

## REVIEW ARTICLE

# Relationship between Knowledge, Practice of Mental Training Skill, Control and Confidence among Malaysian Sport School Students

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## ABSTRACT

**Introduction:** The objective of the study is to identify the relationship between knowledge and the practice of mental training skill during competitions which requires the athletes to gain control and boost their confidence. The study significantly states that knowledge and the practice of mental training skill during competitions are able to increase the athletes' ability to control their state of mind and raise their confidence. **Methods:** 115 students of Malaysian Sport School, Pahang Malaysia participated in the study. One set of Likert scale questionnaire, which consists of five parts is used as the study instrument. The study instrument is based on the Competitive State Anxiety Inventory (CSAI-2), Test of Performance Strategies (TOPS) and Mental Toughness Questionnaire (MTQ-48). **Results:** The research findings demonstrate an average level of knowledge on mental training skill with reference to the athletes' control of their mental state and their confidence. However, the significant relationship between the knowledge and the practice of mental training skill with regards to the athletes' mind control and confidence during competitions shows a highly positive and moderate relationship. **Conclusion:** Healthy mental training skill helps improve the athletes' personality during competition. Apart from prioritising on the physical element in training applied in the competitions, the main elements which become the athletes' source of mental strength, level of control and confidence are able to overcome the mental challenges.

**Keywords:** Knowledge, mental training skill practice, control, confidence

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## INTRODUCTION

The mental training skill in sports is a serious aspect which always affects an athlete's control and self-esteem during competitions. A competition would cause an individual to experience a negative emotional disturbance in which the athlete would feel anxious, afraid and depressed (1,2,3). The authors also agreed that an athlete's body would also experience discomfort before the start of any competition, which is highly likely to result in him or her having less control and confidence. The athlete needs to handle his or her anxiety so that it will not become worse. Therefore, the application of the knowledge and the practice of mental training skill can be used to overcome anxiety problems

which include the athlete's control and confidence.

The main reason why the athletes have no confidence during competitions is the lack of motivation (4). Besides that, the ability of an athlete in handling anxiety problems during competitions needs to be taken care of wisely because these factors influence their performance in participating the competitions. Due to these reasons, it is suggested that sufficient exposure on mental training skills should be given in alleviating the confidence level (5) and as a guide in practicing the mental training skill as a training routine (6) for the athletes to control their anxiety level during competitions. The mental training skill gives advantages to the athletes during competitions and also increases their confidence (7). Mental training skill helps to prepare the athletes mentally, both from the cognitive and somatic aspects in overcoming their anxiety problems during competitions. Therefore, the use of techniques such as relaxation, positive self-talk, focus and imagery (8) may help the athletes to better understand their mental health state during competitions

(9).

Based on the findings of a previous study, the anxiety experienced by the athletes during competitions results in both positive and negative effects in which they need to control their emotions during the events. The study also indicates that the athletes are able to overcome their anxiety during the second round of match until the very last one. This signifies that the beginning of the game is the most important paradigm for the athletes to improve on their mental state and overcome the experienced anxiety. Besides that, the knowledge and the mental training skill practice are not commonly practiced during competitions. The athletes and the coaches do not often use mental training as the daily training and application during competitions (10). The same goes with another previous study which mentioned that the practice of mental training skill needs to be increased because it involves the psychological health subjectively (11).

In addition, there is emphasis on previous studies pertaining to the mental training skill, control and confidence. Thus, the researcher will also include the findings of previous studies, which have impact on the variables investigated in this study, and some suggestions on how to improve on the knowledge and practice of mental training skill. The mental training skill is the process which provides the methods and techniques in improving on the performance, developing self-confidence and target setting through positive perceptions, positive self-talk, visualizations, imagery and focus (12). The skill is developed to help athletes create a much more positive approach during competitions (13). Athletes should also learn to understand their cognitive abilities before deciding to implement strategy during competition.

Confidence is when an individual has a sense of trust in oneself, allowing him to act in various situations. This demonstrates that self-confidence is needed in order for someone to fulfil his or her mental needs in which target and imagery help to increase one's self-esteem from hesitating to make any movement when taking part in games. Control is defined as the capability of an individual athlete to handle various situations or influence another individual. This refers to the high communication skills of a person to talk or act using the techniques of focus or self-talk. The control gives benefits to an athlete to manage his or her self-control from deviating far from the originally set target.

The context of a previous study stated that there is the inability for athletes to control their anxiety due to the lack of mental preparation before the competition (14). As a result, the athletes are unable to repeat their moves during training in real competitions. Next, during the competitions, the athletes have low confidence when dealing with the situations due to their lack of self-motivation and unstable mental condition (4) which can

be related to the practice of negative self-talk. Negative self-talk reduces the confidence level of the athletes. Study by Kumar (15) states that the athletes are thinking way too much of their reputation in the past competitions because of the lack of imagery used during training sessions and competitions (16). This is because imagery is an alternative for the athletes to recall past movements and recreate new movement poles in the participated in the games in order to achieve the established target.

There are positive feedbacks from the respondents regarding the mental training skill practice, in which this skill has helped them to perform better during competitions (17). New athletes are also able to overcome stress and generate thoughts that are more positive. Mental training skill increases the athletes' performance. It helps them to better understand the benefits of the psychological skill. This is because past studies have also emphasized on the use of imagery, which can improve on the athlete's control and confidence (18, 19). On top of that, using imagery during competitions helps the athletes to recall the skills they have once used in previous competitions and improve on their self-esteem and motivation (20,21). Therefore, the use of mental training skill is able to reduce the symptoms of athletes' anxiety.

Coaches and athletes rarely use mental training skill not only in their training routine but also during competitions (15). The skill gives a positive effect on the athletes in solving their anxiety problem. With the early mental preparations, this is deemed to be able to improve athletes' confidence and control during the competitions. Past researches are more focused on the individual's psychological factors such as the target setting, relaxation, imagery and self-talk which affect the athletes (22,23,24). Apart from this, there are also researchers who have expanded on a few elements which help athletes and coaches to improve on their achievements during competitions and training sessions, which consequently resulted in the athletes' success (25, 24, 23,26).

The lack of knowledge and practice of mental training skill during competitions have affected the athletes' control and confidence, which can to be overcome by using the mental training skill. As a result, the athletes are able to handle their cognitive and somatic anxiety symptoms during competitions using an effective and safe method. Thus, the knowledge and practice gained from mental training skill will provide an appropriate exposure for the athletes to control their anxiety and improve on their confidence.

Besides that, studies related to the mental training skill also encourage the athletes and coaches to use the mental skill training, allowing them to work together when conducting the mental training skill practice (1). The elements of mental training skill helps the athletes to control their emotions better. Consequently, the

knowledge and the practice of mental training skill bring positive impacts on the athletes in developing themselves in sports. This paper is to identify the level of knowledge and mental training skill practice during competitions. In such a way, this articles is to determine the relationship between knowledge, the mental training skill practice during competitions, control, confidence and achievements.

## METHODOLOGY

The population involved all students from Pahang's sports school, also known as Malaysian Sport School Pahang except for students from Form 3 and 5. In order to investigate the relationship between knowledge and mental training skill practice among athletes, data are analyzed based on the analysis of knowledge and mental training skill utilized by all athletes at the target school. The number of the sample in the research is 115 students. The research design is a survey study using the questionnaire form which aims to identify and explain on the conducted research. Besides that, the sample selection follows the cluster sampling method. The respondents are randomly selected in conducting the research. The technique is applied to prevent biasness in choosing the respondents.

The Test of Performance Strategies (TOPS) instrument explains on the aspects of knowledge and practice of mental training skill used in the study. The instrument consists of 25 items. There are five factors, namely (i) the relaxation technique, (ii) self-talk, (iii) the target setting technique, (iv) the imagery or visual technique, and (v) focus technique. The total score shows the score was between 25 to 125 marks. The marks are used to evaluate on the aspects of knowledge and practice by the athletes on the mental training skill, in which high scores indicate high level of knowledge and practice while low scores indicate low level of knowledge and practice among the athletes. The measurement scale used is the Likert-Scale scoring method. The next instrument used in this study is taken from the Test of Performances Strategies (TOPS) which shows the Alfa Cronbach for the TOPS scale are target setting ( $\alpha = 0.80$ ), imagery (0.82), relaxation (0.80), focus (0.68), and self-talk (0.77). The validity of the TOPS instrument shows that the internal validity of the study is between the range of 0.66 to 0.81 for the subscales of relaxations, imagery, focus, target setting, and self-talk (34).

The inventory of Mental Toughness Questionnaire (MTQ-48), the third instrument is used by adapting its questions based on the issues and objectives of the study to identify control and confidence. The instrument consists of 20 items, which are divided into two factors namely control and confidence. The total score for all items are between 20 and 100 marks. The range scores can be used as a general index in evaluating the athletes' control and confidence during competitions. High scores

demonstrate high level of control and confidence, while low scores suggest low level of control and confidence. The Likert-scale scoring method was used and the MTQ-48 instrument showed the reliability test for control ( $\alpha = 0.89$ ) and confidence in the interpersonal and ability (0.87, 0.82). The validity of focus in the MTQ-48 instrument is found to have a positive relationship with the mental strength, in which [ $r = 0.62, p < 0.05$ ] (35). Both questionnaires had been used in local studies for Malaysian context in Nurhani Munawwarah, 2018.

## FINDINGS

The results of the descriptive analysis involved the mean and standard deviation to identify the level of knowledge and mental training skill practice during competitions. Besides that, the inferential analysis utilized the Spearman correlation test to find out the relationship between the knowledge and practice of mental training skill during competitions with the control and confidence among the athletes.

**Table 1:** Min of Knowledge and Practice of Mental Training Skill during Competitions (n=163)

	Mental training knowl- edge skill		Mental training skill practice	
	Min	Std. Dev.	Min	Std. Dev.
Relaxation	3.72	0.49	3.20	0.48
Self-talk	3.58	0.55	3.77	0.64
Target setting	3.36	0.52	3.62	0.59
Visualisation/imagery	4.14	0.79	3.42	0.54
Focus	3.33	0.63	3.40	0.47
Total	3.62	0.41	3.48	0.35

Table I shows the mean and standard deviation of the knowledge of mental training skill among athletes. This table concludes that the minimum mean score value is 1.00, which showed low frequency in terms of the mental training skill. On the other hand, the maximum mean score value is 5.00, which demonstrated high frequency in mental training skill. Based on the table, it can be concluded that the highest mean value of the knowledge on mental training skill is the aspect of visualisation or imagery with the mean value = 3.25 and the standard deviation = 0.79. The second highest mean value is the relaxation aspect with the mean value = 3.72 and the standard deviation = 0.49. Next is the self-talk aspect with the mean value = 3.58 and the standard deviation = 0.55, while the aspect of target setting recorded the mean = 3.36 and the standard deviation = 0.52. The lowest mean value showed the mean value = 3.33 and the standard deviation = 0.63. The findings concluded the knowledge level on mental training skill among athletes in overall is at a moderate level. Based on the average value for the knowledge on mental training skill, the value 1.00 to 2.33 demonstrates a low level, 2.34 to 3.66 shows a moderate level and the highest level has the average value of 3.67 to 5.00.

Research shows the highest mean value of mental training skill practice among athletes with the mean value = 3.77 and the standard deviation = 0.64. The second highest mean value is 3.62 representing the target setting aspect, with the standard deviation = 0.59. Next, the mean value for the aspect of visualisation or imagery is 3.42 with the standard deviation = 0.54. Meanwhile, the focus aspect recorded the mean value = 3.40 and the standard deviation = 0.47. The lowest mean value of the mental training skill practice is 3.20, with the standard deviation = 0.48. The overall mean value which is 3.48 demonstrates the moderate level of mental training skill practice based on the average value for the level of knowledge on mental training skill, with the value of 1.00 to 2.33 showing a low level, 2.34 to 3.66 showing a moderate level and the highest level with the average value of 3.67 to 5.00.

The descriptive analysis is used to find the results on the mean and standard deviation of control and confidence among athletes. The analysis is conducted to identify the level of control and confidence among athletes. The overall mean for every construct which is control [mean = 3.44, standard deviation = 0.42] shows the interpretation at a moderate level. Apart from that, the confidence construct [min = 3.65, standard deviation = 0.68] also shows the interpretation at a moderate level.

**Table II:** Relationship between Knowledge and Mental Training Skill Practice, Control and Confidence

		Knowledge	Practice	Control	Confidence
Knowledge	Correlation	1	0.66**	0.44**	0.57**
	Sig. value		.000	.000	.000
Practice	Correlation	0.66**	1	0.59**	0.51**
	Sig. value	.000	.	.000	.000
Control	Correlation	0.44**	0.59**	1	0.49**
	Sig. value	.000	.000		.000
Confidence	Correlation	0.57**	0.51**	0.49**	1
	Sig. value	.000	.000	.000	

\*\* .Correlation is significant at level 0.01 (2-tailed).

Table II demonstrates that there is a significant positive relationship between knowledge and mental training skill practice with control and confidence. The analysis shows a highly positive relationship between knowledge and practice [r=0.66, p=0.00, p<0.01]. There is a moderately positive relationship between knowledge and control [r=0.44, p=0.00, p<0.01], and a highly positive relationship between the knowledge of mental training skill during competitions with confidence [r=0.57, p=0.00, p<0.01]. In discussing the relationship of the mental training skill practice during competitions, there is a highly positive relationship between the mental training skill practice and control [r=0.59, p=0.00, p<0.01]. Other than that, relationship between the mental training skill practice during competitions and confidence illustrates a highly

positive relationship between the mental training skill practice during competitions and confidence [r=0.51, p=0.00, p<0.01]. In discussing the relationship between control and confidence, there is a moderately positive relationship between control and confidence [r=0.49, p=0.00, p<0.01]. In conclusion, the research findings indicate that there is a significant relationship between knowledge and mental training skill practice during competitions with confidence. For the relationship between the knowledge and practice of mental training skill with control and confidence, both demonstrate a strongly positive relationship and a moderate relationship respectively.

## DISCUSSION

The aim of the study is to identify the level of knowledge and mental training skill practice during competitions. Along these lines, this paper is to determine the relationship between knowledge, the mental training skill practice during competitions, control, confidence and achievements. A study by Gee (6) supports the importance of the mental training skill which helps to prepare the athletes from the mental aspect, both cognitively and somatically, and also improve on their self-confidence in handling anxiety experienced during competitions. Apart from that, it is important to practice the mental training skill because it helps the athletes to make sure their psychological orientation is stable (27).

The research findings on the knowledge of mental training skill show the overall mean of the knowledge on mental training skill is moderate. This explains that the athletes' knowledge on the mental training skill is at a moderate level, in which they require the basics of mental training skill (23). This is because the concept of the mental training skill explains the ability of the athletes to maintain a stable mental condition so that they are able to improve on their self-esteem and totally understand their set target. The moderate mean value demonstrate the tendency in the visualisation aspect as compared to the others. This is highly related to the issue in which the athletes experience difficulty in deciding wisely (7) which shows their lack of strictness in the visualization or imagery. Besides that, the imagery provides a useful psychological technique for the athletes to develop and improve on themselves during competitions (28). This is also supported by the research of previous studies which mention that visualization gives a positive impact on athletes in facing competitive situations (24).

Based on the research findings on mental training skill practice, the overall mean is at a moderate level. This explains that athletes practice the training skill during competitions. The training practices should be practiced by athletes and coaches during competitions. This might help them in reducing the emotional disturbance during competitions. Next, the practice which is frequently

used by the athletes show that they tend to apply the self-talk technique as compared to the others. The effects of self-talk are really effective in helping the athletes to overcome the problems they have (29). Self-talk may also help lessen the tendency of athletes to overthink of something which results in their deteriorating performance. Based on the issue related to self-talk in mental training skill practice, athletes have their own negative self-talk; causing them to be less confident and thus affects their control negatively. The issue of self-talk is aligned with the findings of the previous study which states that self-talk is widely used by the athletes at Pahang's sports school. The researcher also demonstrates positive impacts on the athletes' performance in various sports fields (30). Self-talk is a good intervention for the athletes to achieve appropriate effects during training sessions.

The research findings found that the level of control and confidence among athletes show a moderate level based on the mean. This is aligned with the research findings on the athletes' anxiety level which has either moderate or high level of control and confidence. This also signifies that the athletes' moderate level of control and confidence have enabled them not only to control and reduce negative perceptions but also helped them in accomplishing the assigned tasks well and achieve excellent reputations. This can be related to the issue, which state that the athletes always pose negative perceptions in which they often think of unrealistic matters when facing various situations in competitions. Athletes who join higher level of competitions have more negative thoughts (31). This is aligned with the research findings which demonstrated that athletes tend to have a moderate or high level of control and confidence, preventing the athletes from thinking of the previous achievements in competitions. There is a linear regression between the intervention of control and confidence in trainings and also during competitions (8).

Based on the research findings, there is a significant relationship between the knowledge and practice of mental training skill during competitions with control and confidence. There is a strong and positive relationship between the knowledge on mental training skill and its practice. The knowledge in overcoming mental psychology provides challenges to athletes during competitions (32). This signifies on a significant relationship between the knowledge and mental training skill during competitions. The knowledge and the mental psychological conduct are often applied by experienced athletes (33). Therefore, the athletes of Pahang sports' school have to improve on their knowledge and practice of mental training skill so that they may advance further than athletes who are without any knowledge and mental training skill practice during competitions.

Besides, there is a highly positive relationship between the knowledge and the mental training skill during

competitions with confidence demonstrating strong correlational relationship. Knowledge on mental training skill has a linear relationship with confidence. This is proven with the increasing confidence which depends on the individual's motivation and the type of task conducted are based on the knowledge on mental training skill from the self-talk aspect learned by the athletes. Positive self-talk helps alleviate one's confidence level and this may also happen the other way round and negative self-talk will reduce the confidence of an athlete. Thus, the knowledge on mental training needs to be increased in order to become an effective booster for the athlete's confidence.

Next, there is a strong and positive relationship between practice and control and confidence among athletes. Good control is established through the improvement on mental training skill practice either using one or more techniques depending on the particular situation. The use of mental training skill practice during competitions indirectly helps athletes in controlling and improving on their confidence level. Research findings are related to positive effects that may improve on the confidence and control, and also reduce depression and muscle stiffness. Therefore, it can be said that the mental training skill is important and athletes should always ensure that their mental health remains stable from time to time.

Despite all that, a moderately positive relationship illustrates on the relationship between knowledge and control. It can be inferred that there is a relationship between control and confidence in which both demonstrate a moderately positive relationship. It is also regarded as a way to improve the athletes' reputation during training sessions and competitions. Research findings also show the relationship between control and confidence and propose some strategies and techniques in applying the knowledge on mental training skill for the athletes to help overcome their mental strength problems from the aspects of control and confidence. By using the techniques, the athletes will be able to plan and make early preparations for the competitions. This is important for the athletes to identify the appropriate way of overcoming their personal issues and act effectively in achieving the established target during competitions.

The research findings supported the hypothesis that the mental training skill helps improve the athletes' personality during competitions. Athletes' knowledge and practice of mental training skill may provide an opportunity for them to prepare themselves sufficiently before the competitions. The knowledge and practice of mental training skill can also help them in evaluating the surroundings and deciding on the effective strategies to cater to the needs of the competitions. The main elements which become the athletes' source of mental strength, level of control and confidence are able to overcome the mental challenges. Therefore, the athletes have more potential in acquiring much more satisfying

mental state by taking into consideration a few other elements of mental training skill. In addition, other parties who are involved especially the management authority and the coaches should also improve on the healthy mental development of the athletes, apart from prioritising on the physical element in training applied in the competitions.

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