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Research Article

Mental Skills of Iranian Women in Premier League Soccer

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Abstract

Introduction: Mental Skills are important factors for successful sports performance in professional sports, including soccer. The purpose of this study was to assess the mental skills of Iranian Women Premier League Soccer players.

Methods: In this cross-sectional study, 122 premier league players volunteered to participate. They completed the Ottawa Mental Skills Assessment Tool-3 (OMSAT-3). This test is a reliable and valid instrument containing 48 questions assessing three main psychological components skills including basic, psycho-somatic, and cognitive skills.

Results: The results showed there were significant differences between the basic mental skill (22.72±2.67) compared to cognitive (19.7±2.54) and psychosomatic (18.83±1.38) components (P=0.0001, P-0.0001), respectively.

Conclusion: It was concluded that the mental skills of Soccer players in the Iranian Women Premier league need improvement in several sub-skills.

Keywords: *Mental skills, cognitive, psycho-somatic, basic component, soccer players, premier league.*

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Introduction

Psychological skills assessment is an important part of applied sport psychology. Mental as well as technical and tactical skills significantly contribute to the successful performance of players (Franks, Williams, Reilly, & Nevill, 1999; Malina et al., 2000). It has been shown that the successful performance of sports skills depends on a high on level of the mental skills in addition to the physical skills (Hu & Bentler, 1999). Experts unanimously agree that physical preparation is a prerequisite to sports performance success, however, elites performance depends on the high level of mental skills preparation and readiness as well (Morris, 2000; Thelwell & Maynard, 2003). In this regard, other investigators propose individual psychological factors assessment such as self-confidence, imagery, focus, and psycho-somatic skills play significant roles on athletes' successful performance (Gucciardi et al., Hu & Bentler, 1999). Thus, for this reason, professional trainers and coaches devote considerable time to the mental preparation of their athletes for competitions (Eloff, Monyeki, & Grobbelaar, 2011; Ghasemi, Yaghoubian, & Momeni, 2012). It has been demonstrated that improving the mental skills of athletes leads to successful performance in sports competitions (Driskell, Copper, & Moran, 1994). Among the wide variety of methods for enhancing and training mental skills, cognitive and psychosomatic approaches are suggested as the two main components, although they seem to be similar to one another (Behncke, 2004). However, before taking any measures to improve the mental skills of athletes, it is necessary to conduct an assessment of the current mental skill status. For this purpose, different assessment tests have been designed, which the Ottawa Mental Skills Assessment Tool-3 (OMSAT-3) introduced and developed by Durand-Bush and Salmela in 2001 (Durand-Bush, Salmela, & Green-Demers, 2001), is more reliable and validated than other instruments (Craciun, Dobosi, Ioan, & Prodea, 2011).

The purpose of this study was to assess the mental skills of women soccer players participating in the premier League of Iran by using the OMSAT-3 questionnaire.

Methods

This cross-sectional study was conducted from September 2015 to September 2016 in Iran. In this study, 122 accessible female players in the women's premier soccer league of Iran participated. After explaining the aims of the study, the players completed a consent form. Then, they reviewed instructions on about how to complete OMSAT-3 question forms. Demographic information including weight, height, and age of the respondents, was entered

in the form. OMSAT-III has been used extensively in Iran following the validation to assess Iranian athletes' mental skills (Vaezmousavi, 2001). The instrument measures 12 mental sub-skills including Goal Setting, Self Confidence, Commitment, Stress Reactions, Fear Control, Activation, Relaxation, Imagery, Mental Practice, Focusing, Refocusing, and Competition planning rated on a 6-point Likert scale answered as "strongly disagree" to "strongly agree" (Durand-Bush et al., 2001). The original OMSAT-3's scales have demonstrated acceptable internal consistency (á= 0.68 to 0.88, mean=0.78) and temporal stability (r= 0.78 to 0.96, mean=0.86) (Durand-Bush et al., 2001). Kolmogorov–Smirnov test confirmed the normality of the distribution of scores in all 12 sub-skills of the instrument; therefore, parametric statistical tests were employed to analyze the data. For statistical analyses, SPSS 16.0 software (SPSS Inc., Chicago, IL, USA) was used. All statistical tests were examined at an alpha level set to 0.05.

Results

Table 1 presents the mean and standard deviation values of demographic characteristic of 122players including; age(year), height(cm), weight(kg), and BMI (kg/mm), 25.22±3.1, 11.59±5.6, 75.48±4.57, 23.93±1.01, respectively.

Table 1.

Mean and Standard Deviation of Age (yr), Weight (kg), Height (cm) and BMI (kg/mm) in Iranian Women Premier League Soccer Players

variables statistics	Age(year)	Weight(kg)	Height(cm)	BMI(kg/mm)
Mean	23.4098	57.7459	165.52	21.0178
Std. Deviation	3.61071	7.75829	6.40794	2.01590
Minimum	16.00	42.00	151.00	16.36
Maximum	31.00	77.00	178.00	26.96

Friedman's mean ranked test was used to test the mean differences for the 12 sub-skills. The test result indicated that there were significant differences in the mean values. This result is presented in table 2.

Table 2.

Friedman Mean Ranked and Standard Deviation of OMSAT-III Mental Sub-skills of Iranian Women Premier League Soccer Players

Sub-skills	Mean	Std. Deviation	Minimum	Maximum
Self-Confidence	23.7459	3.18717	17	28
Commitment	22.9590	3.47933	15	28
Goal-Setting	21.4836	3.42145	13	27
Imagery	21.3115	3.60918	8	28

Relaxation	20.9754	3.48423	10	28
Competition Plan	20.9180	3.79994	13	27
Mental Practice	20.8033	2.64931	15	26
Activation	20.7459	3.17157	11	26
Stress Reaction	19.1885	4.72261	10	28
Fear Control	18.1475	4.77367	10	28
Refocusing	18.0902	4.43876	9	26
Focusing	13.1230	4.67202	6	23

Chi-Square= 287.269, p=0.0001`

Friedman's mean ranked test was used to test the mean differences for the 12 sub-skills. The test result indicated that there were significant differences in the mean values. This result is presented in Table 2.

Table 2: Friedman Mean ranked and standard deviation of OMSAT-III mental sub-skills of Iranian Women Premier League Soccer Players.

Then, every component of OMSAT-3 was analyzed by Friedman's mean rank test. If there were significant differences across the means of every component, a pair-wise t-test was employed to test the differences. Table 2 indicates that the mean value of self-confidence is significantly higher than other sub-skills of OMSAT-3 in women soccer players. Further analysis was performed on other components and sub-skills of the components separately. Table 3 presents the result of the Friedman test for the main components of OMSAT-3. This table shows there were significant differences between the main components of OMSAT-3 (p=0.0001). Additional analysis by using a pair-wise t-test was performed. The result of the pair-wise t-test comparing the sub-skills of the main components showed that there were significant differences between the basic versus cognitive components (p=0.0001), basic versus psychosomatic (p=0.0001), and between the cognitive and psychosomatic sub-skills of women soccer players (p=0.0001). The score on the basic sub-skills of the main component was significantly higher than the cognitive and psychosomatic scores. These results are presented in Table 4.

Table 3.

Friedman Ranked Means of Basic, Psychosomatic, and Cognitive Components of Mental Skills of Iranian Women Premier League Soccer Players

	N	**Mean**	**Std. Deviation**	**Minimum**	**Maximum**
Basic	122	22.72	2.67	16.67	26.67
Cognitive	122	19.76	2.54	14.50	24.00
Psychosomatic	122	18.83	1.38	16.20	23.40

Chi-Square= 133.445 p=0.0001`

Table 4.

Comparing the Basic, Cognitive and Psychosomatic Components of Mental Skills of Iranian Women Premier League Soccer Players

	Mean	**Std. Deviation**	**Std. Error Mean**	**Sig. (2-tailed)**
Basic	22.72	2.67	13.922	.0001†
Cognitive	19.76	2.54		
Basic	22.72	2.67	16.810	.0001†
psychosomatic	18.83	1.38		
Cognitive	19.76	2.54	4.039	.0001†
Psychosomatic	18.83	1.38		

†significant at 0.05

A Paired t-test was used to compare the main components of basic, psychosomatic, and cognitive skills of Iranian Women Premier League Soccer Players. The result showed significant differences between the basic compared to the psychosomatic (P=0.0001) and cognitive skills (P=0.0001) of soccer players. The basic skills were significantly higher than their psychosomatic and cognitive skills. Also, there were significant differences between the cognitive and psychosomatic skills of these players (P=0.0001); they showed higher cognitive skills than psychosomatic mental skills. These results are presented in Table 4. Friedman's mean rank test was also used to compare the basic subskills of the main components. The results indicated that there were significant differences among the mean ranks of this component (p=0.0001). Table 5 presents this result. A pair-wise t-test was used to compare these subskills; the result showed that there were significant differences between self-confidence compared to goal-setting and commitment (p=0.0001, p=0.0001). Also, there was a significant difference between the commitment and goal setting subskills (P=0.013). The soccer players showed a higher level of skills in self-confidence compared to their goal-setting and commitment. They also showed a higher level of commitment than goal-setting. These comparisons are presented in Table 6.

Table 5.

Friedman Mean Ranked and Standard Deviation of Basic Components of Mental Skills of Iranian Women Premier League Soccer Players

	Mean	Std. Deviation	Minimum	Maximum
Self-Confidence (SC)	23.7459	3.18717	17.00	28.00
Commitment (C)	22.9590	3.47933	15.00	28.00
Goal-Setting (GS)	21.4836	3.42145	13.00	27.00

Chi-Square= 27.45 p=0.0001

Table 6.

Pair-wise Means Comparison of Basic Components of Mental Skills of Iranian Women Premier League Soccer Players

Pair-wise contrasts	**t-test**	**df**	**Sig. (2-tailed)**
Self-Confidence- Goal-Setting	-7.204	121	.000†
Goal-Setting - Commitment	-4.478	121	.000†
Commitment - Self-Confidence	-2.509	121	.013†

† Significant at 0.05

Friedman's mean rank test was also used to compare the cognitive sub-skills of the soccer players. The results indicated that there were significant differences among the mean ranks of this component (p=0.0001). This result is presented in Table 7. The pair-wise t-test result of these contrasts is presented in Table 8. A visual inspection reveals that there are significant differences between the refocusing and focusing skills compared to the imagery, competition plan, and mental practice (P=0.0001). The players showed lower less levels of focusing and refocusing skills compared to imagery, competition plan, and mental practice. However, there were no significant differences between either the imagery compared to the competition plan or mental practice skill (p=0.428, p=0.118) neither between the competition plan and the mental practice (p=0.758).

Table 7.

Friedman Ranked Means of Cognitive Components of Mental Skills of Iranian Women Premier League Soccer Players

	Mean	**Std. Deviation**	**Minimum**	**Maximum**
Imagery	21.3115	3.60918	8.00	28.00
Competition Plan	20.9180	3.79994	13.00	27.00
Mental Practice	20.8033	2.64931	15.00	26.00
Refocusing	18.0902	4.43876	9.00	26.00
Focusing	13.1230	4.67202	6.00	23.00

Chi-Square= 138.63 p=0.0001`

Table 8.

Pair-wise Means Comparison of Cognitive Components of Mental Skills of Iranian Women Premier League Soccer Player

Pair-wise contrasts	**t**	**df**	**Sig. (2-tailed)**
Focusing - Refocusing	-6.782	121	.000†
Focusing - Imagery	-14.030	121	.000†

Focusing - Competition Plan	-13.260	121	.000†
Focusing - Mental Practice	-13.836	121	.000†
Refocusing - Imagery	-6.097	121	.000†
Refocusing - Competition Plan	-5.852	121	.000†
Refocusing - Mental Practice	-6.407	121	.000†
Imagery - Competition Plan	.795	121	.428
Imagery - Mental Practice	1.576	121	.118
Competition Plan - Mental Practice	.309	121	.758

† Significant at 0.05

A similar analysis was employed to compare the psychosomatic sub-skills of the soccer players. According to the data displayed in Table 9, there were significant differences among the mean ranks of this component (p=0.0001). A pair-wise t-test was used to compare these sub-skills. The result of this analysis is presented in Table 10. It was found that there are significant differences between the relaxation compared to the stress reaction and fear control skills (P=0.0001). The players showed a higher level of skill in relaxation compared to a stress reaction and fear control (p-0.0001). However, there were no significant differences-between the relaxation compared to activation skills (p=0.529).

Table 9.

Friedman Ranked Means of Psychosomatic Mental Sub-skills of Iranian Women Premier League Soccer Players

	Mean	**Std. Deviation**	**Minimum**	**Maximum**
Relaxation	20.9754	3.48423	10.00	28.00
Activation	20.7459	3.17157	11.00	26.00
Stress Reaction	19.1885	4.72261	10.00	28.00
Fear Control	18.1475	4.77367	10.00	28.00

Chi-Square= 45.08 p=0.0001`

Table 10.

Pair-wise Means Comparison of Psychosomatic Components of Mental Skills of Iranian Women Premier League Soccer Players

Pair-wise contrasts	**t**	**df**	**Sig. (2-tailed)**
Stress Reaction - Relaxation	-3.177	121	.002†
Stress Reaction - Fear Control	3.140	121	.002†
Stress Reaction - Activation	-3.156	121	.002†
Relaxation - Fear Control	5.031	121	.000†
Relaxation - Activation	.632	121	.529
Fear Control - Activation	-5.304	121	.000†

† Significant at 0.05

Discussion

This study was designed to assess and compare the three components as well as their constituent sub-skills of every component in the Iranian Women Premier League soccer players. High performance in competitions not only depends highly on athletes' physical fitness and motor skills but also on their mental skills. The result of a meta-analysis including 45 related studies showed the positive impacts of athletes' 'mental skills training on their performance (Sertaç Erciş, 2018; Golby, 2016; Ger, 2019; Sertak and associates, 2018; Weinberg, 2007). These pieces of evidence show the importance of athletes 'mental skills assessment on their successful performance by using reliable tools. In this way, the strengths and weaknesses of athletes' mental readiness are identified and appropriate training measures are used to prepare them for their competition. OSMAT-3 is a reliable tool to assess the mental skills of athletes and has been widely used for this purpose (Bahmani, and associates, 2015; Chavoshian and Sayyah, 2016; Lane and associates, 2007; Schinke & Hanrahan, 2009; Maciej 2017; Williams, 2011; Amir and associates, 2016, Mehmet, 2017; Khosravi, 2019; Hadi and associates, 2020). By using this tool in this research, it was found that there were significant differences among the main components of women soccer players' mental skills. As was expected, the basic skills levels of commitment; goal-setting, and self-confidence that are developed through the years of experience in the game and may improve regardless of training for these skills were significantly different than the other cognitive and psychosomatic components. Usually, players in a major league reach that stage after many years of hard training and experience. The competition pressure and commitment to be present in these conditions requires setting goals to succeed and results in a high level of self-confidence. Being a team member in a professional league is a very demanding task and depends on these mental skills to a high extent. This result was in agreement with the findings of Chavoshian and Sayyah (2016) although the former was performed on men volleyball players. However, despite these differences, both women soccer players and men volleyball players have a significantly high level of basic mental skills. The result of this study also indicated that there was a significant difference between the cognitive and psychosomatic skills of women soccer players. This result was different from the findings of Chavoshian (2016) who compared these components of mental skills in the junior national team of the Iranian volleyball team. Men were likely to develop their cognitive and psychosomatic mental skills differently.

Additionally, it is worth to mention that although OMSAT-3 has been used in several types of research, basic, cognitive, and psychosomatic components were not compared (Bahmani, and associates, 2015; Lane and associates, 2007; Schinke & Hanrahan, 2009; Maciej 2017; Williams, 2011; Amir and associates, 2016, Mehmet, 2017). Therefore, the findings of the present research in this regard are not comparable to these researches.

Further analysis of this research included the contrasting of every sub-skills within the main components. The result of these comparisons showed that the commitment level of soccer players was significantly higher than their goal-setting and self-confidence (p=0.000, p=0,000), respectively. It seems that commitment is the most important sub-skills within the basic components. It is conceivable that a high level of commitment is necessary to achieve goals that finally may lead to a higher level of self-confidence. The result of this study also showed that there was a significant difference between the level of goal-setting and self-confidence (p=0.0001). Thus, the self-confidence was significantly more developed than the other two subskills. This difference in the level of self-confidence may be due to the other underlying constructs and needs further research.

The result of this study showed that there was a significant difference among the focusing subskills of cognitive components and refocusing, imagery, mental practice and competition plan (p=0.000, p=0.000, p=0.000, p=0.000) and also among the focusing and imagery, mental practice and competition plan (p=0.000, p=0.000, p=0.000), respectively. It seems that refocusing is a mental skill independent of focusing on and needs special training. Also, focusing is a mental skill which develops slower than other mental sub-skills in cognitive component including imagery, mental practice, and competition plan. This type of comparison among the subskills of every component has not been made in previous researches.

The results of this study also showed that there were significant differences among the psychosomatic sub-skills of women soccer players; more specifically, the fear control of these players was significantly lower than the reaction to stress and relaxation (p=0.002, p=0.000), and stress reaction score was significantly lower than the activation and relaxation (p=0.002, p=0.002). These findings are also not comparable to the findings of other researchers examining the mental sub-skills of elite athletes.

In summary, based on the findings of this study, women soccer players possess a different level of mental sub-skills that need improvement. It is worth noting that this study was limited in scope for the women who play soccer; further research is needed to examine the

effects of mental training on the women soccer players as well as other popular team sports as well.

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Conflict of İnterest

Authors deny any actual or potential conflict of interest related to this study.

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