International Journal of
Disabilities Sports and Health Sciences
e-ISSN: 2645-9094

RESEARCH ARTICLE

Pre and Post Competition Psychology and its Relationship with Competition Results in Lawn Bowl Disabilities Athletes in Asian Paragames 2022

Islahuzzaman NURYADIN[1], Batista Nila MARBERLIANTINA[1] and Rumi Iqbal DOEWES*[1]

[1]Faculty of Sports, Sebelas Maret University, Indonesia
*Corresponding author: mase.ior2004@staff.uns.ac.id

Abstract
This research purpose was investigated the psychology of disabilities athletes before and after the competition and the relationship with the results of the lawn bowl competition at the Asian Paragames 2022. The research method used is a survey. The 12 blind athletes (6 men and 6 women) participating in this study were aged 37.67±11.07 years, weight 68.58±10.13 kg, height 165.00±7.07 cm, and had 3.19±1.06 years of experience playing lawn bowls. Data analysis was carried out using paired t-test and regression analysis with significance at $p<0.05$. The results of the paired t-test revealed significant differences before and after the competition in athletic identity ($p = 0.000$), anxiety ($p = 0.000$), self-efficacy in sports ($p = 0.000$), expectations of success ($p = 0.000$), and mood profile ($p = 0.000$). The results of the regression analysis revealed that the regression model which included anxiety, athletic identity, expectations of success, self-efficacy in sports, and mood profile was significant for competition outcomes ($F = 101.75$, $p = 0.000$), with 99.92% of competition outcomes explained by variations in psychological variables (R square = 0.992). Based on the relationship, only anxiety shown a negative relationship to the competition results with a regression coefficient of -3.102 for anxiety-state and -0.723 for anxiety-trait. In conclusion, improvements are needed in athletic identity, self-efficacy, expectancy of success, and a positive mood profile to reduce the anxiety level before competition then improve competition performance better in lawn bowl athletes.

Keywords
Psychology, Competition, Lawn Bowl

INTRODUCTION

Competition levels are increasing along with increased sports participation for people with disabilities. Disabilities athletes routinely compete at national and international levels, with participation in the Paralympic Games (Dieffenbach & Statler, 2012). The Paralympic Games are recognized as the world's most important international sporting event for disabilities athletes. Thousands of athletes with disabilities from various sports disciplines are brought together at the Paralympic Games to compete (Blumenstein & Orbach, 2015), one of the sports disciplines is lawn bowl. Silk, Hammond, & Weatherby (2006) explain that lawn bowls are a target sport. Athletes with disabilities can play lawn bowls on a bowling green on a flat grass surface measuring approximately 40 meters x 40 meters. Lawn bowl can be played in singles, pairs, triples, and fours games, where players can form teams in pairs, triples, and fours games. The concept of the game is to deliver the bowl to the jack. The bowl that is closer to the jack, will be awarded 1 point.

In the world of elite disability sport and the Paralympics, psychology is an important factor in achieving sporting success. Psychological factors protect athletes from the potential negative impacts of stress triggers so that athletes will be conducive to achieving optimal sports performance. Several

Received: 14 July 2024 ; **Revised** ; 13 August 2024 ; **Accepted:** 14 September 2024; **Published:** 25 November 2024

How to cite this article: Nuryadin, I., Marberliantina, B.N., and Doewes, R.I. (2024). Pre and Post Competition Psychology and its Relationship with Competition Results in Lawn Bowl Disabilities Athletes in Asian Paragames 2022. *Int J Disabil Sports Health Sci*;7(6):1239-1247.https://doi.org/10.33438/ijdshs.1515598

studies with various types of research related to the competition psychology of disabilities athletes have been reported. A comparative study of professional athletes with and without disabilities, shows that the psychological component is considered a factor in achieving high performance. People with disabilities show higher global self-esteem scores than those without disabilities. Apart from that, athletes with disabilities show low competitive anxiety before competitions, this happens because they have confidence in what they have such as physical skills and what they have done so far such as their training, they are also supported by coach abilities, they have a strong mentality such as do not have the burden of worrying about other people's assessments, and also have strong motivation that they are capable of achievement, and they are always 100% ready when undergoing training or competitions (Bačanac et al., 2014).

A review reveals that sports athletes have a strong athletic identity (Guerrero & Martin, 2018). A review of athletes with disabilities reported that competitive level was related to competitive anxiety (Pumpuang, Chusakul, & Popa, 2022). Correlation studies show an important relationship between wheelchair athlete performance and self-efficacy (Martin, 2002). A multivariate analysis reported that regarding mood profiles, Paralympians had higher vigor scores and lower depressed mood and confusion (Martin, Malone, & Hilyer, 2011). However, information regarding the psychology of disabilities athletes, especially psychology related to lawn bowl competitions, has not been explained. Therefore, this research was conducted to investigating the psychology of disabilities athletes before and after the competition and its relationship with the results of the lawn bowl competition at the 2022 Asian Paragames competition.

MATERIALS AND METHODS

Design Studies

A survey study was used in this research (Figure 1). The survey was conducted on psychological variables, i.e. anxiety, athletic identity, expectations of success, and self-efficacy in sports which are reported to have a potential impact on the performance of athletes with disabilities (Koper et al., 2020), as well as mood profiles which are reported to differentiate between winning and losing competitors (Terry & Slade, 1995).

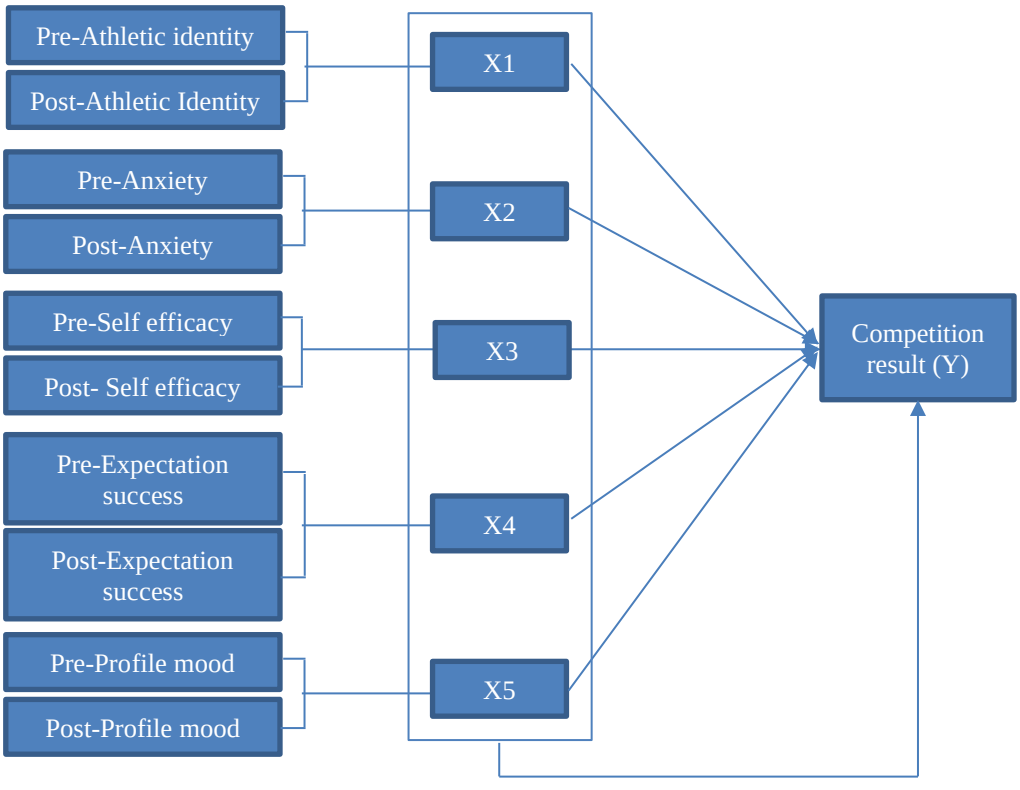

Figure 1. *Flow chart design studies*

Sample

The research sample were all of Indonesian national lawn bowl athletes who competed in the 2022 Asian Para Games competition. A total of 12 lawn bowl athletes, competition classifications B1, B2, B3, B6, and B8 participated in this study (men, n = 6, women, n = 6). They were 37.67±11.07 years old, weight 68.58±10.13 kg, height 165.00±7.07 cm, and had 3.19±1.06 years of playing lawn bowl experience

Demographic data on athletes for each gender is presented in table 1. Informed consent was obtained from all subjects before testing. This resarch was approved by the scientific research ethics committee of Sebelas Maret University, Surakarta at Dr. Moewardi Hospital with protocol code 081/I/HREC/2024, ratification date 11 January 2024. The research strictly adhered to the ethical principles of the Declaration of Helsinki, prioritizing participant's rights and well-being in design, procedures, and confidentiality measures.

Table 1. Athlete demographic data

Gender	Age (years)	Weight (kg)	Height (cm)	Playing experience (years)
Male (n = 6)	40.33±7.84	69.33±12.39	170.17±5.04	3.44±0.84
Female (n = 6)	35.00±13.83	67.83±8.42	159.83±4.54	2.94±1.27
Total (n = 12)	37.67±11.07	68.58±10.13	165.00±7.07	3.19±1.06

Data collection

Data were collected by researchers during the Lawn Bowl competition at the 2022 Asian Paragames. Before the competition, a briefing was held to present the research to the players and coaches. Players are asked to fill out a questionnaire before the competition starts and after the competition ends. The questionnaire consists of athletic identity using the Athletic Identity Measurement Scale (AIMS), anxiety using the State Trait Anxiety Inventory (STAI), self-efficacy in sports using the Self-Efficacy for Physical Activities Scale, expectations of success using the Self- and Task-Perception Questionnaire (STPQ) hope subscale, and mood profile using the Abbreviated Profile of Mood States (Revised Version). Competition results data, namely the medals that participants get in the Lawn Bowl competition, are obtained after the competition is finished. Medal wins were coded as (0 = did not win a medal; 1 = won a bronze medal; 2 = won a silver medal; and 3 = won a gold medal).

Athletic Identity Measurement Scale (AIMS)

AIMS (Athletic Identity Measurement Scale) was used to assess athletic identity (Proios, 2012). There are 10 items in the AIMS that identify the role of athletes related to several aspects such as cognitive, behavioral and affective. The assessment uses a 7 point Likert scale, i.e. 1 for strongly disagree – 7 for strongly agree. To determine the score, the answers to each item are totaled. A high score indicates a strong level of athletic identity. AIMS has test-retest reliability with a value of r = 0.89 and has an internal consistency of α = 0.81 to 0.93 (Proios, 2012).

State Trait Anxiety Inventory (STAI)

The STAI (State Trait Anxiety Inventory) was used to assess anxiety symptoms. STAI evaluates states and traits using different scales. State to show how you feel at the moment, i.e. at this moment; and traits to show how you feel in general. Each scale consists of 20 statements. These two scales classify participants as having low, medium, or high levels of anxiety. Scores can vary from 20 to 80. A score ≤ 30 indicates a low level of anxiety, a score between 31-49 indicates a moderate level of anxiety, and a score equal to or greater than 50 indicates a high level of anxiety. Respondents rated on a four-point scale “Not at all” (1), “Somewhat” (2), “Moderately” (3), to “Very much” (4) for the state scale, “Almost never” (1), “Sometimes” (2), “Often” (3), to “Almost always” (4) for the trait scale. It has internal consistency with an alpha coefficient of 0.92 for the trait subscale and 0.93 for the state subscale, and has excellent test-retest reliability with a Pearson coefficient of 0.96 for the state subscale and 0.98 for the trait subscale (Gorsuch, et al., 2018).

Self-Efficacy for Physical Activities Scale

The Self-Efficacy for Physical Activities Scale was used to assess self-efficacy. There are 18 items in this questionnaire, which cover 6 theoretical sources of self-efficacy ((1) mastery experiences; (2) vicarious experiences; (3) verbal persuasion by others; (4) self-persuasion; (5) positive affective states; (6) negative affective

state). Respondents expressed their opinions on a four-point scale: 1 (strongly disagree) to 4 (strongly agree) (Warner et al., 2014). The assessment is carried out by adding up all the items and a high score indicates high self-efficacy. The Self-Efficacy for Physical Activities Scale has internal consistencies ranging from 0.86 – 0.89 for mastery experiences, 0.83 – 0.86 for vicarious experiences, 0.88 – 0.93 for self-persuasion, 0.82 – 0.88 for verbal persuasion by others, 0.75 – 0.83 for negative affective states, and 0.87 – 0.92 for positive affective states. Test-retest reliability was reported to be satisfactory on all six scales with 0.65 for mastery experiences, 0.66 for vicarious experiences, 0.68 for verbal persuasion by others, 0.65 for self-persuasion, 0.59 for negative affective states, and 0.65 for positive affective states.

Self- and Task-Perception Questionnaire (STPQ)

The STPQ (Self- and Task-Perception Questionnaire) expectancy subscale was used to assess expectancy of success. The expectancy subscale contains 5 question items based on a five-point scale, has internal consistency with an alpha coefficient of 0.92 (Xiang et al., 2003). For example, respondents were asked, "Compared to other athletes, how well do you expect to perform in competition?" (1 = much worse than other athletes; 5 = much better than other athletes) or "How good are you at lawn bowls?" (1 = not at all good; 5 = very good).

Abbreviated Profile of Mood States (Revised Version)

The mood profile was measured using the Abbreviated Profile of Mood States (Revised Version) (Grove & Prapavessis, 1992). This is a questionnaire containing 40 items consisting of seven subscales, namely fatigue, anger, vigor, tension, esteem, confusion, and depression. Participants were asked to rate "How do you feel right now" on each descriptor, for example, "angry", on a 5-point scale marked with 0 = "not at all"; 1 = "a little"; 2 = "moderately"; 3 = "quite a lot"; and 4 = "extremely" (Grove & Prapavessis, 1992). Abbreviated Profile of Mood States (Revised Version) has internal consistency with a very high alpha coefficient for the fatigue, anger, and vigor subscales (between 0.95 to 0.87), moderately for the tension, esteem, and confusion subscales (between 0.76 to 0.70), and depression (0.66).

Data analysis

Data analysis used SPSS17. The Kolmogorov-Smirnov test was used to check normally distributed data. Paired t-test was conducted to determine statistically significant differences in psychological variables before the competition and after the competition. Furthermore, regression analysis was carried out on psychological changes before and after the competition on the results of the competition. The determinant coefficient explains how much psychological influence before and after the competition has on the competition results. The significance level was set at $p<0.05$.

RESULTS

Data on Medals

Of the 12 samples of lawn bowl athletes competing in the 2022 Asian Para Games, 5 athletes did not receive medals (41.67%) and 7 athletes received medals (58.33%) (table 2).

Table 2. Medals won in the 2022 Asian Paragames competition

Sample	Didn't Get a Medal	Get Medals
1	√	
2		√
3	√	
4	√	
5	√	
6		√
7		√
8		√
9		√
10		√
11	√	
12		√
%	**41.57%**	**58.33%**

Data on psychological differences before and after competition

Overall, it was shown that there are differences in psychological variables before and after the lawn bowl competition. Table 3 shown that psychology before competition tends to increase in athletic identity, anxiety-state, anxiety-trait, self-efficacy in sports, and expectancy of success, while only the mood profile that was reported tends to be lower before competition.

Table 3. Psychological differences in lawn bowl athletes before and after competition

Psychological variables	Before Competition (*M ± SD*)	After Competition (*M ± SD*)	*Mean different* (*M ± SD*)	t	*sig*
Athletic identity	62.42 ± 6.69	55.58 ± 7.17	6.83±2.48	9.544	.000*
Anxiety-state	49.83 ± 11.14	45.75 ± 10.04	4.08±1.93	7.334	.000*
Anxiety-trait	48.67 ± 10.68	41.08 ± 9.39	7.58±3.78	6.955	.000*
Self-efficacy	55.00 ± 8.93	49.75 ± 7.83	5.25±2.56	7.096	.000*
Expectancy of success	19.00 ± 2.34	14.50 ± 2.58	4.50±2.32	6.731	.000*
Mood profile	100.25 ± 23.49	108.67 ± 24.97	-8.42±3.50	8.325	.000*

* *Significance at <0.05*

It was further explained regarding the mood profile of lawn bowl athletes, which showed that before the competition, athletes felt fatigue 14.46%, anger 14.55%, vigor 22.28%, tension 14.21%, esteem 13.97%, confusion 10.64%, and depression 9.89%, whereas after competition athletes felt fatigue 13.65%, anger 15.57%, vigor 20.86%, tension 14.03%, esteem 13.57%, confusion 10.81%, and depression 11.50% (figure 2).

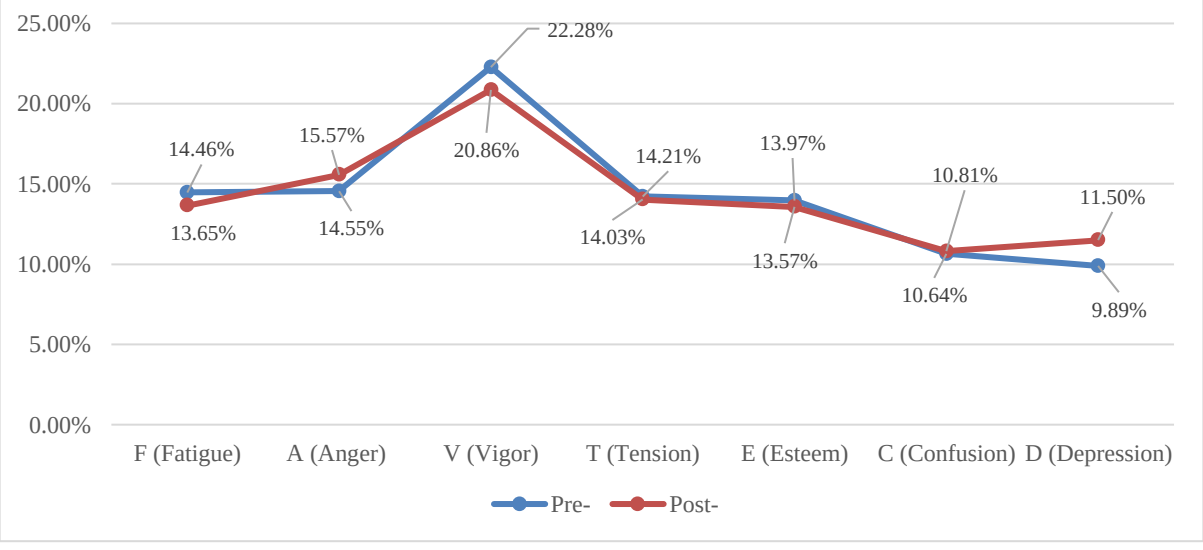

Figure 2. Mood profile of lawn bowl athletes before and after competition

The diagram above is data on the relationship between psychological changes before and after the competition with competition results (medals). The multiple linear regression test shown that changes in psychological variables before and after the competition simultaneously influence the results of the competition (medals obtained are seen in the F_{count} value). The magnitude of the influence can be seen from the R Square value of 0.992, which means that 99.20% of competition results (medal wins) are influenced by psychological variables, including athletic identity, anxiety-state, anxiety-trait, self-efficacy in sports, expectancy of success, and mood profile (table 4).

Table 4. Anova table and determinant coefficients in multiple linear regression tests

Variables	*R*	*R square*	F_{count}	*Sig.*
Athletic identity Anxiety-state Anxiety-trait Self-efficacy Expectancy of success Mood profile	.996	.992	101.705	.000*

* *Significance at <0.05*

From each psychological variable, it can be seen that there is a relationship between each psychological variable and the competition results, where there is a positive and negative relationship seen from the regression coefficient. The negative regression coefficient on anxiety-state and anxiety-trait shown that the relationship is inverse, meaning that the higher the anxiety-state and anxiety-trait, the lower the competitive results. Meanwhile, the positive regression coefficient on athletic identity, self-efficacy, Expectancy of success, and mood profile shown that the relationship is in the same direction, meaning that the higher the athletic identity, self-efficacy, expectancy of success, and mood profile, the higher the competition results. A regression coefficient of 0.329 on athletic identity means that with a 1% increase in athletic identity, competition results increase by 0.329. A coefficient of -3.102 on anxiety-state means that with a 1% increase in anxiety-state, competition results decrease by 3.102. A coefficient of -0.723 on anxiety-trait means that with a 1% increase in anxiety-trait, competition results decrease by 0.723. A regression coefficient of 3,309 on self-efficacy means that with a 1% increase in self-efficacy, competition results increase by 3,309. The regression coefficient of 0.286 on the expectation of success means that with a 1% increase in the expectation of success, the competition results increase by 0.286. A regression coefficient of 0.937 on the mood profile means that with a 1% increase in the mood profile, the competition results increase by 0.937 (table 5).

Table 5. The influence of each psychological variable on competition results

Variables	B	t_{count}	*Sig.*
Athletic identity	.329	4.485	.006*
Anxiety-state	-3.102	-12.224	.000*
Anxiety-trait	-.723	-14.835	.000*
Self-efficacy	3.309	14.028	.000*
Expectancy of success	.286	5.160	.004*
Mood profile	.937	13.905	.000*

* *Significance at <0.05*

DISCUSSION

The main research purposes was analyzed the psychology of disabilities athletes before and after competition and its relationship with the results of lawn bowl competitions. There are two assumptions in this study: first, a higher psychological level in lawn bowl athletes before competition which includes anxiety, athletic identity, expectations of success, self-efficacy in sports, and mood profile; second, anxiety, athletic identity, expectations of success, self-efficacy in sports, and mood profile, have a potential impact on the performance of athletes with disabilities in lawn bowl competitions. Based on the first assumption, researchers conducted a t-test analysis to determine the psychological differences in athletes before and after the competition. The results revealed that there were differences in all psychological variables between before and after the competition, only the mood profile showed an increase after competition, while other psychological variables showed an increase before the competition. Furthermore, based on the second assumption, the researcher carried out a regression analysis on changes in psychological variables before and after the competition, the results being that psychological variables significantly influenced the results of the

competition. Specifically, the regression model with all independent variables explains the variation in the dependent variable by 99.92%.

Regarding the researh results, the first assumption that the mood profile was high before the competition, but the results turned out to be the opposite. In this study, the mood profile score was higher after the competition, while the mood profile score was lower before the competition. However, if explained in more detail regarding the mood profile of lawn bowl athletes, the results shown that before competition the levels of fatigue, vigor, tension and esteem felt by athletes tend to be high, while anger, confusion and depression tend to be low. After competition, athletes tend to feel high levels of anger, confusion and depression as well as a decrease in vigor, tension and esteem. This may be related to some athletes not winning medals. Previous studies also showed the same that levels of anger, confusion, and depression tended to be low and vigor was high in the pre-competition period, while post-competition there was an increase in levels of anger, confusion, and depression as well as a decrease in vigor (Andrade, et al., 2019).

Related to the research results, the second assumption shown that there is a significant correlation between psychological variables and competition results. These results are in line with the researchers' assumptions. However, there is something interesting from the results of regression analysis, that there is a positive and negative correlation. Only the anxiety variable, both in state and trait, shown a negative correlation with competition results. A negative correlation means that increased anxiety can lead to decreased competitive results. This happens because according to Ghorbanzadeh & Bayar (2013), anxiety affects the right decision making skills in negative behavior, where the more the level of anxiety increases, the fewer athletes make the right decisions. Athletes have high pressure with uncertainty about who will win and lose, making it possible to make mistakes in competition. On the other hand, positive correlations were produced on the variables athletic identity, self-efficacy in sports, expectations of success, and mood profile. This is what causes high levels of anxiety before competitions. The same thing was also reported by Ferreira et al., (2007) that athletes with disabilities showed pre-competition anxiety responses.

The findings of this research show a positive correlation with competition results on the athletic identity variable. Regarding athletic identity, Tasiemski et al., (2013), revealed that people who are active for a longer time tend to have a stronger athletic identity. This means that the length of an individual's competitive career needs to be taken into account when interpreting athletic identity results. The research results shown a high score on athletic identity before the competition indicating that the athlete has had a lot of experience in lawn bowls. Meanwhile, according to Guerrero & Martin (2018), athletes with a strong athletic identity are linked to achievement and motivation to achieve goals. Therefore, athletic identity shown a positive correlation with competition results. In line with this, Skučas (2014) said that disabilities athletes in competition groups have a better athletic identity so that they represent stronger self-integrity and less self-blame, their self-confidence grows and they have a better self-image.

The findings of this research show a positive correlation with competition results on the self-efficacy variable in sports. In line with these findings, Martin (2002) also reported the same thing that correlation studies showed an important relationship between wheelchair athlete performance related to self-efficacy. On self-efficacy, there is a study that supports the research results that having a stronger perception of winning is associated with increased self-efficacy (Kwon, Shin, & Shin, 2022). This shown confidence in one's own ability to achieve achievements. Without this belief, the possibility of behavior will decrease, therefore self-efficacy shown a positive correlation, where as confidence in oneself increases in one's abilities, competition results also increase. Athletes convince themselves that they will do it.

The findings of this research show a positive correlation with competition results in the expectations of success variable. Regarding expectations of success, a study shown that the goals of disabilities athletes are higher compared to able-bodied elite athletes, they have a greater desire and enthusiasm to face different challenges (Pensgaard, Roberts, & Ursin, 1999). Therefore, expectations of success have a positive correlation with competition outcomes. This is because according to Cox & Whaley (2004), hope significantly predicts effort and persistence. In addition, Wilson, Marcia, & Dawn (2005) also reported that expectations of success are a determining factor in assessing athlete performance attributions.

The mood profile has a positive correlation with competition results, this is triggered by high vigor and esteem as well as low anger, confusion and depression seen before the competition. In line with this, Rodrigues et al., (2017), reported that high vigor at the pre-competition stage supports better sports performance. Therefore, a mood profile that tends to be positive, such as high vigor before a competition, can also have a positive impact during the competition. As explained by Andrade et al., (2019), vigor, a dimension characterized by physical energy, activity, feelings of excitement, disposition, and animation, is directly related to better sports performance and reaches the highest level before the competition, thus placing athletes in a better position. Meanwhile, low vigor indicates a poor perception of the athlete's physical and emotional capacity.

Based on the data analysis results, this research provides knowledge that can be the basis for further studies related to psychology and its impact on competition results. Regarding the sample in this study, researchers used blind lawn bowl athletes with different levels and types of disabilities according to their respective classifications. So, in preparing lawn bowl athletes to practice and compete, coaches must ensure the athlete's psychological condition in pre- and post-competition. The resarch results indicated that there is a need for interventions to increasing athletic identity, self-efficacy, expectations of success, and a positive mood profile to reduce anxiety levels before competition, because this can improve competition performance in disabilities athletes.

Conclusion

Lawn bowl athletes tend to have athletic identity, anxiety-state, anxiety-trait, self-efficacy in sports, and increased expectations of success before competition, with levels of fatigue, vigor, tension, and esteem felt by athletes tending to be high, as well as anger, confusion, and depression tends to be low before competition. The research results also shown that athletic identity, self-efficacy, expectations of success, and mood profile have the potential to have a positive impact on the competitive performance of lawn bowl athletes, while increased anxiety has a negative impact. Due to the small sample size it is necessary to interpret the findings with caution, which is a limitation of this study. However, researchers used samples that had competed at the international level, so it can be considered a strength of this study. This study also did not verify gender differences in psychological terms.

ACKNOWLEDMENT

Authors thank for Universitas Sebelas Maret through Hibah LPPM 2024 the financial support of this research.

Conflict of interest

The authors declare no conflict of interest.

Ethics Statement

This resarch was approved by the scientific research ethics committee of Sebelas Maret University, Surakarta at Dr. Moewardi Hospital with protocol code 081/I/HREC/2024, ratification date 11 January 2024.

Author Contributions

Study Design, IN; Data Collection, BNM, RID; Statistical Analysis, IN, BNM and RID; Data Interpretation, IN, BNM and RID; Manuscript Preparation, IN, BNM and RID; Literature Search, IN, BNM and RID. All authors have read and agreed to the published version of the manuscript

REFERENCES

Andrade, A., Silva, R. B., Flores Junior, M. A., Rosa, C. B., & Dominski, F. H. (2019). Changes in mood states of Brazilian jiu-jitsu athletes during training and competition. *Sport Sciences for Health*, *15*, 469-475. [CrossRef]

Bačanac, L., Milićević-Marinković, B., Kasum, G., & Marinković, M. (2014). Competitive anxiety, self-confidence and psychological skills in top athletes with and without disabilities: Pilot study. *Facta Universitatis, Series: Physical Education and Sport*, 59-70

Blumenstein, B., & Orbach, I. (2015). Psychological preparation for Paralympic athletes: A preliminary study. *Adapted Physical Activity Quarterly*, *32*(3), 241-255. [PubMed]

Cox, A. E., & Whaley, D. E. (2004). The influence of task value, expectancies for success, and identity on athletes' achievement behaviors. *Journal of Applied Sport Psychology*, *16*(2), 103-117. [CrossRef]

Dieffenbach, K. D., & Statler, T. A. (2012). More similar than different: The psychological environment of Paralympic sport. *Journal of Sport Psychology in Action*, *3*(2), 109-118. [CrossRef]

Ferreira, J. P. L., Chatzisarantis, N., Caspar, P. M., & Campos, M. J. (2007). Precompetitive anxiety and self-confidence in athletes with disability. *Perceptual and motor skills*, *105*(1), 339-346.

Ghorbanzadeh, B., & Bayar, P. A. (2013). Comparison of the Pre-Competition and Post-Competition Anxiety Levels of Taekwondo Athletes. *Life Science Journal*, *10*(2), 5-10.

Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (2018). *State-Trait Anxiety Inventory for Adults: Instrument and Scoring Key*. U.S: Mind Garden, Inc.

Grove, J. R., & Prapavessis, H. (1992). Preliminary evidence for the reliability and validity of an abbreviated Profile of Mood States. *International Journal of Sport Psychology, 23*, 93-109.

Guerrero, M., & Martin, J. (2018). Para sport athletic identity from competition to retirement: A brief review and future research directions. *Physical Medicine and Rehabilitation Clinics*, *29*(2), 387-396. [PubMed]

Koper, M., Nadolska, A., Urbański, P., & Wilski, M. (2020). Relationship between pre-competition mental state and sport result of disabled boccia athletes. *International Journal of Environmental Research and Public Health*, *17*(21), 8232. [PubMed]

Kwon, T., Shin, S., & Shin, M. (2022). The effect of observational learning on self-efficacy by sport competition condition, performance level of team members, and whether you win or lose. *International Journal of Environmental Research and Public Health*, *19*(16), 10148. [PubMed]

Martin, J. J. (2002). Training and performance self-efficacy, affect, and performance in wheelchair road racers. *The Sport Psychologist*, *16*(4), 384-395. [CrossRef]

Martin, J. J., Malone, L. A., & Hilyer, J. C. (2011). Personality and mood in women's Paralympic basketball champions. *Journal of Clinical Sport Psychology*, *5*(3), 197-210. [CrossRef]

Pensgaard, A. M., Roberts, G. C., & Ursin, H. (1999). Motivational factors and coping strategies of Norwegian Paralympic and Olympic winter sport athletes. *Adapted Physical Activity Quarterly*, *16*(3), 238-250. [CrossRef]

Proios, M. (2012). Factor validity of the Athletic Identity Measurement Scale in a Greek sample. *International Journal of Sport and Exercise Psychology*, *10*(4), 305-313. [CrossRef]

Pumpuang, W., Chusakul, C., & Popa, A. (2023, June). Competitive anxiety in athletes with disabilities: a systematic review. In *Proceedings of the 8th ACPES (ASEAN Council of Physical Education and Sport) International Conference, ACPES 2022, October 28th–30th, 2022, Medan, North Sumatera, Indonesia*.

Rodrigues, D. F., Silva, A., Rosa, J. P. P., Ruiz, F. S., Veríssimo, A. W., Winckler, C., & de Mello, M. T. (2017). Profiles of mood states, depression, sleep quality, sleepiness, and anxiety of the Paralympic athletics team: A longitudinal study. *Apunts. Medicina de l'Esport*, *52*(195), 93-101. [CrossRef]

Silk, A. J., Hammond, J., & Weatherby, R. P. (2006). 'Resting Toucher': A Time and Motion Analysis of Elite Lawn Bowls. *Journal of Sports Science & Medicine*, *5*(4), 582. [PubMed]

Skučas, K. (2014). Athletic identity and self-esteem of wheelchair basketball players. *Baltic journal of sport and health sciences*, (4), 40-43. [CrossRef]

Tasiemski, T., Urmanski, P., & Wilski, M. (2013). Athletic identity and sport performance in athletes with disabilities participating in the Paracanoeing World Championship. *Int. J. Sport Psychol*, *44*(5), 458-470. [CrossRef]

Terry, P. C., & Slade, A. (1995). Discriminant effectiveness of psychological state measures in predicting performance outcome in karate competition. *Perceptual and Motor Skills*, *81*(1), 275-286. [PubMed]

Warner, L. M., Schüz, B., Wolff, J. K., Parschau, L., Wurm, S., & Schwarzer, R. (2014). Sources of self-efficacy for physical activity. *Health Psychology*, *33*(11), 1298. [PubMed]

Wilson, M. A., & Stephens, D. E. (2005). Great expectations: How do athletes of different expectancies attribute their perception of personal athletic performance?. *Journal of Sport Behavior*, *28*(4), 392-407.

Xiang, P., McBride, R., Guan, J., & Solmon, M. (2003). Children's motivation in elementary physical education: An expectancy-value model of achievement choice. *Research quarterly for exercise and sport*, *74*(1), 25-35. [PubMed]