

## The relationship between sources of sport confidence and athletic performance in young Iranian elite wrestlers

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Received 16 June 2010

Accepted 20 August 2010

### Abstract

Self-confidence can be defined as the belief in one's abilities to achieve success, and it often has been identified as a most important mental skill for success in sport by individuals engaging in competitive sports, including athletes and coaches. This study examined the relationship between sources of sport confidence and athletic performance in young Iranian elite wrestlers. The participants were 148 elite wrestlers of 17 to 20 year olds ( $M=18.60$ ,  $SD=0.98$ ) participating the country championship in 2009, who completed the Sources of Sport Confidence Questionnaire (SSCQ). Athletic performance of young wrestlers, which acquired their rank in the championship, was taken into account. The results showed a significant positive relationship between coaches' leadership, mastery, environmental comfort, demonstration of ability, physical/mental preparation, physical self-presentation and athletic performance. The results of a stepwise regression analysis showed that coaches' leadership was the strongest predictor of athletic performance. Our findings suggest that coaches' behaviors may greatly influence athletes' self-confidence and can be an important social factor that influences athletes' cognition and behavior.

**Keywords:** sport confidence, Iranian elite wrestlers, athletic performance

### Introduction

Self-confidence has consistently been identified as an important influence on athletic performance [1, 2]. Most athletes, coaches, and sport psychology consultants strongly believe that confidence is a crucial psychological requisite for success in sport, and enhancing self-confidence is often a crucial consideration for all athletes [3].

The conceptual paradigm adopted for the majority of self-confidence research has been *self-efficacy theory* (Bandura, 1977), originally developed within the framework of behavior causation [4]. Bandura (1997) proposed that self-referent thought activates cognitive, motivational, and affective processes that govern the translation of knowledge and abilities into action [5]. Thus self-efficacy (one's belief that a certain level of performance can be attained) is not concerned with how many skills an individual may possess, but is instead concerned with the performers' perceptions of their ability to succeed in a given situation at a given time [6]. Hence different people with similar skills, or indeed the same person under different

circumstances, might perform poorly, adequately, or exceptionally well depending upon fluctuations in their personal efficacy beliefs. Consequently, efficacy beliefs are an important contributor to performance accomplishments, whatever the underlying skill of the performer [4, 7].

The other conceptual approach frequently used in studies of self-confidence in sport is Vealey's model of sport confidence [8, 9, 2, 3]. Responding to the call to construct theories specific to sport, Vealey (1986) developed and modified a sport-specific model of confidence—called *sport confidence*. She defined sport confidence as “the belief or degree of certainty individuals possess about their ability to be successful in sport” [8]. The original model consisted of three constructs: competitive orientation; trait sport confidence; and state sport-confidence. The underlying theoretical premise was that individual differences in sport confidence and competitive orientation would influence how athletes perceive factors within an objective sport situation and predispose them to respond to sport situations with certain levels of state sport-confidence which would affect behavior. All of the constructs were operationalised by valid and reliable measurement tools (i.e. Trait Sport-Confidence Inventory, State Sport-Confidence

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Inventory, and Competitive Orientation Inventory: Vealey, 1986, 1988). However, the model was revised to take account of social cognitive theory and be consistent with Bandura's (1997) self-efficacy theory that views self-confidence as dynamic property, not a static trait. The model suggests that demographic and personality characteristics and organizational culture influence athletes' sources of sport-confidence as well as three types of confidence in athletes, and then sport-confidence influences athletes' performance through mediatory effects of athletes' affect, cognition, and behaviors which are interrelated or reciprocally interacted. According to the model, sport-confidence has a critical impact on athletes' performance; however, the performance is also influenced by the physical skills and characteristics that athletes possess and uncontrollable external factors, such as luck, weather, opponent, and so forth [3].

Sources of sport-confidence can be defined as the sources that athletes use for the judgment of their confidence. Vealey et al (1998) identified nine sources of confidence: (a) *mastery* (improving or mastering skills); (b) *demonstration of ability* (demonstrating or showing off abilities to the opponents); (c) *physical/mental preparation* (feeling physically and mentally prepared for competition); (d) *physical self-presentation* (one's physical self-image); (e) *social support* (perceiving support, positive feedbacks, and encouragement from significant others in sport); (f) *coaches' leadership* (believing coaches' leadership abilities); (g) *vicarious experience* (watching others perform successfully); (h) *environmental comfort* (feeling comfortable with the environment of competition); and (i) *situational favorableness* (feeling that the breaks of the situation are going their way) [9]. These sources overlap with the sources of self-efficacy that Bandura (1997) indicates, yet they are more specific to the context of competitive sport [3].

The relationship between self-confidence and performance has been extensively studied. Studies conducted in natural competitive settings consistently support the positive relationships between confidence and performance [2]. A meta-analysis of the past research on the power of each sub-scale in Competitive State Anxiety Inventory-2 to predict performance reported only weak relationships between each sub-scale (cognitive anxiety, somatic anxiety, self-confidence) and performance. However, their exploratory modeling showed that self-confidence had the strongest and most consistent relationship with performance [10]. Another meta-analysis examined the relationship

between self-efficacy and performance, and also supported the confidence-performance relationship [11].

At the elite level, self-confidence can be a factor that distinguishes successful and less successful athletes. Mahoney and Avenener (1977) found that the level of pre-competition self-confidence was one of the significant differences between US gymnasts who were the Olympic qualifiers and those who were not [12]. Similarly, a study with elite Canadian wrestlers (Highlen & Bennett, 1979) demonstrated that the level of self-confidence differentiated Olympic qualifiers and non-qualifiers [13].

Athletes may use different sources to develop, enhance and sustain confidence, and research has supported this notion by distinguishing the sources that are used by athletes to judge confidence in sport [14]. Led by earlier research claiming that the basis or source of self-confidence is the most critical factor in developing and maintaining enduring levels of self-confidence overtime [15,16], a number of studies have been conducted to understand what athletes base their confidence on [17]. Vealey et al. (1998) believed that it is important to understand each athlete's particular source or sources of self confidence before intervening to enhance that confidence. They suggested that the instability of confidence over time would seem to depend on sources upon which that confidence is based. Vealey and colleagues (1998) found that high-school athletes value mastery, social support, physical and mental preparation, coaches' leadership, and demonstration of ability the most sources of sport confidence. College-aged athletes from individual sports had highest ratings for physical and mental preparation, social support, mastery, demonstration of ability, and physical self-presentation [9]. Wilson et al. (2004) showed that physical/mental preparation and mastery were judged as the most important sources of sport confidence for master athletes [18]. Magyar and Feltz (2003) examined the influence of dispositional and situational tendencies on the sources of confidence using a sample of 180 adolescent female volleyball players from various teams. The authors found that the most significant sources for sport confidence were mastery, physical and mental preparation, and social support [14]. The results from Demaine and Short's (2007) study showed that the most popular sources were (in order): social support, coaches' leadership, physical and mental preparation, mastery, demonstration of ability, vicarious experience, environmental comfort, situational favorableness and physical self-presentation [19]. All the world-class athletes

in Hays et al. (2007) identified preparation and competition accomplishments as important sources of self-confidence [7].

Vealey et al. (1998) have called for more research to examine when and why sources may change based on contextual and individual factors. For instance, a sport program for elite athletes has a different organizational culture than a high school or college program; the latter has less structured organizational culture than the former [18].

Indeed, sport confidence can be an inconsistent and temporary variable of study. The inconsistency of sport confidence according to Chie-der, Chen, Hung-yu, & Li-Kang (2003) within a period of time is basically affected by the sources of the confidence [20,21]. The concepts of self-confidence and sport confidence have been attributed to have influence elite athlete performance [22]. However, research on sources of sport confidence of elite athletes of the developing countries, especially in Iran, is rare. Wrestling has a very long tradition and history in Iran and it is often referred to as Iran's national sport. The present study sought to answer a basic question: What is the relationship between sources of sport confidence and athletic performance in young Iranian elite wrestlers?

## Methods

### *Participants*

The participants were 148 young Iranian elite wrestlers of 17 to 20 year old ( $M=18.60$ ,  $SD=0.98$ ), who participated in the country's championship held in 2009.

### *Measures*

#### *Sources of sport confidence*

The Sources of Sport-Confidence Questionnaire (SSCQ), developed by Vealey et al. (1998), was used to measure the athletes' sources of confidence information. The questionnaire contains 41 items and nine subscales: Mastery (5 items); Demonstration of ability (5 items); Physical/mental preparation (6 items); Physical self-presentation (3 items); Social support (6 items); Coach's leadership (5 items); Vicarious experience (5 items); Environmental comfort (4 items); and Situational favorableness (2 items). The participants responded to each item using a Likert format with 1 being "not at all important" and 7 being "of highest importance." Subscale scores were created for each participant by calculating a mean score of all items for each subscale. All of the sources of sport confidence subscales exhibited acceptable internal consistencies ranging from 0.81 to 0.94 for the

current sample.

### *Demographic measure*

The participants were asked to fill out a demographic questionnaire about their age and years of experience in their sport.

### *Athletic performance*

Athletic performance of young wrestlers and the rank they acquired in the championship were recorded.

## Procedures

After obtaining permission from the team's coaches and managers participating in the 2009 wrestling championship, the young wrestlers who wished to participate in the study were identified. Among those who volunteered, 148 wrestlers were selected randomly. Next, the study were administered, which took them about 15–20 minutes to complete. Prior to the completion of the questionnaires, the participants were assured that the information from the questionnaires will be treated confidential, and that all data analyses will be conducted at the group level.

## Results

We analyzed the data by first looking at the descriptive information. Next, we examined Spearman's rho correlations between sources of sport confidence and athletic performance. Finally, for each prediction we ran separate stepwise multiple-regression analyses on the criterion variable. Stepwise procedures were used because not a priori order was warranted and because stepwise analyses determine the best predictor among similar variables that share variance.

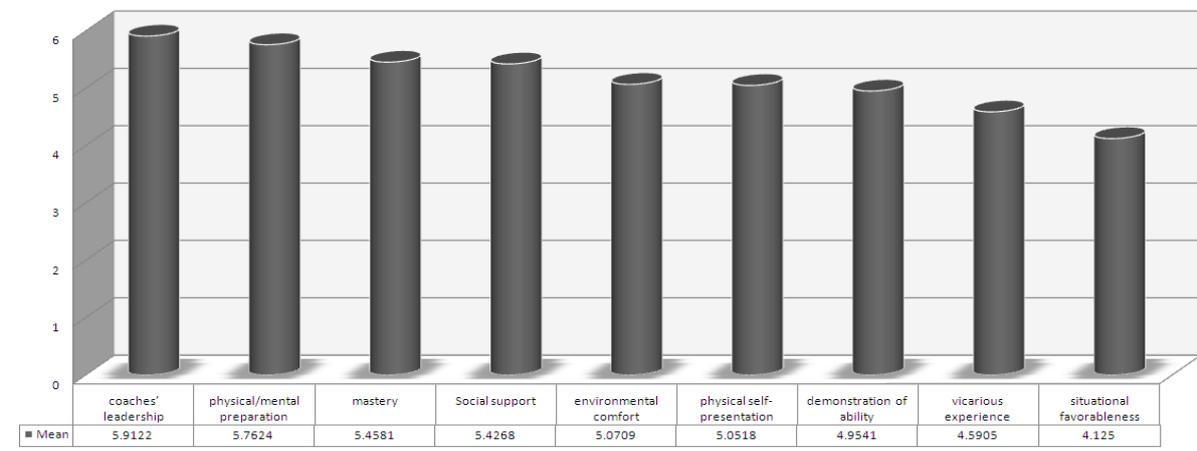
### *Descriptive statistics for independent and dependent variables*

Scale means and standard deviations for age and the measures sources of sport confidence for the entire sample are presented in Figure 1 and Table 1.

Spearman's rho correlations were calculated to examine the relationships between sources of sport confidence and athletic performance. Athletic performance was positively correlated with coaches' leadership, mastery, environmental comfort, demonstration of ability, physical/mental preparation, and physical self-presentation (Table 2).

**Table 1:** Means and standard deviations for age and the measures sources of sport confidence.

Statistics	Age	Social support	Coaches' leadership	Vicarious experience	Mastery	Environmental comfort	Demonstration of ability	Physical/mental preparation	Physical self-presentation	Situational favorableness
N	148	148	148	148	148	148	148	148	148	148
Mean	18.6	5.4268	5.9122	4.5905	5.4581	5.0709	4.9541	5.7624	5.0518	4.1250
Std. Deviation	.981	1.0115	.7015	1.4722	.9197	1.1268	1.1328	.8289	.8769	1.7476



**Figure 1:** Means sources of sport confidence

**Table 2:** Correlations between the athletic performance and sources of sport confidence.

Spearman's rho	Athletic Performance	Social support	Coaches' leadership	Vicarious experience	Mastery	Environmental comfort	Demonstration of ability	Physical/mental preparation	Physical self-presentation	Situational favorableness
<b>Athletic performance Correlation Coefficient</b>	1	0.153	.340**	0.126	.347**	.171*	.242**	.173*	.197*	0.008
<b>Sig. (2-tailed)</b>	.	0.063	0	0.126	0	0.038	0.003	0.035	0.06	0.92
<b>N</b>	148	148	148	148	148	148	148	148	148	148

\*\* Correlation is significant at the .01 level (2-tailed).

\* Correlation is significant at the .05 level (2-tailed).

A stepwise multiple regression analysis was conducted to determine predictors of athletic performance. Results presented in tables 3, 4 and 5 show that both coaches' leadership and mastery were the best predictors of athletic performance ( $p = .001$ ). Coaches' leadership ( $\beta = .304$ ;  $t = 3.862$ ;

$p < .001$ ) was the strongest predictor of athletic performance, followed by Coaches' leadership ( $\beta = .223$ ;  $t = 2.565$ ;  $p < .001$ ) and Mastery ( $\beta = .304$ ;  $p = 3.862$ ;  $p < .001$ ) as the second strongest, joint predictors of athletic performance.

**Table 3:** Multiple correlation coefficients, coefficient of determination, regression and significant levels to coaches' leadership and mastery.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.304 <sup>a</sup>	.093	.086	1.4593
2	.346 <sup>b</sup>	.120	.107	1.4426

a Predictors: (Constant), Coaches' leadership

b Predictors: (Constant), Coaches' leadership, Mastery

**Table 4:** Regression analysis of sources of sport confidence on athletic perform.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31.772	1	31.772	14.919	.000 <sup>a</sup>
	Residual	310.931	146	2.130		
	Total	342.703	147			
2	Regression	40.955	2	20.478	9.840	.000 <sup>b</sup>
	Residual	301.748	145	2.081		
	Total	342.703	147			

a Predictors: (Constant), Coaches' leadership

b Predictors: (Constant), Coaches' leadership, Mastery

c Dependent Variable: Athletic performance

**Table 5:** Coefficients for predictive sources of sport confidence

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	SE	$\beta$		
1	(Constant)	-3.107	1.021		-3.042	.003
	Coaches' leadership	.663	.172	.304	3.862	.000
2	(Constant)	-3.717	1.051		-3.538	.001
	Coaches' leadership	.486	.189	.223	2.565	.011
	Mastery	.303	.144	.183	2.101	.037

a Dependent Variable: Athletic performance

## Discussion

The purpose of this study was to determine the relationships between sources of sport confidence and athletic performance in young Iranian elite wrestlers. As discussed self-confidence is identified as an important factor for success in sport, and enhancing self-confidence is often a crucial consideration for all athletes. Led by earlier research claiming that the basis or source of self-confidence is the most critical factor in developing and maintaining enduring levels of self-confidence overtime (e.g., Nicholls, 1978; Weiner, 1980), a number of studies have been conducted to understand what athletes base their confidence on [3].

The results of the present study indicated that young Iranian elite wrestlers identified coaches' leadership, physical/mental preparation, mastery and social support as the most important sources and situational favorableness as the least important sources of sport confidence. The results are with the findings from Vealey et al. (1998), who reported that mastery, social support, physical and mental preparation, coaches' leadership, and demonstration of ability as the most important sources of sport confidence for high-school athletes [9].

We found positive, significant correlations between athletic performance with coaches' leadership, mastery, environmental comfort, demonstration of ability, physical/mental preparation, and physical self-presentation. These

findings were interpreted based on Vealey's sport-confidence model (Vealey, 1986; Vealey & Chase, 2008) [8, 3]. According to her model, personality characteristics and organizational culture influence athletes' sources of sport-confidence. Personality characteristics and organizational culture as also influence three types of athlete's sport confidence that are Sport confidence, in turn, influences athletes' performance through mediatory effects of athletes' affect, cognition, and behaviors which are interrelated or reciprocally interacting.

However, it seems that the age of wrestlers and the nature of sports they do are important factors that influence their sources of sport confidence. Wilson and colleagues (2004) demonstrated that for master athletes, coaches' leadership was a less important source for their confidence than for high school athletes. Adult athletes identify physical/mental preparation as the most important source of sport confidence [17]. Based on the results of this study and the previous research, it seems that by gaining more experience, the importance of coach leadership may diminish over time.

The results of stepwise regression analysis showed that coaches' leadership was the strongest predictor of athletic performance. The result supports Demaine and Short's (2007) findings, which reported that the most popular sources of sport confidence were social support, coaches' leadership, physical and mental preparation, and mastery [19]. Previous studies indicate that perceived coaching behaviors contribute to athletes' confidence, especially confidence in their cognitive efficiency [17]. The findings of this research is consistent with findings reported by Wilson et al. (2004), who stated that mastery and physical and mental preparation were the highest ranked sources of confidence for superior athletes.

Evidence on coaching effectiveness consistently shows that perceived coaching behaviors greatly influences athletes' psychological processes [23, 24]. Coaches' behaviors, such as their interpersonal behaviors, may greatly influence athletes' self-confidence. Studies on perceived interpersonal behaviors are based on Social Determination Theory (SDT) (Deci & Ryan, 1985) and the notion that individuals' motivation can be affected by individuals' perceptions of how significant others behave toward them. According to SDT, there are three basic needs behind every self-determined action. First, there is a need for autonomy, a desire for the perception that the origins of their actions are based on their wills. Second; there is a need for competence, a need that is fulfilled when the feeling of achievement or mastery are achieved.

Third, there is a need for relatedness, which is the perception of support and trust from others. An environment that fosters these three basic needs is shown to be related to the positive affects, cognitions, and behaviors of individuals [25].

Conversely, situations where these three needs are impeded could lead to negative consequences. It seems reasonable to find that the more athletes perceived their coaches to be caring, the more confident they felt about their ability, and especially about their cognitive ability [17]. The credibility, enthusiasm, and knowledge of Olympic-level coaches have been identified as critical to their athletes' success [26]. Thus it is perhaps unsurprising that the coach was identified as the fundamental source of confidence for the young athletes in our study. Hays et al. (2007) found that female athletes derived confidence primarily from their coach's encouragement, positive feedback/reinforcement, and compliments, akin to the 'social support' source of sport confidence identified by Vealey et al. (1998). In contrast, male athletes tended to derive confidence from a belief in their coach to establish an appropriate training program, comparable to Vealey et al.'s (1998) 'coach's leadership' source of sport confidence. These results have obvious but important implications for coaching practice. It might be that a prescriptive or autocratic style of coaching is more facilitative to the confidence of male athletes, whereas female athletes would benefit more from a socially supportive coaching role.

Overall, the results of this study showed that coaches' behaviors may greatly enhance athletes' self-confidence and that coaches' behaviors can be a significant social factor, affecting athletes' affect, cognitions, and behaviors.

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