

The impact of gender on volleyball athletes' self-confidence: a quantitative analysis of adolescent players in padang

Rudyanto^{1*}, Jannatul Khairoh²

¹ Department of Coaching, Faculty of Sport Science, Universitas Negeri Padang, INDONESIA.

² Doctoral in Sports Science, Universitas Negeri Padang, INDONESIA.


Article Information:

Submitted: 12th June 2025; Accepted: 9th July 2025; Published: 10th July 2025

ABSTRACT

Problem: This study investigates the impact of gender on self-confidence among adolescent volleyball athletes in Padang, Indonesia, addressing a research gap in the local context where psychological aspects of training remain underexplored. Previous findings on gender-based self-confidence in sports have been inconsistent, often influenced by socio-cultural and coaching environments. **Purpose:** This study aims to provide empirical evidence by examining differences in self-confidence between male and female adolescent volleyball players. **Method:** A quantitative comparative method was employed, involving 30 participants (15 males and 15 females) aged 15–18 years, selected through purposive sampling. Athletes were assessed using a self-confidence questionnaire encompassing three dimensions: belief in skill mastery, resilience under pressure, and perceived social support. Data were analyzed using SPSS version 26 with descriptive statistics and an independent samples t-test. **Results:** The results showed that male athletes scored a higher mean self-confidence score ($M = 172.13$, $SD = 24.92$) compared to female athletes ($M = 150.27$, $SD = 33.35$). Levene's test confirmed the homogeneity of variance ($p > 0.05$), allowing further comparison through ANOVA, which yielded $F = 4.138$ with a significance value of $p = 0.051$. Although not statistically significant, the mean difference of 21.87 points indicates a psychological trend worthy of further investigation. These findings suggest that male athletes may benefit more from current training environments, while female athletes face more variability possibly due to gender role conflict and stereotype threat. **Conclusion:** The study concludes that gender-sensitive coaching approaches are essential to foster balanced psychological development. Limitations include the small sample size and localized setting. Future studies should expand the population, explore mediating variables such as coach–athlete relationships, and apply mixed-methods designs. This study contributes to the development of inclusive and supportive youth sports programs in Indonesia.

Keywords: gender, self-confidence, adolescent athletes, volleyball, sports psychology, coaching practices

 <https://doi.org/10.24036/patriot.v%vi%i.1162>



Corresponding Author:

Rudyanto

Department of Coaching, Faculty of Sport Science, Universitas Negeri Padang, INDONESIA.

Email: Rudyanto@fik.unp.ac.id

Introduction

Gender differences in athlete self-confidence have become a critical issue in sports psychology, especially in disciplines like volleyball, which require both technical skills and mental resilience (Budden et al., 2020)(Nanda Yudianti, 2016). Recent research indicates that self-confidence is a key predictor of success in serve techniques, with confident athletes demonstrating 20-30% higher accuracy than those who are hesitant (Shalom et al., 2023). However, findings on gender disparities remain contradictory. A study in Brazil (Santos et al., 2021) on adolescent volleyball athletes (aged 15-18) reported significantly higher self-confidence scores in male athletes ($p < 0.01$), while a study in Japan (Gosai et al., 2022) found no differences when mental training factors were controlled. Socio-cultural contexts, such as gender stereotypes and access to training, are suspected to contribute to these variations (Kim & Lee, 2023).

In Indonesia, particularly in Padang, which has a strong foundation of youth volleyball clubs, research on the impact of gender on athlete self-confidence is still limited. However, preliminary findings by (Eliza et al., 2024) suggest that 60% of coaches in Padang do not include psychological assessments in

their youth athlete training programs. This may lead to neglecting gender-specific needs, such as the higher tendency of female athletes to experience performance anxiety during serves (Chien et al., 2022). The lack of local literature on this issue is an urgent concern, considering that Padang is a hub for national volleyball development, with 15 active youth clubs and regular participation in regional championships.

Self-confidence in youth volleyball encompasses three key dimensions: (1) belief in skill mastery, (2) resilience under pressure, and (3) perceived social support (Ahmadi, 2014; Lasmiyati & Harta, 2014; Shanty1 et al., 2021)(Febrinaldo et al., 2023). In male athletes, a study by Md Saad et al. (2020) found a strong correlation between self-confidence and serve strength ($r=0.72$), while in female athletes, self-confidence was more related to consistency ($r=0.65$). These findings suggest that training programs may need to be differentiated by gender. However, implementing such an approach requires local empirical evidence, which is currently unavailable for the Padang context.

Environmental factors, such as the availability of facilities and the quality of coaching, also mediate the relationship between gender and self-confidence. Research by (Callejo-González & Ruiz-Herrero, 2024) revealed that female athletes in schools with limited facilities had self-confidence scores 15% lower than those in schools with complete facilities, while male athletes were less affected. In Padang, where youth clubs train in substandard facilities, this issue may exacerbate the gender gap. Additionally, the coaching culture, which tends to emphasize aggression in male athletes (e.g., pushing for jump serves), may erode the self-confidence of female athletes who are more responsive to collaborative coaching approaches.

Evidence-based solutions, such as gender-sensitive mental training, have proven effective in several countries. For instance, the GRIT (Gender-Responsive Imagery Training) program in Thailand successfully increased female athletes' self-confidence by 18% in 12 weeks through a combination of visualization and positive self-talk (Boonprakob et al., 2024). However, adapting such programs requires a deep understanding of the local athlete's psychological profile. This study aims to fill this knowledge gap by measuring the differences in self-confidence between genders in youth volleyball athletes in Padang. The findings will be disseminated through workshops for local coaches and serve as a reference for the Department of Sports in developing gender-based training policies.

Method

This study employs a quantitative approach with a comparative design to assess the differences in self-confidence levels between male and female adolescent volleyball athletes in Padang. The comparative design is chosen to allow for a direct comparison of self-confidence between male and female athletes, considering factors such as training facility conditions, coach quality, and the training approaches used. The research will be conducted on February 1, 2025, at the GOR Padang Volleyball Court, with data collection occurring during regular training sessions between 3:00 PM and 6:00 PM WIB. The sample consists of 30 athletes, with 15 male and 15 female participants, selected using purposive sampling. The selection criteria include being aged 15 to 18 years, training at least 3 sessions per week, having competition experience at the city or provincial level, and being injury-free for the past three months.

The research procedure will be carried out in several structured stages. The first stage involves preparation and planning, which includes identifying adolescent volleyball athletes in Padang as the research sample and collecting demographic data on age, gender, and training background. In the second stage, the researcher will collect data by distributing a self-confidence questionnaire to male and female athletes, covering three main dimensions: belief in skill mastery, resilience under pressure, and perceived social support. The collected data will be analyzed using statistical techniques such as t-tests or ANOVA to identify significant differences between genders and environmental factors that may influence athlete self-confidence. In the final stage, the research findings will be disseminated through workshops for local coaches and serve as a reference for the Department of Sports in developing gender-sensitive training policies.

The instrument used in this study is a Likert-scale questionnaire designed to measure athlete self-confidence based on these three dimensions. In data analysis, descriptive statistics will be used to calculate the mean and standard deviation for variables such as serve accuracy, speed, and self-confidence scores. Additionally, an independent t-test will be used to analyze the differences between male and female athletes. All data analysis will be conducted using SPSS version 26 software.

Results

This study examined differences in self-confidence levels between male and female athletes using statistical analysis. Table 1 presents descriptive statistics for the Athlete Confidence Score, including the mean, standard deviation, and range of scores for each group. Next, Table 2 displays the results of

Levene's Test for homogeneity of variance, which ensures that the assumptions for ANOVA are met. Finally, Table 3 reports the ANOVA results comparing confidence levels between the two groups. Additionally, Figure 1 provides a visual comparison of the distribution of confidence scores between male and female athletes.

Tabel 1. Descriptive Statistics

Athlete Confidence Score	N	Mean	Std. Deviation	Minimum	Maximum
woman	15	150.2667	33.34766	100.00	200.00
male	15	172.1333	24.92236	106.00	200.00
Total	30	161.2000	30.98988	100.00	200.00

The data in Table 1 reveal that male athletes had a higher average confidence score (Mean = 172.13, SD = 24.92) compared to female athletes (Mean = 150.27, SD = 33.35). While both groups exhibited a wide score range (100–200), male athletes showed slightly less variability in their responses.

Tabel 2. Test of Homogeneity of Variances

Athlete Confidence Score	Levene Statistic				
	Based on Mean	3.139	1	28	.087
	Based on Median	2.444	1	28	.129
	Based on Median and with adjusted df	2.444	1	27.747	.129
	Based on trimmed mean	3.380	1	28	.077

The Levene's Test results (Table 2) confirmed that the assumption of equal variances was met (all $p > 0.05$), allowing for the use of ANOVA in further analysis.

Tabel 3. ANOVA

Athlete Confidence Score	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3586.133	1	3586.133	4.138	.051
Within Groups	24264.667	28	866.595		
Total	27850.800	29			

The ANOVA (Table 3) indicated that the difference in confidence scores between male and female athletes was not statistically significant at the conventional threshold $F = 4.138$ and $p = 0.051$. However, the near-significant p-value and the notable mean difference suggest a trend where male athletes may exhibit higher self-confidence.

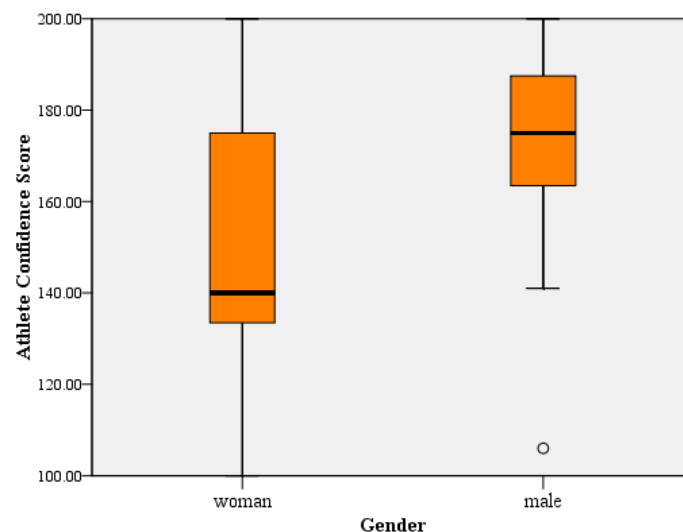


Figure 1. Boxplot of Athlete Confidence Scores: Male vs. Female Groups

Figure 1 further illustrates this trend, showing a tendency toward higher confidence scores among male athletes. Although the difference did not reach statistical significance, the observed pattern may warrant further investigation with a larger sample size.

Discussion

This study provides an in-depth exploration of the psychological dynamics related to self-confidence among adolescent volleyball athletes in Padang, with a particular focus on gender differences. The quantitative findings revealed a notable gap in the mean self-confidence scores between male athletes ($M = 172.13$, $SD = 24.92$) and female athletes ($M = 150.27$, $SD = 33.35$). Although the p -value ($p = 0.051$) did not reach the conventional threshold for statistical significance, the disparity suggests meaningful psychological patterns worthy of theoretical interpretation.

From the perspective of Social Cognitive Theory (Kutuk, 2023), self-confidence or more precisely, self-efficacy is shaped by the reciprocal interaction between personal factors, behaviors, and environmental influences. In the context of sports, male athletes often receive greater exposure to mastery experiences, modeling, and verbal encouragement, which contribute positively to their confidence development (Fenandez-Rio et al., 2023). This aligns with findings by (Gosai et al., 2022), who reported a strong correlation between mastery experiences and enhanced self-efficacy among athletes.

Gender Role Theory (Nater et al., 2024) offers additional insights into the greater score variability observed among female athletes. Female adolescents in sports may encounter a "double bind"—balancing societal expectations of femininity with athletic assertiveness (Bussey, 2023). This role conflict can lead to more diverse expressions of self-confidence, as reflected in the higher standard deviation among female participants. (Chang & Rawian, 2024) observed similar trends, noting that female athletes often experience more psychological variability in competitive settings.

Furthermore, the theory of Stereotype Threat helps explain the nuanced and sometimes inconsistent nature of gender-related confidence findings (Sin & Aprinanda, 2020). Prior studies (Heidrich et al., 2025) show that subtle activation of gender stereotypes can negatively affect female athletes' performance and self-perception. The lack of explicit gender cues in this study's procedures may account for the non-significant statistical result, diverging from research such as Cook, which demonstrated more robust effects when gender identity was made salient.

These findings also carry practical implications for coaching practices. According to Chelladurai's Multidimensional Model of Leadership, coaching strategies that are sensitive to athletes' psychological and gender-specific needs can enhance self-confidence, particularly among female players. Research by (Heidrich et al., 2025) emphasizes that athlete-centered feedback, a mastery-oriented climate, and growth-oriented communication are essential in cultivating a supportive environment. Such strategies were validated in the work of (Kutuk, 2023), especially in promoting female athletes' confidence levels.

Nevertheless, this study acknowledges certain limitations. The relatively small sample size ($N = 30$) constrains the generalizability of the findings, as highlighted by (Xia et al., 2023). Future research would benefit from applying Bronfenbrenner's, which emphasizes the complex interactions between individuals and their multi-layered environments. Based on the study's limitations, the following directions are recommended for future research: Expanding the sample across different volleyball teams and regions (Xia et al., 2023). Investigating mediating variables such as coach-athlete relationship quality (Scott et al., 2024). Utilizing mixed-methods designs to capture the multidimensional nature of athlete confidence.

From a practical standpoint, several theory-based interventions are proposed. Implementing Cognitive Behavioral Therapy (CBT) strategies tailored to female athletes. Providing gender sensitivity training for volleyball coaches. Establishing group-based workshops using Group Dynamics Theory to foster team cohesion and mutual support.

In conclusion, this study offers valuable contributions to the field of sports psychology by integrating multiple theoretical perspectives to better understand gender-based differences in self-confidence among adolescent volleyball players. The insights gained not only deepen academic understanding but also inform practical strategies to create more inclusive and psychologically supportive sports environments for all athletes, regardless of gender.

Conclusion

This study reveals that gender influences how adolescent volleyball athletes develop and express self-confidence. Male and female athletes experience different psychological and social dynamics, shaped by internal and external factors. Although the differences were not statistically significant, theoretical interpretations suggest meaningful patterns. These findings emphasize the need for gender-sensitive coaching

and supportive environments. Future research should involve broader samples and explore deeper relational factors. Ultimately, promoting equal psychological support for all athletes is essential for their growth, both in sport and personal development.

References

- Ahmadi, P. (2014). Studi Analisis Kondisi Fisik (VO2Max) Atlet Futsal SMAN Putri Hijau Kabupaten Bengkulu Utara Tahun Ajaran 2013-2014. *Journal Pendidikan Olahraga*, 45(3), 1.
- Boonprakob, R., Vimolmangkang, S., & Tummaruk, P. (2024). Impacts of supplementing Cannabis sativa byproducts during the transition period on behaviour, feed consumption, constipation levels, colostrum production and piglet performance in hyperprolific sows. *Theriogenology*, 215, 272–280. <https://doi.org/10.1016/j.theriogenology.2023.12.010>
- Budden, T., Dimmock, J. A., Smith, B., Beauchamp, M., Rosenberg, M., & Jackson, B. (2020). Overweight and obese men's experiences in a sport-based weight loss intervention for men. *Psychology of Sport and Exercise*, 50(February), 101750. <https://doi.org/10.1016/j.psychsport.2020.101750>
- Bussey, K. (2023). The contribution of social cognitive theory to school bullying research and practice. *Theory Into Practice*, 62(3), 293–305. <https://doi.org/10.1080/00405841.2023.2226549>
- Callejo-González, J. J., & Ruiz-Herrero, J. A. (2024). Factors influencing the decision of young adults to remain in their rural environment: Social origin, education and gender. *Journal of Rural Studies*, 106(February 2023). <https://doi.org/10.1016/j.jrurstud.2024.103206>
- Chang, G., & Rawian, R. (2024). Gender Differences and Similarities in Reading Motivation from the Perspective of Social Cognitive Theory. *World Journal of English Language*, 15(1), 206. <https://doi.org/10.5430/wjel.v15n1p206>
- Chien, T. H., Chen, J. Y., Chen, S. Y., & Chi, L. K. (2022). Effects of different PETTLEP imagery training methods on high school basketball players' jump-shot performance, self-confidence and anxiety. *Asian Journal of Sport and Exercise Psychology*, 2(2), 114–121. <https://doi.org/10.1016/j.ajsep.2022.09.001>
- Eliza, F., Fadli, R., Ramadhan, M. A., Sutrisno, V. L. P., Hidayah, Y., Hakiki, M., & Dermawan, D. D. (2024). Assessing student readiness for mobile learning from a cybersecurity perspective. *Online Journal of Communication and Media Technologies*, 14(4), e202452. <https://doi.org/10.30935/ojcmnt/15017>
- Febrinaldo, A., Welis, W., & Ihsan, N. (2023). The Influence of Imagery Training and Self-Confidence on Futsal Shooting Results in Extracurricular Students at SMA Negeri in Bengkulu City. In *Kinestetik: Jurnal Ilmiah Pendidikan Jasmani*.
- Fenandez-Rio, J., García, S., & Ferriz-Valero, A. (2023). Selecting (or not) physical education as an elective subject: Spanish high school students' views. *Physical Education and Sport Pedagogy*, 1–13. <https://doi.org/10.1080/17408989.2023.2256762>
- Gosai, J., Jowett, S., & Rhind, D. J. A. (2022). Coaching Through a “Gender Lens” May Reveal Myths That Hinder Female Athletes: A Multistudy Investigation. *International Sport Coaching Journal*, 9(2), 222–233. <https://doi.org/10.1123/iscj.2021-0046>
- Heidrich, C. V., Cardozo, P., & Chiviacowsky, S. (2025). Multiple Gender Stereotype Threats in Motor Performance and Learning. *Research Quarterly for Exercise and Sport*, 1–9. <https://doi.org/10.1080/02701367.2025.2492183>
- Kim, H. J., & Lee, W. M. (2023). The intersectionality of the sports labour market and gender inequality in South Korea. *Sport in Society*, 26(11), 1857–1872. <https://doi.org/10.1080/17430437.2023.2212629>
- Kutuk, G. (2023). Understanding Gender Stereotypes in the Context of Foreign Language Learning through the Lens of Social Cognitive Theory. *TESOL Quarterly*. <https://doi.org/10.1002/tesq.3267>
- Lasmiyati, L., & Harta, I. (2014). Pengembangan Modul Pembelajaran untuk Meningkatkan Pemahaman Konsep dan Minat SMP. *PYTHAGORAS Jurnal Pendidikan Matematika*, 9(2), 161–174. <https://doi.org/10.21831/pg.v9i2.9077>
- NANDA YUDIANTI, M. (2016). Profil Tingkat Kebugaran Jasmani (Vo2Max) Atlet Hockey (Field) Putri Sman 1 Kedungwaru Tulungagung. *Jurnal Kesehatan Olahraga*, 4(2), 120–126.
- Nater, C., Eagly, A. H., Heilman, M. E., Messerli-Bürgy, N., & Sczesny, S. (2024). Emphasizing the Communal Demands of a Leader Role Makes Job Interviews Less Stressful for Women But Not More Successful. *Sex Roles*, 90(11), 1506–1520. <https://doi.org/10.1007/s11199-024-01509-7>
- SANTOS, D. C. DOS, RIBEIRO, I. S., LOPES, D. P. S., PEREIRA, Í. S., SANTOS, D. P., MUNIZ, I. P.

-
- R., LIMA, F. M. D. S., COSTA, A. A. S., SOUZA, D. D. S. P., CALADO, S. P. D. M., GONÇALVES, C. V., GALANTINI, M. P. L., LOPES, D. N., SILVA, R. A. A. DA, & SANTOS, G. S. (2021). Gender-related differences in the modulation of anthropometric, biochemical, and immune markers by physical activity in hypertensive and diabetic individuals. *Anais Da Academia Brasileira de Ciências*, 93(suppl 4). <https://doi.org/10.1590/0001-3765202120201905>
- Scott, W. D., Cervone, D., & Ebiringah, O. U. (2024). The social-cognitive clinician: On the implications of social cognitive theory for psychotherapy and assessment. *International Journal of Psychology*, 59(5), 616–623. <https://doi.org/10.1002/ijop.13125>
- Shalom, A., Gottlieb, R., Alcaraz, P. E., & Calleja-Gonzalez, J. (2023). A Unique Specific Jumping Test for Measuring Explosive Power in Basketball Players: Validity and Reliability. *Applied Sciences*, 13(13), 7567. <https://doi.org/10.3390/app13137567>
- Shanty1, E., Ridwan, M., Argantos, & Setiawan, Y. (2021). Kontribusi Kekuatan Otot Lengan, Kekuatan Otot Tungkai dan Kekuatan Otot Punggung terhadap Kecepatan Renang Gaya Bebas 50 Meter. *Jurnal Patriot*, 3(March), 71–81. <https://doi.org/10.24036/patriot.v>
- Sin, T. H., & Aprinanda, M. (2020). The Impact of Concentration Toward Soccer Player Shooting Ability of Soccer School Batuang Taba Padang City. *International Journal of Research in Counseling and Education*, 04(01), 35–39. <https://doi.org/10.24036/00245za0002>
- Xia, L.-L., Li, J.-D., Duan, F., Zhang, J., Mu, L.-L., Wang, L.-J., Jiao, C.-Y., Song, X., Wang, Z., Chen, J.-X., Wang, J.-J., Wang, Y., Zhang, X.-C., & Jiao, D.-L. (2023). Effects of Online Game and Short Video Behavior on Academic Delay of Gratification - Mediating Effects of Anxiety, Depression and Retrospective Memory. *Psychology Research and Behavior Management*, Volume 16, 4353–4365. <https://doi.org/10.2147/PRBM.S432196>