

Validation of an Instrument for Measuring Athletes' Sport Orientation in Iranian Martial Artists Community

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Abstract: Success and achievement orientation is the orientation of a person towards domination and competitiveness so that they can move into a better position. According to certain theories, this orientation is directly related to the goal and the latter's level as set by the person. Achievement in sport competitions (sport orientation) depends upon goal orientation which is in turn dependent on task or ego orientation. The present paper aimed to develop and validate the sport orientation questionnaire (SOQ) in the community of Iranian elite martial artist. 160 elite athletes (120 males, 40 females) with the mean age of 22 (3.1) years who had activity records in Kick Boxing, O-Sport, Sumo, Wrestling, Jiu-Jitsu, Boxing and Muay Thai were chosen by categorical sampling method and they filled questionnaires voluntarily and the confirmatory factor analysis was used for measuring the instruments validation. The findings from model fit revealed the good model fit. The present results indicated the acceptable findings from validity and reliability tests. Finally, the more investigation, specifically in females' community which was a limitation on this study, is suggested to researchers in order to develop the SOQ.

Key words: Goal Orientation • Winning Orientation • Competitiveness

INTRODUCTION

The aim of several studies in the field of sport psychology was to define what personality characteristics were associated with victorious coaches [1-3]. Many of them involved qualitative personality assessments of swimming coaches and attempted to correlate these personality constructs with a measure of success (i.e., winning percentage) [4]. Success and achievement orientation is the orientation of a person towards domination and competitiveness so that they can move into a better position [5]. According to certain theories, this orientation is directly related to the goal and the latter's level as set by the person [5]. Achievement in sport competitions (sport orientation) depends upon goal orientation which is in turn dependent on task or ego orientation [5]. In light of the value of sport-specific constructs and the appropriateness of a multidimensional achievement orientation measure, Gill and Deeter [6]

developed the Sport Orientation Questionnaire (SOQ). They reported that a series of exploratory and confirmatory factor analyses revealed a consistent, logical three-factor structure across three separate samples. Alpha reliability coefficients and test-retest correlations indicated that the three subscales of competitiveness, win orientation and goal orientation were internally consistent and stable over time [7]. Martens [8] defined competitiveness as a disposition to strive for satisfaction when making comparisons with some standards of excellence in the presence of evaluative others in sport. Competition has been deemed as the dominant achievements situation for sport [6] and has been considered to be a sport-specific type of achievement motivation [9]. A goal orientation may also be more specific to certain athletes [4]. Goal orientations reflect individual differences in assigning subjective meaning to outcomes [10, 11]. Svebak and Kerr [12] found evidence of a correlation between goal orientation and endurance

athletes. Therefore, it may be that athletes with a specific tendency toward a goal orientation may tend to want a coach that is more goal-oriented as well [4]. Several researchers [6, 13-15] have also found that female athletes are more goal-oriented than male athletes. Win orientation is defined as a person's basis for success as dependent upon winning as an outcome [4]. Win orientation is a fairly new concept in sport psychology; therefore not a lot of research has explored this construct [4]. Win orientation has consistently separated athletes from non-athletes in that athletes are more win oriented than their non-athletic counterparts [16, 17]. In addition, the Sport Orientation Questionnaire has been used widely in various studies since 1988. For instance, the reliability and validity of SOQ were tested in the various studies by Sheikh *et al.* [5], Gill & Deeter [6], Gill, [13], Gill and Dzewaltowski [14], Kang *et al.* [16], Petroczi [18, 19], Manouchehri and Tojari [20], Manouchehri *et al.* [21], Skordilis *et al.* [22], Wakayama *et al.* [23], Jensen [24], Nourbakhsh [25], Thanopoulos *et al.* [26], Trembath *et al.* [27], Gareth *et al.* [28], Daniels *et al.* [29], Kolt *et al.* [30], Biddle *et al.* [31] and John [32] in which they all reported good fit model on the scale and it can be realized that the SOQ in various communities has been worked properly for measuring athletic tendencies. Although it was recommended by many that the sport orientations in gender are not different, Gill and Deeter [6], Gill [13] and Gill and Dzewaltowski [14], found various orientations among male and female athletes. Moreover, Skordilis *et al.* [22] realized that athletes from different sports (wheelchair marathoners and wheelchair basketball players) differ on the SOQ subscales. And Sheikh *et al.* [5] also found that the athletes from team sports are different with athletes from individual sports in sport orientations. Manouchehri and Tojari [20] and Manouchehri *et al.* [21] also found that athletes in diverse level of competing in sports are not the same in winning orientation. They realized that athletes competing in world and Olympic level are more winning-oriented. Importantly, individual differences in sport achievement behavior are obvious and the investigation of individual differences in achievement orientation should provide insight into sport behavior [7]. Some individuals eagerly approach competitive challenges, others strive for noncompetitive personal goals and others shy away from all types of sport achievement [7]. By the mentioned points and the significance of psychology research on sport and also vague in results of research literature, perceiving athletes' tendencies among diverse situation in and out of sports

competitions are vital for prognosticating their sports behaviors. So, the present paper aimed to develop and validate the sport orientation questionnaire (SOQ) in the community of Iranian elite martial artist to ensure about the goodness of the scale and its validation and consistency in the named community.

MATERIALS AND METHODS

Participants: 160 elite athletes with the mean age of 22 (3.1) years who had activity records in Kick Boxing, O-Sport, Sumo, Wrestling, Jiu-Jitsu, Boxing and Muay Thai were chosen by using categorical sampling method with the ratio of 3 to 1 (120 males, 40 females) and also getting permission from related sport federations researchers to enter to the training camps and distribute the questionnaires among athletes who were ready to cooperate in research data collection process.

Measures

Sport Orientation Questionnaire [6]: The SOQ contains 25 items that uniquely relate to one of three independent factors: (a) competitiveness (for example the first statement of competitiveness is "I am a determined competitor"), (b) winning (for example the first statement of winning is "Winning is important") and (c) goals (for example the first statement of goals is "I set goals for myself when I compete"). Of the total 25 items, the competitiveness subscale consists of 13 items, whereas the winning orientation and goal orientation subscales contain 6 items each and items are completed by a five-point Likert scale that ranges from strongly agree to strongly disagree. The internal consistency coefficients for the three subscales are reported as follows: competitiveness subscale 0.94, win orientation subscale 0.86 and goal orientation subscale 0.80 [6].

Methods: Descriptive statistics was used to summarize and classify the raw data and calculate the average frequency, SD to draw graphs and tables. In order to measure instruments consistency the Cronbach' Alpha was utilized. The confirmatory factor analysis was used for measuring the instruments validation. It was used to test whether measures of SOQ were consistent with a researcher's understanding of the nature of that construct (or factors). As such, the objective of confirmatory factor analysis was to test whether the data fit a hypothesized measurement model based on analytic research of Gill and Deeter or not [6].

RESULTS

The results showed that from 160 participants, 120 individuals (75 %) were male and 40 individuals (25%) were female. The results from Table 1 demonstrated Mean and Standard Deviation of statements on the scale. For instance, statement 8 (COM8) had the biggest Mean ($\bar{x}=4.72$), the statement 10 (COM10) had the biggest Standard Deviation (SD=1.16) and in competitiveness Orientation.

The results demonstrated that the competitiveness orientation base with Cronbach' Alpha 0.855, winning orientation with Cronbach' Alpha 0.817 and goal orientation base with Cronbach' Alpha 0.718 which was increased to 0.730 by omitting the statement 1 were acceptable (Table 2).

The results from the first and second steps of sport orientation measuring model in standard approximation base were demonstrated in Table 3. The model Factorial loads have shown the influence degree of variables and/or statements for explaining scores variance of main variable or factor in standard approximation base. In other word, factor load is demonstrating correlation degree for

each observer variable (statement) with latent variable (Factors) in first step and subscales (goal, winning and competitiveness) with main variable (sport orientation) in second step. For instance, the competitiveness factor explains 83% of sport orientation variance. The error amount is 0.17. This Table also shows correlation indices which all have become significant. The critical ranges of <-1.96 and >1.96 are significant relationships ($P<0.05$). It is clear those correlation coefficients between statements explaining subscales and also correlation coefficients between subscales were positive and significant. For instance, Significance coefficient between competitiveness and statement 4 (COM4) was 10.43 which revealed the strong correlation. And also the Significance coefficients between sport orientation and its subscales: winning orientation (7.30), goal orientation (5.85) and competitiveness (5.97) revealed the strong correlation. The results of estimation (Model Fit) indicated goodness of indexes. Regarding the Lisrel outcomes ($\chi^2 = 705.79$) which is less than three by the ratio of ($df = 249$), RMSEA = 0.069 and other statistical indexes like NFI, GFI, AGFI, CFI were respectively 0.95, 0.91, 0.87, 0.95 which indicated acceptable Model Fit (Table 4).

Table 1: Describing the statements of Sport Orientation Questionnaire

Subscale	Statement	Distinctive	Mean	SD
Competitiveness	I am a determined competitor.	COM1	4.39	0.89
	I am a competitive person.	COM2	4.43	0.85
	I try my hardest to win.	COM3	4.65	0.80
	I look forward to competing.	COM4	4.50	0.76
	I enjoy competing against others.	COM5	4.40	0.83
	I thrive on competition.	COM6	4.25	0.88
	My goal is to be the best athlete possible.	COM7	4.66	0.73
	I want to be successful in sport.	COM8	4.72	0.65
	I work hard to be successful in sports.	COM9	4.68	0.69
	The best test of my ability is competing against others.	COM10	4.01	1.16
	I look forward to the opportunity to test my skills in competition.	COM11	4.49	0.83
	I perform my best when I am competing against an opponent.	COM12	4.43	0.90
	I want to be the very best every time I compete.	COM13	4.63	0.82
Winning Orientation	Winning is important.	WIN1	4.13	1.10
	Scoring more points that my opponent is very important to me.	WIN2	4.30	1.13
	I hate to lose.	WIN3	3.65	1.36
	The only time I am satisfied when I win.	WIN4	3.79	1.29
	Losing upsets me.	WIN5	3.60	1.29
	I have the most fun when I win.	WIN6	4.18	1.10
Goal Orientation	I set goals for myself when I compete.	GOAL1	4.68	0.65
	I am most competitive when I try to achieve personal goals.	GOAL2	4.32	0.98
	I try hardest when I have a specific goal.	GOAL3	4.79	0.50
	Performing to the best of my ability is very important to me.	GOAL4	4.68	0.73
	Reaching personal performance goals is very important to me.	GOAL5	4.21	1.10
	The best way to determine my ability is to set a goal and try to reach it.	GOAL6	4.68	0.75

Table 2: Cronbach' Alpha coefficients for research variables

Variable	Competitiveness	Win	Goal
α	0.855	0.817	0.718
Omitted Question	-	-	Q1
Final α	-	-	0.730

Table 3: The results of the first and second steps of sport orientation measuring model

			Factor load	Error	Variance	Significance Coefficient
COM1	-	COM	0.49	0.76	0.24	6.33
COM2	-	COM	0.66	0.57	0.43	9.00
COM3	-	COM	0.42	0.82	0.18	5.31
COM4	-	COM	0.74	0.46	0.54	10.43
COM5	-	COM	0.64	0.60	0.40	8.60
COM6	-	COM	0.51	0.74	0.26	6.54
COM7	-	COM	0.72	0.47	0.53	10.23
COM8	-	COM	0.53	0.72	0.28	6.91
COM9	-	COM	0.66	0.56	0.44	9.06
COM10	-	COM	0.43	0.82	0.18	5.37
COM11	-	COM	0.47	0.78	0.22	5.96
COM12	-	COM	0.55	0.69	0.31	7.24
COM13	-	COM	0.65	0.58	0.42	8.78
WIN1	-	WIN	0.75	0.43	0.57	10.35
WIN2	-	WIN	0.65	0.58	0.42	8.54
WIN3	-	WIN	0.57	0.67	0.33	7.29
WIN4	-	WIN	0.67	0.55	0.45	8.92
WIN5	-	WIN	0.56	0.66	0.34	7.48
WIN6	-	WIN	0.69	0.53	0.47	9.19
GOL2	-	GOL	0.45	0.77	0.23	6.02
GOL3	-	GOL	0.55	0.70	0.30	7.02
GOL4	-	GOL	0.75	0.42	0.58	10.73
GOL5	-	GOL	0.61	0.63	0.37	7.99
GOL6	-	GOL	0.73	0.47	0.53	10.03
COM	-	ORIENT	0.91	0.17	0.83	5.97
WIN	-	ORIENT	0.70	0.51	0.49	7.30
GOL	-	ORIENT	1.00	0.00	1.00	5.85

[COM= Competitiveness, WIN= Winning, GOL= Goal, ORIENT= Sport Orientation]

Table 4: The results of model fitting indexes

Normed Fit Index (NFI)	0.95
Non-Normed Fit Index (NNFI)	0.95
Parsimony Normed Fit Index(PNFI)	0.85
Comparative Fit Index (CFI)	0.95
Incremental Fit Index (IFI)	0.95
Relative Fit Index (RFI)	0.93
Goodness of Fit Index (GFI)	0.91
Adjusted Goodness of Fit Index (AGFI)	0.87

DISCUSSION

Reviewing various studies in the field of sport psychology with athletes' behavior investigation approach revealed athletes' orientations in different sport situations can be a significant factor in predicting their behavior characteristics. In that case, the scales for measuring tendencies and orientations which have been utilizing are crucial. Furthermore, In light of the value of

sport-specific constructs and the appropriateness of a multidimensional achievement orientation measure [7] Gill and Deeter [6] developed the Sport Orientation Questionnaire (SOQ) which has been used widely by this approach in all around the world and the present study will provide more usage preparations in Iranian martial arts community by validating and developing. The findings from the present paper suggested that Alpha reliability coefficients had acceptable rate in three subscales (goal orientation, winning orientation and competitiveness) in which Alpha reliability coefficient was enhanced by omitting the statement 1 in goal orientation. In addition, the correlation coefficients between observer variables, latent variables and main variable were reported significant and also the 3rd statement of goal orientation, 2nd statement of winning orientation and 8th statement of competitiveness had the highest Means compared with other statements. The findings from model fit (χ^2 , RMSEA,

df and etc) also revealed the good model fit. Likewise, the present results were consistent with the results from Sheikh *et al.* [5], Gill and Deeter [6], Gill and Dzewaltowski [14], Petroczi [18, 19], Manouchehri and Tojari [20], Manouchehri *et al.* [21] and Skordilis *et al.* [22] indicating the acceptable findings from validity and reliability tests.

CONCLUSIONS

As it founded in researches by others and also regarding the present results, the prominent consequence is the validity and reliability of Sport Orientation Questionnaire to measure athletes' sportive orientations in various conditions. The results from data analysis collecting by SOQ will recognize athletes who are winning-oriented, goal-oriented and competitive-oriented and their extent. It has been realized by the present paper authors that the Sport Orientation Questionnaire is an appropriate scale for measuring Iranian pro martial artists' orientations toward various sport situations. Finally, the more investigation, specifically in females' community which was a limitation on this study, is suggested to researchers in order to develop the SOQ. Moreover, the research so that comparing the athletes' sport orientations between individual and team sports is recommended.

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