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ARTICLE

The Impact of a Psychological Skills Training (PST) Course on the Level of Sports Injury Anxiety and Fear of Failure in Elite Football Athletes

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ABSTRACT: The aim of this research was to determine the impact of a psychological skills training (PST) course on the level of sports injury anxiety and fear of failure. This research was of an applied and cross-sectional nature, and the statistical population consisted of elite football athletes, among whom 45 completed the existing scale. The measurement tools used were the Sports Injury Anxiety Scale (SIAS) and the Performance Failure Appraisal Inventory (PFAI) to assess fear of failure. The pre-test for sports injury anxiety and fear of failure was conducted in all three groups, and the experimental group followed the corresponding protocol for 12 sessions, after which the post-test was carried out. The data were analyzed using the dependent t-test and ANCOVA. The results showed that after the intervention, sports injury anxiety and fear of failure had decreased, and there were differences in the responses to the items on the sports injury anxiety and fear of failure test between the two experimental groups, the pre-exercise intervention and the pre-sleep intervention. In general, it can be concluded that practicing psychological skills can be a strategy for reducing psychological responses such as sports injury anxiety and fear of failure. Sports psychologists are advised to use this intervention to reduce sports injury anxiety and fear of failure, and consequently to improve performance.

KEYWORDS: sports injury anxiety, fear of failure, psychological skills training, elite.

1 Introduction

Despite the numerous benefits and positive effects of sports, unfortunately, some sports experiences come with negative outcomes (Brown, 2005). Those who engage in sports professionally and at higher levels may be subjected to severe physical and mental pressure and stress. These conditions increase the likelihood of unpleasant events such as sports injuries. These injuries may temporarily (or permanently) prevent them from participating in future sports competitions (Taylor, 1997). According to studies conducted in Australia, 20% of all consultations provided to children and adolescents and 18% of all consultations provided to adults are related to sports injuries (Finch, Valuri, Smith, 1998). Research and reports



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clearly indicate that psychological factors can influence the occurrence of injuries. Additionally, these factors may play a decisive role in athletes' ability to cope with and endure injuries and the effectiveness of rehabilitation programs after injury (Arnwin Barrow, Walker, 2013).

Annually, more than 10 million sports injuries occur among athletes (Rex & Metzler, 2016). Most sports injuries happen due to impact or overuse of muscles or joints. Sports injuries often leave profound negative consequences on athletes' physical health. Additionally, sports injuries may lead to psychological disorders through increased anger, depression, anxiety, tension, fear, and reduced self-confidence. Sports injuries often result in immediate imbalance and disruption in the lives of affected athletes, including loss of health and failure to reach their athletic potential before the injury. Therefore, the inclusion of psychological recovery for sports injuries in rehabilitation programs is vital to prevent or reduce the negative psychological consequences of injuries and promote a return to active participation in sports-related activities (Rees, Pitsinger, & Yang, 2013).

Nowadays, attention to sports psychology and related variables can yield beneficial results in athletes' performance (Grange and Kerr, 2010). In fact, in sports, psychological factors play an important role in athletes' performance. Among these variables is anxiety. Anxiety in sports is unpleasant when the initial assessment of competitive conditions is not accurate and realistic.

The best and most prominent psychological interventions currently used in the field of sports include: goal setting, visualization, relaxation exercises, and positive self-talk. Encouraging individuals to utilize social support and employing it as an important and beneficial factor for injured athletes has also been identified (Brown, 2005).

Fear is an internal feeling that causes physiological changes (such as increased heart rate, muscle tension, etc.) (Rozhanam, 2007). Fears are adaptive responses that alert individuals to dangers and stimulate escape or avoidance behaviors. However, if these fears become excessive and occur continuously over time, they can lead individuals, especially adolescents, to distress and discomfort, and they can act as barriers to social, academic, and athletic development (Rozhanam, 2007). Fear in sports is a commonly experienced emotion. Fear and fear of failure are constant sources of stress and anxiety that undermine the psychological game and performance of athletes. In sports, athletes' fears are often based on their perception of the importance of performance or the game and what they think others think about their performance (Siyadi, 2013). Additionally, Cohen (2010) believes that athletes worry about disappointing their parents, team, or coach and not meeting their expectations.

Gold and Weinberg (2014) believe that psychological interventions through the practice of mental skills must be conducted individually, using systematic methods over time, and employing mental skills such as imagery, self-talk, and goal-setting to have the desired impact. They also divide the training program for mental skills into three stages: 1- the education stage, 2- the acquisition stage, and 3- the practice stage.

The efforts of PST programs aim to educate and equip athletes with techniques and strategies that can be used to evaluate, monitor, and regulate their thoughts and emotions in order to achieve positive psychological factors and optimal performance (Vaez Mousavi and Masiibi, 2014).

In this research, the training package will include self-talk, visualization, and goal setting.

Self-talk is one of the common cognitive strategies used by athletes. The strategy of positive self-talk actually reinforces the individual's beliefs and convictions. For instance, if an athlete tells themselves that they are weak and will fail, it is likely that this belief will become a reality during the competition. However,

if instead, the athlete focuses on their skills and abilities and recalls the moments spent learning and practicing those skills, they will have a greater representation of information in their mind and will come to believe the phrase "I can successfully finish the competition" (Antonis, Zourbanos, and Toroudakis, 2009; Van Raalte, Vincent, and Brewer, 2016).

Another psychological skill used by athletes is imagery. The terms imagery and mental practice are used interchangeably in psychological literature. Mental imagery is the symbolic encoding of information in the form of images in the mind and involves thinking about performance and feelings, where all senses are engaged in the gathered information (Williams and Cumming, 2015).

The next psychological skill used by athletes and coaches is goal setting. A goal is defined as intention, purpose, and the endpoint of an action. According to Locke and his colleagues, a sports goal is achieving a specific standard of skill in a specific task, usually within a defined time frame (Vaez Mousavi and Masiibi, 2007).

2 Methods

2.1 Participants

The present research method is semi-experimental, in which two experimental groups (the group practicing psychological skills before training and before sleep) and one control group were examined using a pre-test-post-test design. Additionally, the current study is applied in terms of purpose and retrospective in terms of data collection time. Furthermore, data collection was conducted in the field.

The statistical population of this research consisted of elite football players. It is worth mentioning that these athletes were active in one of the reputable leagues in Iran, which is recognized by the Football Federation. The subjects of this study were 45 football players aged between 18 and 30 years, who were engaged in at least one of the country's reputable leagues. (The sample size was determined based on similar studies and the type of research chosen) (Tenenbaum, Kamata, and Aklund, 2012). The sampling was conducted using a convenience sampling method.

In the training group, during similar sessions, individuals were taught by the researcher using the self-instruction method to correct their own behavior. With the help of this method, individuals are encouraged to change their inner dialogues and repeat constructive statements known as positive or reinforcing inner dialogues while coping with stress or achieving their goals, think about their performance, and strengthen themselves for action and confrontation. The main topics covered included the concept of self-talk and its types, the role of individuals in self-talk, familiarity with self-defeating thoughts, self-statements, self-control transformation, attribution styles, locus of control, symbolic meanings, and cognitive errors. At the beginning of the next session, the educational materials from the previous session were reviewed, and individuals' questions were answered. In the positive self-talk training, practical demonstrations, role-playing, lectures, and a positive self-talk educational CD were used.

Additionally, in the visualization exercise, in the first stage, the individual begins to create fantasy mental images using sensory data and perceptual experiences. In the second stage, with focused attention, the constructed mental images are preserved and maintained in short-term and long-term memory. In the third and fourth stages, the individual reconstructs the event by altering the content of the images, thereby replacing negative feelings with positive emotions and expanding the individual's coping ability and mental capacity regarding that subject (Kasslian, Thompson, and Ghani, 2006). In this relaxation method, the participant is asked to focus their attention on the therapist's instructions while sitting in a quiet room and

taking a few deep breaths. With their eyes closed, they are asked to visualize a beautiful place (beach, mountain, forest). During the execution of this technique, in addition to stimulating the sense of sight, the senses of touch, smell, and hearing are also used. For example, the participant is asked to pay attention to the warmth of the sun on their skin, the smell of the ocean, the taste of sea salt, the sound of waves, and seagulls while imagining the beach. In this state, they visualize themselves as happy and smiling. In the second half of the session, the participant is asked to visualize the competitive situation and its negative feelings in the described scenario. After 30 minutes, the participant opens their eyes and returns to a normal state.

After training and practice in the experimental group, measurements related to sports injury anxiety and fear of failure were conducted again in all three groups.

2.2 Measurement and Tools

a) Sports Injury Anxiety Scale

In 2006, Cassidy developed the Sports Injury Anxiety Scale to measure the level of anxiety caused by sports injuries and designed the Sports Injury Anxiety Questionnaire, which consists of 29 questions. This self-report tool examines several different aspects. The factors of this questionnaire include loss of athletic condition, weakness, pain, loss of social support, re-injury, disappointing close individuals, and having a negative self-image.

b) Performance failure evaluation scale

The Performance Failure Appraisal Inventory (PFAI) was designed by Conroy et al. (2002) based on Lazarus's (1991) cognitive-motivational-relational theory, which aligns with other multidimensional methods of measuring fear of failure. Exploratory factor analysis revealed that this 25-item questionnaire measures five dimensions related to failure: 1) experiencing shame and embarrassment 2) reduced self-esteem 3) having an uncertain future 4) losing interest from important people 5) upsetting important people.

2.3 Statistical Analysis

Statistical calculations and data analysis have been performed using descriptive and inferential statistics, which include the following:

Use of descriptive statistics to determine frequencies and central and dispersion indices in the form of tables and charts

Using the dependent t-test to examine within-group changes and univariate analysis of covariance to investigate between-group differences in the research variables.

For calculations and statistical analysis of raw data, SPSS version 22 and Excel software were used. Additionally, the significance level in all statistical methods was considered to be less than 0.05.

3 Results

Table 1. Average age of participants in each group

<i>Intervention before sleep</i>	<i>Intervention before practice</i>	<i>Control</i>	<i>Group</i>
26.1	23.9	25.4	<i>Average age</i>
25.13			<i>The average age of all participants</i>

Table 2. Description of standard deviation and percentage changes of dependent variables

	<i>N</i>	<i>Range</i>	<i>Average</i>	<i>Std. Deviation</i>
<i>Pre-test of sports injury anxiety for the control group</i>	15	33.00	66.000	10.392
<i>Post-test sports injury anxiety control group</i>	15	33.00	67.666	9.904
<i>Pre-test of fear of failure for the control group</i>	15	7.00	13.600	1.882
<i>Post-test of fear of failure for the control group</i>	15	5.00	13.266	1.533
<i>Pre-test of sports injury anxiety for the intervention group before training</i>	15	30.00	66.600	10.404
<i>Post-test of sports injury anxiety for the intervention group before training</i>	15	27.00	59.733	7.304
<i>Pre-test of fear of failure for the intervention group before the exercise</i>	15	6.00	13.200	1.656
<i>Post-test of fear of failure for the intervention group before the exercise</i>	15	13.00	11.266	2.987
<i>Pre-test of sports injury anxiety in the intervention group before sleep</i>	15	33.00	66.000	1.392
<i>Post-test of sports injury anxiety for the pre-sleep intervention group</i>	15	30.00	57.800	8.670
<i>Pre-test of fear of failure in the intervention group before sleep</i>	15	6.00	13.133	1.597
<i>Post-test of fear of failure damage in the intervention group before sleep</i>	15	10.00	12.00	2.596

Table 3. Results of the normality test of the data

<i>Shapiro-Wilk test</i>				<i>Shapiro-Wilk test</i>				<i>Variable (pre test of)</i>	
<i>Significance level</i>	<i>Std. Deviation</i>	<i>Average</i>	<i>Number</i>	<i>Variable (pre test of)</i>	<i>Significance level</i>	<i>Std. Deviation</i>	<i>Average</i>		<i>Number</i>
.200c,d	9.904	67.666	15	<i>sports injury anxiety for the control group</i>	.200c,d	10.392	66.000	15	<i>osports injury anxiety for the control group</i>
.007c	1.533	13.266	15	<i>fear of failure in the control group</i>	.058c	1.880	13.600	15	<i>fear of failure for the control group</i>
.052c	7.304	59.73	15	<i>sports injury anxiety for the intervention group before training</i>	.200c,d	10.404	66.000	15	<i>sports injury anxiety for the intervention group before training</i>
.099c	2.987	11.266	15	<i>fear of failure for the intervention group before practice</i>	.029c	1.656	13.200	15	<i>fear of failure for the intervention group before the exercise</i>
.200c,d	8.670	57..800	15	<i>sports injury anxiety for the intervention group before sleep</i>	.200c,d	10.392	66.000	15	<i>sports injury anxiety intervention group before sleep</i>
.200c,d	2.596	12.200	15	<i>fear of failure in the intervention group before sleep</i>	.200c,d	1.597	13.133	15	<i>fear of failure in the intervention group before sleep</i>

After examining the normality of the skewness and kurtosis of the data distribution, the Shapiro-Wilk test was used to ensure the normality of the data. When checking the normality of the data, we tested the null hypothesis that the data distribution is normal at a 5% significance level. Therefore, if the test statistic is greater than or equal to 0.05, there will be no reason to reject the null hypothesis that the data is normal. In other words, the data distribution will be normal.

Between-group comparison of the one-way ANCOVA test

Sports injury anxiety in the control group and sports injury anxiety in the intervention group before training

Table 4. One-way ANCOVA of the Sports Injury Anxiety Test

	<i>Sum of averages</i>	<i>Df</i>	<i>Average</i>	<i>F</i>	<i>Significance level</i>
intergroup	905.533	8	113.192	1.452	0.304*

According to Table 4 and with a significance coefficient of (0.304), the results of the statistical comparison show significant changes between the sports injury anxiety of the control group and the sports injury anxiety of the intervention group before sleep. In other words, the psychological exercises in question were able to demonstrate a significant and positive effect.

Sports injury anxiety in the control group and sports injury anxiety in the intervention group before sleep

Table 5. One-way ANCOVA of the Sports Injury Anxiety Test

	<i>Sum of averages</i>	<i>df</i>	<i>Average</i>	<i>F</i>	<i>Significance level</i>
intergroup	803.667	8	100.458	1.058	0.048*

According to Table No. (5) and with a significance level of (0.048), the results of the statistical comparison show significant differences between the sports injury anxiety of the control group and the sports injury anxiety of the intervention group before sleep. In other words, the psychological exercises in question were able to demonstrate a significant and positive effect.

Sports injury anxiety in the intervention group before training and sports injury anxiety in the intervention group before sleep

Table 6. One-way ANCOVA of the Sports Injury Anxiety Test

	<i>Sum of averages</i>	<i>Df</i>	<i>Average</i>	<i>F</i>	<i>Significance level</i>
intergroup	442.433	8	55.304	1.090	0.472*

According to Table No. (6) and with a significance level of (0.472), the results of the statistical analyses indicated that there are no significant changes between the post-tests of the two groups with different intervention times.

Fear of failure in the control group and fear of failure in the intervention group before the exercise

Table 7. One-way ANCOVA of the fear of injury test

	<i>Sum of averages</i>	<i>df</i>	<i>Average</i>	<i>F</i>	<i>Significance level</i>
intergroup	24.933	7	3.562	3.117	0.38*

According to Table No. (7), with a significance coefficient of (0.38), the results of the statistical comparison showed significant changes between the fear of failure in the control group and the fear of failure in the intervention group before the exercise. In other words, the psychological exercises in question were able to demonstrate a significant and positive effect.

Fear of failure in the control group and fear of failure in the intervention group before sleep

Table 8. One-way ANCOVA of the fear of failure test

	<i>Sum of averages</i>	<i>df</i>	<i>Average</i>	<i>F</i>	<i>Significance level</i>
intergroup	31.267	8	3.908	14.070	0.002*

According to Table No. (8), with a significance coefficient of (0.002), the statistical comparison shows significant changes in the fear of failure between the control group and the intervention group before sleep. Thus, the psychological exercises in question were able to demonstrate a significant and positive effect.

Fear of failure in the intervention group before practice and fear of failure in the intervention group before

Table 9. One-way ANCOVA of the fear of failure test

	<i>Sum of averages</i>	<i>df</i>	<i>Average</i>	<i>F</i>	<i>Significance level</i>
intergroup	71.267	8	8.908	0.996	0.068*

As you can see and according to Table No. (9), with a significance level of (0.068), the results of the statistical analyses showed that there are no significant changes between the post-tests of the two groups with different intervention times.

5. Discussion and Conclusion

As the results showed, a course of psychological skills training was able to reduce sports injury anxiety in the intervention group before and after the training, and there was a significant difference between the control and experimental groups, indicating the impact of the intervention.

The findings also indicated that a course of psychological skills training was able to reduce fear of failure in the intervention group before practice and before sleep, and there was a significant difference between the control and experimental groups, indicating the impact of the intervention. The results of the present study suggested that psychological skills training intervention can reduce sports injury anxiety and fear of failure, leading to improved performance.

In general, there is a possibility that the intervention can reduce sports injury anxiety and fear of failure while also creating conditions for proper performance. Additionally, this intervention can be considered an appropriate strategy for reducing sports injury anxiety and fear of failure before practice and before sleep.

Considering previous studies and this research, which can confirm the results of those studies, one can understand the effectiveness of psychological skills training in improving performance and reducing sports injury anxiety and fear of failure, and recommend it for athletes.

References

1. Arvin Baroo, Mona, Walker, Natalie, 2016, *Rehabilitation Psychology and Sports Injuries*. Translation: Gharayagh Zandi, Hassan, Dehghani, Elham, Tehran, University of Tehran Press.
2. Ebrahimi, Varkiani, Mojtaba, 2012, *Epidemiology of Sports Injuries among Iranian Athletes Using the Database of the Medical Sports Federation of the Islamic Republic of Iran*. University of Tehran: Faculty of Physical Education.
3. Shamlou, Saeed, 2007, *Psychopathology*, Fajr Publications, Tehran.
4. Azad, Hossein, 1389, *Psychopathology*, Basirat Publications, Tehran.
5. Schultz, Duane; Schultz, Theories of Personality. Translated by Yahya Seyed-Mohammadi. Tehran: Viraish Publishing.
6. Vaezi Mousavi, Seyyed Mohammad Kazem; Masiabi, Fathollah, 2013, *Sports Psychology*. Tehran: Samt Publications.
7. Haqshenas, Rouhollah, Moradi, Mohammad, Mowlavi, Hossein, Khayambashi, Khalil, 2008, *Predicting Athlete Injuries Considering Psychological Factors*. Science and Movement.
8. Esfahani, Noushin, Ghazalsafloo, Hamid, 2011, "Examining the Relationship Between Self-Confidence and Performance on Competitive Anxiety in Amateur and Professional Female Football Players." *Journal of Women in Development and Politics (Women's Studies)*.
- 9.
10. Amato, P. (1997). The effects of life stress and psychosocial moderator variables on injuries and performance in hockey players.
11. Andersen, M. B., & Williams, J. M. (1999). Athletic injury, psychosocial factors and perceptual changes during stress. *Journal of Sports Sciences*, 17(9), 735–741.
12. Arvinen-Barrow, M., Clement, D., Hamson-Utley, J. J., Zakrajsek, R. A., Lee, S.-M., Kamphoff, C., ... Martin, S. B. (2015). Athletes' use of mental skills during sport injury rehabilitation. *Journal of Sport Rehabilitation*, 24(2), 189–197.
13. Arvinen-Barrow, M., & Walker, N. (2013). *The psychology of sport injury and rehabilitation*. Routledge.
14. Blackwell, B., & McCullagh, P. (1990). The relationship of athletic injury to life stress, competitive anxiety and coping resources. *Athletic Training*, 25(1), 23–27.
15. Brown, C. (2005). Injuries: The psychology of recovery and rehab. *The Sport Psych Handbook*, 215–235.
16. Cassidy, C. M. (2006). Development of a measure of sport injury anxiety: The Sport Injury Appraisal Scale.
17. Chroni, S., Perkos, S., & Theodorakis, Y. (2007). Function and preferences of motivational and instructional self-talk for adolescent basketball players. *Athletic Insight*, 9(1), 19–31.
18. Conn, J. M., Annett, J. L., & Gilchrist, J. (2003). Sports and recreation related injury episodes in the US population, 1997–99. *Injury Prevention*, 9(2), 117–123.
19. Dvorak, J., Junge, A., Chomiak, J., Graf-Baumann, T., Peterson, L., Rosch, D., & Hodgson, R. (2000). Risk factor analysis for injuries in football players. *The American Journal of Sports Medicine*, 28(5_suppl), 69–74.
20. Engebretsen, L., Soligard, T., Steffen, K., Alonso, J. M., Aubry, M., Budgett, R., ... Mountjoy, M. (2013). Sports injuries and illnesses during the London Summer Olympic Games 2012. *Br J Sports Med*, 47(7), 407–414.
21. Finch, C., Valuri, G., & Ozanne-Smith, J. (1998). Sport and active recreation injuries in Australia: evidence from emergency department presentations. *British Journal of Sports Medicine*, 32(3), 220–225.
22. Ford, I. W., Eklund, R. C., & Gordon, S. (2000). An examination of psychosocial variables moderating the relationship between life stress and injury time-loss among athletes of a high standard. *Journal of Sports Sciences*, 18(5), 301–312.
23. Galambos, S. A., Terry, P. C., Moyle, G. M., & Locke, S. A. (2005). Psychological predictors of injury among elite athletes. *British Journal of Sports Medicine*, 39(6), 351–354.
24. Gill, D. L. (1986). *Psychological dynamics of sport*. Champaign, IL: Human Kinetics, 55–56.

25. Gillet, N., Vallerand, R. J., Amoura, S., & Baldes, B. (2010). Influence of coaches' autonomy support on athletes' motivation and sport performance: A test of the hierarchical model of
26. Gould, D., Bridges, D., Udry, E., & Beck, L. (1997). Stress sources encountered when rehabilitating from season-ending ski injuries. *The Sport Psychologist*, 11(4), 361–378.
27. Hanson, S. J., McCullagh, P., & Tonymon, P. (1992). The relationship of personality characteristics, life stress, and coping resources to athletic injury. *Journal of Sport and Exercise Psychology*, 14(3), 262–272.
28. Hardy, C. J., Richman, J. M., & Rosenfeld, L. B. (1991). The role of social support in the life stress/injury relationship. *The Sport Psychologist*, 5(2), 128–139.
29. Hatzigeorgiadis, A., Zourbanos, N., Mpoumpaki, S., & Theodorakis, Y. (2009). Mechanisms underlying the self-talk–performance relationship: The effects of motivational self-talk on self-confidence and anxiety. *Psychology of Sport and Exercise*, 10(1), 186–192.
30. Hemmings, B., & Povey, L. (2002). Views of chartered physiotherapists on the psychological content of their practice: a preliminary study in the United Kingdom. *British Journal of Sports Medicine*, 36(1), 61–64.
31. Ivarsson, A., Johnson, U., & Podlog, L. (2013). Psychological predictors of injury occurrence: a prospective investigation of professional Swedish soccer players. *Journal of Sport Rehabilitation*, 22(1), 19–26.
32. Johnson, U., & Ivarsson, A. (2011). Psychological predictors of sport injuries among junior soccer players. *Scandinavian Journal of Medicine & Science in Sports*, 21(1), 129–136.
33. Junge, A. (2000). The influence of psychological factors on sports injuries. *The American Journal of Sports Medicine*, 28(5_suppl), 10–15.
34. Kerr, G., & Goss, J. (1996). The effects of a stress management program on injuries and stress levels. *Journal of Applied Sport Psychology*, 8(1), 109–117.
35. Kleinert, J. (2002). Causative and protective effects of sport injury trait anxiety on injuries in German University sport. *European Journal of Sport Science*, 2(5), 1–12.
36. Kolt, G. S., Hume, P. A., Smith, P., & Williams, M. M. (2004). Effects of a stress-management program on injury and stress of competitive gymnasts. *Perceptual and Motor Skills*, 99(1), 195–207.
37. Kontinen, N., Mononen, K., Pihlaja, T., Sipari, T., Arvinen-Barrow, M., & Selänne, H. (2011). Urheiluvammojen esiintyminen ja niiden hoito nuorisourheilussa-Kohderyhmänä 1995 syntyneet urheilijat. *KIHUn Julkaisusarja*, Nro, 25.
38. Luo, Y. (1995). The relationship of daily hassles, major life events and social support to athletic injury in football.
39. Lazarus, R. S., & Folkman, S. (1984). The coping process: an alternative to traditional formulations. *Stress, Appraisal, and Coping*, 141–180.
40. Machida, M. (2008). An examination of sources and multidimensionality of self-confidence in collegiate athletes. Miami University.
41. Maddison, R., & Prapavessis, H. (2005). A psychological approach to the prediction and prevention of athletic injury. *Journal of Sport and Exercise Psychology*, 27(3), 289–310.
42. Meyers, M. C., LeUnes, A., Elledge, J. R., Tolson, H., & Sterling, J. C. (1992). Injury incidence and psychological mood state patterns in collegiate rodeo athletes. *Journal of Sport Behavior*, 15(4), 297.
43. Pargman, D. (1999). Psychological bases of sport injuries. *Fitness Information Technology*.
44. Perna, F. M., Antoni, M. H., Baum, A., Gordon, P., & Schneiderman, N. (2003). Cognitive behavioral stress management effects on injury and illness among competitive athletes: a randomized clinical trial. *Annals of Behavioral Medicine*, 25(1), 66–73.
45. Petitpas, A., & Danish, S. J. (1995). Caring for injured athletes. *Sport Psychology Interventions*, 255–281.
46. Petrie, T. A. (1992). Psychosocial antecedents of athletic injury: The effects of life stress and social support on female collegiate gymnasts. *Behavioral Medicine*, 18(3), 127–138.
47. Ray, R., & Wiese-Bjornstal, D. M. (1999). Counseling in sports medicine. Human Kinetics Champaign, IL.
48. Reese, L. M. S., Pittsinger, R., & Yang, J. (2012). Effectiveness of psychological intervention following sport injury. *Journal of Sport and Health Science*, 1(2), 71–79.

49. Reinboth, M., Duda, J. L., & Ntoumanis, N. (2004). Dimensions of coaching behavior, need satisfaction, and the psychological and physical welfare of young athletes. *Motivation and Emotion*, 28(3), 297–313.
50. Rex, C. C., & Metzler, J. N. (2016). Development of the Sport Injury Anxiety Scale. *Measurement in Physical Education and Exercise Science*, 20(3), 146–158.
51. Smith, R. E., Ptacek, J. T., & Patterson, E. (2000). Moderator effects of cognitive and somatic trait anxiety on the relation between life stress and physical injuries.
52. Smith, R. E., Smoll, F. L., & Ptacek, J. T. (1990). Conjunctive moderator variables in vulnerability and resiliency research: Life stress, social support and coping skills, and adolescent sport injuries. *Journal of Personality and Social Psychology*, 58(2), 360.
53. Taylor, J., & Taylor, S. (1997). *Psychological approaches to sports injury rehabilitation*. Lippincott Williams & Wilkins.
54. Thompson, N. J., & Morris, R. D. (1994). Predicting injury risk in adolescent football players: The importance of psychological variables. *Journal of Pediatric Psychology*, 19(4), 415–429.
55. Van Mechelen, W., Twisk, J., Molendijk, A., Blom, B., Snel, J., & Kemper, H. C. G. (1996). Subject-related risk factors for sports injuries: a 1-yr prospective study in young adults. *Medicine & Science in Sports & Exercise*.
56. Vazne, Z. (2008). CORRELATION BETWEEN FACTORS OF PSYCHOLOGICAL PREPARATION AND PHYSICAL CONDITION AND TEAM PERFORMANCE IN LATVIAN YOUTH BASKETBALL. *Education. Physical Training. Sport*, 71(4).
57. Walker, N. C. (2006). *The meaning of sports injury and re-injury anxiety assessment and intervention*. Aberystwyth University.
58. Weinberg, R. S., & Gould, D. (2014). *Foundations of Sport and Exercise Psychology*, 6E. Human Kinetics.
59. Wiese-Bjornstal, D. M., Smith, A. M., Shaffer, S. M., & Morrey, M. A. (1998). An integrated model of response to sport injury: Psychological and sociological dynamics. *Journal of Applied Sport Psychology*, 10(1), 46–69.
60. Williams, J. M. (2001a). In RN Singer, HA Hausenblas, & CM Janelle (Eds.), *Handbook of sport psychology* (pp. 766-786). New York: John Wiley & Sons, Inc.
61. Williams, J. M. (2001b). Psychology of injury risk and prevention. *Handbook of Sport Psychology*, 2, 766–786.