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Assessing Mental Skills of Student Athletes in a Colligate Sport Olympiad

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Mental skills play an important role in successful sport performance. The purpose of this research was to examine the mental skills of college student athletes participating in sport Olympiad. In this cross sectional research, 116 students voluntarily participated. Mental skill was assessed by using Ottawa-Mental Skill-III (OMSAT-3). The demographic information as well as mental skill of the participants was recorded. SPSS:PC 16.0 was employed to analyze the data. The result of analysis showed that there was a significant difference between the main components of basic, psychosomatic and cognitive skills of college student athletes participating in sport Olympiad. Based on the result of this research, college student athletes participating in sport Olympiad lack several mental sub skills and they need special training program to improve their mental preparation for participating in important sport competitions.

Key words: Mental skills, Olympiad, Athletes.

Participation in competitive sport performance needs physical as well as mental preparations in addition to technical and tactical skills (Carling *et al*., 2009; Franks *et al*., 1999; Malina *et al*., 2000). Sport coaches, researchers and all the experts in exercise science unanimously agree that physical preparation is a prerequisite condition for successful sport performance. However, the mental preparation is also an important aspect of successful sport performance. The significance of mental skill contribution to sport performance was demonstrated after the introduction of applied sport psychology by professionals who were interested to find out how participation in mental skills training can help an athlete's development throughout their competition career. Several researchers claimed that mental skills have become a common essential factor for sport excellence (Morris, 2000; Thelwell and Maynard, 2003). Using a profiling approach, psychological studies have been completed in the area of positive mental health and performance and identified significant profile differences between successful vs. non-successful athletes (White, 2006). Many sport coaches and trainers use mental preparation for successful performance and competition (Eloff , 2011; Ghasemi, 2012). In this regard, various approaches and tools were developed to assess psychological skill and more

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specifically mental skills. Guelmami and associates (2014) conducted a research involving different sports and concluded that psychological skills distinguished between more and less successful talented athletes. Following many years of research and development in this subject, Ottawa Mental Skills Assessment Tool-3 was introduced by Durand-Bush and Salmela (2001) known as Ottawa Mental Skills Assessment Tool-3 (OMSAT-3) to measure a broad range of mental skills important for sport performance. The instrument have been widely validated and used to assess mental skills 1(Craciun,., 2008) Mental skills help athletes to control their minds efficiently and consistently as they execute sport – related goals. This not only involves developing skills such as concentration and stress control, but it also includes efforts to influence personal characteristics such as self-esteem and sportsmanship. Psychological skills techniques help athletes adjust their action, thoughts, feeling and physical sensation to improve their games. Since OMSAT-III was introduced, the tool had been used in many countries for many sport fields. The validity and reliability of the instrument has been established in Iran as well as other countries (Guelmami , 2015; Vaezmousavi , 2001) . The instrument have been used widely in Iran for different purposes such as determining the effect of mental skill training on elite national athletes participating in Asian Games. These authors showed that six months prior to the 15th Asian Games in Doha, the Persian version of the OMSAT-3 was administered to 208 Iranian athletes, 110 of whom were selected for the competition in 15 different sports. An overall ANOVA revealed that the selected athletes reported higher mental skill scores (Salmella *et al*., 2009). Considering the validity and reliability of the instrument, it seemed necessary to compare the mental sub scales as well as sub skills of athletes competing at the college level competitions. Therefore, this research was designed to compare the level of mental sub_scales and subskills of college students participating in sport Olympiad.

MATERIALS AND METHOD

Ottawa-Mental Skill-III was employed to compare the mental skill level of student athletes participating in college student sport Olympiad. This instrument measures 12 sub skills of Goal Setting, Self Confidence, Commitment, Stress Reactions,, Fear Control, Activation, Relaxation, Imagery, Mental Practice, Focusing, Refocusing and Competition planning rated on 6-point Likert scale answered as “strongly disagree” to “strongly agree” The OMSAT-3’s scales have demonstrated acceptable internal consistency (á= .68 to .88, mean .78) and temporal stability (r= .78 to .96, mean .86; Durand-Bush & Salmela, 2001). The data were collected at the competition sites during the games. A total number of 116 athletes competing at an college student Olympiad were randomly selected from the list of the athletes after the cooperation of the competition conductors of the games. The sample size was estimated based on the previous research report in regard to athlete’s injuries during the similar competitions in previous years (Sayyah *et al*, 2011). 116 completed OMSAT-III questionnaires were collected. Kolmogorov–Smirnov test confirmed the normality of the distribution of score in all subscales and main components of basic, psychosomatic and cognitive skills of the instrument, therefore, parametric statistical tests were employed to analyze the data. All the analysis was performed by employing SPSS:PC 16.0.

RESULTS

The result of analysis of demographic information is presented in table 1. The result of . Kolmogorov–Smirnov test is presented in table 2. Analysis of variance repeated measure was performed to compare the 12 subscales of OMSAT-III. The result of analysis indicated that there was a significant differences among some of the subscale of mental skills of male student athletes participating in sport Olympiad of the Ministry of Health and Medical Education ($P<0.05$). Bonferroni post-test was employed to the compare the subscales. The result of this test indicated that the difference was observed between the goal-setting and main components of basic, psychosomatic and cognitive skills. The result indicated that there was a significant difference between the subscales of Goal Setting, Self Confidence, Commitment, Stress Reactions,, Fear Control, Activation, Relaxation, Imagery, Mental

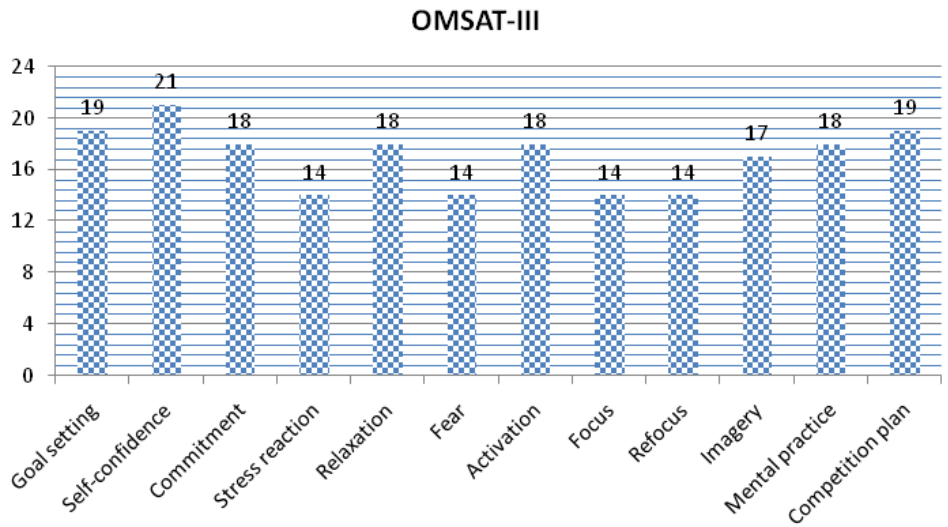
Practice, Focusing, Refocusing and Competition (P<0.05). These results are presented in table 2.

DISCUSSION

This research was designed to examine the level of mental sub skills of college students participating in sport Olympiads. The instrument used in the study assess 12 mental sub skills that make up three important components of mental skills including basic, psychosomatic and cognitive skills necessary for successful sport performance. Based on the findings of the present research, the athletes participating in sport Olympiad demonstrated poor mental skills in general. The highest score recorded for subscale of mental skills was 21 for the sub scale of self-confidence. Considering the fact that the highest

Table 1. Means ± standard deviations of the OMSAT sub-scale scores and Skill components of basic, psychosomatic and cognitive skills of student athletes using repeated measure (n=116)

Components	OMSAT-III	Mean	Std. Deviation	P-value
Basic	Goal-setting	19.0431	4.47679	>0.05
	Self-confidence	21.3966	3.96261	<0.001
	Commitment	18.2586	4.29382	>0.05
Psychosomatic	Stress reaction	14.8103	3.54821	<0.001
	Relaxation	18.6466	4.12680	>0.05
	Fear	14.3621	3.24479	<0.001
	Activation	18.8017	4.23078	>0.05
Cognitive	Focus	14.7414	3.51425	0.001
	Refocus	14.4224	4.23679	0.001
	Imagery	17.3966	2.80955	<0.001
	Mental practice	18.4914	4.67462	>0.05
	Competition plan	19.4397	4.30831	>0.05
Main Skill Components	Basic	19.5661	3.59098	<0.001
	Psychosomatic	16.6552	2.18310	>0.05
	Cognitive	16.8983	2.45722	>0.05



possible score for this and every other subscale is 28 (4 items per subscale ranging from 1 to 7=28), the score of 21 is far from this perfect score. In addition, statistical test of significance also showed that there was a significant differencebetween this low score (21) and other sub skills (sub scale of basic ability and some other sub scales). The result of this research showed that the scores on subscale of basic skills were relatively and significantly higher than some other sub scales such as focusing, refocusing, fear and reaction to stress. Goal-setting, commitment and self-confidence seem prerequisite to every sport competition. It seems like these sub scales are developed to some points depending on the experience of the athletes.

Research result show that goal setting have a significant effect on performance by directing the attention and actions of an individual or group; mobilizes effort, increases persistence in addition to causing motivation increase to search for appropriate performance. Goal setting theory was initially developed by Locke and Latham (1994) in organizational psychology, and was used to describe achievement behaviors in industry. Goal setting is one of the most effective psychological strategies for improving performance and motivation in organizational settings (Bueno *et al*., 2008). Goal setting has been studied by classifying goals into three categories of hard goal, moderate, and easy goals. Hard goals may be achievable by great difficulty and lead to frustration. On the contrary, easy goals can be achieved easily, without any difficulty and effort. Moderately difficult goals have some difficulty. Moderately difficult goals are challenging, but achievable (Jia and Dong, 2006).

Self-confidence is another important subscale of mental skill. Self-confidence and self-efficacy are related factors. Bandura, (1977) has claimed that these two factors work together. Self-efficacy is a specific self-perception, and has been referred to as a situational specific form of self-confidence (Feltz, 1988) and the inverse relationship with anxiety has been reported (e.g., Martens, Vealey & Burton,1990). Bandura (1997) argued that efficacy expectations to perform a given task could influence self-perceptions (e.g., self-confidence) when the success/is heavily dependent on self-worth. It is likely that athletes with less self-confidence initiate acts that are very dependent on self-confidence and once they feel unfit to complete the task they lose control over their act that eventually leads to injury. The self-confidence, commitment and goal-setting of the student in this research were higher than the other sub skills. These results are similar to what was reported by other investigators (Salmella, 2009, Guelmami, 2015; Sootodeh , 2012). These authors showed the significance of mental skill contribution to successful sport performance. The findings of Salmella (2009) were interesting in that it even identified the medal winners in a significant sport contests such as Asian Games.

CONCLUSION

The result of this research showed that college student athletes are not well prepared mentally and while they are relatively better in some of the subscales of mental skills such as the basic components, they are weak on other subscales of focusing, refocusing and stress reaction. The coaches and trainers of these athletes need to consider this part of general preparation of college student athletes for participation in sport Olympiad. This study was limited in scope since it did not include the sport fiends nor the gender. Further research is needed to examine the effect of mental skill training of college students on their subsequent sport performances based on their sport major and gender.

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