

# Investigation of self confidence levels in elite extreme athletes

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Authors' Contribution: A – Study design; B – Data collection; C – Statistical analysis; D – Manuscript Preparation; E – Funds Collection.

## Abstract

**Purpose:** The purpose of this study is to examine self-confidence levels of extreme sports athletes in terms of variables such as gender, sport experience and sports level.

**Material:** A total of 1660 athletes in skiing, snowboarding, mountaineering, motor-car and motor-bike racing participated in the study. "Self-confidence scale" developed by Akın (2007) was used to find out athletes' characteristics of self-belief, being able to control emotions and taking risks. Mann Whitney U and Kruskal Wallis test were used for data analysis.

**Results:** Skiers and motor-car racers were found to have the highest self-confidence values, while snowboarders had the lowest values. Although there were less women in the study, significance was found only in external self-confidence in favour of women ( $p < 0.05$ ). Significant association was found between self-confidence values in terms of sport experience and sports level ( $p < 0.05$ ).

**Conclusions:** Extreme sports should be generalized, supported and introduced to raise successful and self-confident individuals. This will contribute to the fast development of these sports which are known as dangerous sports throughout the world.

**Keywords:** confidence, extreme sport, taking risk, athlete, competition.

## Introduction

Studies have been conducted to find out factors influencing participation in sport [1, 2] and physical activities [3] from past to present [4, 5]. There are different motives stimulating the inner power of individuals according to their needs. Some of these motives are letting off steam, competence, aesthetic, self-realization, self-confidence, competition, aggression, taking risks and success [6]. One of the psychological factors influencing athletes' high level performance is self-confidence [7, 8]. White argues that self-confidence leads to increased knowledge, taking risks, thinking positively, being courageous, setting goals, and self-belief. These in turn influence an individual's success [9]. An individual's having self-confidence and showing his/her skills successfully causes him/her contribute to a happy and positive life [10]. Athletes with high self-confidence have physical and mental skills that will reveal all their potential to reach success even under risk [8]. In fact, it has been found that such athletes can control their anxiety more easily and focus on positive thoughts. They can also show their calm and relaxed behaviours during a competition when compared with other athletes [11, 12].

Sport creates a new environment for the physiological, psychological and social developments of contemporary human beings and presents solutions [13]. Psychological satisfaction of individuals, desire for adrenalin, search for emotion and desire for adventure create new sports which push the limits all the time. Such desires of individuals have increased the interest for extreme sports since the last two decades [14].

Studies have shown these sports (mountaineering [15, 16], skiing, snowboarding, motor-car and motor-bike racing [17]) can cause serious injuries and deaths.

They are also shown to include high levels of risk [18, 19]. Zuckerman defines individuals doing risky sportive activities as high level thrill-seekers [20, 21]. The basic characteristics differentiating extreme sports from other sports are thrill-seeking, high risk, concentration, contest and adventure [22, 23]. Traditional sports reflect values such as cooperation, team work and group struggle. On the contrary, extreme sports include intense individuality, marginality, challenge and aggression to some extent [24, 25]. Extreme athletes with a high ability of overcoming the fear of being hurt or dying [26] can take higher rates of risks. They do this to show their abilities to viewers [27]. The feeling underlying extreme sports includes intense fear. However, the athlete tries to take control of the fear instead of letting the fear take control of the situation. Despite these intense fears, it has been understood that the athlete's wish to realize the activity takes him/her to a greater search of the self [28]. It is known that there is a relationship between individuals' desire for adrenalin and their participation in extreme sports [29]. The aim of the present study is to find out self-confidence levels of elite extreme athletes in terms of their branches.

## Material and methods

### Participants

1660 Turkish elite athletes in skiing (n=200), snowboarding (n=44), mountaineering (n=550), motor-car (n=298) and motor-bike racing (n=568) participated in the study. Average age of the participants was  $27.91 \pm 10.66$ .

### Data Collection

All the participants filled in demographic information questionnaire and self-confidence scale developed by Akın [30]. The data were collected in person from skiers and mountaineers who participated in Turkish championships and training camps in 2016-2017 season.

Data were collected from motor-car athletes through Turkish Automobile Sport Federation and through digital environment from motor-bike racing athletes.

#### Self-confidence Scale

Internal consistency coefficient of the self-confidence scale was found as .83 for the whole scale by Akın [30]. Internal consistency coefficients of the internal and external self-confidence were found as .83 and .85, respectively. 1<sup>st</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 12<sup>th</sup>, 15<sup>th</sup>, 17<sup>th</sup>, 19<sup>th</sup>, 21<sup>st</sup>, 23<sup>rd</sup>, 25<sup>th</sup>, 27<sup>th</sup>, 30<sup>th</sup> and 32<sup>nd</sup> items form the internal self-confidence dimension. 2<sup>nd</sup>, 6<sup>th</sup>, 8<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 16<sup>th</sup>, 18<sup>th</sup>, 20<sup>th</sup>, 22<sup>nd</sup>, 24<sup>th</sup>, 26<sup>th</sup>, 28<sup>th</sup>, 29<sup>th</sup>, 31<sup>st</sup> and 33<sup>rd</sup> items form the external self-confidence dimension. The items explain 43.6% of the total variance (Akın, 2007) [30]. Internal self-confidence sub-dimension of the scale explains an individual's beliefs and feelings about self-love and self-knowledge. It also explains individual's beliefs about setting clear goals to self, positive thinking and being pleased with oneself. External self-confidence expresses an individual's image and behaviours about communication, self-expression, controlling feelings and looking assured on the outside. The highest score one can get from the scale is 165, while the lowest score is 33. The scale does not have any negative items and higher scores show higher self-confidence. Reliability of the

scale was found with Cronbach Alpha coefficient and total reliability of 33 questions was found as .93. The reliability of the internal self-confidence was found as 0.87, while the reliability of the external self-confidence was found as 0.87.

#### Statistical Analysis

Ondokuz Mayıs University licensed SPSS 21.0 program was used for the analysis of data. Normality analysis of the data was conducted with Kolmogorov Smirnov test and it was found that the data were not normally distributed ( $p < 0.05$ ). Thus, Mann Whitney U test was used for paired comparisons between groups. Kruskal Wallis test was conducted for the comparison of groups of more than two.

#### Results

Skiers in the study were found to have higher total scores ( $144.50 \pm 15.85$ ;  $74.04 \pm 8.79$ ;  $70.47 \pm 7.95$  respectively) when compared with other extreme sports branches. Significant difference was found between branches, in total self-confidence and sub-dimension (internal-external) levels ( $p < 0.05$ ).

Analysis results showed that there were no differences between athletes' total confidence and internal self-confidence dimension ( $p > 0.05$ ). However, a significant

**Table 1.** Comparison of self-confidence and sub-scales in terms of branches

Variables	n	Self-Confidence				Internal Self-Confidence				External Self-Confidence			
		$\bar{X}$	Sd	Med.	Iqr	$\bar{X}$	Sd	Med.	Iqr	$\bar{X}$	Sd	Med	Iqr
Skiing	200	144.50 <sup>a</sup>	15.85	149.0	17.0	74.04 <sup>a</sup>	8.79	76.0	10.0	70.47 <sup>a</sup>	7.95	72.0	8.75
Snowboarding	44	137.68 <sup>c</sup>	20.55	143.0	30.0	70.86 <sup>b</sup>	9.94	72.5	15.5	66.82 <sup>c</sup>	11.25	69.0	15.25
Mountaineering	550	140.17 <sup>bc</sup>	16.38	141.0	22.0	72.24 <sup>ab</sup>	8.67	73.0	11.0	67.93 <sup>bc</sup>	8.44	69.0	12.0
Motor-car	298	143.71 <sup>ab</sup>	16.1	147.0	18.0	73.92 <sup>a</sup>	8.42	75.0	10.0	69.79 <sup>ab</sup>	8.26	72.0	9.25
Motor-bike racing	568	140.35 <sup>bc</sup>	16.36	143.0	21.0	72.67 <sup>ab</sup>	8.56	74.0	11.0	67.68 <sup>c</sup>	8.63	69.0	11.0
		p: 0.001				p: 0.002				p: 0.001			

**Table 2.** Comparison of self-confidence and sub-dimensions according to athletes' genders

Variables	n	Self-Confidence				Internal Self-Confidence				External Self-Confidence			
		$\bar{X}$	Sd	Med.	Iqr	$\bar{X}$	Sd	Med.	Iqr	$\bar{X}$	Sd	Med	Iqr
Female	312	142.83	15.47	146.0	17.75	73.03	8.23	74.0	10.0	69.8	8.0	71.0	10.0
Male	1348	140.97	16.67	143.0	21.00	72.83	8.76	74.0	11.0	68.14	8.66	70.0	12.0
		p: 0.091				p: 0.953				p: 0.001			

**Table 3.** Comparison of self-confidence and sub-dimensions according to athletes' sport experience

Variables	n	Self-Confidence				Internal Self-Confidence				External Self-Confidence			
		$\bar{X}$	Sd	Med.	Iqr	$\bar{X}$	Sd	Med.	Iqr	$\bar{X}$	Sd	Med	Iqr
0-4	682	138.96 <sup>c</sup>	16.29	141.0	23.0	71.62 <sup>c</sup>	8.58	73.0	12.0	67.34 <sup>b</sup>	8.51	68.0	12.0
5-6	239	141.26 <sup>bc</sup>	16.4	145.0	18.0	72.79 <sup>bc</sup>	8.89	74.0	10.0	68.46 <sup>ab</sup>	8.24	70.0	10.0
7-8	247	142.41 <sup>a</sup>	14.98	145.0	18.0	73.30 <sup>ab</sup>	7.75	75.0	10.0	69.11 <sup>a</sup>	8.0	71.0	10.0
9-10	156	143.05 <sup>ab</sup>	17.45	146.5	20.0	73.79 <sup>ab</sup>	8.77	74.5	10.0	69.26 <sup>a</sup>	9.4	72.0	9.75
10 and high	336	144.57 <sup>a</sup>	16.78	148.0	19.0	74.72 <sup>a</sup>	8.89	76.5	11.0	69.85 <sup>a</sup>	8.64	72.0	10.75

p < 0.001

**Table 4.** Comparison of self-confidence and sub-dimensions according to athletes' sport level

Variables	n	Self-Confidence				Internal Self-Confidence				External Self-Confidence			
		$\bar{X}$	Sd	Med.	Iqr	$\bar{X}$	Sd	Med.	Iqr	$\bar{X}$	Sd	Med	Iqr
International	222	144.46	16.25	148.0	19.5	74.45	8.58	76.0	10.25	70.0	8.35	72.5	10.25
National	1438	140.84	16.45	143.0	20.25	72.62	8.65	74.0	11.0	68.21	8.57	70.0	12.0

p: 0.001

difference was found in external self-confidence (69.8±8.0) in favour of women (p<0.05).

When table three is examined, it can be seen that as the related sport experience increases, self-confidence is also increased (p<0.05).

The athletes on the national team in their branches had higher total (144.46±16.25), internal (74.45±8.58) and external self-confidence (70.0±8.35) levels.

### Discussion

Individuals who are inclined to extreme sports [31, 32] choose sport branches which give them pleasure, entertain them and push their limits [33–35]. Number of studies which aim to find out psychological states of extreme sports athletes rather than their physical characteristics have increased [36–38]. As a result of the study, it was found that skiers (144.5±15.85) and motor-car athletes (143.71±16.1) had higher self-confidence rates when compared with other athletes (p<0.05). Values which make up the characteristics of extreme sports consist of speed, acceleration, changing direction, pushing limits, risk and internal thrill [33]. Literature review on the subject showed that there are no academic studies in literature about the self-confidence of extreme sports athletes. Having technique, courage, speed, balance, risk and condition to keep up with competition in different weather, altitude and tough pitched tracks is not easy. They can only be done by athletes who have high levels of self-confidence. This is supported by the aforementioned result.

In the sub-dimension of external self-confidence, women (69.8±8.0) participants were found to have higher values than men (68.14±8.66) (p<0.05). However, no difference was found between internal and total self-confidence (p>0.05). It was found that gender had an influence on self-confidence and performance of athletes [39–41]. Some studies showed higher self-confidence in women [42, 43] and others showed higher self-confidence in men [44–46]. It can be said that women athletes in almost every branch of sport today always try to keep their self-confidence and potentials high. They also focus on developing these to adapt to the nature of the sports that they are doing and to keep their identity.

In sport, experience influences performance directly [9, 47, 48]. In the present study, athletes with a sportive experience of 10 years and more (144.57±16.78) had the highest level of self-confidence (p<0.05). Self-confidence levels which increased directly proportionally to the time of their sport experience can be explained as the increasing

levels of self-confidence resulting from experiences. The results of Perry and William's [49] study on tennis players and Karagun's [43] study on different sport branches support our findings. Recently, world records are broken with regular intervals and it is known that this results from experiences in sport [50–52]. Various studies have shown that there is a consistent association between performance and time spent. At the same time, it has been shown that 10 years rule is necessary to have international success in sports [53]. Developed, elite, experienced athletes have higher self-confidence when compared with amateur athletes who do not have international experience [54, 55]. Table 4 shows that athletes who represent their countries in international competitions have higher self-confidence levels than those who do not (p<0.05). Bull *et al.* [54] and Jones *et al.* [57] conducted a study on elite athletes of international level. They argued that the most critical mental skill in finding out mental endurance is self-confidence. Mahoney *et al.* [58] found that self-confidence did not cause a difference between elite athletes. However, elite athletes had higher and fixed rates when compared with non-elite athletes. Choosing athletes with technical and tactical integrity and high levels of self-confidence in national teams will have a direct influence on success. Future studies can focus on different cases, such as impulsive, hedonists, lack of self-control, neuroticism, different personality types. For this reason, extra version may lead to increases on success and decreases of risk-taking behaviours, which illustrates the complexity of traits. Impulsivity may play an important role in this context, influence their performance, engage in risk-taking behaviours.

### Conclusion

As a conclusion, this study examined the self-confidence of individuals doing extreme sports in different branches. The results showed that skiers and car racers had the highest values. In addition, it was found that different characteristics (gender, sport experience, sports level) influenced their self-confidence in high levels. When the association between athletes' individual characteristics and their self-confidence was examined, significance was found in almost all external self-confidence factors. This result is thought to occur due to social interaction, self-realization, social responsibility, reassurance and social power on the basis of such sports. Another reason for this result is the interaction with the environment in such sports when compared with other sports branches. However, these branches extreme sports participants are actively

engaged in may not have a phenomenon which shows the same characteristic of the branches. Thus, future studies can focus on different branches and different cases. It is suggested that self-confidence should be researched on different extreme sport branches. In addition, athletes' self-confidence should be regularly checked according to competition days, especially for sustainable success.

Lastly, the subject of self-confidence should be covered in training plans.

#### Financial support

There is no financial support.

#### Conflict of interest

The authors declare no conflict of interest.

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**Cite this article as:**

Bostancı Ö, Karaduman E, Mayda MH. Investigation of self confidence levels in elite extreme athletes. *Physical education of students*, 2019;23(3):106–111.

<https://doi.org/10.15561/20755279.2019.0301>

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Received: 02.04.2019

Accepted: 04.05.2019; Published: 28.06.2019