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Instrument Validity and Reliability Confidence to Jump serve in Volleyball

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Abstract

This research is based on the validity and reliability of the confidence instrument against jump serve. The purpose of this study was to determine the level of validity and reliability of the confidence instrument against jump serve. The research method uses descriptive quantitative research. The instrument in this study was a questionnaire about athletes' self-confidence with a total of 68 statements about the confidence factor, namely: 1) optimistic; 2) independent; 3) likes the sport they do; 4) have no worries; 5) can adapt. The subjects of this study were 12 extracurricular volleyball athletes at SMA Negeri 1 Bambanglipuro, Bantul. Content validity using the Delphi technique with two experts in sports psychology and volleyball and reliability using Cronbach's Alfa. The results of the instrument validation to measure the volleyball athlete's confidence in performing the jump serve were validated in content and empirically the instrument to measure the volleyball athlete's confidence in performing the jump serve. The content validity of the Delphi results from the two experts obtained agreement and correction that this instrument needed to be improved in preparing negative statement instructions and technically when to fill out the questionnaire. Using the Pearson Product Moment, empirical validity obtained the trials' results; from the 68 initial questions, 12 items fell out. So that the remaining 56 questions are valid. The instrument's reliability with empirical calculations shows that this instrument has high reliability, namely: 0.979. Based on the validity and reliability test of the instrument, this instrument is suitable to measure the confidence of volleyball athletes in performing jump services.

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INTRODUCTION

Volleyball is a sport played by 12 people on the field; the 12 people are divided into two teams, so each team has six players. In terms of teamwork, volleyball is a unique and exciting game that requires solid cooperation and consistent individual completion. The volleyball court has a length of 18 meters and is divided into two courts, and each court has a height of 9 meters from the backline to the centerline (line under the net). Each team's line of attack is three meters from the centerline. A back-row player must stay behind the attack line when jumping to do a smash (Dearing, 2018). The volleyball game height for the men's net is 2.43 meters, and for the women's net, the size is 2.24. Antenna (Root) is attached to the net to mark the outer edge; any ball that touches the net outside the antenna or comes out past the antenna when it is about to enter the ball into the opponent's field is considered invalid and will lose points for the team (Schmidt, 2016).

Service is one technique that has an important influence on winning volleyball because this ball game is competitive (Xiong, 2021). One of the keys to beating volleyball is the ability to serve well. Service technique volleyball games have a crucial role; if players in a team serve well, the team can immediately score points or hinder the opponent's response so that the team can continue the rally (Sors et al., 2018). The serve is the first attack made by the team in volleyball. In volleyball, the service is divided into several types: float serve and jump serve. In international volleyball competitions, many elite players use jump topspin and jump float serve. Since the new rules for the rally point system were introduced in 2000, serve jumps have become increasingly important in determining the outcome of a match (Huang Chenfu and Lin-Huang, 2007).

(National Alliance for Youth Sports and Bach Greg, 2009) explains that it is necessary to introduce children to the bottom serve at the initial level of volleyball. Once players have a good foundation in executing these serves, they can then move on to more complex serve methods, such as topspin and jump serve, which provide more power. Thus, it is more difficult for opposing players to carry out attacks. From this opinion, it can be concluded that the jump serve is an advanced technique in performing service techniques that can be interpreted as a pretty difficult technique to do and is one of the services that determine the outcome in a match. Jump serve is a powerful attack technique widely used in elite volleyball players (Hirunrat & Ikatecha, 2015). In line with this opinion (Ciuffarella et al., 2013) explains that the jump serve is the most powerful technique in terms of increasing the difficulty of the opponent's defense and can also be very useful for getting a direct score (ace) but has a relatively high percentage of errors. Several factors can affect the success of a service jump explained by (Hussain et al., 2011) that good strength of the abdomen, shoulders, arms, and range of motion in performing a serve jump that balances the

movement of the hip, chest, and spine joints is the most critical factor to produce a good jump serve and has the maximum speed. Jump serves can also be very useful for getting an ace straight score.

The steps for performing the jump serve, according to (Waite, 2009) are as follows: 1) throwing the ball with topspin in front of the hitting hand (some people use the opposite hand); 2) throwing high and far enough forward to have time and distance to approach and jump the ball collar; 3) after the ball is released during the throw, start the approach towards the ball usually using step three towards the ball that has been thrown; 4) hit the ball at the top of the jump and flick or bend the wrist forward; 5) make sure to take off behind the finish line and land evenly on both feet; 6) aim to the opposing team's finish line so that the topspin can pass over the net and don't fall into their court or don't cross the net / get caught in the net. For an athlete who wants to have a good service jump technique, the athlete must understand and learn the techniques performed by elite athletes and practice the service jump technique correctly.

The technical quality of serving in a match carried out by an athlete is also greatly influenced by the mental condition that exists within the athlete. Usually, this mental state is influenced by various things such as the interference of the audience, the influence of the coach, teammates, referees, the intensity of the game, and the importance of the match (Tao & Liang, 2019). The research conducted (Rifki & Syafrizar, 2017) explained that several factors that influence the success of jumping serve are arm muscle explosive power, elasticity, and self-confidence.

In addition to physical, technical, and tactical elements, one crucial element to consider in training extracurricular sports is psychological skills (Wibowo & Andriyani, 2015). According to (Supriyanto, 2017) psychology is a field of science that studies human behavior and mental functions scientifically. Mental training plays a vital role in producing a solid mental state (Komarudin, 2016). Behaviors that often appear in soccer athletes before competing: 1) feel a little bit anxious; 2) feeling nervous; 3) lack of self-confidence; 4) have the feeling of being able to play optimally; 5) often feel the urge to urinate; 6) sweating; 7) perform rituals that they believe in; 8) sometimes find out who the opponent will be facing and his abilities; 9) if an athlete is very ready, he will usually prepare for the match as well as possible starting from the warm-up until the match starts. During a match, what happens to volleyball athletes: 1) if the athlete lacks confidence, sometimes there is a feeling of lack of confidence in his abilities; 2) trying to calm down; 3) try to find out how to suppress the opponent.

From the description above, it can be concluded that volleyball athletes often experience mental disorders when competing, so that mental training is needed. For this reason, it is necessary to develop an instrument to determine the level of

confidence of volleyball athletes in performing a good and reliable jump serve.

METHODS

They are looking for the content validity method using the Delphi technique, empirical reality, and empirical reliability. The instrument in this study was a questionnaire about athletes' self-confidence with a total of 68 statements about the self-confidence factor, namely: 1) Optimistic; 2) Independent; 3) Like the sport they do; 4) Have no worries; 5) Can adapt. The subjects of this study were 12 extracurricular volleyball athletes at SMA Negeri 1 Bambanglipuro, Bantul. Content validity using the Delphi technique with two experts in sports psychology and volleyball, empirical validity calculations using Pearson Product Moment, and reliability using Cronbach's Alfa.

FINDINGS AND DISCUSSION

Findings

The following is a list of self-confidence questionnaire questions for volleyball athletes in jumping serve.

Table 1. Description of Athlete's Confidence Variables

Variable	Factor	Indicator
Confidence According to Amir (2015)	1. Optimistic	1. Belief in your abilities. 2. Can complete the task. 3. Don't give up easily. 4. Firm. 5. Hope. 6. Always be confident. 7. Persistent. 8. Have faith. 9. Always enthusiastic. 10. Determined.
	2. Independent	1. Doing something with his ability. 2. Do things independently. 3. Follow your own will. 4. Do not depend on others. 5. Train under any conditions. 6. Always enthusiastic
	3. Like the sport you do	1. Admit mistakes 2. Don't blame others for problems 3. Sorry for the mistake 4. Open to suggestions 5. Accept risk 6. Fairly played 7. Accept the decision 8. Never underestimate your opponent 9. Accept defeat
	4. Have no worries	1. Able to voice opinions 2. Dare to participate in the tournament 3. Not afraid of the match 4. Not afraid of the opponent 5. Strong mental ability

		6. Not being intimidated by solid opponents 7. Don't give up
	5. Can adapt	1. Sociable 2. Don't feel awkward 3. Able to adapt 4. Not nervous 5. Easy to get along with

Table 2. Revision of Delphi results instruments

Expert 1	Negative statement sentences in the questionnaire do not need to appear in the instrument, including the sign (*)
Expert 2	1) When will the questionnaire be filled out, whether during practice or a match (two very different situations); 2) Test the validity and reliability of the instrument; 3) How to jump service accuracy instrument

Validity Calculation with Pearson Product Moment. The validity test of the instrument was processed with the help of the SPSS 16 computer program. The instrument was said to be valid if r hit r table, at a significant level of 5% or 0.05 with N = 12 (N = number of test respondents). The value of r table product moment for the trial respondents was 12 people, namely 0.576. So the instrument is said to be valid if r hits the t table (0.576). Twelve respondents conducted the results of the questionnaire test with 68 questions regarding confidence in the accuracy of the jump service; the results of the validity of the instrument test show that 12 statements are invalid or invalid. The statements that fail are items number 3, 16, 18, 23, 30, 32, 34, 46, 53, 55, 63, and 66.

Discussion

Research conducted (Singh & Singh, 2014) revealed that high-performing players have higher levels of mental skills. Regarding mental training (Sujarwo, 2017) explains that several problems need to be emphasized in mental training in volleyball, namely: 1) adapting to stressful situations; 2) building self-confidence; 3) observing his emotional habits; 4) pleasant relaxation; 5) stress in training: physical training load, and psychology of the coach (character games); 6) the coach must be confident, calm and confident. The components that affect the performance of volleyball athletes are physical, tactical, technical, and mental. Just as with physical skills, the preparation of the mental condition of players also has a vital role in practice to improve athlete performance. One of the cognitive factors that affect performance in athletes is self-confidence. An athlete must possess self-confidence; self-confidence reflects the athlete's assessment of his worth and plays a significant role in determining his performance (France, 2009). Self-confidence is an

individual's attitude who strives to develop a positive assessment of himself and his environment/situation (Hambali & Sobarna, 2019).

This confidence can also affect the anxiety and performance of athletes when competing. If an athlete has high self-confidence, the athlete can reduce the stress he has when competing (Besharat & Pourbohlool, 2011). This explanation is in line with the answer from (Rintaugu, MwangiI, & Toriola, 2018), which explains that low sports self-confidence, then performance in sports will also be soft. Most female athletes tend to have lower self-confidence compared to male athletes.

Younger athletes also have higher self-confidence; a factor that supports the source of this confidence comes from social support. The social support that affects the performance of these athletes mostly comes from teammates and coaches. (Hays, Thomas, Butt, & Maynard, 2010) explains that the athlete's profile also affects the athlete's confidence, such as the athlete's history of achievement, and also the failures experienced by the athlete can also affect his confidence. High self-confidence also influences good performance, making athletes have positive thoughts, feelings, and behaviors (Hays, Thomas, Maynard, & Bawen, 2009). Athletes' ability to perform at a certain championship level is influenced by their actions (chosen sports activities, effort, perseverance), mindsets, and emotions possessed by athletes.

CONCLUSION

This instrument is suitable for measuring the confidence of volleyball athletes in performing jump serve.

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