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Sources of stress and coping styles among student-athletes in Jordan universities

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Abstract

This study explored the sources of stress and use of coping styles among Jordanian athletes. Fifty-six student-athletes from a university in Jordan participated in this study and completed a survey to examine their stress sources and associated coping styles. The results indicated that the most common sources of stress were injury and illness, pressures of competition, referee, conflict with the coach, and spectators. Athletes identified 16 coping strategies used to manage stress. Results suggest that interventions designed to reduce stress should seek to increase the use of avoidance and approach styles to cope with stress. © 2010 Elsevier Ltd. All rights reserved.

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1. Introduction

The topic of stress has received much attention in the area of contemporary psychology. The literature reflects many researchers' beliefs that stress is a major factor affecting people's lives, is closely tied with mental health, and is quite possibly linked with many problems of physical health (Brennan, 2001).

Stress has also become a recurring theme with sport settings and athletic community. Studies in the exercise and sport sciences have identified stress as an important issue related to athletes' well-being, and performance (DiBartolo & Shaffer, 2002; Humphrey, Yow, & Bowden, 2000).

The term stress is defined in different ways in the literature. Jones (1990) defined stress as a state in which some demand is placed on the individual, who is then required to react in some way to be able to cope with the situation. Similarly, Lazarus and Folkman (1984) view stress as a function of highly demanding situations coupled with that individuals' limited emotional resources for effectively coping with these demands. Stein and Cutler (2002) define stress as a total response to one's environmental demands and pressures and theorize that stress is an unavoidable part of life that everyone has to deal with. Regardless of the way stress is identified, the common ideology is that an individual who is experiencing stress will cope with that stress in a certain way, based on how that particular individual interprets the stressor (White, 2008).

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Coping with stress in sport is another issue of significance. Researchers have examined coping widely, defining it as "constantly changing cognitive and behavioral efforts to manage specific internal and/or external demands that are appraised as taxing or exceeding the resources of a person" (Lazarus & Folkman, 1984, p. 141). Simply put, coping is the process of dealing with situations that create stress (White, 2008).

In recent years, athletes experiences of stress has been a popular area of research and a number of qualitative and quantitative studies have been conducted (e.g., Anshel & Anderson, 2002; Anshel & Sutarso, 2007; McKay, Niven, Lavallee, & White, 2008; Nicholls, Holt, Polman, & Bloomfield, 2006; O'Neil & Steyn, 2007; Puente-Diaz & Anshel, 2005; Thelwell, Weston, & Greenlees, 2007; Vredenburg, 2007; White, 2008)

These studies have focused on identifying what athletes perceive to be sources of stress in several sports, including elite track athletes (Mckay, et al., 2008), professional cricket batsmen (Thelwell, et al., 2007), South African non-elite athletes (O'Neil & Steyn, 2007), professional rugby players (Nicholls et al., 2006), skilled Mexican and U.S. tennis players (Puente-Diaz & Anshel, 2005), Canadian skaters (Vredenburg, 2007), college athletes (Anshel & Sutarso, 2007; White, 2008), professional Australian rules football (Noblet & Gifford, 2002). From these studies, a large number of sources of stress have been identified and several appear to be common across sports, suggesting that there could be a core group of stressors experienced by all athletes (Mckay, et al., 2008).

These common stressors include pressure to perform at a high standard, concerns about training and competition environment, lack of confidence, worries about performing poorly, worries about injury, coaches' behaviors and coaching styles, and difficulties balancing sport and non-sport commitments. Despite these commonalities, there is support that certain stressors are unique to different sporting environments and populations. For example, Noblet and Gifford (2002) reported stressors that were unique to the Australian footballers they interviewed, including job insecurity and lack of feedback from coaches. Puente-Diaz and Anshel (2005) found that the most stressful events for Mexican tennis players were "receiving negative comments from coaches and relatives" and "opponent cheating". Similar results were found by Anshel and Si (2008) among elite Chinese athletes who reported that "making a physical or mental error" and "being criticized by the coach" as the most stressful situations. Given that variations in groups and their environmental demands can give rise to groups of individuals interpreting the same event differently (Lazarus, 1999).

In addition to the increased attention towards the sources of stress, similar interest has emerged regarding the coping styles and strategies employed by athletes. Numerous studies have been conducted and efforts have been made to provide insight into the stress experiences of athletes and develop reliable frameworks to identify coping styles utilized by athletes in different sports (e.g., Anshel & Si, 2008; Anshel & Sutarso, 2007; McKay, et al., 2008; Brennan, 2001; Nicholls, et al., 2006; Vredenburg, 2007).

One conceptual framework in the coping style literature that has received increased attention in recent years is approach and avoidance. Approach coping (also referred to as vigilant, attention, active, sensitization, engagement, active coping) is typically defined as an orientation towards the stressful event, with the person's active attempts at resolving and managing the stressor (Krohne, 1996). For example, an athlete who engages with the referee after receiving a penalty, either positively (e.g., asking information about the reason for the penalty) or negatively (e.g., arguing the call), is using approach coping. On the other hand, avoidance coping, (also called non-vigilant, passive, desensitization /repression, disengagement, avoidant), is an orientation that results in the physical or psychological withdrawal from the source of threat (Krohne, 1996). For example, an athlete's use of avoidance coping upon receiving a penalty from the referee would be to psychologically discount the call by labeling it "unimportant", or the referee's "mistake", then to quickly attend to forthcoming task demands. The plethora of terms to describe the same Coping Style construct of approach- and avoidance coping reflects a limitation in conceptualizing Coping Style and testing the effectiveness of intervention strategies in sport (Anshel & Sutarso, 2007)

In an early sport study, Krohne and Hindel (1988) investigated athletes' coping activities during competition. They found that elite table tennis players who employed cognitive avoidant strategies to cope with critical situations occurring in the course of the match won more games in the important tiebreak situation and were less anxious than players who did not use such strategies. Successful table tennis players "were characterized by few interfering anxiety reactions (worry cognitions), little vigilant coping, and an extended use of cognitively avoidant self-regulatory techniques" (p. 225). The researchers explained the table tennis players could not afford to indulge in self-centered interfering cognitions during the game for fear of being distracted from subsequent passages of play.

In support of Krohne and Hindel's (1988) recommendations, Anshel and Anderson (2002) found that approach coping was significantly related to negative affect. In addition, significant correlations between the performers' use

of approach- and avoidance-coping strategies and their coping styles, also categorized as approach and avoidance. Along these lines, Anshel and Anderson (2002) found that an approach coping style was a significant predictor of performance quality, as opposed to avoidance coping, at least for the first set of trials, a time when acute stress receives the most attention.

More recently, Anshel and Sutarso (2007) examined sources of acute stress, stress intensity level, and coping styles in competitive sport. They found that the athletes' coping styles were positively related to their respective acute stressors category. The athletes who experienced intense coach-related acute stress were more likely to use primarily an approach-behavior coping styles followed by the other coping styles.

In other sports studies, Nicholls, et al. (2006) found that the most frequently cited coping strategies professional rugby players were increased concentration, blocking, positive reappraisal, and being focused on the task. The most effective coping strategies were focusing on task and increasing effort. According to Nicholls et al., professional rugby players use a variety of different coping strategies in order to manage the stressors they experience, but the effectiveness of their coping attempts can vary. In a study of South African athletes, O'Neil and Steyn (2007) indicated that the most frequently used strategy to cope with stress was to remove the source of the stress followed by strategies that change the athlete's perception of the stressor and lastly strategies that deal with the symptoms of the stressor.

Although there are obvious applied benefits from understanding sources of stress and coping strategies, there is still a need to examine them from different sports and cultures so that practitioners can be more knowledgeable and precise when intervening with athletes. Such knowledge would provide useful information to how, and why some individuals adapt to stressful situations, while others find it difficult, and in some cases impossible to do so.

To date, minimal research has been conducted to provide insight into the stress experiences of athletes in different cultures, particularly the Middle East and Arab countries. While the present study is not cross-cultural, relatively little is known about stress and coping responses of Arab athletes, in general, and athletes from Jordan, in particular. Thus, the primary purpose of this study is to examine the sources of stress and coping styles as reported by student-athletes in Jordan universities.

2. Method

2.1. Participants

Participants in this study were 56 college athletes (38 males, 18 females). They ranged in age from 18-24 years ($M = 20.3$, $SD = 1.67$), had played an average of 2.23 years of varsity sports ($SD = 1.10$), and reported that they spent about 8 hours per week in participating in sport ($M = 8.07$, $SD = 4.35$). Additional demographic information indicated that 26.8% of the athletes were freshmen, 23.2% were sophomore, 12.5% of them were juniors, and 37.5% were seniors.

2.2. Instruments

This study employed two separate surveys that measured Sources of stress and styles of coping for college athletes. The stress sources survey is a 30-item, self reported survey developed to measure sources of stress and stress-related symptoms in college athletes using a 5-point Likert scale ranging from 1 (not at all intense) to 5 (extremely intense). The survey items were derived from previous research related to sport (Anshel & Anderson, 2002; Anshel & Sutarso, 2007; McKay, et al., 2008; O'Neil & Steyn, 2007; Puente-Diaz & Anshel, 2005; Thelwell, et al., 2007; Vredenburg, 2007; White, 2008). The 30 items represented six sources of stress. They were stress of injury and illness, pressures of competition, conflict with the coach, the referee, and the spectators

Coping styles were assessed with the Coping Style in Sport Inventory (CSSI; Anshel & Si, 2008). The CSSI is a 16-item survey that measures two styles of coping, approach and avoidance. Approach coping describes the active efforts used to control, manage, or change either the stressful situation or the attendant emotions (Anshel & Si, 2008). Sample approach coping items were, "I quickly became more enthusiastic or aggressive for the purpose of improving my performance" and "I quickly became more enthusiastic or aggressive for the purpose of confronting the stressor." Avoidance coping is an orientation that results in the physical or psychological withdrawal from the

source of threat (Anshel & Si, 2008). Sample avoidance coping style items were, "I concentrated on what I had to do next," "I felt like giving up," and "I tried not to think about the problem and moved to the next task." The athletes were asked to indicate their usual reaction to each stressful event they had often experienced during a sports contest on a 5-point Likert-type scale ranging from 1 (not used at all) to 5 (used all the time).

The next step in developing the instruments for this study was to translate the items from English into Arabic language. A standard three-step protocol reported by Blaschko and Burlingame (2002) was used when translating the questionnaires. First, the instruments were translated from English into Arabic language by a professional scholar who is fluent in both English and Arabic languages. Second, the instruments were translated back from Arabic into English language by a second scholar who is also competent in both English and Arabic languages. In the final step, a third professional scholar evaluated the original English and the translated-back copies in order to verify the accuracy and validity of translation. The scholars were in full agreement on the use of proper terms in the Arabic version.

Validity and reliability for the sources of stress survey and the CSSI have been demonstrated through different studies (e.g., Anshel & Si, 2008; Anshel & Sutarso, 2007; McKay, et al., 2008; Puente-Diaz & Anshel, 2005).

2.3. 2.3 Procedure

Before distributing the surveys, telephone calls were made to the coaches to obtain the permission to conduct the study. Coaches who agreed to allow their teams to participate in the study were then asked to schedule an appointment with the researchers to meet with their athletes. At the meeting, which typically occurred before practice or at team meetings, the athletes were given a verbal explanation of the study being conducted. Athletes who agreed to participate were given a survey packet and were assured that their answers would remain confidential. To further ensure confidentiality and anonymity, the athletes did not put their names on the forms and returned them directly to the researchers. In addition, coaches were asked to leave the area during the administration of the questionnaires.

3. Results

3.1. Scale Reliabilities

To assure the psychometric properties of the Arabic version of the surveys, internal consistency measures of reliability were computed by calculating cronbach alpha coefficients. The results of the analysis can be seen in Table 1. As shown in the table, all coefficients were judged to be acceptable based on Nunnally and Bernstein's (1994) criterion of alpha being greater than .70.

Table 1. Cronbach Alpha Reliability Coefficients for Study Variables

Measure	Alpha	No. of Items
Sources of Stress Survey		
Stress of injury and illness	.85	5
Pressures of competition	.83	5
Conflict with the coach	.81	8
The referee	.80	6
The spectators	.76	6
CSSI		
Approach	.84	8
Avoidance	.80	8

3.2. Sources of Stress

Means and standard deviations of sources of stress reported by student athletes at Jordanian universities are reported in table 2, where it can be seen that stress of injury and illness was the most perceived source of stress ($M =$

3.678), followed by pressures of competition ($M = 3.603$), referee ($M = 3.154$), and conflict with the coach ($M = 2.977$). The spectators were the least perceived source of stress with a mean of 2.565 and a standard deviation .714.

Table 2. Means and standard deviations of sources of stress (N = 56)

Variable	Mean	Std. Deviation
Stress Source		
Stress of injury and illness	3.678	.606
Pressures of competition	3.603	.602
Referee	3.154	.803
Conflict with the coach	2.977	.737
Spectators	2.565	.714

Coping Style

Means and standard deviations were reported for all items of the coping survey (Table 3). All items of the coping survey have been grouped into two styles of coping, approach and avoidance, and the overall means and standard deviations are displayed in Table 4, where it can be seen that approach style was often used to manage stress by the student athletes in Jordanian universities ($M = 3.560$, $SD = .594$). The main techniques used to cope with stress were "I became more psyched-up", "I thought about the unpleasant experience for quite some time", "I became more enthusiastic to overcome the problem".

In addition to approach style, participants reported the use of avoidance as a coping style with stress ($M = 3.169$, $SD = .459$). The main techniques in the avoidance style were "I just thought about something else - mental escape from the situation", "I tried to learn from the unpleasant experience", and "I felt like giving up".

Table 3. Means and standard deviations of coping styles (N = 56)

	Mean	Std. Deviation	Coping Style
I just thought about something else - mental escape from the situation.	3.95	.980	Avoidance
I became more psyched-up.	3.91	1.195	Approach
I thought about the unpleasant experience for quite some time.	3.86	1.052	Approach
I became more enthusiastic to overcome the problem.	3.86	1.119	Approach
I tried to learn from the unpleasant experience.	3.84	1.023	Avoidance
I felt like giving up.	3.80	1.151	Avoidance
I became very self-critical (for more than just a few seconds).	3.70	1.235	Approach
I argued/became critical/angry	3.64	1.368	Approach
I analyzed what went wrong.	3.38	1.329	Approach
I concentrated on what I had to do next.	3.11	1.330	Avoidance
I tried to get more information about the problem.	3.09	1.339	Approach
I did not take the situation seriously.	3.05	1.327	Avoidance
I became more aggressive.	3.00	1.112	Approach
I used profanity due to frustration, than quickly regained my composure.	2.93	1.500	Avoidance
I quickly forgot about it and moved forward.	2.71	1.232	Avoidance
I immediately turned my attention to the next task.	2.36	1.432	Avoidance

Table 4. Means and standard deviations of overall Approach and Avoidance styles of Coping (N = 56)

Coping Style	Mean	Std. Deviation
Approach	3.560	.594
Avoidance	3.169	.459

4. Discussion

The purpose of this study was to examine and identify the sources of stress and coping styles among student-athletes at Jordanian universities.

With regard to sources of stress, the findings revealed that stress of injury and illness, pressures of competition, conflict with the coach, referee, and spectators were the sources of stress reported by athletes. Although all five variables are capable of producing stress for athletes, stress of injury and illness, which includes being unable to compete as a result of injury or illness, unable to perform at the desired level, and worry about being reinjured during the game, was the most intense source of stress. A possible explanation is that sports are physically demanding and increase potential injury risks.

The next most frequent source of stress was pressures of competition. This includes concerns with physical preparation, technical preparation, making repeated mistakes, lack of competitive experience, and not performing well. Referee related stressors include unfair treatment by the referee, poor performance of referee, and making bad calls. This finding is consistent with previous studies in which referees performance and treatment were intense sources of stress (Anshel & Si, 2008).

Coach related stressors, which include being threatened by a coach, being criticized by the coach, negative behavior of coach, conflict with coach, and lack of support from coach, did not feature prominently in this study. Perhaps this is due to the positive group atmosphere and good relationships between the athletes and their coaches.

The fifth source of stress 'spectators' included crowd noise, physical assault from spectators, verbal criticism from spectators, worry about who was watching, did not feature prominently in this study. Perhaps this stressor may be experienced more by athletes participating in professional sports and not in college sports, where athletes participate and practice sports for enjoyment and the spectators are mainly college students.

In general, the sources of stress identified in this study were in line with previous research, and add support to the suggestion that there is a core group of stressors experienced by all athletes (McKay, et al., 2008; Noblet & Gifford, 2002). The most frequently cited general dimensions of stress reported by in previous studies were also identified in this study. These categories include performance issues (Anshel & Sutarso, 2007), issues with coach (McKay, et al., 2008; Anshel & Anderson, 2002; Anshel & Sutarso, 2007; Puente-Diaz & Anshel, 2005), competition concerns (McKay, et al., 2008; Thelwell, et al., 2007), injury and illness (McKay, et al., 2008; Puente-Diaz & Anshel, 2005; Nicholls, et al., 2006), pressure from others (McKay, et al., 2008; Puente-Diaz & Anshel, 2005), and umpires (Thelwell, et al., 2007; Anshel & Si, 2008).

As with sources of stress, the athletes reported a vast number of coping strategies (see Table 3). It appears that athletes use both avoidance and approach styles to cope with stress. The findings of this study are inline with previous studies and gives support to the approach and avoidance conceptual framework of Roth and Cohen (1986). Anshel and Si (2008) reported that avoidance coping is preferred for situations that are uncontrollable, where the source of stress is unknown, and when outcome measures are short-term. In this manner, Krohne (1996) suggested that "approach coping is preferred to reduce or prevent further increase in uncertainty, or "uncertainty-motivated behavior" (p. 395). The results of Krohne and Hindel's (1988) study of elite table tennis players lends further acceptance to the use of avoidance coping in selected situations. The researchers contend that "In a sport situation requiring immediate decisions, players who preferably use avoidant coping strategies and rarely employ approach coping behavior will be especially successful" (p. 228).

Although the present study did not consist of cross-cultural comparisons, the results from previous studies (e.g., Anshel & Si, 2008) indicate that athletes from western countries are more likely to use an approach coping style following stressors perceived as threatening. Cultural comparisons in future coping in sport studies are warranted to understand societal influences on the coping process in sport. Further research is needed to examine the extent to which the use of specific coping styles are effective in reducing stress intensity, change stress appraisals, or have other desirable outcomes following stressful events experienced during the contest.

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