is needed in developing a structured imagery program suited to each athlete's needs [56].

The concept of imagery training refers to the use of mental imagination to represent real experiences without physical movement. By undergoing imagery training, athletes are able to significantly reduce their anxiety [57]. Imagery training affects the brain's visual cortex, which processes imagination and has a strong relationship with the autonomic nervous system that controls involuntary movements, including pulse, breathing, and physical responses to stress. This process helps release endorphin hormones-comparable to those induced by morphine at doses of 10-50 mg/kg-so that relaxation occurs and anxiety is reduced [58].

In its implementation, imagery training does not only focus on mastering techniques and match conditions but also on emotional control and how to manage emotions or anxiety that arise [59]. Thus, imagery training not only influences the physiological aspects of the body but is also able to address the emotional aspects and how athletes cope with arising emotions. This is in line with [60], who stated that imagery training can reduce a person's anxiety level and can be carried out routinely.

Imagery training has been shown to benefit athletes by allowing them to recreate the movement experience in their brains, enabling them to display movement patterns well. This process occurs through remembering the movement pattern in the brain [61]. Imagery training is very useful for improving athletes' abilities, including mastering sports movement skills, mastering competition strategies, building confidence, improving interpersonal skills, reducing anxiety, improving performance, controlling psychological aspects and concentration, correcting mistakes, and even accelerating recovery from injuries [62].

This is in line with the results of this study, which show that imagery training has a significant effect on the long jump performance of junior athletes in Bantul Regency. These results are consistent with the study by [63], which states that imagery training can improve athlete performance in competitions. Athletes who routinely practice imagery have better focus in each phase of the jump, and those able to imagine themselves succeeding in each jump tend to appear more confident and consistent [64]. Imagery training stimulates the same neural pathways as physical training and can strengthen movement memory and improve technique [65].

Imagery training has a significant effect on improving long jump results. By systematically and realistically imagining each phase of the movement, athletes can improve technical control, optimize physical performance, and reduce anxiety [66]. Imagery training should be an integral part of an athlete's training program, especially in athletic events that require high coordination and precision, such as the long jump [67]. Through the process of imagery training, athletes build self-confidence, reduce anxiety, and increase mental readiness before competition. By forming a positive and realistic mental image, athletes are better able to control their movements and maintain consistent performance when jumping.

This is in line with the findings of [68], who stated that imagery training applied in sports has a strong positive effect on athletes' enthusiasm and performance during training and matches. Imagery training provides comprehensive benefits for long jump athletes, ranging from improved technique, mentality, and concentration to self-confidence. By incorporating imagery training into a routine daily training program, athletes can significantly improve their jump results in terms of distance, consistency, and mental readiness for competition. Imagery training is not merely a complement, but an important training strategy for achieving optimal long jump performance.

IV. CONCLUSION

Imagery training is the best choice for athletic athletes seeking to reduce anxiety levels and improve jump results. Based on the results obtained, it can be concluded that there is a significant effect of imagery training on the anxiety level and long jump results of junior athletes in Bantul District.

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