

COPING STRATEGIES AND MENTAL TOUGHNESS IN SPORTS SCHOOL STUDENTS

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Abstract: Coping strategies in general reflect the set of responses to the stress that people can use. In sport context coping strategies are viewed as ways of minimizing an athlete's level of perceived stress before a competition. Mental toughness refers to the repertoire of psychological characteristics which are crucial to optimal performance. The objective of the study was to examine the relationship between the above mentioned concepts. The sample consisted of 50 pupils from High School for Athletes. Coping strategies were identified by using The Athletic Coping Skills Inventory 28 (ACSI-28) and to identify mental toughness Sports Mental Toughness Questionnaire (SMTQ) was used. The results indicate a significant and positive relationship between mental toughness and coping strategies, mainly between confidence (the dimension of mental toughness) and several coping strategies (dealing with difficulties, concentration, confidence, maximizing performance under pressure).

Key words: coping strategies, mental toughness, sport, stress.

1 Introduction

Stress in general is a normal response or reaction to problems or tensions. For many years the researchers have been trying to formulate an acceptable definition of stress. A scientific way to conceptualize it is to look on it as a process by which people perceive and subsequently react to situations that are appraised as threatening or intolerable to their well-being (Lazarus and Folkman, 1984). There are many ways people use when coping with stress (Sollár, Sollárová, 2009; Sollárová, Sollár, 2010). The effectiveness of them is influenced by some factors, such as the individual, the type of stressor but also the circumstances (Solgajová et al., 2015, 2017; Sollárová, Sollár, 2013). Lazarus and Folkman (1984) defined coping as the behavioral and cognitive efforts to manage demands (external and internal) which people typically face in stressful situations. A large amount of studies used the distinction of coping proposed by Folkman and Lazarus. They suggest that there are two basic functional dimensions of coping. The task-oriented coping reflects the steps or activities people use in order to change the stressful situation or its separate aspects. Two basic strategies that belong to this dimension of coping are: logical analysis or increased effort. The emotion-oriented coping is the second dimension and it reflects all ways or activities people use in order to modify or change the meaning of a difficult stressful situation. Later, the third dimension of coping appeared in scientific literature. It was labelled as the avoidance-oriented coping (Carver, Scheier, and Weintraub, 1989). This type of coping reflects the behavior oriented to redirecting attention to such aspects of the task or situation that are not relevant. It involves several strategies, mainly denial, substance use or behavioral disengagement.

Being physically active has become very popular over recent years. Broďáni and Kováčová in their study (2019) confirmed that organized races and training in which high school athletes participate, increase the frequency of positive reactions between their physical activity and physical and spiritual well-being. Sport in general is viewed as an inevitable part of our life and a component of a healthy lifestyle which includes also successful dealing with difficult life situations and various problems. In sport context, coping with stress and unpleasant situations is highly important for athletes. They learn how to overcome or eliminate stress or anxiety and at the same time to control their own emotions. The most frequently used coping strategies in sport settings involve social support seeking, problem-solving, planning, increased effort, relaxation or arousal control (Nicholls, Polman, 2007). All of the mentioned strategies and also many others create an athlete's self-regulation base that enables effective adaptation in stressful situations. It is suggested that coping strategies in sport can be associated with several psychological variables such as: self-efficacy, trait and state anxiety, motivational climate or perceived control. The concept of coping in sport environment has become frequently discussed

by many professionals (Bahramizade, Besharat, 2010). It distinguishes between approach coping style and avoidance coping style. The first one, approach coping style is defined as conscious actions or concentration to stressful situation while actively trying to manage or reduce it. In scientific literature it is described as vigilance, attention, or engagement (Anshel, 2001). When using this approach, athletes' responses to stress vary from task-oriented coping, time management to goal concentration (Amiot, Gaudreau, & Blanchard, 2004; Gould, Eklund, & Jackson., 1993). On the contrary, the avoidance coping involves mainly psychological (keeping cognitive distance) or behavioral (keeping physical distance) withdrawal from the stressful or unpleasant situations (Krohne, 1993; Kowalski & Crocker, 2001). It is also labelled as disengagement or desensitization. In 2001 Yoo proposed another type of coping frequently used by Korean athletes which is transcendental coping. It reflects the absence of material wishes and expectations. It might be viewed as very similar to avoidance coping but athletes do not apply stress avoidance or denial when dealing with difficult or demanding situations.

Another concept that has been frequently discussed and used mainly when evaluating sport success or achievement is mental toughness. This unique inner strength which helps athletes overcome their fears and doubts is defined by Loehr (1986) as an ability to use one's own potential in all possible situations. His books are very influential though they were published some decades ago. He suggested the model of mental toughness which was based on his clinical practice and experience. The model consisted of seven factors: motivation, self-confidence, attitude control, attention control, visual and imagery control, positive energy, and negative energy. In 2002 Clough and his associates decided to include experiences from athletes and coaches into some principles and conclusions from research on hardiness (defined as the personality construct consisting of three dimensions: control, challenge and commitment) and one research study was related to physiological adaptation to stress. As a result, they proposed the four components model of mental toughness (the 4Cs model): confidence, control, challenge, and commitment (Clough, Earle, & Sewell, 2002). Later on, Clough and his associates extended the 4Cs model so that two components (control and confidence) were better conceptualized (Vaughan, Hanna, & Breslin, 2018). Thus, the model could display four or six separate components: challenge, commitment, control of emotions, control of life, confidence in abilities, and interpersonal confidence.

Jones (2002) comparably claims that mentally tough athletes are determined, self-confident, and predisposed to have control over their behavior and emotions when being under pressure. In their research, Gucciardi, Gordon, & Dimmock (2008) tried to explore the holistic understanding of mental toughness in Australian football players. Three key categories were derived and integrated into the proposed model and emphasized the relationship between these key categories which were: behaviors, characteristics and situations. Cowden (2017) in his work emphasizes the perspective that this specific quality should be taken into consideration and examined in athletes since it has a crucial role in promoting adaptive responses to stressful sport situations and events. Mental toughness is frequently perceived as a multifaceted concept associated with athletic performance and which enables athletes to succeed in sport. Due to the growing research a lot has been examined and discovered in this area but still it is not clear whether mental toughness is reflected more in sport achievement or in factors which have the potential to promote positive psychosocial reactions to changing conditions (Cowden, 2017). In general, we can conclude that mental toughness can be viewed as a skill that is associated with self-confidence and resilience which in turn can affect success in sport.

The relationship between coping strategies and mental toughness in sport

Nicholls and Polman (2007) claim, that the relationship between coping strategies and mental toughness is clear but to support this prediction no relevant research has been carried out. It is expected that athletes who are mentally tough are able to cope effectively with difficult situations (Jones, Hanton, & Connaughton, 2007; Thelwell, Weston, & Greenlees., 2005). In national context this relationship has not been explored yet, thus we decided to focus on mental toughness in relation to coping strategies in sport school students.

2 Methods

The study participants were pupils (N=50) from High School for Athletes in Nitra, aged from 18 to 19. We chose this age group because athletes between the ages of 16 and 19 years are more future concerned than their non-athletes' peers (Broďáni, Šiška, Kováčová, 2018), thus behaving in a responsible way towards their career. The sample consisted of 29 boys and 21 girls, all of them were the students of the fourth grade who have been actively engaged in athletics for more than seven years. Two measurement tools were administered to participants. To identify coping strategies, The Athletic Coping Skills Inventory (ACSI-28) was administered. It is frequently used and highly validated assessment of psychological coping skills among athletes. The ACSI-28 was developed by Smith et al. (1995) and it consists of seven subscales: coping with adversity, peaking under pressure, goal setting and mental preparation, concentration, freedom from worry, confidence and achievement motivation, and coachability. To measure mental toughness, The Sport Mental Toughness Questionnaire (SMTQ) was used. It is a self-report questionnaire and it consists of 14 items. It provides a total mental toughness score, and also scores on three subscales: confidence, control and constancy. Respondents reply on a four-point Likert scale. The questionnaire has acceptable construct validity and internal consistency (Sheard, Golby, & Van Wersch, 2009).

3 Results

a) Relationship between coping strategies and mental toughness

Table 1 Relationship between coping strategies and mental toughness (N=50)

	Mental toughness	
	r	p
Coping strategies	.45	.001

Note: r - Pearson's correlation coefficient; p - p value

As seen in the Table 1 we can conclude that there is a positive significant relationship ($r=.45$, $p<.001$) between coping strategies and mental toughness in adolescent athletes.

b) Relationship between coping strategies and component confidence

Table 2 Relationship between coping strategies and confidence (N=50)

	Confidence	
	r	p
Coping strategies	.50	<.001
Coping with adversity	.30	.040
Coachability	.23	.110
Concentration	.31	.030
Confidence and achievement motivation	.50	<.001
Goal setting and mental preparation	.18	.210
Peaking under pressure	.39	<.001
Freedom from worry	.15	.290

Note: r - Pearson's correlation coefficient; p - p value

As it can be seen in the Table 2 there is a positive significant relationship between coping strategies and the confidence factor ($r=.50$, $p<.001$). The same results can be identified also in the relationship between confidence and two separate coping strategies: confidence and achievement motivation ($r=.50$, $p<.001$) and peaking under pressure ($r=.39$, $p<.001$). A weak positive relationship was identified also between confidence and two coping strategies: concentration ($r=.31$, $p<.05$) and coping with adversity ($r=.30$, $p<.05$).

c) Relationship between coping strategies and component control

Table 3 Relationship between coping strategies and control (N=50)

	Control	
	r	p
Coping strategies	.24	.090
Coping with adversity	.21	.140
Coachability	.18	.210
Concentration	.22	.120
Confidence and achievement motivation	.25	.090
Goal setting and mental preparation	-.05	.740
Peaking under pressure	.21	.140
Freedom from worry	.05	.690

Note: r - Pearson's correlation coefficient; p - p value

Based on the results from the Table 3 we can conclude that there is no significant relationship between coping strategies and the component control. In all of the separate coping strategies the same finding was identified. None of the coping strategies was significantly correlated ($p>.05$) with control, as the component of mental toughness.

d) Relationship between coping strategies and component constancy

Table 4 Relationship between coping strategies and constancy (N=50)

	Constancy	
	r	p
Coping strategies	.18	.220
Coping with adversity	.00	.990
Coachability	.37	<.001
Concentration	.19	.170
Confidence and achievement motivation	.21	.130
Goal setting and mental preparation	.01	.970
Peaking under pressure	.05	.740
Freedom from worry	.02	.890

Note: r - Pearson's correlation coefficient; p - p value

The findings, as seen in the Table 4, indicate that there is no significant relationship between coping strategies and constancy as the component of mental toughness in pupils of high school for athletes. Only the coachability and constancy were positively correlated ($r=.37$, $p<.001$). Other coping strategies do not correlate with the constancy component ($p>.05$).

4 Discussion

a) Relationship between coping strategies and mental toughness

In the submitted study we found out some significant relationships between mental toughness and coping strategies in pupils of the high school for athletes. Also the study of Nicholls et al. (2008) revealed highly significant relationship between these two variables. We can conclude that mentally tough pupils-athletes are able to cope successfully with adverse situations in sport while using effective coping strategies (Jones et al., 2002; Jones et al., 2007). The pupils from our research sample

demonstrated the ability to cope with various types of demanding situations they face not just during training sessions but also during and after competitions. In the next section we will focus on separate components of mental toughness (confidence, control, and constancy) in relation to individual coping strategies

b) Relationship between coping strategies and the confidence component

In Slovak context no research has been focused on studying the relationship between the factors of mental toughness, as confidence, control and constancy and separate coping strategies. Thus, in the next step we aimed at identification of their mutual connections.

Jones et al. (2002) demonstrated that for mentally tough athlete is confidence (which is in the items of the questionnaire presented as a self-confidence) one of the crucial characteristics. Similar perspective based on the research study confirmed also Clough et al (2002). They identified self-confidence as a main component of mental toughness. In our research we identified strong, positive relationship between confidence (as a factor of mental toughness) and coping strategies in general. Subsequently we revealed significant relationship between confidence and two separate coping strategies: confidence and achievement motivation and then peaking under pressure. The first part of the finding can be supported by previous studies conducted by Jones et al. (2002) or Omar-Fauzee et al. (2009) who state that athletes should be flexible when it comes to difficulty situations. Confidence is highly needed since it reflects the attitude "I will not give up" and also the mindset which enables to think rationally (clear thinking) and to focus on dealing and coping with various demands related to specific sport context. Athletes who trust themselves and are free from self-doubts naturally perceive competitions as challenges which help them increase their achievement. Confidence might be associated with the belief that "I am better than my competitors". This can be developed in every single person from early childhood and we suppose that it is mainly affected by the attitudes of parents and significant ones. Bois et al. (2009) suggest that the way parents guide their children and express their trust in their sport skills and abilities, has a significant impact on their future self-confidence. Also Shen et al. (2018) confirm that parental support is one of the crucial factors related to enjoyment of physical activity. Children need to hear and also feel appreciation and encouragement from their parents. Such aspect of parental approach can lead children to identified beliefs that they can succeed in the sport activity they are engaged in. The second coping strategy that was positively related to confidence was peaking under pressure. This finding is in accordance with the study results conducted by Jones et al. (2002). We suppose that peaking under pressure is associated also with personality and the overall physical and mental state. Kimbrough, DeBolt and Balkin (2007) claim that mainly athletes, when facing stressful situations during competitions, can activate their organisms and they are able to invest more energy into their performance than what is perceived as a norm.

Other positive (but not as strong as the previous two) relationships were found between confidence and two coping strategies: coping with adversity and concentration. We can conclude that young athletes from our sample who are confident demonstrate higher ability to cope with adverse situations in sport when comparing them with those, who do not confide in themselves. Also Wolfson & Neave (2007) in their study revealed that people who are or work on building their self-confidence are more likely to stay positive in situations which might be experienced as tough or negative; moreover, they are free from worries regarding their possible failures. We can assume that athletes from our sample whose confidence is higher, have a greater ability to stay focused and be fully concentrated also under difficult conditions especially during plays or competitions. A weak but positive correlation was found between confidence and coping with adversity. We perceive this specific coping strategy as the ability to bounce back from

setbacks or failures and to overcome almost any hardship connected with sport performance. It is very similar to the concept of resilience which can be in a very simple way defined as the ability to adapt to demanding environment, uncertainty or life challenges. Positive but not significant relationship was identified between confidence and three coping strategies: coachability, goal setting and mental preparation, and freedom from worry. We can conclude that athletes in our sample do not fully accept instructions or advice from the coaches. They might perceive and take any criticism related to their performance as a sign of their own failure, thus having tendency to ignore it. The second strategy goal setting and mental preparation emphasizes the relevance of mental coaching which seems to be not sufficient in our sample. The third strategy freedom from worry means that athletes are not paralyzed by worries about their performance or about what other people might think if they do not perform well. It can be perceived as a mental freedom reflecting resilience of thoughts and ability to be fully engaged and confident. Based on our results we assume that all these three coping strategies are not in relation to confidence (as a component of mental toughness) in young athletes from our research sample.

c) Relationship between coping strategies and the control component

The ability to have control over behavior is one of the crucial characteristics for mentally tough athletes. They are constantly faced with various stressors, such as pressure for performance, lost matches or mental struggles. Especially under these circumstances losing control can lead to lower sport performance. The vast majority of published research (Golby & Sheard, 2003; Jones et al., 2007; Nicholls et al., 2008) aimed at the relationship between control (as a component of mental toughness) and coping strategies divided into two groups: emotion-oriented coping and task-oriented coping. They revealed enough support to validate the relationship between the ability to have control over oneself or situation and task-oriented coping. Mentally tough athletes are predisposed with internal locus of control and are able to have active roles in their victories. Roth and Cohen (1986) indicate that when the situation is perceived as less controllable, the athletes have a tendency to use avoidance coping strategy in order to reduce threats or avoid stressors. In our research sample no significant relationship was identified between control and separate coping strategies, despite the results of the research conducted by Tomalski (2013) who claims that when athletes are able to have control over situation, using coping strategies can result in successful outcomes. We can conclude that young athletes in our sample are not fully prepared to control their own thoughts or behavior that might in a long run negatively affect the ability to cope with stressors or difficult situations.

d) Relationship between coping strategies and constancy component

It was revealed in many studies (Lauer & Paiement, 2009; Rainey & Granito, 2010) that athletes who were predisposed with constancy (as a key factor in mental toughness) demonstrated the ability to keep a calm and concentrated mind, can effectively cope with difficult and demanding situations in sport context. We did not reveal any significant relationships between constancy and coping strategies though the results of many foreign studies confirmed this specific connection which might serve as a tool leading to successful high performance. We suppose that young athletes from our sample do not pay enough attention and time to mental preparation which seems to be a significant factor affecting their performance and success. Inability to concentrate and to meet all demands related to trainings or competitions negatively affects also the process of coping with adversity. Based on the aforementioned studies we expected positive relationships between constancy and all coping strategies. We can confirm just one positive relationship which was identified between constancy and coachability as a coping strategy. Other strategies showed just weak and not significant relationships with constancy. One of the basic finding in a study

of Jones et al. (2007) was that coaches who are having high expectations of athletes' performance and who use motivation in trainings, frequently report evident progress in athletes. Athletes, who are open, learn from the instructions of coaches and accept constructive criticism use their mental abilities, among which preparedness to focus and to not give up are crucial. The importance and relevance of coaching cannot be questioned since athletes who are sensitive to the feedback from their coaches maintain concentrated and thus can avoid being preoccupied with negative thoughts related to the result (Smith & Christensen, 1995). Based on our finding we can conclude that pupils from high school for athletes do not receive proper mental preparation which is considered as highly important in athletes' professional lives. According to Broďáni et al. (2019) the factor of age and sports level of students has an important impact on how students can cope with challenging situations not only in sport. When the athletes are able to stay calm and maintain this attitude when facing a tough situation, they naturally perceive their competitors and changing conditions as challenges. Constancy relates to athletes' determination to meet the demands, ability to take responsibility and set goals (Sheard et al., 2009). Psychological preparation of athletes in general should include reducing negative influences and promoting positive motivation to stay calm and maintain focus when dealing with difficult situations.

5 Conclusion

Not just by professionals or athletes but also by lay people sport is perceived as way to experience fun, enjoyment, to get to a relaxed state and also to meet new people. In a specific sport context for athletes the perceived pressure to peak under pressure and to deal successfully with adversity can cause stress. The crucial factor which affects high-performance and success is the ability to stay psychologically strong and maintain intense concentration and stay motivated in tough and discomfort situations. This ability is labelled as mental toughness and there is enough evidence that it is closely related to coping in general. The main objective of the study was to explore the relationship between coping strategies and mental toughness in young athletes, pupils of high school for athletes in Slovakia. The results show significant relationships between coping strategies and some factors of mental toughness. Mainly confidence as a single factor of toughness is positively correlated with several of coping strategies. Other factors of mental toughness are associated just partially with coping strategies; nevertheless we suppose that regular and professionally conducted mental preparation could help athletes overcome doubts and concerns thus they can push beyond all obstacles and succeed in sport.

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