

The Relationship between Using of Psychological Skill Training Styles of University Athletes

ความสัมพันธ์ระหว่างการใช้รูปแบบการฝึกทักษะทางจิตวิทยาของนักกีฬามหาวิทยาลัย

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Abstract

The purposes of the research study were (1) to compare the psychological skills training style between male and female and team and individual athletes (2) to find the relationship between types of psychological skills usage. The sample consisted of 174 Burapha university athletes participating in the university games of Thailand. The questionnaire consists of 30 questions in total was used to collect data (Cronbach's alpha coefficient was .85). The data were analyzed by t-test and Pearson's Product Moment Correlation. The results were as follows. Using psychological skills training style between male and female and between the team and individual athletes, there was no statistically significant difference. There was a statistically significant positive correlation at the .01 level between goal setting, self-talk, concentration, imagery, breathing control, and progressive muscle relaxation.

Keywords: Imagery, Breathing control, Concentration, Self – talk, Goal setting

บทคัดย่อ

การวิจัยนี้มีวัตถุประสงค์ (1) เพื่อเปรียบเทียบรูปแบบการฝึกทักษะทางจิตวิทยาระหว่างเพศชายและหญิง ทีม และนักกีฬาบุคคล (2) เพื่อหาความสัมพันธ์ระหว่างการใช้ทักษะทางจิตวิทยาประเภทต่างๆ กลุ่มตัวอย่างประกอบด้วย นักกีฬามหาวิทยาลัยบูรพาที่เข้าร่วมการแข่งขันกีฬามหาวิทยาลัยแห่งประเทศไทย จำนวน 174 คน เครื่องมือที่ใช้เก็บ ข้อมูลเป็นแบบสอบถามประกอบด้วยคำถามทั้งหมด 30 ข้อ (ค่าสัมประสิทธิ์อัลฟารอนบาก .85) วิเคราะห์ข้อมูลโดย t-test และ Pearson's Product Moment Correlation ผลการวิจัยมีดังนี้ การใช้ทักษะทางจิตวิทยาระหว่างเพศชายกับ เพศหญิง และระหว่างนักกีฬาประเภททีมและบุคคลมีความแตกต่างกันอย่างไม่มีนัยสำคัญทางสถิติ, มีความสัมพันธ์เชิงบวก อย่างมีนัยสำคัญทางสถิติที่ระดับ .01 ระหว่างการใช้ทักษะการตั้งเป้าหมาย การพูดกับตนเอง การรวมสมานชิ การจินต ภาพ การควบคุมการหายใจ และการผ่อนคลายกล้ามเนื้ออย่างต่อเนื่อง

คำสำคัญ: จินตภาพ, การควบคุมการหายใจ, การรวมสมานชิ, การพูดกับตนเอง, การตั้งเป้าหมาย

Introduction

Psychological skill training (PST) is as important to the athlete as physical training. In most sports, success comes from utilizing and maximizing a combination of technical, tactical, physical, and psychological abilities (Hardy et al., 1997; Hodge, 2007; Orlick, 2000; Weinberg & Gould, 2011). Like technical or tactical aspects of a sport, psychological skills must be learned, developed, and practiced by the athlete. Each athlete has different sporting needs, psychological skill development, orientations and experiences thus, every PST program must be individualized to fit that athlete. Psychological skill training is the deliberate and systematic practice of strategies and methods designed to enhance an athlete's performance by enhancing their psychological skills. Goal setting, self-talk, mental imagery, mental rehearsal, and relaxation are the four PST methods that (Vealey, R. S., 1988) identified as being the four most prominent PST methods in sports psychology books (as cited in Hardy et al., 1997). Each method enables the athlete to work on developing more than one psychological skill, so that they are also working on improving and maintaining their strengths, such as commitment, concentration/attention, and motivation, as they build up their weak areas (Hardy et al., 2001; Weinberg & Gould, 2011).

Self-talk is an internal distracter and is what we do whenever we talk to ourselves (Weinberg & Gould, 1999). Self-talk has cognitive and motivational functions. (Hardy et al., 1997; Hardy et al., 2004). The motivational functions are concerned with a variety of things such as being self-confidence, relaxation and arousal control (Hardy et al., 1997, Hardy et al., 2004; Weinberg & Gould, 2011) and maintaining and increasing drive (Hardy et al., 2004). In a study done by Perkos et al. (2002), it was found that a self-talk intervention program increased confidence and anxiety control (as cited in Hatzigeorgiadis et al., 2007), which in turn enhances performance (Hardy, et al., 1997; Landin, 1994, as cited in Hamilton et al., 2007).

Goal setting is defined as "what an individual is trying to accomplish; it is the object or aim of an action" (Locke et al., 1981, p. 126). The athlete has clear short and long-term goals for their performance. Weinberg (1993) showed that goal achievement leads to increased self-confidence as goal achievement shows to improve the physical skill mastery and performance (as cited in Hardy et al., 1997; Weinberg & Gould, 2011).

Imagery is a part of sport psychology skill (mental skill) which has an effect on the success of athletes in their tournament or game. In addition, many athletes and coaches today recognize the power of imagery in sport performance. This report was supported by Murphy & Martin (2002) which shows the effects of imagery on sport performance. Athletes use imagery to aid in their performances (Haunsenblas et al., 1999, Anderson , 2000) the imagery system can be used to help a person meet some personal or performance goal, but it is the most effective when it is used for a specific purpose. Imagery has been described as "an experience that mimics real experience and involves using a combination of different sensory modalities in the absence of actual perception" (Cumming & Ramsey, 2009, p.5). Imagery is a psychological technique which has demonstrated its effectiveness in sport

through the positive impact on psychological states such as decreasing anxiety and enhancing self-confidence, self-efficacy, and concentration (Garza & Feltz, 1998; Post & Wrisberg, 2012). It is also beneficial to be used as a coping strategy, to maintain existing skills, and to review past performances (Thelwell & Maynard, 2002; White & Hardy, 1998).

Relaxation is the primary psychological skill training (PST) technique that athletes use in order to manage or reduce stress-related emotions (e.g., anxiety and anger) and physical symptoms (e.g., physical tension and increased heart rate [HR]) during high pressurized situations (Hardy et al., 1997). Different types of relaxation strategies have been advocated within the sport psychology (SP) literature and have been categorized as physical relaxation strategies or mental relaxation strategies. The purpose of using each type of strategy often has been dependent on the symptoms described by the athlete. Specifically, researchers have advocated matching the treatment (i.e., relaxation type) to the dominant set symptoms experienced by the athlete. Ian Maynard and colleagues termed this treatment approach the matching hypothesis, whereby symptoms of somatic anxiety are primarily treated with a form of physical relaxation and symptoms of cognitive anxiety with a form of mental relaxation. Physical relaxation strategies can be employed to reduce muscular tension and improve coordination during the performance. Examples of such strategies taught by sport psychologists include breathing control, progressive muscular relaxation (PMR), and biofeedback (BFB).

Breathing control is a simple form of relaxation and has the benefits of increasing oxygen in the blood, improving mood, and reducing muscular tension. The process of breathing properly involves diaphragmatic breathing where the performer is directed to breathe into the abdomen and then the chest. To promote this breathing in a controlled manner, it is useful during competitive performances. Athletes can be encouraged to be rhythmic in their breathing by inhaling, holding and exhaling to a count of a predetermined number.

Progressive muscular relaxation (PMR) has been used to enhance athletic performance by reducing anxiety and enhancing self-efficacy (Haney, 2004), a method that takes 2-15 minutes to complete. Derived from the work of Edmund Jacobson in the 1930s, progressive muscular relaxation strategies require an individual to focus on progressively tensing and then relaxing specific muscle groups, one at a time. Through this progressive technique, Jacobson's premise was that the individual would learn the difference between tension and less tension. Consequently, the individual would become aware when tension occurred and begin to reduce it by relaxing the relevant muscles. Preliminary research by Ian Maynard and colleagues (1995) has shown that PMR can help to reduce the intensity of reported bodily symptoms associated with the experience of anxiety (e.g., muscular tension).

The term concentration or attention denotes the process by which we exert mental effort in focusing either on specific features of the world around us or on our own thoughts and feelings. Clearly, the ability to focus on what is most important in any situation while ignoring a multitude of

distractions is vital for successful performance in sport. Research about gender difference in psychological skill usage not as much has been done. Many researchers, such as (Pensgaard et al., 1999, Bebetos & Antoniou, 2003) found no gender differences at all. Although this study does not focus directly on coping strategies, it fits in this field of research because psychological skills in sports are a well-known way to manage pressure and anxiety and a part of coping strategy research.

Objective

The purposes of the research study were (1) to compare the psychological skills training style between male and female and team and individual athletes (2) to find the relationship between types of psychological skills usage among Burapha university athletes in the university games of Thailand.

Materials and Methods

The population was 309 Burapha university athletes from 25 types of sports. The sample size was calculated using the Krejcie & Morgan tables at the .05 level of significance. The sample consisted of 174 Burapha university athletes with two or more collegiate athletes participating in the university games of Thailand. The tool used to collect data was the questionnaire with 5-point response scales about the psychological skills which are goal setting, self-talk, concentration, imagery, breathing control, and progressive muscle relaxation. The questionnaire consists of 30 questions in total. Cronbach's alpha coefficient was .85. The data were analyzed by percentage, mean, standard deviation, t-test and Pearson's Product Moment Correlation. The size of the correlation (the "r" statistic), which has a range between -1 (perfect negative correlation) and 1 (perfect positive correlation). Interpreting the size of a correlation coefficient (Hinkle, Wiersma, & Jurs, 2003) as below.

Size of Correlation	Interpretation
.90 to 1.00 (-.90 to -1.00)	Very high positive (negative) correlation
.70 to .90 (-.70 to -.90)	High positive (negative) correlation
.50 to .70 (-.50 to -.70)	Moderate positive (negative) correlation
.30 to .50 (-.30 to -.50)	Low positive (negative) correlation
.00 to .30 (.00 to -.30)	negligible correlation

Results

1. The sample consisted of 111 male (63.8%), 63 female (36.2%), 128 athletes in team sports (73.56%) and 46 athletes in individual sports (26.44%). Burapha university athletes use psychological skill training at a high level ($\bar{x} = 3.71$, $SD = .60$). The skill that most athletes use is goal setting.
2. Compare the use of psychological skill training between male and female (Table 1) and team and individual athletes (Table 2). There are no differences.

3. There were positive relationships between types of psychological skills usage among Burapha university athletes in the university games of Thailand include goal setting, self-talk, concentration, imagery, breathing control and progressive muscle relaxation. There was a statistically significant relationship at .01 level. The size of a correlation coefficient between .159-.431. Progressive muscle relaxation was not related to the goal setting and self – talk (Table 3).

Table1 Compare the usage of each PST between male and female athletes.

PST	sex	n	\bar{x}	SD.	t	p
concentration	male	111	3.73	.45	-1.45	.15
	female	63	3.84	.44		
goal setting	male	111	4.13	.49	.20	.85
	female	63	4.10	1.15		
self-talk	male	111	3.69	.58	1.74	.08
	female	63	3.52	.72		
imagery	male	111	3.75	.49	1.54	.13
	female	63	3.60	.73		
breathing control	male	111	3.70	.58	.33	.75
	female	63	3.67	.61		
PMR	male	111	3.37	.55	.26	.80
	female	63	3.35	.51		

Table 2 Compare the usage of each PST between the team and individual athletes.

PST	Type	n	\bar{x}	SD.	t	p
concentration	team	128	3.74	.44	-1.41	.16
	individual	46	3.85	.47		
goal setting	team	128	4.15	.86	.87	.36
	individual	46	4.03	.52		
self-talk	team	128	3.65	.59	.66	.51
	individual	46	3.58	.73		
imagery	team	128	3.70	.60	.27	.79
	individual	46	3.67	.56		
breathing control	team	128	3.65	.59	-1.12	.27
	individual	46	3.76	.59		
PMR	team	128	3.74	.44	.16	.87
	individual	46	3.85	.47		

Table 3 Correlation between the usage of each PST among Burapha university athletes

PST	self-talk	concentration	imagery	breathing control	PMR
The size of the correlation	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
goal setting	.337**	.197**	.228**	.313**	.072
self-talk	-	.244**	.431**	.298**	.138
concentration	-	-	.307**	.322**	.346**
imagery	-	-	-	.180**	.175*
breathing control	-	-	-	-	.159*

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

*. Correlation is significant at the 0.05 level (2-tailed).

Discussion

This study discusses the results based on the objectives of the study as follows.

1. Burapha university athletes have applied psychological skills during training and the competition at a high level. The skill that most athletes use is goal setting. In addition, when comparing differences in the implementation of psychological skills between male and female and team and individual athletes, it is found that there was no difference. Psychological skill training (PST) is as important to the athlete as physical training, and in most sports, success comes from utilizing and maximizing a combination of technical, tactical, physical, and psychological abilities (Hardy et al., 1997; Hodge, 2007; Orlick, 2000; Weinberg & Gould, 2011). Psychological skill training involves training athletes to learn psychological skills (e.g., relaxation skills) that help them to regulate their psychological state (e.g., their feelings of confidence). Psychological states can affect sport performance. If athletes can regulate their psychological states via learned psychological skills, they may be able to enhance their performance. Therefore, Burapha university athletes have trained psychological skills to increase their performance during their training and competitions. These skills include goal setting, self-talk, concentration, imagery, breathing control, and progressive muscle relaxation. Each athlete has different sporting needs, psychological skill development, orientation, and experience, so every PST program must be individualized to fit that athlete. Psychological skills are learned and developed through the use of PST methods (Hardy et al., 1997; Hodge, 2007; Orlick, 2000; Porter, 2003; Weinberg & Gould, 2011). Goal setting, self-talk, mental imagery, and mental rehearsal, and relaxation are the four PST methods that (Vealey, R. S., 1988) identified as being the four most prominent PST methods in sports psychology books (as cited in Hardy et al., 1997). In accordance with the research which discusses that applying psychological skills to the competition allows athletes to enhancing the performance, Antonis Hatzigeorgiadis and his colleagues (2007) assigned tennis players to an experimental or a control group. The groups completed five tennis practice sessions. Performance of the experimental group improved but not for the control group. The aim of education studies has been to

identify the effect of a program of PST on an athlete's or a team's overall performance in their sport. Richard Thelwell (2006) and his colleagues studied the effects of a midfielder-specific training program in relaxation, imagery, and self-talk skills on the performance of five soccer midfielders. Following PST, all players experienced at least small improvements in each aspect of play performance and four of five players experienced more pronounced improvements in these aspects.

The skill that most Burapha university athletes use is goal setting. Because goal setting will determine the outcome of the performance, training assessment and practice guidelines for every day. The goals are both short and long term goals. Therefore, athletes use goal setting as a training plan, self-assessment, and the driving force to practice as the athlete's goal. According to studies, it has been found that goal setting is defined as "what an individual is trying to accomplish; it is the object or aim of an action" (Locke et al., 1981, p. 126). The athlete has clear short and long-term goals for their performance. Weinberg (1993) showed that goal achievement leads to an increase in self-confidence. Goal achievement shows improved physical skill mastery and performance (as cited in Hardy et. al., 1997; Weinberg & Gould, 2011).

When comparing differences in the implementation of psychological skills between male and female and team and individual athletes, it was found that there was no difference. To train and compete effectively, multiple psychological skills should be used together, providing knowledge about the application, the intention of systematic training as well as physical training and customized training depending on the aptitude and specific needs of individual athletes. Research about gender difference between team and individual athletes about psychological skills usage not as much has been done. Many researchers, such as Pensgaard et al. (1999), and Bebetsos and Antoniou (2003) found no gender differences at all. Although this study does not focus directly on coping strategies, it fits in this field of research because psychological skills in sports are a well-known way to manage pressure and anxiety, and a part of coping strategy research.

2. This study wanted to determine the relationship between the types of psychological skills that athletes apply to competitive preparation. Because during practice and competition they have a pattern of using a combination of psychological skills. Researchers, therefore, wanted to study the relationship between each technique in order to apply the results of the study to the preparation of athletes. There were positive relationships between types of psychological skills usage among Burapha university athletes in the university games of Thailand. The skills are goal setting, self-talk, concentration, imagery, breathing control and progressive muscle relaxation with statistical significance at the level of .01. The relationship value is between .16 - .43. As psychological skills have a variety of methods which aim to enhance an athlete's performance, the methods of applying may vary depending on the needs of each athlete and help to create a relationship between psychological skills in the same direction and positive correlation to enhance an athlete's performance. The psychological skills are learned and developed through using PST methods (Hardy et. al., 1997; Hodge, 2007; Orlick, 2000; Porter, 2003; Weinberg & Gould, 2011). Goal setting, self-talk, mental imagery, and mental rehearsal, and relaxation are the four PST methods (as cited in Hardy et al., 1997.) Each method enables the athlete to work on developing more than one psychological skill.

Therefore, they are also working on improving and maintaining their strengths, such as commitment, concentration/ attention, and motivation, as they build up their weak areas (Hardy et. al., 2004; Weinberg & Gould, 2011). Harwood et al. (2004) emphasized the relationship between motivational profiles and the use of different psychological skills in youth athletes. They also pointed out that practicing certain psychological skills such as imagery or visualization could increase the development of high task orientation in student-athletes. That can be of high value for students, because high task orientation has often been found to be a correlate of positive psychological responses, such as greater enjoyment (Kim & Gill, 1997). As the study of imagery, when used in conjunction with goal setting and positive self-talk, has been shown to enhance performance more than the psychological skill training method used alone (Hardy et al., 2004; Porter, 2003).

Another issue is that progressive muscle relaxation has no relation to goal setting and self-talk. Athletes use psychological skill training technique in order to help manage or reduce stress-related emotions (e.g., anxiety and anger) and physical symptoms (e.g., physical tension and increased heart rate [HR]) during high pressurized situations (Hardy et al., 1997). Different types of relaxation strategies have been advocated within the sport psychology (SP) literature and have been categorized as physical relaxation strategies or mental relaxation strategies. The rationale for using either type of strategy often has been dependent on the symptoms described by the athlete. Ian Maynard and colleagues termed this treatment approach the matching hypothesis, whereby symptoms of somatic anxiety are primarily treated with a form of physical relaxation and symptoms of cognitive anxiety with a form of mental relaxation. The notion can also be applicable to the experience and implications of other emotions such as anger and excitement. Physical relaxation strategies can be employed to reduce muscular tension and improve coordination during the performance. The most common form of physical relaxation is progressive muscular relaxation (PMR), a method that takes 2-15 minutes to complete. PMR has been used to enhance sporting performance by reducing anxiety and enhancing self-efficacy (Haney, 2004). Progressive muscular relaxation (PMR) strategies require an individual to focus on progressively tensing and then relaxing specific muscle groups, one at a time. Through this progressive technique, Jacobson's premise was that the individual would learn the difference between tension and less tension. Consequently, the individual would become aware when tension occurred and begin reducing it by relaxing the relevant muscles. Preliminary research by Ian Maynard and colleagues has shown that PMR can help to reduce the intensity of reported bodily symptoms associated with the experience of anxiety (e.g., muscular tension). In addition, the goal setting and self-talk is a mental relaxation strategy. Goal setting is defined as "what an individual is trying to accomplish; it is the object or aim of an action" (Locke et al., 1981, p. 126). The athlete has clear short and long-term goals for their performance. Weinberg (1993) showed that goal achievement leads to increased self-confidence. The goal achievement shows improved physical skill mastery and performance (as cited in Hardy et. al., 1997; Weinberg & Gould, 2011). Self-talk is an internal distracter and is what we do whenever we talk to ourselves (Weinberg & Gould, 2011). Self-talk has cognitive and motivational functions. (Hardy et al., 1997; Hardy et al., 2004). The motivational functions are concerned with a variety of things, among them, being self-

confidence, relaxation and arousal control, (Hardy et al., 1997; Hardy et al., 2004; Weinberg & Gould, 2011) and maintaining and increasing drive (Hardy et al., 2004). In a study done by Perkos et al. (2002), it was found that a self-talk intervention program increased confidence and anxiety control (as cited in Hatzigeorgiadis et al., 2007), which in turn enhances performance (Hardy et al., 1997; Landin, 1994 as cited in Hamilton et al., 2007).

Conclusions

Athletes of Burapha University have trained psychological skills including goal setting, self-talk, concentration, imagery, breathing control and progressive muscle relaxation and used them in training and competition at a high level. The skill that most athletes use is goal setting. Like technical or tactical aspects of a sport, psychological skill training must be learned, developed, and practiced by the athlete. Each athlete has different sporting needs, psychological skill development, orientation, and experience, so every psychological skill training program must be individualized to fit that athlete. In addition, when comparing the usage of each psychological skill training technique between male and female athletes and team and individual athletes, it is found that there was no difference. It is also found that there was a positive correlation between usages of psychological skills consisting of goal setting, self-talk, concentration, imagery, breathing control and progressive muscle relaxation in the training and competition. Progressive muscle relaxation was not related to goal setting and self – talk.

Suggestion

Encouraging athletes to apply psychological skills to competitions because psychological skills promote mindfulness and concentration in competition, enabling athletes to play to their fullest potential in competitive sports.

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