



The Impact of Positive Self-talk on Wushu Athletes' Self-Confidence Levels

¹ Xu Shuai, ² Anung Priambodo

*Corresponding Author: Xu Shuai e-mail: 24060805019@mhs.unesa.ac.id

¹²Department of Physical Education, Universitas Negeri Surabaya, Surabaya, Indonesia

Abstract

Objectives. This study aims to investigate the impact of positive self-talk on the self-confidence levels of wushu athletes. Specifically, it seeks to determine whether structured positive self-talk training can significantly enhance the self-confidence of senior athletes engaged in competitive wushu.

Materials and Methods. This research employed a quantitative approach with a one-group pretest-posttest design. The study involved 23 senior wushu athletes from East Java, who participated in an intervention program over four weeks. The intervention consisted of eight structured sessions of positive self-talk training, conducted by trained coaches. The training included: Motivational affirmations, Self-reflective dialogues, Verbal reinforcement techniques. To assess the athletes' self-confidence levels, researchers used a validated self-confidence scale, administered before and after the intervention. The collected data were analyzed using a paired sample t-test to evaluate the statistical significance of the observed changes.

Results. The analysis revealed a statistically significant improvement in self-confidence following the intervention. The mean pretest score was 58.57, which increased to 73.52 in the posttest. The p-value was less than 0.05, indicating that the difference was statistically significant. These results suggest that the positive self-talk intervention had a meaningful effect on enhancing the self-confidence of wushu athletes.

Conclusion. The findings support the effectiveness of positive self-talk as a psychological strategy for improving self-confidence in competitive athletes. Positive self-talk training represents a practical, low-cost method to enhance mental readiness and performance in high-concentration sports such as wushu. Despite the promising results, the study acknowledges limitations, including the absence of a control group and a relatively small sample size. Future research is recommended to employ randomized controlled trials with larger participant groups to validate and expand upon these findings. Integrating positive self-talk into daily athletic training routines is highly recommended for coaches and sports psychologists aiming to build athlete confidence and performance consistency.

Keywords: Positive Self-Talk, Self-Confidence, Wushu Athletes, Sport Psychology, Mental Training

Introduction

An athlete's peak performance is not only determined by physical ability and qualified technique, but also by stable and adaptive mental strength (Widodo, 2017). Physical condition readiness and high technical mastery are the main foundations, but mental and emotional factors play an important role in determining an athlete's success (Popovych et al., 2022). This mental strength allows athletes to stay focused, motivated, and confident, even under the pressure of intense competition (Singh et al., 2022). Sport psychology is very

interested in the application of psychological principles to help individuals perform consistently in competitive matches. One important aspect in sport psychology is self-talk, which is the internal dialogue that occurs in an athlete's mind, which can affect their beliefs, motivation, and focus (Fadare et al., 2022). Positive self-talk can be a way to increase self-confidence, reduce anxiety, and optimize athlete performance in competitive situations. Self-confidence, as an athlete's belief in their ability to succeed in a particular task, is a very important psychological factor in sports. High self-confidence allows athletes to face challenges bravely, take calculated risks, and remain calm under pressure (A.Stephen et al., 2022). Athletes with high self-confidence tend to be more motivated, focused, and persistent in achieving their goals. Conversely, low self-confidence can lead to doubt, anxiety, and decreased performance.

Self-confidence is an individual's belief in their ability to succeed in a particular task (Themanson & Rosen, 2015). Athletes with high levels of self-confidence are better able to cope with competitive pressure, make the right decisions, and maintain optimal performance in various situations (Ven & Paper, 2013; Zhang et al., 2023). In wushu, which demands precision, speed, and aesthetic expression, self-confidence is a very crucial aspect. Athletes who are not confident tend to hesitate when performing, which can affect technique and referee judgment (Barrett et al., 2023; Carson & Collins, 2016). Therefore, mental training strategies such as positive self-talk are very relevant to help wushu athletes improve their mental readiness. Previous studies have shown the benefits of positive self-talk in various sports, such as basketball, soccer, and athletics (Matos et al., 2023). However, very few studies have examined its application in wushu. Thus, this study not only expands theoretical understanding, but also provides practical evidence for the development of mental training in this sport.

Competitive anxiety, which arises in response to pressure in competitive situations, can negatively impact an athlete's performance (Annisa & Kurniawan, 2022). Excessive anxiety can interfere with an athlete's focus, coordination, and decision-making, which can ultimately lead to failure. Therefore, it is important for athletes to develop effective strategies to manage anxiety and increase their self-confidence. High-level athletes are increasingly using mental preparation to optimize their performance (Henriksen et al., 2020). Positive self-talk can help athletes overcome competitive anxiety by replacing negative and doubtful thoughts with positive affirmations and constructive beliefs.

Positive Self-talk is a form of intrapersonal communication in which individuals use positive statements or affirmations to build confidence, motivation, and emotional regulation

(Putrie Dimala et al., 2023). In the context of sports, positive self-talk helps athletes overcome negative thoughts, improve focus, and strengthen self-confidence (Latinjak et al., 2023). Wushu is a martial art that combines speed, strength, agility, and coordination, its athletes must be very confident. Wushu athletes often face significant mental and physical challenges during training and matches. This includes learning complex movements, facing strong opponents, and overcoming fears of injury. Positive self-talk can be a very useful tool for wushu athletes to increase self-confidence, manage anxiety, and optimize their performance. However, there is little research that specifically examines its effects on wushu athletes. Developing players' physical skills is as important as improving their mental strength (Karim et al., 2024).

Materials and Methods

This study uses a quantitative approach with a one-group pretest-posttest design (Erwanto et al., 2022). The subjects of the study consisted of wushu athletes who were given an intervention in the form of positive self-talk training for a certain period. To measure the level of self-confidence before and after the intervention, an instrument was used in the form of a validated self-confidence scale questionnaire. The data obtained were then analyzed statistically to determine any significant differences between the pretest and posttest scores (Valente & Mackinnon, 2017). The research sample will consist of senior wushu athletes from East Java. Sampling will use a purposive sampling technique to ensure adequate representation of various groups of wushu athletes totaling 23 athletes. Data collection was carried out twice, namely before (pretest) and after (posttest) the intervention. To analyze the data, a normality test (i.e. Kolmogorov-Smirnov or Shapiro-Wilk) was used to ensure data distribution, as well as a paired sample t-test to determine significant differences in self-confidence levels before and after treatment. The instrument used in this study was a self-confidence scale questionnaire that has been validated by sports psychology experts. This scale consists of 20 statement items that measure the dimensions of athletes' self-confidence in competitive situations.

The research procedure includes the following stages:

Initial data collection (pretest) was carried out one week before the intervention began. The positive self-talk intervention program was given in 8 sessions for 4 weeks (2 sessions/week). Each session lasted approximately 30 minutes, consisting of:

- a) Introduction to the concept of positive self-talk,
- b) Positive affirmation exercises,

- c) Application of key words during physical exercise,
- d) Verbal reflection after training or match simulation. Final data collection (posttest) was carried out after the 8th session was completed. All sessions were guided by certified trainers who had undergone sports psychology training.

Results

The purpose of this study was to determine how positive self-talk affects the level of self-confidence of wushu athletes. The subjects of the study were 23 wushu athletes who regularly follow training. The intervention was given in the form of positive self-talk training, which is a verbal strategy intended to build thoughts and suggestions in athletes to support their good performance and self-confidence.

Treatment was given eight times for four weeks, with a duration of two meetings each week. Each session was guided by a coach using a sports psychology approach and lasted more than thirty minutes. Introduction to self-talk, positive affirmation practice, use of motivational keywords during training, and verbal reflection after training or simulation matches were the intervention materials. Before (pretest) and after (posttest) the intervention, the level of self-confidence was measured using a validated self-confidence scale questionnaire. Furthermore, the data obtained were analyzed to determine the changes that occurred and how much positive self-talk influenced the self-confidence of wushu athletes.

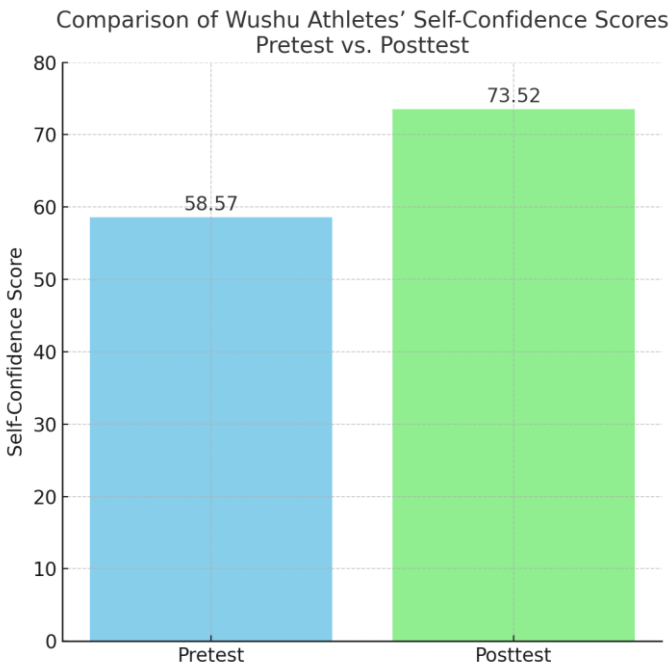


Figure 1. Comparison of Wushu Athletes' Self-Confidence Scores

The findings of this study are in line with research by (Hamid, 2023) which showed that positive self-talk interventions were able to improve athletes' focus and emotional

regulation. Furthermore, (Apriliana Sari & Zulfikasari, 2025) verified that in the context of competitive sports, structured positive self-talk training can considerably boost self-confidence. The empirical evidence that positive self-talk is a useful tactic for enhancing wushu athletes' mental preparedness is thus reinforced by this study.

The results of the descriptive data analysis and the pretest and posttest normality tests can be seen in table 1.

Table 1. Descriptive Statistical Analysis and Pretest and Posttest Normality Tests

		Pretest	Posttest
N		23	23
Normal Parameters	Mean	58.57	75.52
	Std. Deviation	2.446	3.028
Most Extreme Differences	Absolute	.113	.102
	Positive	.087	.102
	Negative	-.113	-.084
Test Statistic		.113	.102
Asympg. Sig. (2-tailed)		.200	.200

The results of descriptive data analysis showed that the subjects of the study were 23 wushu athletes. Before and after the intervention, the level of self-confidence was measured through positive self-talk. The pretest results showed an average athlete self-confidence score of 58.57 with a standard deviation of 2.446. The posttest results showed an average self-confidence score of 73.52 with a standard deviation of 3.028. This shows an increase in self-confidence after the intervention, indicating that positive self-talk can have an impact on increasing athlete self-confidence. Before the inferential statistical test was conducted, the pretest and posttest data were tested for normality using the Kolmogorov-Smirnov test. This ensures that the data are normally distributed. The test results show that the Asymp. Sig. (2-tailed) value for the pretest data is 0.200 and the posttest value is 0.200, each greater than the significance value (α) of 0.05, indicating that the data in both groups are normally distributed. As a result, it has been concluded that the data meets the assumption of normality. Therefore, a parametric statistical test, namely a paired t-test, can be used to conduct further analysis of the data. This will test the significance of the difference in scores before and after the positive self-talk intervention.

Table 2. Paired Sample T-test Pretest and Posttest Results

Test	Levene's Test for Equality of Variances		t-test for Equality of Means			95% Confidence Interval of the Difference
------	---	--	------------------------------	--	--	---

	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Equal variances assumed	1.215	.276	-18.426	44	.000	-14.957
Equal variances not assumed			-18.426	42.138	.000	-14.957

Independent sample t-test was used to determine the difference in confidence levels between two groups, as shown in table 2. Before the t-test, Levene's test for variance balance was used to test the homogeneity of variance between groups. The Levene's test results showed a significance value (Sig.) of 0.276, which is greater than 0.05. This indicates that the variances of the two groups can be considered equal or homogeneous. As a result, the t-test results can be analyzed in the row "equal variances are considered". There is a statistically significant difference between the two groups compared, according to the t-test results, with a t value of -18.426, degrees of freedom (df) of 44 and a 2-tailed significance value of 0.000. This significance value is smaller than 0.05. The two groups have a mean difference of -14.957, and the 95% confidence interval ranges from -16.592 to -13.321. In other words, after the positive self-talk intervention was given to the pretest group, the posttest group showed higher levels of self-confidence.

Discussion

The results of this study clearly show that there is a significant effect on increasing the self-confidence of wushu athletes by positive self-talk intervention. The t-value of 60.47 with a very small p-value (5.91×10^{-26}), far below the significance limit of 0.05, was found from the statistical analysis conducted through the paired sample t-test. Descriptively, the average score of self-confidence increased by 14.96 points from 58.57 in the pretest to 73.52 after the intervention. This increase is very significant and shows that athletes respond well to self-talk strategies. This supports the idea that internal verbal strategies are very important for building and increasing athletes' self-confidence during training and matches (Bernaldez et al., 2024; Ihsan et al., 2024).

Athletes' attention is focused on things that improve, such as showing their abilities, their potential, and their readiness to face challenges, through positive self-talk. Wushu athletes are encouraged to say and internalize optimistic words such as "I can", "I am ready",

or “I am confident” in these situations. This strategy increases focus, calmness, and mental readiness, all of which are important for a sport like wushu that requires self-control and concentration. This finding is in line with Albert Bandura’s (1997) self-efficacy theory, which states that a person’s belief in their abilities will have a direct impact on the results achieved (Banafsaj & Affandi, 2023). Athletes will be more motivated and braver during training or competition if they believe they can handle a certain situation. Therefore, self-talk can serve as a tool to control emotions and increase motivation.

The results of this study not only support existing theories but are also in line with the findings of previous studies. Self-talk improves athletes' focus and emotional control, according to Hardy, Hall, and Hardy (2005). Tod, Hardy, and Oliver (2011) also emphasized that consistent self-talk training is essential to achieving optimal results. Athletes in this study received structured training for eight sessions that included theory, practice, and reinforcement through reflection. The purpose of this training was to make the effects of the intervention more focused and measurable. However, this study has several limitations that must be considered. First, because the research design used a single pretest-posttest group without a control group, it is difficult to ensure that the changes were only caused by the self-talk intervention. Increased self-confidence can also be influenced by external factors, such as support from coaches, personal motivation, or competitive experience. Second, generalization of the results is difficult due to the limited sample (23 athletes) and diverse subject variables, such as age and competitive experience. To support the existing empirical evidence, further studies with a larger sample size and stronger experimental methods, such as randomized control tests, are highly recommended. This study supports the theory of cognitive intervention in sport, specifically the idea of self-regulation and intrapersonal communication enhancing self-efficacy. In fact, these findings provide an empirical basis for coaches and sport psychologists to incorporate positive self-talk into their daily training programs. Improving competitive readiness and fostering an athlete's competitive mentality can be achieved through the implementation of structured and directed self-talk (Chaudhary, 2023). This is especially true for a sport like wushu, which requires focus, self-control, and psychological composure in stressful situations. One of the important factors in an athlete's performance is their own self-confidence (Mayangsari et al., 2024). Bandura (1997) stated that the concept of self-efficacy, or one's belief in their ability to complete a specific task, is essential to achieving optimal performance. Positive affirmations and constructive discussions within oneself strengthen the perception of one's own abilities through self-talk interventions (Rahmawati et al., 2024). This study supports previous research by Hardy, Hall, and Hardy (2005), which stated that self-talk helps improve focus, emotional control, and, most importantly, self-confidence (Setiari et al., 2019). In a sport like wushu, which demands composure, precise movements, and high psychological readiness, talking to oneself in a positive manner helps regulate one's thoughts (Bellomo et al., 2020). In addition, the context of use and consistency of practice greatly influence the effectiveness of self-talk, according to Tod, Hardy, and Oliver (2011). In this study, athletes were systematically trained in positive self-talk, both through daily practice and reinforcement during simulated games. This

allowed athletes to internalize positive messages as part of their cognitive strategies for coping with competitive stress using these strategies (Jain et al., 2023).

However, there are some shortcomings of this study, although the results improve our understanding of psychological interventions in sport. In the single-group pretest-posttest design, a control group was not used, so causal interpretations should be made with caution. The results could also be influenced by other factors, such as intrinsic motivation, competition experience, and coach influence. For this reason, more robust experimental designs are needed for further research. One example is a randomized controlled trial (RCT) that has controls for confounding variables. In addition, long-term observations are also needed to determine the effects of self-talk on athletes' self-confidence and overall performance. These findings practically indicate that positive self-talk is worth including in athletes' mental training programs. This applies to sports such as wushu, but also to other types of sports that require high emotional control and mental readiness. This method can increase athletes' self-confidence, which is key to optimal performance.

In other words, the findings of this study provide important suggestions for coaches, sport psychologists, and athlete coaches on how to incorporate self-talk training into their training programs. Such mental training increases self-confidence and builds a competitive mentality. In a sport such as wushu, which demands a balance between physical and mental, positive self-talk can be one of the most effective tools. Thus, it can be concluded that positive self-talk has a significant effect on athletes' mental health, especially in increasing their self-confidence. This study confirms the importance of the mental aspect in contemporary sports coaching and allows for further investigation of psychological interventions that are cheap, effective, and easy to use in the context of training and competition.

Conclusions

Positive self-talk significantly boosts wushu athletes' self-confidence, according to the study's findings. During the eight organized sessions of the intervention, self-confidence scores increased statistically significantly, rising from a pretest mean of 58.57 to a posttest mean of 73.52. These results confirm that psychological techniques like positive self-talk can be useful tools for mental training in athletics and complement the theoretical framework of self-efficacy. Athletes were able to improve their focus, control their emotions, and develop a greater sense of self-worth by regularly using motivating phrases and positive affirmations.

One of the study's limitations is the lack of a control group, which restricts the capacity to establish causality. Furthermore, the findings' generalizability is restricted by the small sample size ($n = 23$) and the concentration on athletes from a specific region (East Java). Future studies are advised to carry out randomized controlled trials (RCTs) with bigger and more varied sample sizes in order to confirm the efficacy of positive self-talk therapies in various settings and sports. It is also advised to conduct longitudinal research to look at the long-term effects of positive self-talk on athletes' psychological health and performance.

References

- A.Stephen, F., L. Aisa., L., James, C. C. V., C. Ahmad, K., & B.Jhuniely, A.-S. (2022). Athletes' Confidence and Anxiety Management: A Review in Achieving Optimal Sport Performance. *International Journal of Science and Management Studies (IJSMS)*, August, 311–318. <https://doi.org/10.51386/25815946/ij sms-v5i4p133>
- Annisa, R. K., & Kurniawan, A. (2022). Hubungan Antara Mental Toughness dengan Kecemasan Kompetitif pada Atlet Bola Basket Profesional. *Buletin Riset Psikologi Dan Kesehatan Mental (BRPKM)*, 2(1), 107–118. <https://doi.org/10.20473/brpk m.v2i1.31929>
- Apriliansari, W., & Zulfikasari, S. (2025). Efektivitas Terapi Self-Talk Dalam Mengurangi Kecemasan Siswa Sekolah Dasar Saat Tampil Di Depan Kelas. *ELEMENTARY : Jurnal Inovasi Pendidikan Dasar*, 5(1), 1–7. <https://doi.org/10.1111/psyp.13586>
- Banafsaj, A. P., & Affandi, G. R. (2023). Peranan Motivasi Berprestasi dan Kecemasan Sosial Terhadap Kepercayaan Diri Pada Atlet Taekwondo Saat Bertanding di Kabupaten Pasuruan. *Jurnal Mahasiswa BK An-Nur*, 9(3), 177–189.
- Barrett, E., Kannis-Dymand, L., Love, S., Ramos-Cejudo, J., & Lovell, G. P. (2023). Sports specific metacognitions and competitive state anxiety in athletes: A comparison between different sporting types. *Applied Cognitive Psychology*, 37(1), 200–211. <https://doi.org/10.1002/acp.4040>
- Bellomo, E., Ring, C., Cooke, A., & Hardy, J. (2020). Mind and body : Psychophysiological profiles of instructional and motivational self-talk. *Wiley*, 57, 1–14. <https://doi.org/10.1111/psyp.13586>
- Bernaldez, C. F. A., Lugtu, M. G. A., & Ph, D. (2024). Unleashing Potentials : Harnessing Self-Imagery and Self-Talk for Athletic Excellence. *International Journal of Research and Inovation in Social Science (IJRISS)*, VIII(2454), 1097–1118. <https://doi.org/10.47772/IJRISS>
- Carson, H. J., & Collins, D. (2016). The fourth dimension: A motoric perspective on the anxiety-performance relationship. *International Review of Sport and Exercise Psychology*, 9(1), 1–21. <https://doi.org/10.1080/1750984X.2015.1072231>
- Chaudhary, C. (2023). A comprehensive review of self-talk among athletes and its impact on competitive sports. *Internat Ional Journal of Sports, Heal Th and Physical Educat Ion*, 5(2), 43–45. <https://doi.org/10.33545/26647559.2023.v5.i2a.80> Abstract
- Erwanto, A. U. N., Istiqomah, I., & Firdiyanti, R. (2022). Pengaruh Dukungan Sosial Terhadap Resiliensi Akademik Pada Mahasiswa Yang Menempuh Skripsi. *Jurnal Psikohumanika*, 14(2), 77–94. <https://doi.org/10.31001/j.psi.v14i2.1533>

- Fadare, S. A., Louri Mae, I., P. Ermalyn, L., G. Kharen, M., & L. Ken, P. (2022). Athletes' Health and Well-Being: A Review of Psychology's State of Mind. *American Journal of Multidisciplinary Research and Innovation*, 1(4), 44–50. <https://doi.org/10.54536/ajmri.v1i4.551>
- Hamid, M. W. (2023). Perbandingan Efektifitas antara Motivational Self-Talk dan Instructional Self-Talk terhadap Akurasi Free Throw Shoot Atlet Basket FIKK UNM. *Jurnal Psikologi Jambi*, 8(2), 40–45. <https://doi.org/10.22437/jpj.v8i02.29904>
- Henriksen, K., Schinke, R., Moesch, K., McCann, S., Parham, W. D., Larsen, C. H., & Terry, P. (2020). Consensus statement on improving the mental health of high performance athletes. *International Journal of Sport and Exercise Psychology*, 18(5), 553–560. <https://doi.org/10.1080/1612197X.2019.1570473>
- Ihsan, F., Nasrulloh, A., Nugroho, S., & Yuniana, R. (2024). Mental training strategies in improving sport performance : A literature review. *Fizjoterapia Polska*, 24(3), 15–22. <https://doi.org/10.56984/8ZG020ATIP>
- Jain, N., Sharma, S., & Mishra, P. (2023). Enhancing Performance and Well-being : Innovative Stress Management Strategies for Athletes. *International Journal of Multidisciplinary Research in Arts, Science, and Technology*, 1(4), 33–37. <https://doi.org/10.61778/ijmrast.v1i4.22>
- Latinjak, A. T., Morin, A., Brinthaup, T. M., Hardy, J., Hatzigeorgiadis, A., Kendall, P. C., Neck, C., Oliver, E. J., Puchalska-Wasyl, M. M., Tovaes, A. V., & Winsler, A. (2023). Self-Talk: An Interdisciplinary Review and Transdisciplinary Model. *Review of General Psychology*, 27(4), 355–386. <https://doi.org/10.1177/10892680231170263>
- Matos, R., Moreira, C., Alves, E., Teixeira, J. E., Rodrigues, F., Monteiro, D., Antunes, R., & Forte, P. (2023). Tactical Knowledge by Decision Making and Motor Efficiency of Young Football Players in Different Playing Positions during a Three-a-Side Small-Sided Game. *Behavioral Sciences*, 13(4). <https://doi.org/10.3390/bs13040310>
- Mayangsari, S., Komarudin, K., Saputra, M. Y., & Novian, G. (2024). Self-confidence and peak performance : a descriptive study on young basketball athletes. *Jurnal Olahraga Prestasi*, 20(1), 80–85. <https://doi.org/10.21831/jorpres.v20i1.72866>
- Popovych, I., Semenov, O., Hrys, A., Aleksieieva, M., Pavliuk, M., & Semenova, N. (2022). Research on mental states of weightlifters' self-regulation readiness for competitions. *Journal of Physical Education and Sport*, 22(5), 1134–1144. <https://doi.org/10.7752/jpes.2022.05143>
- Putrie Dimala, C., Rahman Hakim, A., & Mara Salsabila, I. (2023). Effectiveness of Positive Self Talk to Increasing Student's Self-Confidence Article info. *Edutran of Psychology and Behavior*, 1(1), 21–27.
- Rahmawati, S. B., Putri, A. S., Yuda, A. E., Marhamah, U., & Hidayati, A. N. (2024). Pelatihan Afiriasi Positif Terhadap Kepercayaan Diri Disabilitas Psikososial di Sehat Sukoharjo Positive Affirmation Training for Self-Confidence of Disability Psychosocial in Sehat Sukoharjo UIN Raden Mas Said Surakarta , Indonesia Sekolah Tinggi Agama. *Jurnal Hasil Kegiatan Bersama Masyarakat*, 26(6), 95–103. <https://doi.org/10.61132/mengabdi.v2i6.1060>
- Setiari, C., Hidayat, R. R., Sragen, K., Tengah, J., Maret, U. S., & Tengah, J. (2019). Efektivitas Teknik Self-Talk untuk Mengembangkan Kepercayaan Diri dalam Belajar

Siswa. *Jurnal Psikoedukasi Dan Konseling*, 3(2), 60–67.
<https://doi.org/10.20961/jpk.v3i2.34335>

Singh, V., Bhutia, T. N., Singh, M. K., Bisht, P., Singh, H., & Thomas, C. M. (2022). Comparing mental toughness: An investigation on elite Indian standing and seated para-thrower athletes. *Journal of Public Health in Africa*, 13(s2).
<https://doi.org/10.4081/jphia.2022.2422>

Themanson, J. R., & Rosen, P. J. (2015). Examining the relationships between self-efficacy, task-relevant attentional control, and task performance: Evidence from event-related brain potentials. *British Journal of Psychology*, 106(2), 253–271.
<https://doi.org/10.1111/bjop.12091>

Valente, M. J., & Mackinnon, D. P. (2017). Comparing models of change to estimate the mediated effect in the pretest-posttest control group design. *Physiology & Behavior*, 176(1), 100–106. <https://doi.org/10.1177/0022146515594631>. Marriage

Ven, V. De, & Paper, C. W. (2013). *Self-Confidence and Strategic Behavior Self-Confidence and Strategic Behavior Gary Charness Aldo Rustichini Jeroen van de Ven*. 4517.

Widodo, B. (2017). Implementasi Nilai Karakter Siswa pada Pembelajaran PJOK di Madrasah Ibtidaiyah. *Madrasah: Jurnal Pendidikan Dan Pembelajaran Dasar*, 9(2), 164–168. <https://doi.org/10.18860/jt.v9i2.4794>

Zhang, J., Chen, M. M. Y., Peng, Y., Li, S. S., Han, D., Ren, S., Qin, K., Li, S. S., Han, T., Wang, Y., Gao, Z., Agustín, R. M. S., Medina-Mirapeix, F., Casaña-Granell, J., García-Vidal, J. A., Lillo-Navarro, C., Benítez-Martínez, J. C., Sahli, F., Hammami, R., ... Meena, Y. K. (2023). Physiology and Performance Research in Female Athletes: Bridging the Gap Between Opportunity and Evidence-Based Support. *Scientific Reports*, 13(2), 1–7. <https://doi.org/10.4085/1062-6050-0703.21>