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## RESEARCH ARTICLE

### The Effect of Life Kinetik Training Models to Improve Self-Confidence in Team and Individuals Athletes

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#### Abstract:

##### Introduction:

Athletes are known to have confidence in individual abilities. Meanwhile, athletes that lack self-confidence often doubt their ability to perform at best. To increase self-confidence, it is necessary to train with the right model such as Life Kinetik training.

##### Objectives:

This study aims to examine the effect and differences in Life Kinetik and conventional training model to improve self-confidence in the team and individual athletes.

##### Methods:

This was an experimental study conducted using the “pre-posttest control group design.” The athlete’s confidence was tested pre and post-training treatments. Meanwhile, the study population, involving male athletes (mean age  $17.4 \pm 1.65$  years), was from one of the state universities in Indonesia. Thirty-four tested athletes actively trained and competed in team sports, while thirty-two athletes engaged in an individual sport. Moreover, subjects were divided into two groups through random assignment, namely experimental and control groups. The experimental group used the Life Kinetik training model for eleven sessions, twice a week whereas, the control group utilized a conventional training model. Besides, data analysis was carried out using the t-test and MANOVA with SPSS version 24 for Windows.

##### Results:

The results showed that the Life Kinetik and conventional training model significantly increased self-confidence in the team and individual athletes. Furthermore, there were differences in the effect of the Life Kinetik and conventional training model on increasing the athlete's confidence in the team and individual sports.

##### Conclusion:

Based on the results, the Life Kinetik and conventional training models improve athletes' confidence. Meanwhile, there were differences in the effect of the Life Kinetik and conventional training models on increasing the athlete's confidence in the team and individual sports. The Life Kinetik training model is more effective compared to the conventional model. Therefore, the Life Kinetik training model can be recommended to train the self-confidence of athletes.

**Keywords:** Life kinetik training model, Self-confidence, Team sports, Individual sports, Conventional model, Sports.

#### Article History

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## 1. INTRODUCTION

Self-confidence refers to the belief in an individual ability to react positively to situations, ignore disturbing factors, and remain calm under pressure [1]. It is a variable related to performance; hence, confidence correlates with the success and

performance of athletes in sports [1, 2]. Previous studies have shown a significant relationship between the level of confidence and athlete's success [1], the relationships among measures of the sports psychological profile with self-confidence, and between coping control and competitive anxiety, moods, and general self-efficacy [3].

Furthermore, self-confidence is an important factor for athletes because it relates to athletes' abilities and affects match

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results [4]. It is also related to individual perceptions of emotional state; hence, these individuals can assess and interpret emotional states, increase relationships with experiences through positive emotions, and decrease them through negative emotions [2]. Therefore, athletes with self-confidence have self-control which is positively related to higher levels of performance and is also considered an important skill of athletes [3]; hence, athletes have positive thoughts, feelings, and behavior, and they can ignore disruptive factors and remain calm under pressure [1, 4]. This ability is needed by athletes in both teams and individual sports, to properly complete tasks given by the coach.

Athletes with low self-confidence have low expectations for performance in different situations and generally underestimate primary abilities due to lack of self-confidence and fear of failure [5]. A study emphasized that self-confidence is a dynamic construct, which is prone to change. However, given the beneficial effect of team athletes' confidence on performance, it is important to identify the factors that shape and influence team's confidence [6]. Therefore, self-confidence needs to be integrated into psychological training programs provided continuously by coaches, such as the Life Kinetik training model.

The Life Kinetik training model is a combination of movement activities, cognitive challenges, and visual perception training, especially peripheral visual perception. Meanwhile, the combination of limb movements in these exercises, namely capturing and throwing, visual perception, eye coordination, and other body parts, are fundamental characteristics of the Life Kinetik training model [7]. It is also included in cognitive-motor coordination training. This exercise is the harmonization of the nervous and musculoskeletal systems, thereby resulting in rapid, accurate, and balanced motor response [7, 8]. The motion patterns in the training model vary and are complex, hence, requiring the integration of motor and cognitive functions. Meanwhile, previous studies found a relationship of performance with intelligence, while fine motor skills presented a moderate to a strong relationship with visual processing. Furthermore, two cognitive skills are highly required in complex motor tasks [7, 8].

Moreover, Life Kinetik training is a physical and psychological training program deliberately designed to improve athlete performance, especially in relation to self-confidence [9]. This exercise provides numerous benefits for athletes, namely to reduce tension, increase relaxation, improve concentration and memory, as well as the quality of the skills learning process, physical and mental performance qualities, and athlete's confidence [10]. Besides, the Life Kinetik training aims to improve mental and physical performance [7]. Athletes that partake in Life Kinetik training have improved physical, mental, cognition, and visual perception, and this is a good foundation in sport, competence, adequate preparation, and good physical condition [11]. Exercise and continuous training are methods to increase an athlete's confidence [12]. Life Kinetik training models in developed countries are mostly carried out by coaches, psychologists, and sports scientists. In Indonesia, there are only a few studies on the Life Kinetik

training model, hence, it is not recognized among coaches and athletes, even though this exercise has a significant effect on improving cognitive abilities and performance. Furthermore, Duda stated that the Life Kinetik training model affects the cortical region of the human brain, thereby increasing efficient thinking processes [13].

Previous studies have reported that brain exercises increase self-confidence, even better than yoga and meditation exercises [14]. Physical activity has a variety of health effects, including decreased vascular risk factors, improved maintenance of muscle mass with age, minimal side effects [15], and affect various psychological conditions, such as mental well-being, reduced symptoms of mental health disorders, as well as symptoms of depression and anxiety [16]. The study emphasized that self-confidence is assessed via brain activity, following the concept that self-confidence has three important aspects, namely physical skills and training, as well as cognitive efficiency, and resilience. These three aspects are very important for the success of athletes in sports [9]. Therefore, these aspects have attracted the researchers to further examine the Life Kinetik training model to increase self-confidence in the team and individual athletes.

However, it is not yet clear whether Life Kinetik and conventional training models affect the self-confidence of the team and individual athletes. Is there a difference in the effects of Life Kinetik and conventional training models in terms of increasing the self-confidence in the team and individual athletes? To answer this question, the effects and differences of Life Kinetik and conventional training models to improve self-confidence in the team and individual athletes were examined in our study.

## 2. MATERIALS AND METHODS

### 2.1. Participants and Procedure

This study was conducted using the experimental method with a pretest-posttest control group design. The study population included 160 male athletes aged 17-19 years (mean ages  $17.4 \pm 1.65$ ) from the team and individual sports. Besides, team sports include basketball, soccer, and volleyball, while individual sports include karate, archery, and badminton. The subjects were athletes in one of the tertiary sports clubs in Indonesia and were members of the team (90) and individual sports (70). Furthermore, selected subjects were athletes that actively train and participate in competitions. Subjects were selected using a non-probability sampling technique (purposive sampling) to obtain thirty-four male athletes in team sports and thirty-two in individual sports.

The athletes from each sport group were divided into the control and experimental sub-groups consisting of seventeen subjects using the random assignment method. Besides, the experimental group was tested with the Life Kinetik training model, while the control groups were tested with a conventional training model, which is the usual exercise performed at sports clubs. A variable of athlete's confidence was pretested before using two training models in both groups and sub-groups to determine the initial level of confidence. The athlete's confidence variable was also tested after utilizing Life

Kinetik and conventional training models in both sports groups. Changes in athlete's confidence were estimated based on a comparison of pre and post-experimental training models data.

## 2.2. Variables

Two variables were studied: the independent variable in terms of Life Kinetik and conventional training models and the dependent variable, namely athlete's confidence in the team and individual sports.

## 2.3. Treatment

In the experimental group, the Life Kinetik training model was utilized for eleven sessions, twice a week. Meanwhile, the number of sessions was in line with the previous study [7]. The Life Kinetik training model consists of eight modules, which include various forms of motion patterns, namely ladder training as an exercise with different leg movement patterns through a ladder box placed on the floor, and athletes are required to step, jump, move straight, to the right, and left quickly. Besides, the motion pattern in ladder training is cyclic or a-cyclic motion. The movement patterns of ladder training and other movements in the Life Kinetik training model are as follows:

Module 1: Ladder exercise A, where the A1 is a single footstep on the ladder box; A2 is double steps on the ladder box; A3 is a single step and double combination, while A4 is the double-doubles outstep.

Module 2: Ladder exercise B, where B1 is zigzag steps out of one leg; B2 is zigzag step out of two legs; B3 is a cross-step, and B4 is a backward cross-step.

Module 3: Ladder exercise C, where C1 is forward and backward steps; C2 is a step forward and backward outside the ladder; C3 is a sideways step, and C4, is alternating footsteps.

Module 4: Jumping line exercise to the left, right, and forward across the stretched rope. The jumping line exercise is divided into several forms, namely JA and JB. JA1 is jumping across the line to the left and right; JA2 is double jumping to the left and right; JA3 is a combination of jumping movements, i.e., JA1 and JA2; JA4 is a combination of JA1 and JA2 while tapping the legs; JA5 is the same movement as JA4, except that the hand is tapping the opposite leg. Furthermore, JB is divided into several forms, JB1 is jumping left and right double over the backward line; JB2 is jumping left and right double over the backline; JB3 is jumping over a rope with one- leg and landing on two feet; JB4 is jumping over a rope by tapping the leg with one hand, and JB5 is jumping rope by tapping the leg with two hands.

Module 5: Reaction-Cognition (RC) is an exercise, which involves catching a ball. The athlete throws the ball and gives instructions such as "right," meaning that the receiver catches the ball with the right hand while moving the left foot forward. Meanwhile, when the "left" instruction is given, the receiver catches the ball with the left hand while moving the right foot forward. Moreover, this exercise is divided into several types of training, namely RC1, which is throwing and catching the ball based on the above instructions, also, RC2 is throwing and

catching the ball backward with the instructions above; RC3 is throwing and catching the ball while moving other limbs, and RC4 is throwing and catching the ball while rotating the arm.

Module 6: Jumping Cross (JC) is cross-stepping combined with the different step movements (forward, sideways, backward, and crossed footsteps). This exercise is divided into JC1, which includes the jumping cross-steps, JC2 includes the oblique footsteps, and JC3 includes the cross-steps.

Module 7: Juggling (JUG) exercise, where JUG 1 is throwing the ball upward and catching by both hands, which are turned upward; JUG2 is throwing the ball and catching with crossed hands which are turned upward; JUG3 is throwing the ball and catching from the top when the palms are turned down; JUG 4 is throwing the ball and catching with arms crossed, left hand facing down and right hand facing up; and JUG5 is throwing the ball and catching with crossed hands with left hand turned down and right hand turned down.

Module 8: Rainbow Run (RR) is an exercise in which the motion pattern performed is a combination of single out and back doubles with the addition of colors or marks (often with cones) which are placed next to the ladder. This exercise is a combination of ladder exercises from simple to complex movements coupled with arm movements using a ball. It is divided into several parts, including RR1, which includes single out and back doubles movement with various colors using the cones next to the ladder; RR2, include single out and back double movements with the various colors placed next to the ladder; and RR3, include single out and back double movements with the various colors on the side of the ladder along with the rotating motion of the ball at the waist [7, 11, 13].

The eight forms of exercise are then arranged into the Life Kinetik training program per training session in line with findings of Komarudin [11] as follows:

First session: Ladder exercises A1 and A4, B1 and B4, Jumping Line J1, J3 and J4, and Juggling (JUG1).

Second session: Ladder exercises A3, A4, B1, B4, C1, and C4, as well as Juggling (JUG2).

Third session: Ladder exercises A1, A4, B3, and B4, Jumping line J1-J3, and Juggling (JUG1 and JUG2).

Fourth session: Combination of ladder A3, A4, B3, and B4, Jumping Line J1 and J4, Reaction-cognition RC1 and RC2, and Jumping Cross JC1 and JC2.

Fifth session: Ladder exercises B2 and B4 with the ball, C1 and C3, Jumping Line J3 and J5, Reaction-cognition RC3, and Jumping Cross JC2 and JC3.

Sixth session: Ladder exercises A1 and A4 with Ball, C2 and C4, Jumping Line J3 and J5, Reaction-cognition RC3 and RC4.

Seventh session: Jumping line exercise J4 and J5, Reaction-cognition RC1 and RC3, Jumping Cross JC1 and JC3, and Juggling JUG1 and JUG3.

Eighth session: Ladder exercises A3, A4, B3, B4 C1, and C4, Jumping Line J4 and J5, Jumping Cross JC1 and JC3 with

Ball and Partner.

Ninth session: Jumping line exercise J3 and J5, Jb3 and Jb5, Reaction-cognition RC1 and RC4, and Rainbow Run RR1.

Tenth session: JC2 and JC3 Jumping Cross Training with Ball and Partner, Juggling JUG1 and JUG5, and Rainbow Run RR1 and RR2.

Eleventh session: Ladder exercises A3, B4, and C3, Jumping Cross JC1 and JC3 with Ball, Juggling JUG3 and JUG5, and Rainbow Run RR1 and RR3.

Hence, the Life Kinetik training model combines several forms of movement patterns that use ladders, balls, ropes, and cones, and other limb movements such as arm movements to test the cognitive abilities of athletes. Equipment was used to perform the Life Kinetik training, such as adjustable ladders of 6 or 9m in length, tennis ball or balloon, rope 1.20m, cones of different colors, and doubles tip for marking. As soon as the participant's performance reaches about 60% correct trials, the task demands are changed, and new combinations of symbols and movements are introduced.

**2.4. Measures**

The data collected were in the form of quantitative data obtained from the results of confidence measurement in the team and individual athletes. Meanwhile, the data were obtained from the measurement carried out before treatment through pretest, and after treatment through posttest in the two groups, namely experimental and control. The data were collected using a questionnaire in the form of a Confidence Scale Instrument [17]. This instrument consists of 60 statements and has 5 possible answers, namely "Always," "Often," "Sometimes," "Rarely," and "Never." The answer to each statement item in the instrument uses a Likert scale which has a gradient from very positive to negative, with a score range of 5, 4, 3, 2, and 1 [18]. Moreover, this instrument has a

validity level of 0.68 and a reliability of 0.76; hence, it is suitable as a measuring tool. For implementation, this instrument is given to athletes in team and individual sports during pre-and post-test.

**2.5. Data Analysis**

All obtained data were approximated by a normal distribution and presented as Mean ± SD. Based on the estimation of data normality, the parametric statistic, namely MANOVA test with SPSS version 24 for Windows, was used [19]. This method was used because the variants are being compared to more than one dependent variable, such as self-confidence for the team and individual athletes. The test results referred to the Pillai's Trace test, while the significant value and the received alpha level was 0.05.

**3. RESULTS**

In our study, a significant increase in self-confidence in the two groups of subjects trained with the Life Kinetik and conventional training model was found. The results of the calculations for the two groups are shown in Fig. (1).

The initial levels of self-confidence were compared in all tested sub-groups (Fig. 1). Gain indicates an increase in athlete's confidence which is calculated as a difference of measured data before and after training. In the experimental group, the average gain was 19.764 (p<0.001) in the team sport athletes, while in the individual sport athletes, the gain was 14.812 (p<0.001). In the control group, the average gains were 13.529 (p<0.001) and 12.875 (p<0.001) in the athletes of the team and individual sports, respectively. Based on the gain score, the athletes' self-confidence in the experimental group is higher than in the control. The t-test was carried out to determine the effect of Life Kinetik and conventional training on increasing self-confidence in the team and individual sports athletes (Table 1).

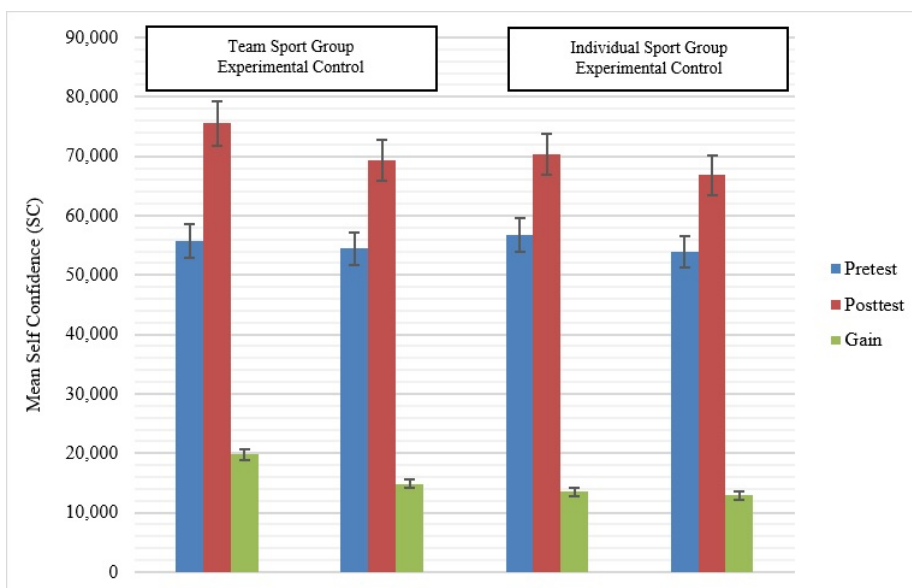


Fig. (1). Mean, standard deviation, and gain score of pre- and post-tested self-confidence in the experimental and control groups.

**Table 1. T-test calculation results.**

Group	Pair	M±SD	t	df	Sig. (2-tailed)
Experiment	Pre-post team	19.765 ± 5.356	15.181	16	.000
	Pre-post individual	14.813 ± 1.601	37.013	15	.000
Control	Pre-post team	13.529 ± 1.807	30.873	16	.000
	Pre-post individual	12.875 ± 2.579	19.971	15	.000

The Life Kinetik and conventional training model significantly increased self-confidence in all groups (Table 1); however, the experimental group had greater improvement compared to the control group in both team and individual athletes. Furthermore, the MANOVA test showed differences in the confidence of the team and individual athletes with Life Kinetik and conventional training models. The relationship between Life Kinetik training models and increased confidence was significant (value  $F=21.635$ ,  $p<0.001$ ) in team sports athletes. This indicates that there is a difference in athlete's confidence caused by variations in the treatment given. Furthermore, in athletes of individual sports, the relationship between the Life Kinetik training model and the increase in self-confidence was also significant ( $F=7.049$ ,  $p=0.013$ ). This indicates that there were differences in confidence due to differences in the training treatment given. However, the relationship between the Life Kinetik training model and increased athlete's confidence was more pronounced in team sports than in individual sports.

#### 4. DISCUSSION

The results show that the Life Kinetik training model significantly increased self-confidence in both teams and individual athletes. Meanwhile, the results were in line with Lutz which stated that the Life Kinetik training model aims to increase athlete's confidence [10]. The complexity of this model requires a strong perception about individual ability and competence to perform complex motion patterns which affect athlete's involvement in the training process. Athletes that are uncertain or feel anxious, without good motivation and belief tend to feel inadequate in carrying out respective duties, especially when the training does not vary [20, 21]. Besides, athletes tend to report negative feelings about situations that are challenging in the training process. Intervention in form of training variations, especially in terms of psychological aspects, prevents boredom and affects athlete's performance [22]. Therefore, complex physical activity training included in the Life Kinetik training model makes athletes confident of performing the various forms of exercises. The level of self-confidence determines how much effort the athlete puts in and the duration of physical activity. Athletes' perception of abilities and skills play an important role in building confidence to achieve goals [23, 24]. According to our results, the self-confidence was similar in both team and individual groups and did not depend on any kind of sports. The data demonstrate that the participants were members of the same population and the general level of self-confidence for their age

was in the middle ranges (54.438-56.824) of the Confidence Scale Instrument.

Besides, the Life Kinetik training model enables athletes to view themselves as being competent, as athletes identify the Life Kinetik form of training as a challenging activity filled with fun and excitement. Also, in this training model, all forms of training with complex combinations and variations of movement are a combination of several forms of ladder movements that are very challenging and difficult for athletes to perfectly perform. Meanwhile, not all athletes are able to immediately master the Life Kinetik training model. The perfection of motion and mastery of patterns are not demanding, but the most important thing is for athletes to be happy in performing the motion patterns. Demirakca and co-authors explained that it is not only fun but also the perfect way to improve performance [7]. An essential aspect of this combined training is that the exercises are not carried out until automatized.

Furthermore, self-confidence is closely related to responses to cognition, affection, and behavior [25]. This is a confidence construct in sports that affects athlete's performance [26]. It was reported that there was a positive correlation between high self-esteem and the success of athletes. The results of interviews with 63 athletes showed high success in sports (90%) determined by the high self-confidence [12], whereas failure occurred when the athlete's self-confidence was low. These results were in line with other studies which stated that confidence is a significant factor that consistently distinguishes highly successful athletes from less successful athletes [12, 27, 28]. Athletes' performance in sports is determined by their level of self-confidence. Moreover, high self-confidence is related to the statement positive effect, effective, competitive behavior, and focus, while low athletes' self-confidence is related to the statement negative effect, non-effective competitive behavior, and inability to maintain an effective focus [26].

Athletes with high self-confidence are able to effectively use cognitive sources [26] and have positive emotions, such as excitement and happiness. They focus on performing tasks given by the coach, particularly in the Life Kinetik training process. Meanwhile, athletes that lack self-confidence tend to have disturbed emotions, thereby feeling anxious, worried, and depressed [29]. Athletes that feel anxious and unable to focus on the given tasks tend to have decreased performance [3]. Furthermore, athletes that are able to maintain concentration on a given task tend to have high self-confidence, whereas, when athletes have low self-confidence, they are usually unable to focus, control feelings of stress, anxiety, and depression, and think positively in performing routine activities [24]. Hence, self-confidence influences the performance of athletes, due to the strength and confidence in themselves to show maximum performance even under pressure.

It was also reported for team sports that confident athletes have high perceived strength adequacy of physical fitness and have high goal-oriented grades [30]. These goals challenge and motivate the athlete. Self-confidence is also related to productive achievement behaviors, such as increased effort and motivation for athletes. Furthermore, based on the theory of

self-efficacy, the decreased efficiency of athlete performance is due to feelings of anxiety [2]. Therefore, strong self-confidence is associated with challenging goal setting with maximum efforts and persistence to achieve these goals [31]. Based on many previous studies, it is assumed that self-confidence correlates with athlete success in different kinds of sports [1, 9, 32 - 34].

Furthermore, differences were observed in the effect of Life Kinetik training on a team and individual sports. These findings are in line with Lane's statement which stated that athletes' level of confidence to perform respective duties, especially in the Life Kinetik training process, is very different [26]. Assessment of individual self-confidence, including the athlete group, showed differences, due to the distinction in the level of understanding, manner of assessment, and organizational culture, which are aspects that affect the development of self-confidence in sports. It was reported that this Life Kinetik training model is a primary source of confidence in sports, based on the athlete's positive perception that he or she can perform Life Kinetik movements [25]. These differences in the perception of athletes serve as a basis and are not generalized for other groups of athletes. Thus, the self-confidence increases due to both Life Kinetik training and conventional training independently from the kind of sports; however, the increase in self-confidence was pronounced in athletes treated by the Life Kinetik training model. Furthermore, our Life Kinetik training model is more suitable to increase self-confidence in athletes of team sports. This is due to an increase in individual perceptions of the importance of being part of the team, motivation to complete team tasks, and positive impact on the ambition of success with the team [33].

The Life Kinetik training model consists of very complex movements with an intensity of 40-60%, 3 sets of volume, 6 repetitions, and each set of rest for 1 minute. The complexity of movement in Life Kinetik for team athletes will be mastered more quickly, because team athletes are used to facing complex challenges both in the training process, facing friends in the team, and from opponents. Whereas for individual athletes, the biggest challenge lies in themselves, while the influence of the opponent is very small. Carrying out individual athletes' duties is based on individual abilities and beliefs without being influenced by others. In Life Kinetik training, athletes can perform complex motion patterns because they believe in their abilities. This success will have an impact on increasing athlete's confidence. Athletes who are confident in team sports have a great role in team success; athletes will keep trying and set challenging goals. Furthermore, they are tough against opponents and show their best performance [6]. Therefore, self-confidence has a positive influence on an athlete's performance [32, 33].

The limitation in this study is that the movement patterns of the Life Kinetik model are very complex, requiring coordination skills and cognitive function. Therefore, it is recommended that future studies use samples of elite athletes who already have good agility and coordination abilities and pay attention to the level of cognitive ability in these athletes both in the team and individual sports.

## CONCLUSION

Our study revealed that self-confidence increases due to both Life Kinetik training and conventional training independently from the kind of sports; however, the increase of self-confidence was pronounced in athletes treated by the Life Kinetik training model. This Life Kinetik model is more suitable for athletes of team sports. Therefore, our Life Kinetik training model can be recommended to train the self-confidence of athletes.

## ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The study protocol was not reviewed by the ethics committee because it was not required at the time of data collection, according to local and national guidelines. However, it has been approved by the Institute for Research and Community Service of the University and standard ethical guidelines from the American Psychological Association (APA).

## HUMAN AND ANIMAL RIGHTS

No Animals were used in this research. All human research procedures followed were in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national), and with the Helsinki Declaration of 1975, as revised in 2013.

## CONSENT FOR PUBLICATION

All the participants included in the present study gave their informed consent.

## AVAILABILITY OF DATA AND MATERIALS

The data sets for this manuscript are not publicly available because of local, legal, and privacy restrictions.

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## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest, financially or otherwise.

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