

## The Impact of Positive Feedback-Based Training on the Self-Confidence of Young Male and Female Athletes Flying Wheel Basketball Club

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### ABSTRACT

Confidence is an important psychological factor that affects athletes' performance, especially in adolescence. This study aims to determine the impact of positive feedback-based training on the confidence of male and female athletes. The study used a pseudo-experimental method with a pretest-posttest control group design and involved 40 athletes, consisting of 12 experimental boys, 12 control boys, 8 experimental girls, and 8 control girls. For 8 weeks, the experimental group received training with a positive feedback approach, while the control group underwent regular training. Data were analyzed using paired t-test and independent t-test. The results showed a significant increase in the confidence of both the male ( $t = -66.77$ ;  $p = 0.000$ ) and female ( $t = -108.45$ ;  $p = 0.000$ ). The control group also improved, but to a much lesser extent. Posttest comparisons between groups showed significant differences between experimental and control sons ( $t = 12.59$ ;  $p = 0.000$ ) and between experimental and control daughters ( $t = 21.25$ ;  $p = 0.000$ ). These findings conclude that positive feedback is effective in boosting the confidence of adolescent athletes, and is recommended to be implemented in young age sports coaching programs.

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## INTRODUCTION

In the development of young athletes, technical and physical aspects are indeed the top priority, but psychological factors such as self-confidence are often overlooked (Oliver et al., 2010). Yet, self-confidence is a crucial foundation for an athlete's success in facing the challenges of competition and the pressures of training (Heydari et al., 2018; McGrane et al., 2016; Pratama & Utami, 2024). Confident young athletes are more likely to make decisions, demonstrate initiative, and recover from failure (Derry Iswindharmajaya, 2014; McManama O'Brien et al., 2021). Conversely, those with low self-confidence tend to be passive, give up easily, and experience anxiety that hinders performance (Rowland et al., 2021). Amid the complexities of the growth and

development of young athletes, psychological development through a constructive approach is an urgent need. One approach considered effective in supporting self-confidence growth is positive feedback-based training, a training approach that reinforces the process, effort, and performance improvement, not just the outcome or mistakes (Barrow et al., 2025).

Flying Wheel Basketball Club is a basketball coaching club that actively trains adolescent athletes, both male and female. As in many other coaching clubs, the main challenge lies not only in achieving technical skills but also in maintaining the psychological stability of young athletes. In practice, coaches play a crucial role in creating a constructive training environment. A coach's communication style that focuses solely on mistakes or outcomes often triggers feelings of inadequacy and lowers athlete motivation (Mylsidayu, 2022). Therefore, coaches need to implement supportive communication strategies, such as providing structured positive feedback, to create a training environment that fosters psychological development, including self-confidence, in young athletes. This approach not only builds stronger mental character in athletes but also impacts long-term success in their athletic careers.

Research on self-confidence in the context of sport has been a major focus in sport psychology for decades. Vealey's model of self-confidence in sport explains that athletes' self-confidence is influenced by successful experiences, social support, and personal evaluations of performance (Assar et al., 2022). Previous studies have also shown that coaches' communication styles play a significant role in shaping young athletes' self-confidence (Januke & Jati, 2025; Karafil & Ulacs, 2023; Zulham et al., 2024). Other research has found that coaches who employ a positive communication approach tend to increase athletes' motivation and self-confidence (Jin et al., 2022). Furthermore, adolescent athletes respond better to training that rewards effort and progress than to training that places excessive demands on results. Other research emphasizes that negative, judgmental feedback can increase performance anxiety and erode athletes' self-confidence (Chinonso, 2025; Zinsser, 2022). In this context, a positive feedback-based training approach is crucial, particularly in youth development. However, most previous research has been limited to one gender, a specific sport, or conducted in scenarios that do not fully reflect real-world training conditions. However, very little research has directly compared the effects of this approach between male and female athletes in the same training context. Furthermore, this training approach has not been extensively tested in youth basketball specifically, leaving ample room for scientific exploration and verification.

Based on this background, the research questions examined in this study are: first, does positive feedback-based training have an impact on increasing the self-confidence of young athletes at the Flying Wheel Basketball Club? Second, is there a difference in the impact of this training on male and female athletes in terms of increasing self-confidence? These questions are important to answer because they relate to the effectiveness of the training approach used in youth athlete development, as well as its implications for more equitable and gender-sensitive development strategies. The

purpose of this study was to determine and analyze the impact of positive feedback-based training on the self-confidence of young athletes at the Flying Wheel Basketball Club, and to identify differences in the training's effects between male and female athletes. With this aim, it is hoped that this research can provide theoretical contributions to the study of sports psychology and practical contributions for coaches and trainers of young athletes in implementing more effective and humanistic training methods.

## METHODS

This study used a quantitative approach with a quasi-experimental design in the form of a pretest-posttest control group design, an experimental research design involving two groups: an experimental group that received treatment and a control group that did not receive treatment. This design aims to determine the impact of training interventions provided over a certain period on the level of athlete self-confidence, as well as to compare the results between male and female athletes. The subjects in this study were young athletes who are members of the Flying Wheel Basketball Club, consisting of the 14–17 year old age group who actively participate in the club's training program regularly. Subject selection was carried out by purposive sampling, with inclusion criteria being active athletes (training at least three times a week), having participated in training for at least six months, and being willing to participate in the entire series of studies. The number of samples in this study was 40 athletes, consisting of 12 male experimental, 12 male control, 8 female experimental, and 8 female control. The instrument used in this study to measure the level of athlete self-confidence was a questionnaire adapted from the Sport Confidence Inventory (SCI) developed by Vealey. This questionnaire consisted of a number of statements measuring athletes' perceptions of their abilities in a sporting context, including aspects of competitive confidence, managing stress, and maintaining performance.

Data obtained from the pre- and post-test results were statistically analyzed using paired sample t-tests to determine whether there were significant differences between self-confidence scores before and after positive feedback-based training. Furthermore, to test whether there were differences in the effects of the treatment between male and female athletes, independent sample t-tests were used. All analyses were conducted using statistical software, and the significance level was set at  $\alpha = 0.05$ . The results were interpreted to determine the effectiveness of the training approach and the significance of differences based on gender.

## RESULTS AND DISCUSSION

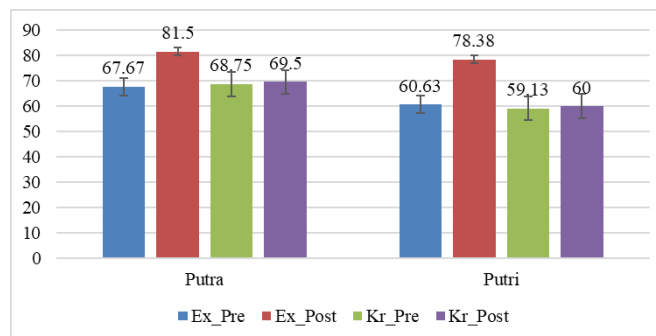
Descriptive analysis was conducted to examine the characteristics of each group's data based on the minimum, maximum, mean, and standard deviation scores. The following is a summary of the results:

**Table 1,**  
Descriptive Statistics of Athlete Self-Confidence

Gender	Group	Phase	Minimum	Maximum	Mean	Std. Deviation
Boy	Experiment	Post	77	86	81.50	2.75
	Experiment	Pre	64	72	67.67	2.50
	Control	Post	67	73	69.50	1.83
	Control	Pre	66	72	68.75	1.86
Girl	Experiment	Post	75	81	78.38	2.07
	Experiment	Pre	58	63	60.63	1.69
	Control	Post	58	62	60.00	1.31
	Control	Pre	57	61	59.13	1.25

Based on the descriptive analysis table, in the experimental group of boys, the self-confidence score in the pretest phase had a minimum of 64, a maximum of 72, a mean of 67.67, and a standard deviation of 2.50. In the posttest phase, the minimum score was 77, the maximum of 86, the mean of 81.50, and the standard deviation of 2.75. Meanwhile, in the control group of boys, the pretest score was a minimum of 66, a maximum of 72, a mean of 68.75, and a standard deviation of 1.86. In the posttest phase, this group had a minimum of 67, a maximum of 73, a mean of 69.50, and a standard deviation of 1.83.

In the experimental group of girls, the pretest phase recorded a minimum score of 58, a maximum of 63, a mean of 60.63, and a standard deviation of 1.69. In the posttest phase, the minimum score was 75, the maximum was 81, the average was 78.38, and the standard deviation was 2.07. Meanwhile, in the control group of girls, the pretest phase showed a minimum score of 57, a maximum of 61, an average of 59.13, and a standard deviation of 1.25. In the posttest, the minimum score was 58, the maximum of 62, the average of 60.00, and the standard deviation of 1.31.



**Graph 1.**

#### Summary of Average Male-Female Data

The bar chart shows a comparison of the average self-confidence scores of male and female athletes in the experimental and control groups, before (pre-test) and after (post-test) positive feedback-based training. It can be seen that the experimental group, both male and female, experienced a significant increase in self-confidence scores. For male athletes, the average increased from 67.67 to 81.5, while for female athletes, it increased from 60.63 to 78.38. In contrast, the control group showed only a very small increase: for males, from 68.75 to 69.5, and for females, from 59.13 to 60. This indicates that the positive feedback-based training intervention had a significant impact on improving the self-confidence of young athletes, while regular training without this approach was not as effective.

The following table presents the results of the statistical analysis of the self-confidence scores of young basketball athletes based on the four study groups: experimental males, control males, experimental females, and control females. The analysis was conducted using a paired sample t-test to determine the difference between pretest and posttest scores in each group, as well as an independent sample t-test to compare posttest scores between the experimental and control groups.

**Table 2.**  
 Test Data for Differences in Each Group

Uji	Group	t-value	p-value	Information
Paired t-test	Boy Experiment (Pre vs Post)	-66.77	0.000	Sig.
	Boy Control (Pre vs Post)	-4.18	0.001	Sig.
	Girl Experiment (Pre vs Post)	-108.45	0.000	Sig.
	Girl Control (Pre vs Post)	-3.86	0.006	Sig.
Independent t-test	Posttest Boy Experiment vs Control	12.59	0.000	Sig.
	Posttest Girl Experiment vs Control	21.25	0.000	Sig.

The results of a paired t-test on the male group receiving positive feedback-based training showed a highly significant difference between self-confidence scores before and after the treatment. The t-value = -66.77 with a p-value = 0.000 ( $p < 0.05$ ), indicating a substantial increase in self-confidence. This increase indicates that the consistent implementation of positive feedback strategies during training sessions directly impacts athletes' positive perceptions of their abilities. Meanwhile, the results of the paired t-test on the male control group also showed a significant increase ( $t = -4.18$ ,  $p = 0.0015$ ). However, the magnitude of this increase was much smaller than that of the experimental group.

The female experimental group recorded even stronger results, with a t-value = -108.45 and a p-value = 0.000 ( $p < 0.05$ ). This highly significant increase in self-confidence indicates that the positive feedback approach is not only effective for male athletes but also has a significant impact on adolescent female athletes. In the control group of girls, the t-value = -3.86 and  $p = 0.0062$  still indicated a significant increase, although much smaller than in the experimental group.

The comparison between the experimental and control groups at the posttest also showed highly significant results. For male athletes, the t-value = 12.59 with  $p = 0.000$ , and for female athletes, the t-value = 21.25 with  $p = 0.000$ . This means that after 8 weeks of treatment, athletes who received positive feedback had significantly higher levels of self-confidence than their peers who did not receive the treatment. These findings consistently support the hypothesis that positive feedback-based training strategies are effective in increasing self-confidence, regardless of gender.

This study aimed to determine the impact of positive feedback-based training on the self-confidence of adolescent basketball athletes, both male and female. The results showed that providing positive feedback during the training process significantly increased athletes' self-confidence, particularly in the group receiving the treatment (the experimental group). This finding is in line with the initial assumption that positive, supportive, and constructive communication from coaches can improve athletes' perceptions of their own abilities.

In the group of male athletes trained with a positive feedback approach, a significant increase in self-confidence was observed after the treatment. The difference between pretest and posttest scores was statistically significant, indicating that the positive feedback approach had a significant impact on building athletes' confidence in their technical and strategic abilities on the field. This supports Bandura's self-efficacy theory, which states that verbal persuasion from a trusted person (in this case, a coach) can increase expectations of success and perceptions of competence (Lopez-Garrido, 2023). Positive feedback, such as affirmation of success or praise for effort, can serve as external affirmation that strengthens self-confidence, especially in adolescents who are still forming their identity (Aulia et al., 2025; Junli et al., 2021). In contrast, the group of boys who did not receive the treatment (the control group) showed only a relatively small increase in self-confidence, and it was not as strong as the experimental group. Although statistically significant differences remained between the pretest and posttest, these differences are more likely explained by the effects of routine physical training or social adaptation during the regular training process, rather than by specific training strategies. This confirms that routine training without a systematic communication approach is not powerful enough to generate psychological changes such as self-confidence in the short term. It also suggests that the psychological aspects of training require separate attention and approaches for optimal results (Alficandra et al., 2024; Mysidayu, 2022).

Interestingly, in the female group, the effects of positive feedback-based training were even more pronounced. The increase in self-confidence scores experienced by the female experimental group after the intervention was statistically higher than that of the male group. This indicates that female adolescent athletes tend to respond more strongly to positive feedback. This finding can be explained by the psychosocial aspects of female adolescence, where numerous studies have shown that female adolescents are more sensitive to verbal expressions from authoritative figures (Alam, 2022). In a sporting context, coaches who provide verbal support, validation, and positive reinforcement are more impactful for female athletes because they rely more heavily on social and affective values to perceive their competence (Gosai et al., 2021; King, 2025; Miles, 2024). The control group of girls, like the control group of boys, showed relatively small improvements. This suggests that training without additional psychological approaches has only a limited impact on the self-confidence dimension. This reinforces the argument that training that solely emphasizes technical aspects without addressing interpersonal communication between coach and athlete is insufficient to develop full self-confidence, especially in adolescence.

In addition to the pretest and posttest comparison results, the analysis of differences between the experimental and control groups in the final results (posttest) showed a highly significant difference. This proves that training with positive feedback does indeed result in higher self-confidence compared to regular training. This finding is crucial in the context of youth sports coaching, as self-confidence is a key factor contributing to athletes' performance, persistence, and resilience when facing competition pressure (Aganta & Subroto, 2024; Birjukovs, 2023). This finding also supports previous studies that explain that athletes' self-confidence is strongly influenced by their perceptions of coaches'



assessments (Jekauc et al., 2025; Pesidas & Serrano, 2023). When coaches use a communication style that emphasizes athletes' strengths, progress, and successes, athletes are more likely to have positive self-appraisals. In this study, the experimental group coach consistently provided feedback in the form of praise for good technique, reinforcement for improved performance, and motivation when athletes demonstrated maximum effort. This strategy has proven effective in strengthening self-efficacy and fostering optimism about individual and team performance.

From these findings, it can be concluded that a positive feedback-based training strategy is not only an efficient training method but also a pedagogical approach capable of strengthening the mental and psychological aspects of young athletes. In the context of modern sports development, a coach's success is determined not only by technical ability but also by how the coach is able to create a supportive, motivating, and confidence-building training environment for athletes. Therefore, this study addresses its primary objective: to determine the impact of positive feedback-based training on the self-confidence of young athletes. The findings, through statistical data and theoretical interpretation, indicate that this approach has a significant impact and should be an integral part of youth athlete development strategies for both boys and girls. Going forward, coaches and sports administrators are advised to incorporate this psychological approach into their training curriculum to develop athletes who are not only physically and technically strong but also confident, resilient, and ready to face the pressures of competition.

## CONCLUSION

Based on the research results and data analysis, it can be concluded that positive feedback-based training has been shown to have a significant impact on increasing the self-confidence of adolescent basketball athletes, both male and female. These findings clearly answer the hypothesis and research objectives that a training approach that prioritizes positive communication from coaches in the form of praise, reinforcement, and motivational encouragement can improve athletes' perceptions of their own competence. The increase in self-confidence in the experimental group was significantly greater than in the control group that underwent training without a specific psychological approach. The effectiveness of this strategy was also stronger in the female group of athletes, who tend to be more sensitive to social and emotional feedback, demonstrating the importance of tailoring the training approach based on the psychosocial characteristics of the athletes. These findings indicate that coaches play a role not only in developing technical skills but also as facilitators in shaping the self-confidence and positive mentality of young athletes. Therefore, a positive feedback-based training strategy is highly recommended for integration into youth development programs. For further research, it is recommended that this approach be tested in various sports, at different age groups, and its effects on competitive performance, long-term motivation, and levels of stress or anxiety during competition.

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