Original Article

The Role of Perceived Sports Competence and Sport Anxiety in Determining Self-Talk in Elite Athletes

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Abstract

The purpose of our research was to investigate the role of sport anxiety and perceived sports competence in determining the utilization of self-talk in elite athletes. Fifty six female ($\bar{X}$age=24.62±3.40) and 65 male ($\bar{X}$age=24.50±6.50); a total of 121 ($\bar{X}$age=24.56±5.28) athletes who have at least three years of competitive experience and have previously represented Turkey with the national athlete title at international sports competitions were voluntarily participated in the study. Participants were given a personal information form along with the sports competence subscale of the physical self-description questionnaire which was developed by Marsh Richards, Johnson, Roche and Tremayne (1994) and adapted into Turkish by Marsh, Asci and Marco in 2002; the sport anxiety scale which was developed by Smith, Smoll, Cumming and Grossbard (2006) and adapted into Turkish by Akyol, Altintas, Sezer and Asci in 2016; the self-talk questionnaire which was developed by Zervas, Stavrou and Psychountaki (2007) for the purpose of determining athletes' self-talk forms and was adapted into Turkish by Engur in 2011. After exploring a normally distributed data, the hierarchical regression analysis was used to determine the role of sports competence and sports anxiety in predicting the athletes' self-talk types. As a result of the research, statistically significant differences in both sports competence and self-talk usage levels were found between groups according to sport type and a statistically significant relationship was found in predicting motivational self-talk for both competition experience and sport type.

Keywords: Sport Competence, Self-Talk, Sport Anxiety.

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INTRODUCTION

There are plenty of psychological skills trainings that athletes use in order to enhance or maintain their performances. Previous scientific studies support that these trainings affect athletes' performances (Altıntaş and Akalan, 2008; Karageorghis and Terry, 2015; Cumming, Nordin, Horton, Reynolds, 2006; Aldemir, Biçer and Kale, 2014; Hase, Hood, Moore and Freeman, 2019,Sekban et al 2022,Karaaslan et al 2021). Psychological skills trainings both enhance the athletes' performances and help them maintain positive emotional states. One the most frequently used of these trainings is self-talk. (Gülşen, Yıldız, Bayköse and Eryücel, 2018,Ilkım et al 2021).

Self-talk is a behavioral pattern people use, consciously or unconsciously, to direct their thoughts or emotions during the day (Bayköse, 2014; Şahin, Bayköse and Yavuz, 2017). Van Raalte, Vincent and Brewer (2016) describe self-talk as internal or out loud syntactical expressions to communicate a message for situations with a sender or an aimed receiver, while Hardy (2006) shortly puts it as "verbalizations or statements addressed to the self." Based on its purpose of use, Hardy (2006) divides self-talk into two categories: cognitive and motivational. Cognitive self-talk is an athlete's self-talking in order to improve or instruct a skill whereas motivational self-talk is used in an effort to maintain positive emotional states.

Bandura (1994) describes self-efficiency in his hypothesis as people's beliefs about their capabilities to perform a mastered skill. He states that self-efficiency is situational and therefore one's self- belief may vary with each different skill, even if they are very similar. (Yıldırım, 2013). Perceived sports competence refers to athletes' belief that they possess the ability to master a sports skill and have positive emotions towards said skill. (Altıntaş, 2010; Aşçı and Gökmen, 1995; Feltz and Petlichkoff, 1983).

Having high perceived competence means the athlete feels talented in that field and experiences positive intrinsic motivation. Whereas with low perceived competence, the intrinsic motivation is decreased and the individual's beliefs in themselves to demonstrate a skill is insufficient. (Wood and Bandura, 1989; Öcel and Aydın, 2009). Sports is a field in which talents and skills of an individual are demonstrated at the highest level, in this environment if an athlete perceives themselves as

inefficient, it may result in anxiety. Spielberg (1966) divides anxiety into two categories: state and trait anxiety. State anxiety refers to feelings of apprehension regarding current physical environment and situation an athlete, whereas trait anxiety is an athlete's apprehensive behavior towards any situation due to the individual's own personality traits. (Weinberg and Gould, 2015)

Especially with sports being an inherently competitive field, athletes are required to keep their positive or negative emotions under control. (Biçer, 2006) Affectivity before or after a competition may directly influence performance of the athlete. (Biçer, 1997) Thus, it is estimated that an athlete may utilize self-talk more frequently before, after or during a competition. Especially elite athletes, due to the material and spiritual value of the competition, along with the strong competitors and challenging competitions may be more prone to feelings of pressure and anxiety which in turn may increase the athlete's usage of self-talk. This situation may also cause the athletes to question their beliefs in themselves and in the sports skills they are going to demonstrate. Therefore, this study aims to determine whether the perceived sports competence and sport anxiety affect an individual's use of self-talk, by determining the types of self-talk usages in elite athletes.

METHOD AND TOOLS

Study Group

The sample of the study was determined through convenience sampling which is one of the non-probability sampling methods. 56 female ($\bar{X}$age=24.62±3.40) and 65 male ($\bar{X}$age=24.50±6.50); a total of 121 ($\bar{X}$age=24.56±5.28) athletes who have at least three years of competitive experience and have previously represented Türkiye with the national athlete title at international sports competitions voluntarily participated in the study. 75 participants were individual sports athletes (shooting, athletics, boxing, golf, wrestling, karate, kickboxing, archery, taekwondo, swimming) while 46 of them were team sports athletes (basketball, football, volleyball.) Participants were divided into three groups based on their experiences; 3-6 years (n=22) 7-10 years (n=50) 10 years and more (n=49).

Data Collection Tools

Personal Information Form: An information form about athletes' sociodemographic qualities that includes questions about their age, gender, sports experience, etc.

The Self-talk Questionnaire: The scale was developed by Zervas, Stavrou and Psychountaki (2007) for the purpose of determining athletes' self-talk types. Engür (2011) carried out the validity and reliability studies of the Turkish adaptation. The scale consists of two subdimensions as, cognitive and motivational, and a total of 11 items. The scale type is a 5-point likert scale.

The Physical Self-Description Questionnaire: The questionnaire was developed by Marsh Richards, Johnson, Roche and Tremayne (1994) to determine perceived sports competence. Marsh, Aşçı and Marco (2002) carried out the validity and reliability studies of the Turkish adaptation. The Physical Self-Description Questionnaire consists of 70 items and 11 subscales (health, coordination, physical activity, body fat, sports ability, general physical ability, appearance, strength, self-confidence, flexibility and endurance). The scale type is 6-point likert scale. Each subscale has 6-8 items. The Sports Competence subscale in this study consists of 6 items.

The Sport Anxiety Scale-2: The instrument was developed by Smith, Smoll, Cumming and Grossbard (2006) to determine anxiety in terms of competitions. Akyol, Altintas, Sezer and Asci (2016) carried out the validity and reliability studies of the Turkish adaptation. The scale consists of 15 items where the assessments are made based on a 4-point evaluation and has 3 subscales: Somatic Anxiety, Worry, and Concentration Disruption.

Data Analysis

Several descriptive statistics such as arithmetic mean, mode, median, skewness and kurtosis coefficients were carried out to determine whether the data set provides normal distribution. Subsequently, t-test analyses were conducted to determine the differences between independent variables such as demographic characteristics. According to self-talk subdimensions, hierarchical regression analyses were conducted in order to evaluate the relationship between perceived sports competence and sport anxiety. SPSS 24 software package was used to analyze the data.

FINDINGS

The findings on the role of perceived sports competence and sport anxiety in determining self-talk in elite athletes are presented below.

Table 1. Comparison of Athletes' Perceived Sports Competence, Sport Anxiety and Types of Self-talk Based on Gender.

Subscales	Gender	N	$\bar{X}$ ± SD	*t*	P
Perceived Competence	Female	56	4.64±0.96	-0.626	0.533
	Male	65	4.73±0.73		
Self-talk Cognitive	Female	56	3.76±1	0.053	0.957
	Male	65	3.75±0.96		
Self-talk Motivational	Female	56	3.72±1.03	-0.657	0.513
	Male	65	3.84±0.98		
Somatic	Female	56	2.13±0.58	1.609	0.110
	Male	65	2.1±0.71		
Worry	Female	56	1.98±0.56	0.226	0.821
	Male	65	1.82±0.52		
Concentration D.	Female	56	1.82±0.52	0.280	0.780
	Male	65	1.79±0.56		

P<0.05*

According to the t-test results in Table 1, there are no statistically significant differences between genders regarding perceived sports competence, sport anxiety and self-talk (p>0.05).

Table 2. Comparisons of Athletes' Perceived Sports Competence, Sport Anxiety and Types of Self-talk Based on Type of Sports

Subscales	Sport Type (Individual/Team)	N	$\bar{X}$ ± SD	*t*	P
Perceived Competence	Individual	75	4.55±0.94	-2.629	**0.010****
	Team	46	4.92±0.60		
Self-talk Cognitive	Individual	75	3.86±0.92	1.473	0.143
	Team	46	3.59±1.04		
Self-talk Motivational	Individual	75	3.95±0.92	2.409	**0.018***
	Team	46	3.51±1.09		
Somatic	Individual	75	1.88±0.51	-0.523	0.602
	Team	46	1.93±0.59		
Worry	Individual	75	2.10±0.63	-0.216	0.830
	Team	46	2.13±0.69		
Concentration D.	Individual	75	1.79±0.54	-0.449	0.654
	Team	46	1.83±0.55		

p<0.05*

p<0.01**

The t-test results in Table 2 show statistically significant difference in athletes' perceived sports competence and self-talk based on sports type. Team sports athletes have significantly higher perceived sports competence (p<0.01), while individual sports athletes' usage of motivational self-talk is higher at a statistically significant level. (p<0.05).

Table 3. Comparisons of Athletes' Perceived Sports Competence, Sport Anxiety and Types of Self-talk Based on Sports Experience

Subscales	Sports Experience	N	$\bar{X}$	SD	f	P
Perceived Competence	3-6 Years	22	4.80	0.91	0.247	0.781
	7-10 Years	50	4.66	0.77		
	Over 10 Years	49	4.67	0.89		
Self-talk Cognitive	3-6 Years	22	3.53	1.12	0.750	0.475
	7-10 Years	50	3.78	0.91		
	Over 10 Years	49	3.84	0.97		
Self-talk Motivational	3-6 Years	22	3.41	1.10	2.362	0.099
	7-10 Years	50	3.77	0.96		
	Over 10 Years	49	3.96	0.98		
Somatic Worry	3-6 Years	22	2.02	0.49	0.403	0.669
	7-10 Years	50	2.10	0.79		
	Over 10 Years	49	2.17	0.56		
Concentration D.	3-6 Years	22	1.95	0.48	0.381	0.684
	7-10 Years	50	1.85	0.55		
	Over 10 Years	49	1.92	0.56		
Somatic	3-6 Years	22	1.75	0.47	0.156	0.855
	7-10 Years	50	1.83	0.59		
	Over 10 Years	49	1.80	0.52		

$p<0.05$*

ANOVA test was conducted to determine perceived sports competence, sport anxiety and types of self-talk based on sports experience. The results of the test demonstrate that there are no statistically significant differences regarding perceived sports competence, sport anxiety and types of self-talk based on sports experience ($p>0.05$).

Table 4. Findings of Hierarchical Regression Analysis Regarding the Role of Perceived Sports Competence and Sport Anxiety in Predicting Motivational Self-talk

	β	t	p	R	R^2	Adjusted R^2	F	(df)
Model 1								
Gender	0.12	1.35	0.18					
Sport Experience	0.19	2.18	0.03	0.31	0.10	0.07	4.10**	3.120
Sport Type	-0.24	-2.62	0.01					
Model 2								
Gender	0.11	1.17	0.25					
Sport Experience	0.19	2.16	0.03					
Sport Type	-0.23	-2.51	0.01					6.120
Sport Anxiety - Worry	-0.01	-0.05	0.96	0.32	0.10	0.06	2.20	
Sport Anxiety - Somatic	-0.08	-0.69	0.49					
Sport Anxiety - Concentration D.	-0.02	-0.14	0.89					
Model 3								

Gender	0.11	1.18	0.24					
Sport Experience	0.20	2.27	0.03					
Sport Type	-0.26	-2.82	0.01					7.120
Sport Anxiety - Worry	-0.05	-0.42	0.67	0.35	0.12	0.07	2.29	
Sport Anxiety - Somatic	-0.07	-0.60	0.55					
Sport Anxiety - Concentration D.	0.01	0.05	0.96					
Perceived Sports Competence	0.15	1.62	0.11					

p<0,05*

p<0,01**

According to the hierarchical regression analysis findings on Table 4, sports experience and the type of sports which are added in the first model are significant within the model. However, sport anxiety addition in Model 2 and the perceived sports competence addition in Model 3, are not statistically significant in predicting motivational self-talk.

Table 5. Findings of Hierarchical Regression Analysis Regarding the Role of Perceived Sports Competence and Sport Anxiety in Predicting Cognitive Self-talk

	β	**t**	**p**	**R**	**R^2**	**Adjusted R2**	**F**	**(df)**
Model 1								
Gender	0.03	0.32	0.75					
Sport Experience	-0.14	-1.47	0.14	0.17	0.03	0.00	1.14	3.120
Sport Type	0.10	1.09	0.28					
Model 2								
Gender	0.02	0.16	0.88					
Sport Experience	-0.13	-1.37	0.18					
Sport Type	0.09	1.01	0.31					6.120
Sport Anxiety - Worry	0.08	0.68	0.50	0.20	0.04	0.01	0.80	
Sport Anxiety - Somatic	-0.09	-0.77	0.44					
Sport Anxiety - Concentration D.	-0.07	-0.52	0.61					
Model 3								
Gender	0.02	0.16	0.87					
Sport Experience	-0.17	-1.76	0.08					
Sport Type	0.11	1.14	0.26					7.120
Sport Anxiety - Worry	0.03	0.23	0.82	0.26	0.07	0.01	1.22	
Sport Anxiety - Somatic	-0.08	-0.66	0.51					
Sport Anxiety - Concentration D.	-0.04	-0.29	0.77					
Perceived Sports Competence	0.18	1.91	0.06					

p<0,05*

p<0,01**

According to the hierarchical regression analysis findings on Table 5, sports experience and sports type additions in Model 1, sport anxiety addition in Model 2, and perceived sports competence addition in Model 3 are not significant

within the model in terms of predicting cognitive self-talk.

Discussion

The findings of our research state that gender variable does not play a statistically significant role regarding perceived sports competence, sport anxiety and types of self-talk in elite athletes. Reviewing the body of literature, the studies carried out by Şahin (2017), Bayköse (2017), Akman (2019), Sezer Hocaoğlu (2019) and Hardy et al. (2005), similarly to the findings of our research, did not determine a difference between genders in the types of self-talk athletes use. Contrary to our findings, Gülşen, Yıldız, Bayköse and Eryücel (2018) and Hardy, Hall, Gibbs and Greenslade (2005) detected significant difference in self-talk types based on gender in their studies.

Types of self-talk based on sports type variable shows significant difference between team and individual sports. The findings demonstrate that individual sports athletes utilize more motivational self-talk in comparison to team sports athletes. Similarly to the findings of our research Hardy, Hall and Hardy. (2005) and Gülşen (2016) found that individual sports athletes' usage of motivational self-talk is higher at a statistically significant rate as opposed to team sports athletes. Contrary to our findings, Sezer Hocaoğlu (2019), Gülşen et al. (2018) stated that there are no significant differences in the usage of self-talk regarding the type of sports the athletes are engaged in.

According to the results of Turkish elite athletes studied in this research, no significant differences regarding sports experience in determining the usage of self-talk types in athletes were found. The studies of Bayköse (2014) and Akılyeren (2017) support the findings of our research. Contrary to our research however, Sezer Hocaoğlu (2019) and Hocaoğlu (2017) established in their studies that there are statistically significant differences in the usage of self-talk in terms of sports experience.

The sample of this study shows no significant difference regarding the gender variable in sport anxiety levels. While the research of Civan, Arı, Görücü and Özdemir (2010) and Yücel (2013) support our findings; Wiggins, Lai, and Deiters (2005) and Başaran, Taşğın, Sanioğlu and Taşkın (2009) found significant differences in sport anxiety levels in terms of gender, in contrast to our findings.

Evaluating sport anxiety levels based on sports type (individual or team) variable, findings of our study demonstrates no significant differences between individual and team sports athletes. The findings of Civan et al. (2010) support our study, while Engür's (2002) research points out statistically significant differences in terms of sports type in his research.

According to the results of the study there are no statistically significant differences in sport anxiety levels based on sports experience variable. While Hocaoğlu (2019) obtained similar results to our research, the findings of Başaran et al. (2009) were on the contrary.

The findings of the study demonstrate no significant difference regarding perceived sports competence in terms of gender variable. Gülşen (2016) stated similar results to our research in this regard, whereas Cepikkurt and Tiryaki (2004) determined significant difference in their study.

In terms of sports type variable, the study shows that team sports athletes have higher levels of perceived sports competence in comparison to individual sports athletes. Considering sports competence studies generally take only one branch as their basis, we can conclude that team sports athletes have higher sports competence scores in these studies (Çağlar, 1999; Fox and Corbin, 1989). On the other hand, Koca, Aşçı and Oyar (2003) state no significant difference in perceived sports competence regarding sports type in their work.

There are no statistically significant differences regarding the sports experience variable. Koca et al. (2003) support the findings of our research in their study.

Evaluating the effect of perceived sports competence on self-talk, the findings demonstrate that perceived sports competence predicts self-talk. Similarly to our findings, Gülşen (2016) and Hatzigeorgiadis, Zourbanos, Goltsios, and Theodorakis (2008) point out positive correlation between perceived sports competence and self-talk, while Sezer Hocaoğlu (2019) obtained findings that suggest the contrary.

In terms of the influence of sport anxiety on self-talk, while Spak (2014) and Hocaoğlu (2017) found no statistically significant correlation between athletes' cognitive anxiety levels and usages of self-talk, Hatzigeorgiadis and Biddle (2009) pointed out a correlation between sport anxiety and negative self-talk and stated that athletes with higher anxiety levels use self-talk to a lesser extent.

Limitations and Future Research

Findings of our research focus on anxiety and perceived sports competence factors on self-talk, a future study may review self-talk's correlation with other psychological factors. These findings reveal the importance of perceived sports competence and anxiety in the usage of self-talk. Therefore, to further the research we may investigate the influence of self-talk on sports performance, with the purpose of increasing the athletes' perceived sports competence or decreasing sport anxiety by means of practicing self-talk trainings. Considering only elite athletes participated in our study, future studies may compare elite athletes with other athletes.

CONCLUSION

As a conclusion, the findings of our research suggest that elite team sports athletes have higher perceived sports competence and higher motivational self-talk use at a statistically significant level ($p<0.05$). Findings demonstrate that team sports athletes have stronger beliefs that they possess the ability to execute their sports skills near perfection. Additionally, the study shows that individual sports athletes use self-talk more frequently to motivate themselves. This situation may be due to the fact that individual sports by definition, require athletes to demonstrate their sports skills individually during the competition and are not able to communicate with their coaches.

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