

## COMPARATIVE STUDY ON EMOTIONAL INTELLIGENCE IN ALPINE SKIING VERSUS FOOTBALL

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**Abstract:** *This paper aims to highlight possible differences in the component of emotional intelligence in two distinct categories of athletes: alpine skiers, versus football players, youth level. A battery of specific tests was applied only once, the results found indicating more significant values for skiers. The significance of these results leads us to the idea that the characteristics of the sport and its practice at the level of performance significantly influence the level of emotional intelligence. The general conclusion draws significant differences in the component of emotional intelligence between skiers and athletes footballers.*

**Key words:** *athletes, emotional maturity, athletic performance*

### 1. Introduction

Over the past ten years, emotional intelligence has increased the interest of researchers in psychology, education, and sports [3]. The emotional intelligence of athletes still offers many opportunities for research. There are many inaccuracies around what exactly is emotional intelligence, but also about the methods of obtaining relevant data from the activity of athletes.

In an effort to synthesize [1–2], [10–11], emotional intelligence can be conceptually delimited as the individual's ability to feel feelings (love, happiness, sadness, fear, etc.) and bodily sensations (warmth,

tactile sensation, noise, color, etc.), in a conscious way, so that he can identify, express and control them. Also, the concept of emotional intelligence includes the ability of the individual to intuit the needs and feelings of those around him in order to develop harmonious relationships with others.

In the field of sports, emotional intelligence has been little studied, although emotions are so common in sports performance. There is no doubt that sport generates emotional responses among athletes, coaches and spectators alike. There is important evidence that athletes experience emotions before,

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during and after competitions, which have a strong effect on performance [12].

A 2011 study by Laborde S. and his team [4] shows the influence of the emotional intelligence of 30 handball players (average age: 22 years old) when they have to deal with the stress of competition. They were exposed for 20 minutes to a negative image corroborated by the sound of a boiling gallery. Emotional intelligence was measured using a Trait Emotional Intelligence Questionnaire and a mental stress indicator calculated from heart rate variability (HRmin / HRmax).

The conclusion of the study was as follows: Athletes with high emotional intelligence (from the questionnaire) experienced less stress (based on the heart rate ratio) compared to their colleagues with lower emotional intelligence. Thus, the development of emotional intelligence can help athletes cope better with the stress of competition.

Also in 2011, Lane A. and Wilson M. [6] conducted research that investigated the relationship between emotional intelligence and emotional change over a six-day ultra-marathon competition of approximately 282 km. A total of 34 athletes did a written self-report measuring their characteristic emotional intelligence before the event began. Participants then reported their emotional states before and after each of the six races. The results of the research showed significant variations in emotions over time, this having a main effect on the characteristic of emotional intelligence. Athletes with high emotional intelligence also reported more intense emotions (pleasant and unpleasant) than athletes with lower emotional intelligence. Thus,

the researchers' conclusions were as follows: the characteristic of emotional intelligence is associated with adaptive psychological states. This suggests that it may be a key individual difference that explains why some athletes respond better to hard and repeated physical exertion than others. The authors of this study say that future research should test the effectiveness of interventions designed to improve emotional intelligence and examine the impact on emotional responses to intense physical exertion in multi-stage sporting events.

In 2014, Laborde S. collaborated with Dosseville F., Guillen F. and Chavez E. [5] to validate the TEIQue Emotional Intelligence Questionnaire, which classifies it as a characteristic, on samples of athletes, within of two studies. The first study used a confirmatory analytical factor to investigate whether the original structure of the TEIQue questionnaire could be used on a sample of athletes. They analyzed the link between emotional intelligence characteristic and demographic variables: age, gender, type of sport (individual or collective) and number of years of training. In the second study, they analyzed the characteristic of emotional intelligence in relation to the satisfaction of performance in terms of assessment behaviors and adaptation to stress. A total of 1,973 athletes completed the emotional intelligence questionnaire, TEIQue. Then, with recent competition in mind, they completed tests of stress perception, perceived level of stress control, assessment of challenges and threats, effectiveness of adaptation, and satisfaction with performance. The results of the first study showed that TEIQue can also be applied to athlete samples. The results of the second study confirmed the

correlation of the trait emotional intelligence with performance satisfaction in terms of adaptive behaviors and stress assessment.

In the present research, we started from the hypothesis that we assume that there are significant differences in the component of emotional intelligence between athletes practicing individual sports (skiing) compared to those in team sports (football).

## **2. Materials and Methods**

### **2.1. Participants**

Twenty high-performance male athletes (age = 17 years, SD = 2.42) range in age from 16-18 years, divided into two groups: 10 alpine skiers and 10 football players. All participants signed the informed consent before data collection. To ensure confidentiality, the answers were anonymous. Participation in this study was voluntary.

### **2.2. Materials and Procedures**

Athletes completed a battery of specific tests only once, using the pencil-paper completion method. The tests applied were the following:

-Emotional Intelligence Test. Roco M. [9] is the author who adapted this test after Bar-On R. and Goleman D. The test consists of 10 questions that present some situations (scenarios) in which any person may be at any given time to react in the situations indicated by the questions. The scenarios presented require the skills of empathy, recognition of emotions, proper control of emotions and their productive use. Scores below 100 points on this test

indicate below average emotional intelligence. Between 100 points and 150 points, the score indicates an average emotional intelligence, and between 150 and 200 points, an above average emotional intelligence. In this test, people with exceptional emotional intelligence get 200 points.

- The Friedman Scale assesses the degree of emotional maturity in terms of instability emotional (0-10 points) and emotional balance (20-25 points). Emotional maturation means: emotional security, realistic perception of oneself, others and the world, and objectification of the self. Emotional imbalance is generated by the fragility of the self, by instability emotional and is accompanied by a series of infantile or childish psycho-affective reactions [13].

- The Schutte Scale, also known as the Emotion Assessment Scale or the Schutte Emotional Intelligence Scale, is based on the original model of emotional intelligence established by Mayer J. and Salovey P in 1993 [8]. The questions cover the four areas of the model: emotion perception (items 5, 9, 15, 18, 19, 22, 25, 29, 32, 33), control / management of one's own emotions (items 2, 3, 10, 12, 14, 21, 23, 28, 31), management of other people's emotions (items 1, 4, 11,13, 16, 24, 26, 30), the use of emotions (items 6, 7, 8, 17, 20, 27). In this test, scores between 111-137 points represent an average emotional intelligence, below 111 points – an emotional intelligence below average (unusually low), and over 137 - above-average emotional intelligence (unusually high).

### 3. Results

Table 1

*Statistical processing of the obtained results - comparative skiing / football*

Tests	Statistical parameters→	N	Mean+ SD	S Error M	t	p
	Sports ↓					
Emotional Intelligence Test	Alpine skiing	10	117 ± 14.76	4.67	3.16	0.006
	Football	10	92 ± 20.17	6.38		
The Friedman Scale	Alpine skiing	10	21.36 ± 1.04	0.33	3.11	0.008
	Football	10	19.9 ± 2.05	0.65		
The Schutte Scale	Alpine skiing	10	127.7 ± 7.72	2.44	4.22	0.001
	Football	10	115.1 ± 5.43	1.72		

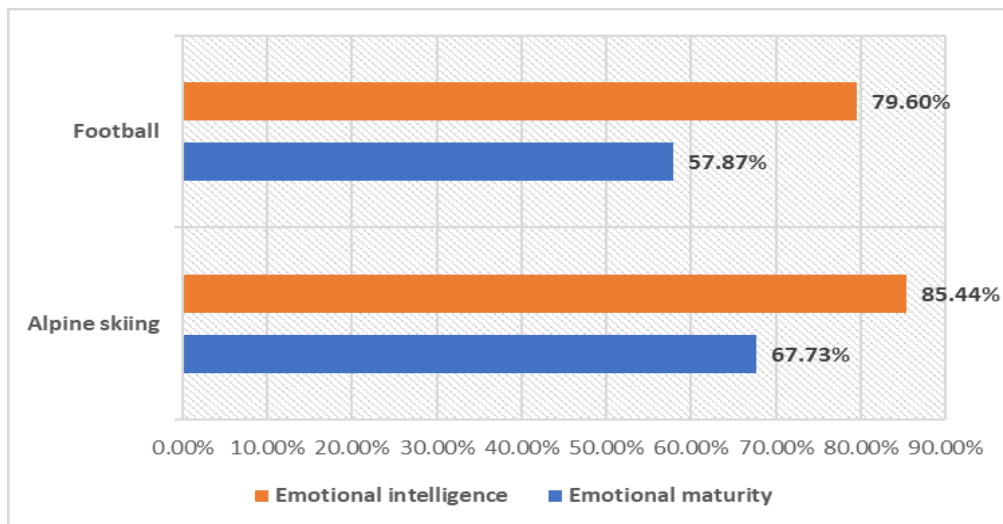


Fig. 1. *Psychopedagogical model of Emotional intelligence and Emotional maturity for skiing and football*

From table 1 we can see that in the Emotional Intelligence Test, all skier athletes obtained scores in the range 100-140. Unlike them, football athletes scored lower: between 65-120 points. Consequently, the average of skiers 117 points is higher, compared to that of footballers, only 92 points. Averages establish the centrality indices of the two samples. The error of the average also

shows us a difference between the two sports.

The average error of the skiers' results is lower (4.67) than that of the footballers (6.38). The lower the standard error, the more likely the average skier sample is close to the average alpine skiing population.

For Scala Friedman questionnaire, all skier athletes scored between 20 points,

respectively 22.8 points. Unlike them, footballers scored smaller: between 15.48 and 21.6 points. Consequently, the average skiers (21.36 points) is higher than that of footballers, only 19.9 points. The averages establish indices of centrality of the two samples.

For Scale Schutte questionnaire, all skier athletes scored between 113 points respectively 137 points. Unlike them, footballers scored higher small, ranging from 103 to 125 points. Consequently, the average skier 127.7 points is higher than that of footballers, only 115.1 points.

This time, the average error of the footballers' results is lower (1.72) than that of the skiers (2.44). The lower the standard error, the more likely it is that the average sample of skiers will be close to the average of the alpine skiing population.

All three questionnaires applied show statistically significant differences between the two groups of athletes ( $p < 0.05$ , respectively  $p < 0.001$ ).

In figure 1 we illustrated a psychopedagogical model that includes two profiles for the categories of athletes (skiers and footballers), a theoretical system oriented on two components: Emotional intelligence and emotional maturity.

For Figure 1, we used the data from Table 1, so the average score of the skiers on the Emotional Intelligence Test is 117 points. This score represents 58.5% of the maximum score of this test (100% = 200 points). The average result of the skiers in the Friedman Scale test is 21.36 points. This score represents 85.44% of the maximum score of this test (100% = 25 points). The average score of skiers in the Schutte Scale test is 127.7 points. This score represents 76.96% of the maximum

score of this test (100% = 165 points).

We calculated the percentage of the areas of emotional intelligence of the adolescent alpine skier by averaging the 3 percent obtained in the three tests, as follows:  $(58.5\% + 85.44\% + 76.96\%): 3 = 73.63\%$ . We calculated the percentage of emotional intelligence by averaging the percentages of the Emotional Intelligence Test and the Schutte Scale Test:  $(58.5\% + 76.96\%): 2 = 67.73\%$ . The percentage of emotional maturity is that of the average Friedman Scale - 85.44%.

We used the same algorithm for the other category of athletes, so that the average of the footballers' results in the Emotional Intelligence Test is 92 points. This score represents 46% of the maximum score of this test (100% = 200 points). The average result of the skiers in the Friedman Scale test is 19.9 points. This score represents 79.6% of the maximum score of this test (100% = 25 points). The average score of skiers in the Schutte Scale test is 115.1 points. This score represents 76.96% of the maximum score of this test (100% = 165 points). We calculated the percentage of the areas of emotional intelligence of the teenager playing football by averaging the 3 percent obtained in the three tests:  $(46\% + 79.6\% + 69.75\%): 3 = 65.11\%$ . We also calculated the percentage of emotional intelligence by averaging the percentages of the Emotional Intelligence Test and the Schutte Scale Test:  $(46\% + 69.75\%): 2 = 57.87\%$ . The percentage of emotional maturity is that of the average results on the Friedman Scale - 79.6%.

Table 2

*Comparative analysis of the percentage of skiers and footballers in relation to the results obtained in the three tests*

Tests	Interpretation of the Tests	Percentage of athletes (%)	
		Alpine skiing	Football
Emotional Intelligence Test	Emotional intelligence below average	0	50
	Average emotional intelligence	100	50
The Friedman Scale	Slight emotional immaturity	0	10
	Tendency to emotional immaturity, to emotional imbalance	0	20
	Average emotional maturity	0	20
	Appropriate level of maturity, with emotional balance	70	50
	Good emotional maturity	30	0
The Schutte Scale	Emotional intelligence below average	0	10
	Average emotional intelligence	100	90

Analyzing table 2, it can be seen that the skier athletes obtained better results in the three tests than football athletes. Thus, according to the Emotional Intelligence Test, all 10 skiers have an average emotional intelligence. Only 5 footballers have an average emotional intelligence, and the other 5, below average emotional intelligence.

According to the Schutte Scale, as with the Emotional Intelligence Test, all 10 skiers have average emotional intelligence. The footballers obtained the best results, only in this test. One footballer is below average, the other 9 have an average emotional intelligence. No skier athlete has achieved below average emotional intelligence or emotional imbalance results like footballers.

#### 4. Conclusions

In the field of sports, emotional intelligence is still insufficiently studied, although emotions are present in sports performance. Not all researchers agree

that intelligence Emotional is a factor that influences sports performance, but only that it is likely to influence. On the other hand, there are researchers who strongly claim that the level of intelligence Emotional is a factor that predicts future performance.

Athletes with high emotional intelligence experience lower comparative stress with their colleagues with lower emotional intelligence [4]. Thus, the development of emotional intelligence can help athletes cope better competition stress. Emotions also play a critical role in the lives of coaches, not just athletes [7]. Coaches should use the authentic and deep expression of emotions and to avoid superficial emotional expressions, for one's own benefit and that of organization.

Alpine skiing is a high-risk sport, especially in speed trials: can serious injuries and, in rare cases, even death. This gives the skier the opportunity to feel challenged and to test one's abilities to the limit, remaining, however, in control. This risk brings with it emotions,

emotional states and strong feelings, such as would be fear (failure, injury, and death), anxiety, nervousness when the route it is difficult or previous competitors have failed. The discomfort is also accentuated by altitude, atmospheric pressure, low temperature, lower concentration of oxygen and the appearance of fog or blizzard. Skier stress control involves development stress tolerance and impulse control.

Being a team sport, football develops teamwork and altruism and requires a psychological preparation of empathy and social skills. The emotional state of football players is influenced by relationships with teammates, coaches, spectators in the stands and / or television, the culture of the sport, the expectations they have in this sport so much popular etc. Thus, football players need to develop their emotional intelligence to balance the orientation towards external appreciation and the orientation towards the task, towards self-satisfaction and personal satisfaction.

It is recommended to test athletes with the help of other emotional intelligence questionnaires, for example, translated from other languages.

Our suggestions for athletes and coaches include: establishing a variety of strategies to improve emotional control (changing inner speech, imaging mental health, corrective experiences, self-analysis, and use of problem-solving skills), the use of self-report introspections, immediately after the competition and the filming of certain emotionally relevant issues and the measurement of filmed data.

The limitations of our study are especially objectified in the fact that we had a small number of participants, an

aspect that makes us restrained in generalizing the results of this research. However, we believe that we have taken an important step in better understanding the defining aspects of emotional intelligence in athletes, and we hope to continue this research in the near future.

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