

Investigation of the Relationship Between the Coach - Athlete Relationship and Sport Confidence in Adolescent Elite Taekwondo Athletes

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ABSTRACT

Keywords
Adolescent,
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The purpose of this study is to investigate adolescent taekwondo athletes the relationship between coach-athlete relations and sport confidence in terms of gender. A total of 108 athletes ($\bar{X}_{age}=14.73\pm 1.43$), 52 females ($\bar{X}_{age}=14.98\pm 1.42$), 56 males ($\bar{X}_{age}=14.50\pm 1.41$) participated in the study voluntarily. Data were collected with the demographic form, coach-athlete relationship questionnaire, and sport confidence inventories. Descriptive analysis, Mann-Whitney U test, and Spearman rho correlation analysis were used to analyze the data. There was no significant difference between the female and male athletes in all subscales of the coach-athlete relationship questionnaire and sport confidence inventories ($p>.05$). As a result of the Spearman correlation analysis, while there was a moderate positive correlation between the closeness subscale of the coach-athlete relationship questionnaire and trait sport confidence ($r=.35, r^2=.12, p<.05$) and state sport confidence ($r=.34, r^2=.12, p<.05$); there was no correlation between commitment and complementarity subscales and sport confidence inventories in female athletes ($p>.05$). In male athletes, there was no significant correlation between the subscales of the coach-athlete relationship questionnaire and the sport confidence inventories ($p>.05$). In conclusion, while the closeness of the coaches to the female taekwondo athletes in the sports environment increased the trait and state sport confidence of the female athletes, it did not change the level of the trait and state sport confidence of male athletes.

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INTRODUCTION

Sport confidence, built on self-efficacy theory, expresses the athlete's opinion or self-confidence in his abilities for successful performance in sports (Vealey, 1986). The original model of sport confidence has elements such as state sport confidence (the confidence just before an event) and trait sport confidence (how confident athletes generally feel about their ability) (Vealey & Chase, 2008).

The extended sport confidence model created within the framework of sport confidence theory has four components: factors influencing sport confidence, sources of sport confidence, constructs of sport confidence, and consequences of sport confidence. Factors that influence confidence in sports include the organizational culture in which the athletes are engaged, the characters of athletes, and their demographic features (Vealey et al., 1998). Corporate culture represents the structural and cultural characteristics of sports subcultures such as motivational climate, competition level, and coach behavior. In addition, the coach's role in the model is also seen in the sources of sport confidence. Sources of sport confidence are divided into nine categories under three main categories: achievement, self-regulation, and climate. Social support among these categories can be defined as encouragement by families, teammates, and coaches (Öncü, 2015). Coaches have vital roles in many steps of the sport confidence model. When senior athletes were asked about their success behind the scenes, they mentioned that the coaches have critical importance (Gould et al., 1999). Another study indicates that the coach-athlete relationship plays a central role in athletes' physical and psychosocial development (Jowett & Cockerill, 2002).

The coach-athlete relationship is defined as a social situation (Jowett & Shanmugam, 2016). This social situation is constantly shaped by the coach's interpersonal thoughts, feelings, and behaviors and the athlete's interpersonal thoughts, feelings, and behaviors. This definition also puts forth that a coach and an athlete are mutually and causally interdependent; thereby one's emotion, thoughts, and behavior the other's feelings, thoughts, and behaviors (Jowett, 2017).

Researchers have identified three subscales that reflect these interrelated feelings, thoughts, and behaviors: closeness, commitment, and complementarity (3C model) (Adie & Jowett, 2010; Jowett & Ntoumanis, 2004; Jowett & Meek, 2000). In the coach-athlete relationship, closeness is characterized as a feeling of emotional closeness that expresses confidence, respect, appreciation, gratitude, and a propensity to love each other. Commitment is characterized by the intention of coaches and athletes to maintain long-term sports

relationships. Complementarity refers to complementary or collaborative coach-athlete interactions, especially during training. In the 3C model, these three subscales are thought to be the indicator of coach-athlete relationship quality.

Many studies in the literature stated that sport confidence is affected by gender and that coach support is an essential source in creating sport confidence as a social support component (Kingston et al., 2010; Hays et al., 2007; Vealey et al., 1998). Thus, it is emphasized that it is essential to present social climates which are organized according to the gender of the athletes to show the optimum performance (Öncü, 2015); yet, the lack of these environments may decrease the confidence of the athletes (Thomas et al., 2019; Weiss et al., 2009). In the literature, the relationship between coach and athlete in team sports such as football (Tolukan & Akyel, 2019), basketball (Görgülü, 2019), volleyball (Avcı et al., 2018), handball (Güllü, 2018), wrestling (Gencer & Öztürk, 2018) and American football (Jowett & Frost, 2007) in adult athlete samples was also studied. It seemed that the examined studies were reviewed in adult athlete samples.

It is known that coaching practices designed specifically for adult elite athletes are not suitable for young athletes (Özdemir, 2015). In adolescent athletes, it is known that coach-created motivational climate and coaching feedback increase adolescents' motivation to participate in sports (Weiss et al., 2009). Self-confidence and entertainment are individual factors that enable female adolescent athletes to continue with sports (Öztürk & Koca, 2017). Nevertheless, studies that examine the coach-athlete relationship in adolescent athlete samples are limited in Turkey (Keskin et al., 2018).

In this context, the purpose of this research is to investigate the relationship between coach-athlete relationships and sport confidence of adolescent elite taekwondo athletes in terms of their gender. The hypotheses determined for this purpose are as follows: (1) there is a significant difference between adolescent taekwondo athletes' coach-athlete relationships and their sport confidence in terms of gender, (2) there is a positive correlation between coach-athlete relationships and sport confidence of adolescent male taekwondo athletes and (3) there is a positive correlation between coach-athlete relationships and sport confidence of adolescent female taekwondo athletes.

METHODS

This research is a survey (correlational) model research carried out to investigate the correlation between sport confidence and coach-athlete relationship (Büyüköztürk et al., 2013).

Study Groups

The research was conducted with athletes in the Athlete Development Camp organized by the Taekwondo Federation of Turkey. According to the equation for elite athlete classification based on the 'athletes' highest standard of performance, their success, and experience at that level, the research group was classified as the semi-elite athletes (Swann et al., 2015). Athletes were determined by stratified purposeful sampling method (Büyüköztürk et al., 2013), which is one of the non-random sampling methods. A total of 108 athletes ($X_{age}=14.73\pm1.43$), including 52 females ($X_{age}=14.98\pm1.42$) and 56 males ($X_{age}=14.50\pm1.41$) aged between 12-17 participated in the study voluntarily.

The data were collected during a development camp attended by athletes. In the process of data collection, information related to the content of the study, rights of the participants, and information of the researchers were provided to the participants and the Camp Authority of Taekwondo Federation of Turkey, and their approval was obtained.

Data Collection Tools

Demographic Information Form:

In this form, gender and age information were asked by the researchers.

Coach-Athlete Relationship Questionnaire:

Altıntaş, Kazak Çetinkalp and Aşçı (2012) adapted the questionnaire to Turkish culture, which was developed by Jowett and Ntoumanis (2004). The seven-point Likert questionnaire has subscales of closeness, commitment, and complementarity. According to the reliability analysis performed in the Turkish version of the scale, Cronbach Alpha values were .90 for Closeness and Commitment subscales and .82 for the Complementarity subscale.

State and Trait Sport Confidence Inventories:

State Sport Confidence and Trait Sport Confidence inventories developed by Vealey (1986) were adapted to Turkish culture by Engür, Tok, and Tatar (2006). There are 26 items in total, having 13 items in each inventory. Cronbach Alpha values of State Sport Confidence and Trait Sport Confidence inventories, which is a nine-point Likert, were determined as .94 and .91, respectively.

Data Collection

The study followed the ethical procedures outlined in the Declaration of Helsinki and was approved by the ethics committee of Eskisehir Technical University. The data were

collected during the development camp attended by athletes. In the process of data collection, the information related to the content of the study, rights of the participants, and data of the researchers were provided to the participants and the Camp Authority of Taekwondo Federation of Turkey, and their approval was obtained.

Data Analysis

SPSS 25 package program was used in the analysis of the data. The data entered into the program were checked for suitability of extreme values, linearity, covariance, and normality assumptions for correlation analysis (Pallant, 2011). The data of two participants who did not meet the extreme value requirement in the control process of assumptions were excluded from the analysis process. Then, as a result of scatter plot analysis for linearity and covariance conditions, assumptions were provided. For normality assumption, ± 1 interval was used for kurtosis and skewness values (Can, 2016). Since the data were not normally distributed, they were analyzed by Spearman rho correlation and Mann-Whitney U test. Correlation ranges were considered to be: .10-.29 small; .30-.49 medium; .50-1.00 large (Cohen, 1988). The variance value shared by the variables used in the research, that is, what percentage of the change in variables is explained by the change in other variables, was calculated by the determination coefficient (r^2) (Can, 2016; Pallant, 2011). Cronbach Alpha was used for the internal consistency coefficient. The provided internal consistency coefficients are .88 and .87 for trait sport confidence and state sport confidence inventories and .70, .77, and .46 for closeness, commitment, and complementarity subscales. These results showed that the findings obtained from the data collection tools used in the research were reliable (Can, 2016). Analyzes were carried out at $p < .05$ level.

RESULTS

The findings of the Mann-Whitney U test, which showed the difference between the sport confidence and the coach-athlete relationship of the taekwondo athletes participating in the study in terms of their gender, were provided in Table 1.

According to the findings, there was no significant difference between the closeness ($U=1.49$, $p > .05$); commitment ($U=1.66$, $p > .05$) and complementarity ($U=1.71$, $p > .05$) subscales of the coach-athlete relationship questionnaire in terms of gender of the athletes. Also, there was no significant difference between the trait sport confidence ($U=1.26$, $p > .05$) and state sport confidence ($U=1.24$, $p > .05$) inventories in terms of gender of the athletes.

The findings showing the relations in terms of gender between the relationship of the coach-athlete relationship questionnaire and the sport confidence inventories of the taekwondo athletes participating in the study were given in Table 2.

Table 1. Findings of the comparison test between coach-athlete relationship and sport confidence by gender

Instruments	Subscales	Gender	n	Mean Rank	Min	Max	25th	50th	75th	U	p
Coach-Athlete Relationship Questionnaire	Closeness	Female	52	53.76	2.50	7.00	6.81	7.00	7.00	1.49	.75
		Male	56	55.19							
	Commitment	Female	52	50.46	1.67	7.00	6.08	7.00	7.00	1.66	.15
		Male	56	58.25							
	Complementarity	Female	52	49.10	2.50	7.00	5.75	6.50	7.00	1.71	.10
		Male	56	59.04							
Trait Sport Confidence Inventory		Female	52	58.10	4.15	9.00	6.46	7.08	8.04	1.26	.25
State Sport Confidence Inventory		Female	52	58.56	3.92	9.00	6.62	7.42	8.08	1.24	.19
		Male	56	50.73							

Table 2. Correlation analysis findings between coach-athlete relationship and sport confidence

Gender	Variables	Commitment	Complementarity	Trait Sport Confidence	State Sport Confidence
Female (n=52)	Closeness	.523***	.479***	.349*	.335*
	Commitment		.512***	.218	.083
	Complementarity			.158	.088
	Trait Sport Confidence				.865***
Male (n=56)	Closeness	.673***	.518***	.004	.004
	Commitment		.397**	.095	.069
	Complementarity			.254	.198
	Trait Sport Confidence				.812***

*** $p < .001$ ** $p < .01$ * $p < .05$

The relationships between athlete-coach relationship questionnaire subscales and sport confidence inventories were not significant in male athletes ($p > .05$) (Table 2). The relationships between the closeness subscale and trait sport confidence ($r = .35$, $r^2 = .12$, $p < .05$) and state sport confidence ($r = .34$, $r^2 = .12$, $p < .05$) were significant in female athletes. The relationships between the commitment and complementarity subscales of the coach-athlete relationship questionnaire and the trait sport confidence and state sport confidence inventories were not significant ($p > .05$).

DISCUSSION

The purpose of the research was to investigate the correlation between the sport confidence and the coach-athlete relationship of adolescent elite taekwondo athletes in terms of their gender. Three hypotheses were written for this purpose.

The study's first hypothesis was based on the significant difference of the adolescent taekwondo athletes between their coach-athlete relationships and their sport confidence in terms of gender. In line with the findings obtained as a result of the analyzes, it was rejected. While the findings indicated that male and female taekwondo athletes have similar levels of trait and state sport confidence, they also showed that the athletes experienced the coach-athlete relationship at similar levels. This result might have stemmed from the study sample comprised of the athletes having achieved similar successes with the same rankings, and that deserved to attend the Athlete Development Camp organized by the Taekwondo Federation of Turkey.

Keskin et al., (2018), examined the relationship between coach and athlete from the point of sports branch and gender variables in the sample of high school teams in their study. According to the result, while the relationship between coach and athletes was affected regarding the athletes whether they were a team or individual sports branch athletes, the gender difference did not affect this relationship. These two studies involving Taekwondo athletes showed that adolescent athletes experience similar coach-athlete relationships in their relationships with their coaches. In other words, it could be deduced that coaches of adolescent athletes had similar relationships with male and female athletes.

Mills and Gehlsen (1996), examined state sport confidence on the starts and starting preferences of the swimmers in the swimming branch in terms of gender. In their study with 10 female and 10 male swimmers who competed at the highest level, who were in the university team and experienced for at least five years, they found that gender was an indication of the state sport confidence in the performance of the athletes. However, in another study conducted with 125 athletes from different branches such as Judo, Taekwondo, Boxing, where athletic identity and trait sport confidence were examined in terms of variables such as gender, branch, and active sportsmanship years, it was found that there was no significant difference between genders and trait sport confidence (Şekeroğlu, 2017). The results of this study were similar in terms of trait sport confidence in adult athletes who compete in different branches in individual sports, while it differed in terms of state sport confidence. In other words, the confidence levels of individual athletes just before the competitions could be at different levels according to gender in both adult and adolescent athletes. It was a great point that the trait sport confidence levels, which described how the athletes feel in general about their abilities, were at similar levels in individual athletes for both adult and adolescent athletes in terms of gender. These results showed that, as stated by Vealey et al. (1998) in the

sport confidence model, the organizational culture of the athletes causes differences in the athletes' confidence levels.

The study's second hypothesis was based on the positive correlation between the coach-athlete relationships and the sport confidence of the adolescent male taekwondo athletes who participated in the study. Based on the findings, it was rejected. There was no correlation between the coach-athlete relationships and the sport confidence of male taekwondo athletes. According to the results of a study conducted with adult male footballers, low and medium-level relationships were found in the subscales of trait sport self-confidence, closeness, commitment, and complementarity (Tolukan & Akyel, 2019). In a study conducted with 119 national male wrestlers who compete in the categories of stars, youth, and seniors, the relationship between coach-athlete relationship and trait sport confidence was examined. According to the results, it was found that trait sport confidence was moderately related to the coach-athlete relationship (Gencer & Öztürk, 2018). In the literature, it was studied that the relationship between coach-athlete relationship and sport confidence changes in different branches and athletes of different levels. This variability might be due to the difference in the relationship between coaches and athletes in various sports branches.

The third hypothesis of the research was based on the positive correlation between the coach-athlete relationships and the sport confidence of the female adolescent taekwondo athletes who participated in the study. This hypothesis was accepted considering the findings of the closeness subscale. These results might have stemmed from the closeness subscale, which states that female athletes' emotional state with their coaches might correspond. It might correspond to the coach support expressions preferred by female athletes to create self-confidence in sports environments (Adie & Jowett, 2010).

The results of the second and third hypotheses were suitable with the studies investigating the sources of sport confidence in the sport confidence model in terms of gender (Weiss et al., 2009; Hays et al., 2007; Vealey et al., 1998). Hays et al. (2007) found that in the study they showed on seven male and seven female athletes holding degrees and awards in the Olympic and world championships, these athletes created self-confidence most with the achievements they achieved. In addition, it was stated that both genders benefited from social support and coach support as a source of self-confidence, but while defining social support, they described their family, partner, and friends under social support whereas the coaches as staff. While female athletes created self-confidence, they experienced coach support with positive feedback, praise, and encouragement; male athletes, on the other hand, shared this with belief that their coaches created an excellent training program. In another study

supporting the results of this research (Weiss et al., 2009), it was stated that the motivational climate and feedback provided by the coach made a significant contribution to the adolescent girls' motivation to participate in sports. In this study, the results obtained from female adolescent athletes were emphasized in the methods to meet the emotional closeness or relationship need in their strategies to create sports environments that would meet the needs of young athletes (Özdurmuş, 2015).

The results of this research are limited to the adolescent taekwondo athletes attending the camp, which the Taekwondo Federation of Turkey had. In this regard, the research is limited to adolescent elite athletes who compete within an individual branch.

CONCLUSIONS

In conclusion, while the closeness of the coaches to the female taekwondo athletes in the sports environment increased the trait sport confidence and the state sport confidence of the female athletes. The closeness of the coaches did not change the level of the trait sport confidence and the state sport confidence of male athletes.

Concerning the current results, coaches and governing bodies working with adolescent taekwondo athletes should consider strategies that balance sport confidence and coach-athlete relationships of male and female adolescent taekwondo athletes who were invited to the athlete development camp. Furthermore, male and female adolescent taekwondo athletes have different responses on the relationship between coach-athlete relationship and sport confidence, and these differences should be considered while organizing social climates.

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Authors' contributions

The first author conceived the idea, wrote the first draft, collected data and worked on all drafts. The second author handled article writing, analyzes, and editing process. The third author handled concept and methodology. The fourth author handled statistics and resources. All authors have read and approved the final version of the manuscript and agree with the order of presentation of the authors.

Declaration of conflict interest

We have no known conflict of interest to disclose.

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