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AWARENESS OF MENTAL TRAINING STRATEGIES AMONG AMATEUR BOXERS IN KENYA

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Abstract

The purpose of this article is to determine the state of awareness of mental training strategies across gender, competition levels, and sports experience among amateur boxers in Kenya. Mental training strategies are the basic meta-cognitive processes used to control learning and the use of mental skills in sports. The mental training strategies included in the assessment tools are relaxation, goal-setting, self-talk, and imagery. The meta-cognitive awareness test (MAS) has two dimensions of knowledge, which are the cognitive domain and the cognitive regulative domain. Five BA-K branches, 12 clubs, and 147 boxers, comprising 120 males and 27 females, competing in the BA-K boxing league, were randomly selected, and the final sample of the study was formed. Boxers were selected based on their availability during data collection. Independent t-tests and one–way ANOVA were used to compare differences in the means of awareness and the use of mental training strategies. The means of regulative awareness was highest for goal setting, followed by relaxation and imagery, while self-talk had the least. The mean of both cognitive and regulative awareness was inadequate (<3.5) on a scale of 1-5. This indicated that mental skills were not given priority throughout training. The finding that boxers had the highest cognitive awareness in goal-setting suggests that coaches should put more emphasis on goal-setting as a foundation for learning other mental strategies. The result of this study will be used by coaches to improve training approaches based on competition level and sports experience of boxers and to improve performance in boxing.

Key terms: Mental training strategies, cognitive awareness, regulative awareness, goal-setting, relaxation, self-talk, imagery, visualisation

INTRODUCTION

The purpose of the study was to determine the understanding of the factors of mental training strategies among Kenya amateur boxers. There are four main factors that go into mental training strategies: goal-setting, self-talk, imagery, and relaxation. Goal setting is a mental strategy that focuses on setting goals that are energising and motivational. Self-talk is a mental strategy that aims at learning and performing sports skills and strategies as well as self-encouragement, arousal and coping. Imagery is a mental strategy that involves the rehearsal of visual and kinesthetic movement relevant to boxing without actual physical movement. Relaxation is a mental strategy that involves decreasing tension in the muscles during critical moments in a competition to avoid unnecessary tightening of muscles.

The awareness of mental training strategies is determined in two dimensions. The dimensions comprise cognitive and regulative awareness. Cognitive awareness involves knowledge in three sub-dimensions: declarative knowledge about self, rules of sports, strategies and facts, procedural knowledge on how to use strategies and conditional knowledge referring to why and when to use the strategies. On the other hand, regulative awareness involves knowledge in three sub-dimensions: management of information, self-monitoring and self-evaluation. Regulative dimensions are necessary to control actions to improve problem-solving skills and efficient performance.

Elite athletes have been demonstrated to have better mental skills than non-elite athletes, according to studies on the subject (Monna et al., 2007; Samantha et al., 2015; Moe et al., 2016; Nicholas & Melissa, 2017). This suggests that many professional athletes use mental skills training in their regular training program to enhance their capacity to manage performance demands and, ultimately, to perform better in both practices and competition. Often referred to as the basic mental skills, mental training strategies include relaxation, goal setting, visualisation and imagery, and positive self-talk (Weinberg & Gould, 2011). Athletes employ meta-cognitive strategies or processes to modify cognitive, affective, and behavioural states like motivation, focus, confidence, anxiety, emotion, arousal, and mental toughness (Jarvis, 2006; Vealey, 2007; Weinberg & Gould, 2011).

Athletes, teams and coaches frequently set goals to motivate themselves and improve their performance (Kingston & Wilson, 2009). According to Locke and Latham (2005), goal-setting intervention enhances task-related performance through four mechanisms. First, goal setting directs individuals to focus their effort towards goal-related actions and ignore irrelevant activities. Second, goal setting energises individuals, allowing them to invest effort in goal pursuit. Thirdly, goal impact persistence whereby more difficult goals result in higher effort being invested. Finally, perusing goals facilitates the discovery and development of task-related strategies. According to goal setting theory, the relationship between goal setting and performance is moderated by ability, goal commitment, feedback, task complexity and resources (Locke & Latham, 2005). Goal-setting strategies have been associated with consistent improvements in targeted behaviours among elite boxers, whereas the non-elite revealed inconsistent patterns. This includes a more facilitative interpretation of anxiety symptoms and greater self-confidence (Mallalieu et al., 2009). Goal-setting strategies have also been shown to improve the percentage of fights won among boxers (Mallalieu et al., 2009). Positive self-talk is the inner dialogue that focuses on positive thoughts. A body of literature has shown that athletes who use self-talk as part of the psychological skills training package experience performance benefits. A meta-analysis of research on instructional and motivational self-talk indicates that self-talk has a moderately beneficial effect on sports task performance (Hatzigeorgiadis et al., 2012).

When movements are practised mentally without engaging in physical movement, this is referred to as visualisation visualisation and imaging (Hall & Lane, 2001). Athletes can visualise themselves performing a skill or activity by doing so in their minds. When doing a skill or task, they can also observe it from the inside out by feeling their way through it (Wood, 2010). Through the use of this approach, people can help their brains create vivid, sensory images that will help

them relax, concentrate, and become more aware of their bodies (Abdoli et al., 2011).

In order to reduce anxiety and alertness before a competition, athletes can employ the method of relaxation (Sadeghi et al., 2010). This approach to arousal control makes use of cognitive behavioural approaches to achieve the ideal degree of arousal for competitive events while engaging in relaxing activities (Sadeghi et al., 2010). Utilising a relaxation method allows an athlete to avoid unnecessarily tightening their body while competing and to intentionally and effectively reduce muscle tension during crucial periods in a competition. The relaxation techniques include those that focus on the mind to the muscle (meditation, centring, autogenic training, listening to calming music, and imaging) as well as those that focus on muscle-to-mind (breathing exercises, stretching, massage, and progressive muscle relaxation) (Bishop et al., 2009).

According to several research studies, knowledge is a powerful predictor of intentions to take action (Huggins & Conner, 2003; Rhodes & Courneya, 2003). It is more likely that a boxer will use mental training techniques if they are well aware of them (Hamberger & Seppo, 2008). Boxing is associated with increased competitive anxiety and stress, which alter the behaviour of boxers, making strategies ineffective and, hence, performance decline (Cerin *et al*., 2000). With awareness and utilising mental training strategies, athletes may control their cognitive and emotional states throughout training and competition, leading to improved athletic performance (Boyd & Zenong, 2004).

Competitions in amateur boxing progress through a number of levels, starting at the branch level and moving up to the national level, pre-Olympic level, and then the Olympic level (AIBA, 2013). Each level of competition has four stages: preliminary rounds, quarterfinal rounds, semifinal rounds, and final rounds (AIBA, 2013). The best performance recorded at the Olympics was in 1988, where Kenyan boxers earned three medals. From 1962 to 1992, Kenyan boxers won medals in major competitions like All Africans Games, the Commonwealth Games and the Olympics. After 1992, no single boxing medal was won at the Olympics, and the number of medals won in other tournaments also reduced considerably. Since 1992, boxing has not won an Olympic medal despite the existence of boxing clubs, gyms, trainers, and leagues in Kenya; this raises concerns about the level of understanding of mental training techniques among Kenyan boxers. There is a dearth of data regarding amateur boxers in Kenya's awareness of mental training techniques. There was no proof that Kenyan amateur boxers participated in mental training regimens, nor was there evidence that amateur boxers in Kenya were aware of mental training techniques. The purpose of the study was to determine the understanding of the factors of mental training strategies among amateur boxers in Kenya. This study sought to determine the level of awareness of goal-setting, self-talk, imagery and relaxation strategies among amateur boxers in Kenya.

The results from the study of mental training strategies would be used by coaches to improve boxing performance through psychological intervention. The results can also be used to design a mental skills training program based on awareness of each strategy. The result can further be used by the Boxing Federation and Ministry of Sports, Arts and Culture to organise in-service training programs for coaches and managers on mental training interventions among boxers in Kenya. The results of the study can further be used to assess the mental readiness of boxers preseason for subsequent and appropriate intervention. Coaches and BA-K will develop awareness initiatives to promote the awareness and use of mental training strategies during practice and competition after the status of awareness is established among amateur boxers in Kenya.

LITERATURE REVIEW

According to self-regulation theory by Jean (2010), learning involves an active mental process of interaction of prior knowledge, skills and strategies with the environment. Knowledge is, therefore, a product of meta-cognitive processes, which can be predicted by meta-cognitive awareness. Knowing one's own thoughts, processes, cognitive abilities, emotional state, and state control is referred to as having meta-cognitive awareness (Moran, 2014), which asserts that meta-cognitive awareness has two components: knowledge of cognition and control over

cognition. Declarative information about oneself, personal strategies, rules, facts, and definitions; procedural knowledge on how to use the strategies; and conditional knowledge related to why and when to utilise the strategies are the three sub-dimensions that makeup knowledge of cognition. On the other hand, the regulation of cognition has three sub-dimensions which include activities such as planning or management of information, comprehension and self-monitoring, debugging and self-evaluation (Behncke, 2004; Hamberger & Seppo, 2008). Regulation of cognition is therefore necessary to control actions to improve problem-solving skills and efficient performance.

Using a meta-cognitive awareness inventory developed by (Dennison & Shraw, 1994), this awareness idea was evaluated among physical education teachers. Following expert input, 125 student instructors verified 24 items representing 6 aspects, each with 4 items. The statistical program SPSS was used to process the data that were obtained in this manner. This study established that the inventory was valid with a reliability index of more than 0.7. This inventory has further been used to measure awareness of learning methods among physical education learners (Crippen et al., 2006). Mental training strategies are psychological skills which use meta-cognition processing. This construct has not been determined among boxers and has not been conducted in an African setting. This study will utilise a meta-cognitive awareness inventory to measure the construct of mental training strategies awareness among boxers in Kenya. The mental training strategies are, therefore, measurable using a meta-cognitive awareness inventory.

Studies on Awareness of Mental Training Strategies

A study on knowledge of mental training skills and utilisation of mental training strategies used a total of 108 men and 96 female university athletes in the United Kingdom to determine the factors influencing the acceptance of mental skills training and the utilisation of mental training techniques. Regression analysis's findings revealed a relationship between knowledge of mental training techniques and their utilisation (Hamberger & Seppo, 2008). Due to this, it is more likely that a boxer will use mental training techniques if they are well aware of them (Hamberger & Seppo, 2008).

A study by (Elferink et al., 2010) examined how involvement level and sport type affected self-regulation abilities among gifted athletes. 222 talented male and female athletes between the ages of 12 and 16 participated in the study using a meta-cognitive awareness questionnaire. Reflection makes a distinction between athletes who perform at the highest degree of excellence, according to multivariate analyses of covariance and discriminant function analysis. Additionally, it showed that individual athletes scored higher than team athletes on planning and effort. It was concluded that reflection or regulation of cognition facilitates the development of sport-specific characteristics. This is an indication that the regulation of cognition is a factor in sports performance and is a major mental skill needed in individual sports.

In a different study by Brick et al. (2015), data from (n=10) top endurance runners were gathered using semi-structured qualitative interviews. In this study, the self-regulation of top endurance runners was examined via the lens of meta-cognitive processes. The research found that planning, monitoring, reviewing, and assessing cognitive strategies, as well as meta-cognitive experiences, were crucial to the use of cognitive control and cognitive strategies by elite endurance runners. It was determined that successful cognitive control in elite endurance runners while running depends on meta-cognitive processes. This finding shows that cognitive and regulative awareness is a key factor in the use or utilisation of mental training strategies by participants in sports.

In the Turkish men's second volleyball league, (Almansour et al., 2012) examined the meta-cognitive awareness levels of both successful and unsuccessful teams. Data was collected on 133 volleyball players from 8 clubs using a meta-cognitive awareness questionnaire. Whitney, Mann U tests were employed to compare the two groups, and Spearman's rank order correlations were used to examine the connections between achievement and meta-cognitive awareness abilities. This study demonstrated that, except for debugging and evaluation, there was no

discernible difference in the mean meta-cognitive awareness between successful and unsuccessful teams. This indicated that top-ranking athletes made fewer errors than unsuccessful athletes. Volleyball players must execute their techniques well to perform well. This finding contradicted the previous findings except in debugging and evaluation, indicating that successful athletes scored higher than unsuccessful athletes in all the cognitive and regulation levels of awareness.

The findings from the studies reviewed are applicable among endurance athletes and volleyball players. There is no study on awareness of mental training strategies involving boxing. The current study sought to find out the status of meta-cognitive awareness in mental training strategies among amateur boxers in Kenya.

Mental Training Strategies in Sports Performance

Goal Setting Strategy

According to research, mental training methods, including goal-setting, relaxation, and encouraging self-talk, can boost an athlete's performance condition (Weinberg & Gould, 2011). According to Hardy et al. (2001), basic mental skills like relaxation, goal-setting, imagery, and encouraging self-talk are utilised to develop more complex mental talents, including confidence, motivation, attention, emotional control activation, and arousal in sporting activities. By using mental training techniques to grow the psychological components that influence sports performance, these fundamental mental skills are developed.

When athletes have outcome-, performance-, or process-oriented goals, goal planning is the most effective method of mental training in sports, according to Vidic and Burton (2010). Strategies for developing goals that are task-focused boost athletes' levels of intrinsic motivation (Amorose & Horn, 2000; Weinberg & Gould, 2011). Setting constructive goals (behaviours to be demonstrated) as opposed to destructive aims is encouraged by Jean (2007) (behaviour that should not be exhibited). Goals can be self-set or delegated (Elston & Ginir, 2004). Allowing players to either set their own goals or participate in the goal-setting process will boost goal efficiency (Weinberg & Gould, 2006). For the best results, an effective goal-setting programme must include several methods to obtain the intended result (Weinberg et al., 2007).

Five male boxers from the U.K. were used in a study on the effects of goal-setting on anxiety, concentration, and perseverance. The results showed that boxers' anxiety and concentration improved when they set objectives that were focused on performance and were attainable (Mesagno, 2008). Additionally, it was discovered that boxers were more tenacious during matches whether extrinsic benefits were present or not (Mesagno, 2008). Using a goal-setting model developed by Burton et al. (2001). Mellalieu et al., (2009) conducted a study to determine the impact of a goal-setting programme on three male elite and three male non-elite boxers in the United States. An individual subject design with several baselines was used. The elite individuals showed consistent improvement in targeted behaviours, more helpful interpretation of anxiety symptoms, and more self-confidence both throughout and after the goal-setting programme was finished, in contrast to the non-elite participants who showed inconsistent patterns. Five of the six boxers who received intervention after their fights improved. This study utilised a small sample of six boxers of the same gender. The study used the three-step goal-setting paradigm developed by Burton et al. (2001): goal determination, goal setting, and goal reviewing. Cognitive restructuring ensures that goal setting is effective among the non-elite, using strategies like positive self-talk, thought stopping and imagery (Hall et al., 2008). This study used a small sample size of boxers, hence lowering the validity of the findings. The goal of the current study was to determine the awareness of goal-setting strategies using a larger sample size to improve the validity of the findings among boxers in Kenya.

Visualisation and Imagery Strategy

Athletes can visualise themselves performing a skill or activity by doing so in their minds. When doing a skill or task, they can also observe it from the inside out by feeling their way through it (Wood, 2010). Through the use of this approach, people can help their brains create vivid, sensory images that will help them relax, concentrate, and become more aware of their bodies

(Abdoli et al., 2011). Piavo's 2005 model imagery consists of four sub-scales: cognitive specific and general, motivational general mastery, and motivational general arousal.

A study by Ricardo et al. (2007) on the impact of visual intervention on open- and closed-court tennis players' performance skills came to the conclusion that imaging was more effective at enhancing closed skills than open abilities. Since boxing involves open skills that are externally paced behaviours, which require predicting the opponent's intents and recognising significant clues presented in the environment, this conclusion refuted the findings by Lane and Lane (2009). Controlling competitive anxiety and stress, which appear more pronounced in open-skill movements, maybe the only way to achieve imaging in boxing (Williams et al., 2000). The study sample did not include boxers. This study is interested in finding out the awareness level of Kenyan amateur boxers regarding visualisation and imagery using self-report questionnaires.

In a study to assess the impact of relaxation, imagery, and confidence on performance, 120 Tunisian male boxers were investigated (Maamer et al., 2014). ANOVA was used to examine the data after splitting the sample into a treatment group and a control group. As a result, Tunisian boxers' confidence and emotional control appeared to be enhanced by imagery and relaxation. The study comprised only boxers of one gender, limiting its generalisation to female boxers.

Researchers Lane and Lane (2009) found that sparring, shadow boxing, and punching a punching bag all resulted in higher scores on confidence, movement coordination, skill and strategy execution, and quantity of punches thrown in their study of the impact of imagery techniques on confidence and performance of five male boxers in the U.K. This conclusion was a further affirmation to the above study that reported positive effect of imagery on performance among Tunisian boxers by Maamer et al., (2014). However, including both gender and a large sample in the study would have resulted in a stronger conclusion. The current study aims to establish awareness of and use of imagery among amateur boxers of both genders in Kenya.

Self-talk Strategy

Positive self-talk can trigger ideas that improve athletic preparation and competition results. Self-talk can target the motivational and cognitive spheres (Hardy et al., 2001). The cognitive function attempts to teach and practice sportsmanship and create game plans (Zervas et al., 2007). The motivation function seeks to promote concentration, self-confidence, self-encouragement, mental readiness, arousal control, and coping (Zervas et al., 2007).

A study by Hardy et al. (2009) investigated the efficacy of a logbook and paperclip technique in assessing awareness and use of the content of negative self-talk as well as the motivation to modify negative self-talk. 73 collegiate athletes from Bangor University who competed in both team and individual sports made up the study's sample. Hardy et al. (2001) used a questionnaire to collect data, and covariance analysis was used to analyse the results (ACNOVA). The athletes were divided into three groups after undergoing a negative self-talk questionnaire (NSQ) pretest; the first two were subjected to the logbook or paperclip approach, and the third group acted as a control. These methods involved keeping an eye on the frequency and nature of negative self-talk while athletes were practising for various team and individual sports (Zinsser et al., 2006). After the training sessions, a second survey was administered. In terms of motivation to change or awareness of the content of negative self-talk, an analysis of covariance (ANCOVA) did not find any statistically significant differences between the groups. However, the logbook group showed a markedly higher awareness of their use of negative self-talk than did the control group. The use of negative self-talk by the logbook group was qualitatively assessed to gain insight into the circumstances that gave rise to it, the concepts that were contained in it, and the results of doing so. Overall, the findings offer some evidence in favour of using the logbook technique. To reach a firm conclusion, the approaches would have used a larger sample size and different genders.

Hardy et al. (2004) analysed 291 athletes to ascertain how they employed self-talk and whether it altered over the course of the sports year. Individuals with abilities ranging from novice to expert levels participated in a range of individual and team sports. The usage of self-talk was evaluated by one questionnaire, while belief in self-talk was evaluated by the other. The results showed that experienced athletes in individual sports used self-talk more frequently than athletes in team sports and athletes of lower ability levels, with 75 per cent of respondents agreeing that it grew throughout the course of the season. However, in terms of performance, positive self-talk beats mixed or negative self-talk. It was also discovered that self-talk beliefs had no discernible impact on performance.

Another study by Kagiso (2022) investigated self-talk use among Botswana boxing athletes and the implication of tailored skill-targeted self-talk intervention. The study used 17 boxers (male=14, female=3) participating in the Botswana boxing national championship from 2017 to 2019. The qualitative study used a guided retrospective interview to determine the pre-intervention assessment in awareness, belief and use of self-talk. The study further determined the use of self-talk during practice and competition using the think-aloud method and investigated the influence of perceived coaching behaviour and the effectiveness of offence and defence skills during training and competition using the video-audio recorded interview method. The finding demonstrated that there was a significant improvement in punch accuracy and guard use during competition post-intervention. Where the athletes did not execute guarding skills before the intervention, the use thereof post-intervention was evident, pointing to the effectiveness of self-talk in encouraging skill execution. The performance of boxers improved with the club winning more medals in the national championship. The participants' perceptions echoed that the intervention benefited their performance even when a participant lost about it. These findings demonstrated that self-talk had a more significant influence than previously believed. However, the study used a small sample size of boxers at the same competition level. In this study, a larger sample size of boxers of both genders at different competition levels was examined to establish the degree of awareness of the self-talk technique.

Relaxation Strategy

In order to reduce anxiety and alertness before a competition, athletes can employ the method of relaxation (Sadeghi et al., 2010). Utilising a relaxation method allows an athlete to avoid unnecessarily tightening their body while competing and to intentionally and effectively reduce muscle tension during crucial periods in a competition. The relaxation techniques include those that focus on the mind to the muscle (meditation, centring, autogenic training, listening to calming music, and imaging) as well as those that focus on muscle-to-mind (breathing exercises, stretching, massage, and progressive muscle relaxation (Bishop et al., 2009).

Maamer et al. (2014) looked at the effect of monological and sophrological training on attention control. ANOVA was used to examine the data from 120 male boxers in Tunisia who participated in the Strop test. Three groups of boxers were created, with the third acting as a control group and the first two receiving either monological or sophrological instruction. During monological training, the boxer's defeatist thoughts are eliminated and replaced with positive ones. Sophrological exercises included relaxation and the use of images. The outcomes demonstrated that both methods of mental training enhance boxers' ability to control their emotions. However, with sophrological preparation, the results were considerably more noticeable. Monology and sophrology may both be useful techniques for controlling emotional intensity in Tunisian male boxers, but sophrology is more successful, according to the study.

The primary interactive components of relaxation, according to the psychological relaxation model, are the following: relaxation technique, first particular effects, relaxation response or states, and relaxation benefits or aims (Smith, 2004). This study is interested in establishing awareness of relaxation strategies using a self-report questionnaire among amateur boxers in Kenya.

Cognitive, emotional, and behavioural issues like motivation, self-assurance, focus, emotional regulation, mental toughness and self-talk, arousal control, and anxiety management are addressed by mental training techniques (Lane, 2009 & Hardy et al., 2001). Literature portrays consciousness as a potent indicator of action intention (Rhodes & Corneya, 2003). The two elements of awareness—cognitive knowledge and regulative cognitive knowledge—represent a high-order mental process. Cognitive knowledge comprises all the experiences of a player related to a specific domain, such as mental training strategies. On the other hand, regulative knowledge comprises the ability of a player to utilise the experiences in task performance and competitions. Studies have also revealed that awareness is the primary factor influencing the application of mental training techniques in sports, and both factors correlate positively (Higgins & Conner, 2003; Rhodes & Corneya, 2003, Hamberger & Seppo, 2008). There is no study that has analysed the cognitive and regulative dimensions of awareness for mental training strategies among participants of different sports disciplines. The four boxing mental training techniques have not been grouped by studies in any way. Only one of these research was carried out in Africa, and none specifically in Kenya. The majority of these studies used a tiny sample size and were solely conducted in the U.K. Therefore, it is important to determine whether these investigations can be repeated with a bigger sample size and boxers of various racial and ethnic backgrounds. Studies examining the awareness level of goal-setting, imagery, positive self-talk, and relaxation techniques among Kenyan amateur boxers are few. Coaches and BA-K will develop awareness initiatives to promote the awareness and use of mental training strategies during practice and competition after the status of awareness is established among amateur boxers in Kenya.

METHODOLOGY

The study used a cross-sectional analytical research design and targeted 240 male and 30 female boxers competing in the BA-K boxing league. A total of 17 male and 3 female boxers used during piloting were excluded from the sample. 50 per cent of male boxers(n=120) and 90 per cent of female boxers(n=27) from four mixed-gender clubs and eleven one-gender clubs were selected using simple random sampling. The respondents signed the consent forms, which were taken through the questionnaire by the research assistants. 119 respondents completed questionnaires in their gyms during the scheduled time, while 28 respondents completed the questionnaires later in the re-scheduled time. Assessment tools: An adapted meta-cognitive awareness skill (MAS) for awareness of MTS was used. Goal-setting, positive self-talk, visualisation and imagery and relaxation strategies were included in the assessment tool. The meta-cognitive awareness test (MAS) has two dimensions of knowledge, which are the cognitive domain and the regulative domain. The tool was modified and validated based on judgment from experts and experienced boxers. During the pretest, the re-test method was used to determine the reliability of the instrument. The pretest revealed the need to explain the four mental training strategies in the questionnaire to ensure that the subjects understood and responded accurately. Pretest within a two-week interval between tests realised a reliability coefficient of 0.8, which was found to be satisfactory for use in the study. Mean and standard deviation were used to analyse the status of awareness in the four factors of MTS. The mean and standard deviation for various factors of MTS were presented using the table. The t-test and one-way ANOVA were used to draw inferential statistics.

RESULTS AND DISCUSSION

Status of Awareness of Goal Setting Strategy

The status of cognitive and regulative knowledge in goal setting among respondents is presented in Table 4.1. The status is presented using mean and standard deviation.

Table 4.1; Mean and Standard Deviation of Respondents in Goal Setting Awareness

label	Item	Mean	s.d
1	Declarative Knowledge	3.69	0.60
2	Procedural knowledge	3.34	0.57
3	Conditional Knowledge	3.13	0.52
	Composite score in Cognitive Knowledge of goal-setting	3.38	0.26
4	Planning Knowledge	2.61	0.52
5	Monitoring and debugging knowledge	2.29	0.49
6	Evaluation Knowledge	2.01	0.47
	Composite score in Regulatory Knowledge of goal-setting	2.30	0.40

n=147

The examination of goal-setting strategy awareness is shown in Table 4.1. We used six items to address this strategy awareness. In order to determine how each respondent rated each item, it was wise to study each one. Declarative knowledge (3.69 0.60), procedural knowledge (3.34± 0.57), and conditional knowledge of why (3.13±0.52) goal-setting approach were the first three items with the greatest mean and standard deviation. Evaluation Knowledge of (2.01±0.47), the item with the lowest averages and standard deviations, monitoring knowledge (2.29±0.49) and planning knowledge 2.01±0.47) of goal setting strategy in boxing. This shows that the boxers had higher cognitive knowledge than regulatory knowledge of goal setting. This is evident in the low score on planning, monitoring, and evaluation knowledge and the high score on declaration, procedural, and conditional knowledge. Table 4.1 also shows a higher composite mean and standard deviation of the cognitive (3.38±0.26) than regulatory (2.30±0.40) domains of knowledge in goal-setting strategy.

Status of Awareness of Self-talk Strategy

Table 4.2 displays the averages and standard deviations of the participants' responses to self-talk awareness.

Table 4.2: Mean and Standard Deviation of Respondents in Self-talk Awareness

label	Item	Mean	s.d
13	Declarative Knowledge	3.33	0.48
14	Procedural knowledge	3.35	0.47
15	Conditional Knowledge	3.22	0.43
	Composite score in Cognitive knowledge of self-talk	3.29	0.32
16	Planning Knowledge	2.02	0.57

17	Monitoring and debugging knowledge	1.98	0.62
18	Evaluation Knowledge	2.10	0.64
	Composite score in Regulatory knowledge of self-talk	2.03	0.42

n=147

Table 4.2 shows the descriptive analysis of self-talk strategy awareness. The first three items with the highest mean and standard deviation were declarative knowledge (3.33 ±0.48), procedural knowledge (3.35±0.47) and conditional knowledge (3.22±0.43). The self-talk strategy is used in boxing. The items with the least means and standard deviations included evaluation knowledge of (2.10±0.64), monitoring knowledge (1.98±0.62) and planning knowledge (2.02 ± 0.57) of self-talk strategy in boxing. This shows that the boxers have higher cognitive knowledge than regulatory knowledge of self-talk. This is reflected in the high score on declaration, procedural and conditional knowledge and low score on planning monitoring and evaluation knowledge. Table 4.3 also shows the higher mean and standard deviation of the cognitive (3.29±0.32) than regulatory (2.03±0.42) knowledge in the self-talk strategy.

Status of Awareness of Imagery Strategy

The status of cognitive and regulatory knowledge in imagery among boxers is presented in Table 4.2

Table 4.3: Mean and Standard Deviation of Respondents in Imagery Awareness

Label	Item	Mean	s.d
7	Declarative Knowledge	3.30	0.62
8	Procedural knowledge	2.91	0.48
9	Conditional Knowledge	2.84	0.41
	Composite score on Cognitive knowledge of visualisation visualisation and imagery	3.01	0.36
10	Planning Knowledge	2.43	0.60
11	Monitoring and debugging knowledge	2.01	0.54
12	Evaluation Knowledge	1.84	0.42
	Composite score on Regulatory knowledge of visualisation visualisation and imagery	2.09	0.34

n=147

Table 4.3 above shows the descriptive analysis of imagery and visualisation strategy awareness. This strategy was addressed using six items. The first three items with the highest mean and standard deviation were declarative knowledge (3.30±0.62), procedural knowledge (2.91± 0.48) and conditional knowledge of why (2.84±0.41) imagery strategy is used in boxing. The items with the least means and standard deviations included evaluation knowledge (1.84±0.42), monitoring knowledge (2.01±0.54) and planning knowledge 2.43±0.60) of imagery strategy in boxing. This shows that the boxers have higher cognitive knowledge than regulatory knowledge of imagery. The high score on declaration, procedural,

and conditional knowledge and the low score on planning, monitoring, and evaluation knowledge are indicators of this. Table 4.2 also shows the higher composite mean and standard deviation of the cognitive (3.01±0.36) than regulatory (2.09±0.34) domains of knowledge in imagery and visualisation strategy.

Status of Awareness of Relaxation Strategy

Table 4.4 displays the averages and standard deviations of the individual's responses to relaxation awareness.

Table 4. 4; Mean and Standard Deviation of Respondents in Relaxation Awareness

Label	**Item**	Mean	**s.d**
19	Declarative Knowledge	3.29	0.46
20	Procedural knowledge	3.49	0.50
21	Conditional Knowledge	3.25	0.43
	Composite score in Cognitive Knowledge on relaxation	3.34	0.06
22	Planning Knowledge	2.99	0.08
23	Monitoring and debugging knowledge	2.09	0.28
24	Evaluation Knowledge	1.92	0.32
	Composite score in Regulatory Knowledge on relaxation	2.33	0.09

n=147

The result in Table 4.4 above shows the descriptive analysis for relaxation awareness of the boxers: The first three items with the highest mean and standard deviation were declarative knowledge (3.29±0.46), procedural knowledge (3.49±0.50) and conditional knowledge (3.25±0.43) of relaxation strategy in boxing. The items with the least means and standard deviations included evaluation knowledge of (1.92±0.32), monitoring knowledge (2.09±0.28) and planning knowledge 2.99±0.08) of relaxation strategy in boxing. This demonstrates that the boxers had higher regulatory than cognitive awareness of relaxation. This is shown in the lower score on planning monitoring and evaluation knowledge and the greater score on declaration, procedural, and conditional knowledge. Table 4.4 further demonstrates that the cognitive (3.340±.06) and regulatory (2.330±.09) knowledge domains of the relaxation method have greater composite means and standard deviations than one another.

Discussion

Awareness Status of Mental Training Strategies

Learning involves an active mental process of interaction of prior knowledge, skills and strategies with the environment (Jean, 2010). Meta-cognitive awareness comprises two levels: cognitive knowledge awareness and regulative knowledge awareness.

The findings of this investigation demonstrated that the scores on cognitive knowledge awareness were higher than regulative knowledge awareness in all four factors of mental training strategies. The higher scores in cognitive knowledge awareness indicated more information in basic mental training strategies. The lower scores in regulatory knowledge awareness indicated the low ability of the participants to

implement mental training strategies during training and competitions. This could be due to a lack of mental skill coaches or sports psychologists in the boxing clubs. In spite of the advancement in sports technology, boxing clubs in Kenya only have fitness and technical coaches but lack mental coaches and adequate sports exposure (BAK, 2015). The lack of effective mental training programs would explain the declining performance in boxing. Top performance in boxing occurs when physical fitness, psychological skills and strategies are optimised (Yun, Kim & Lim, 2006).

The result showed that the setting strategy had the highest mean (3.38± 0.26) cognitive awareness, followed by relaxation (3.34± 0.06) and self-talk (3.29± 0.32), while imagery had the lowest mean (3.01± 0.36). Similarly, goal setting had the highest mean (2.33± 0.4), regulative awareness followed by relaxation (2.30± 0.09) and imagery (2.09± 0.34), while self-talk had the lowest mean (2.03± 0.09).
According to Orlick (2008), goal setting strategy is a foundation mental strategy that athletes require at a certain level of proficiency in order to learn other mental strategies. Goal setting is appropriate for boxers in planning practices and psychological interventions (Locke & Lathan, 2005). Goal setting was found to be one of the psychological demands of martial arts (Devonport, 2006). According to Masegno (2008), employing goal-setting that focuses on performance and reachable goals reduces anxiety, improves concentration, and increases persistence among boxers.

Relaxation is a psycho-motor skill built upon mastery of the goal-setting strategy. Imagery and self-talk, being cognitive skills, had the lowest scores because they depend on mastery of both goal-setting and relaxation strategies (Orlick, 2008). The low scores in regulative awareness would mean a low ability to implement mental training strategies during the preparation and competition of boxers. The low scores in regulative awareness of goal planning, relaxation, imagery, and self-talk strategies in boxing clubs could be explained by a lack of effective mental training programs. The result would be poor performance, poor mental preparedness, poor mental readiness, poor arousal regulation, and poor coping among boxers (Zervas et al., 2007). The scores on cognitive awareness and regulative awareness were both inadequate(<3.5), indicating that more exposure and practice on mental training was essential. However, the regulative knowledge scored lower than cognitive knowledge, indicating that utilisation ability was very low despite boxers having some knowledge of mental training strategies. Boxers face intense pressure during fights and, therefore, need to maintain focus, confidence, emotional control and resilience. Goal setting as a foundational strategy was the best understood among boxers and would be utilised to improve motivation, concentration and focus during practice and competition. Relaxation as a psycho-motor strategy was the second best-understood strategy that would be utilised to manage stress and anxiety during practice and competition. Imagery and Self-talk as the cognitive strategies were least understood and also the least utilised by the boxers. The cognitive strategies aim at building self-confidence, emotional control, coping, resilience and re-focusing during practice and competition. An initial assessment of mental skills needs is essential before implementing an effective mental training program. The training program could be tailored based on individual or group assessment and may practised in isolation or integrated with the physical training program. The mental skills demanded in boxing are improved through practising mental training strategies. An organised mental training program is therefore mandatory for boxers to utilise all the mental training strategies to improve on the weak areas and match the mental skills demanded of their sport. The mental training program may be supervised, guided or self-directed. However, a mental coach facilitates immediate feedback, making the program more effective. The mental training may occur in the training gym or in any conducive training environment.

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CONCLUSIONS AND RECOMMENDATIONS

Conclusion: This study relied on self-reported measures that may have introduced bias into the validation. However, the items in the self-report questionnaire were explained to the respondents before data collection to reduce the bias in the validity

of the instrument. It was concluded that both the cognitive and regulative awareness in goal setting (foundation) technique was the highest, relaxation (psycho-motor) was the second highest, visualisation and imagery was the third and Positive self-talk had the least awareness. Cognitive skills suffered the lowest awareness level in cognitive and regulative knowledge. In spite of both domains having inadequate awareness(<3.5), regulative awareness was lower than cognitive awareness in all the mental training strategies.

Recommendations: Based on the conclusion of this study, the following recommendations were made: Going by the importance and high demand for mental skills used in open sports performance, there is a need to integrate mental skills training with physical and technical training. It is imperative that BA-K, club managers, trainers, and coaches create awareness and regular practice of goal-setting strategies in order to provide the basics of mental skills training. This can be enhanced by integrating and providing audio or video-recorded instruction for MTS in gyms and at home. Based on the importance of the ability to regulate knowledge of mental training strategies, the trainers and coaches should put emphasis on planning, monitoring and evaluation of goal-setting strategies. Based on the importance of establishing mental skills in boxing, the trainer and coaches should prioritise goal-setting strategy in order to provide the basis for understanding other mental training strategies. This study suggests that amateur boxing trainers and club managers participate in mental skill development. The ability to conduct psychological skill training and create psychological interventions will allow coaches and club managers to improve boxing performance. In order to improve mental skills in boxing, the BA-K Federation should collaborate with the Ministry of Sports, Arts, and Culture by growing a pool of coaches and trainers with mental skill training and offering training opportunities through scholarships. In-service mental skills training should also be encouraged, targeting the technical bench in order to enhance the optimal psychological state during boxing competitions. There is also a need to include mental skills training in the physical education curriculum. The BA-Kenya should make it mandatory to regularly assess the mental readiness of a boxer's preseason for subsequent and appropriate intervention. To compare the effectiveness of pure gender and mixed gender boxing gyms and isolated mental gyms' approach to mental training strategies. Analysis of the contribution of each of the four goal-setting strategies on performance in boxing. A comparison of the fundamental, psycho-motor, and cerebral abilities of elite and non-elite boxers.

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