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## ORIGINAL RESEARCH

### RELATION OF COACHING BEHAVIOR AND ROLE AMBIGUITY

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#### Abstract

The purpose of this research was to investigate the relationship between coaching behavior and role ambiguity in defensive responsibilities using interdependent Greek sport teams. Athlete perceptions of role ambiguity (defense) were assessed using a questionnaire developed by Beauchamp, Bray, Eys and Carron (2002) and coaching behavior was assessed using the Coaching Behavior Questionnaire, (Williams, et. al., 2003). The sample consisted of 409 athletes of basketball, volleyball, handball and soccer. Confirmatory factor analysis provided the construct validity of the questionnaires and correlations among the scales confirmed construct validity. The implications of the results are discussed and future research should continue to investigate the multidimensional models of both coaching behavior and role ambiguity in sport settings.

**Key Words:** Coaching behavior, role ambiguity, defense, team sports.

#### Introduction

There is a series of research in sport psychology, (Chelladurai & Saleh, 1978; Smoll & Smith 1989), which is focused on the study of coaching behavior of team and individual sports. Considering the importance of the coaching behavior to define the quality and the success of an athletic experience of an athlete, surprisingly, there is a little research which identifies the best coaching behaviors and the factors that affect the effectiveness of special behaviors (Patriksson & Eriksson, 1990).

A first purpose of this research was the examination and evaluation of leading and coaching. Smith, Smoll and Hunt, (1977) to check those made a Coaching Behavior Assessment System (CBAS), which is divided in two important categories of behavior, the reactive and the spontaneous.

Chelladurai and Saleh, (1978; 1980) tried to develop the model of Leadership into sports, creating a Multidimensional Model of Leadership, via Leadership Scale for Sports questionnaire (LSS). Rushall and Wiznuk, (1985) create the Coach Evaluation Questionnaire, (CEQ). Kenow and Williams, (1992;1993) developed the Coaching Behavior Questionnaire, (CBQ). In 1999, Kenow & Williams, investigate if the compatibility of the relationships athletes – coaches has important relation to the perception of the athletes for those of the behaviors.

In a later research of Williams, Kenow, Jerome and Rogers, (2003) the structural validity of CBQ was examined through Confirmatory and Exploratory Factor Analysis. The results showed a model of two factors: a) negative activation, b) supportiveness/ emotional.

Role Ambiguity has been defined as the lack of clear, consistent information regarding the expectations associated with one's position, Kahn, Wolfe, Quinn, Snoek and Rosenthal, (1964). It has been described as the single or multiple roles that confront the role incumbent, which may not be clearly articulated in terms of behaviors or performance levels. Alike, Naylor, Pritchard and Ligen, (1980), stated that role ambiguity exists

when focal persons are uncertain about product – to – evaluation contingencies and are aware of their own uncertainty about them.

The Role Episode Model, was introduced by Kahn, Wolfe, Quinn, Snoek and Rosental, (1964), into their classical study Productive Anxiety, in which are presented the interaction between the sender role and the holder role. Kahn et al., (1964) clarify that the role model is divided in two dimensions. The first one concerns responsibility ambiguity which is divided in three subcategories: a) ambiguity for the responsibility field, to wit the lack of definitude for the responsibilities, b) ambiguity for behavior responsibilities which are necessary to fulfill the expectations and c) ambiguity for rank importance of every responsibility. The second dimension that was admitted by Kahn and his colleagues is social – emotional ambiguity.

The research by Beauchamp et al., (2002) on rugby athletes used the Role Ambiguity Scale (RAS), with the four dimensions, (Scope of responsibilities, role behaviors, role evaluation and role consequences) in regard with role efficacy and role performance in offense and defense.

Although, there is very limited research on the possible relation between coaching behavior and role ambiguity in sports. Therefore the purpose of this research was to investigate the relationship between coaching behavior and role ambiguity in defense using interdependent Greek sport teams.

### Methods

**Sample.** The sample were 409 athletes: a) basketball (n=125), b) volleyball (n=75), 12 c) team handball (n=103) and d) football (soccer) (n=106). The athletes' mean age was 21, 4 years SD = 4,6. Athletes had an average of 8,9 years' (SD = 4,5 ) playing experience. The total descriptive statistics are presented in table 1.

**Table 1.** Descriptive statistics.

	Mean	Std. Deviation
<b>Age</b>	<b>21,4</b>	<b>4,6</b>
<b>Years experiences</b>	<b>8,9</b>	<b>4,5</b>
<b>Years on team</b>	<b>3,5</b>	<b>2,8</b>
<b>Day's practice / per week</b>	<b>4,6</b>	<b>1,1</b>

**Questionnaires - data collection.** The Coaching Behavior Questionnaire, (Williams, et.al., 2003) was used for the perception of the male-female athletes for their coaches. The translation of the questionnaire into the Greek Language was made by the method of double direction of both psychologists (Zourbanos, Theodorakis & Hatzigeorgiadis, 2004; Zourbanos, Theodorakis & Hatzigeorgiadis, 2006). The athletes had to answer regarding how they feel when performing their activities. The questionnaire consisted of 18 questions, involving two factors: a) Supportiveness/ Emotional of their coach (8 questions) and b) Negative Activation of the coach (7 questions). The answers were in a four numbered rate Likert type, from 1=disagree completely, 2= disagree, 3= agree and 4= agree completely.

The second instrument that was used was the role ambiguity questionnaire “Role Ambiguity Scale” Beauchamp, Bray, Eys, and Carron, (2002) and referred to the tasks of defense. The translation of the questionnaire into the Greek language was made by Bebetos, Theodorakis, and Tsigilis, (2007). The questionnaire used 20 questions, that were designed to evaluate the grade of ambiguity and the lack of ambiguity that is related to a) the scope of responsibilities, (5 questions), b) behavior that is necessary to achieve these responsibilities (5 questions), c) how the performance which is related to this responsibilities is evaluated (5 questions) and d) the consequences of a failure to successfully achieve those responsibilities, (5 questions). Respondents rated agreement with each item on a 9-point scale anchored by 1: strongly disagree and 9: strongly agree. The questionnaires were given before the athletes' practice and they were asked to complete it voluntarily.

### Results

The results of internal consistency show satisfactory levels of Cronbach's alpha (from .64 - .86) and are presented on table 2.

**Table 2.** Cronbach's alpha

Items	Cronbach's alpha	Mean	SD
<i>Scope of responsibilities in defense</i>	.85	7.6	1.05
<i>Role behaviors in defense</i>	.84	7.5	1.05
<i>Role evaluation in defense</i>	.86	7.3	1.24
<i>Role consequences in defense</i>	.77	7.5	1.1
<i>Supportiveness / Emotional</i>	.73	2.7	0.6
<i>Negative activation</i>	.64	2.1	0.7

The two factors of coaching behavior presented negative correlation and the four factors of role ambiguity presented high positive correlation. The level of importance  $p < .01$  and the results are presented on table3.

**Table 3.** Correlation of items ( $p < .01$ ).

	1	2	3	4	5
Scope of responsibilities in defense					
Role behaviors in defense	.83				
Role evaluation in defense	.71	.77			
Role consequences in defense	.70	.69	.58		
Supportiveness / Emotional	.19	.19	.27	.20	
Negative activation	-.32	-.30	-.31	-.30	-.39

To examine the structural validity of the questionnaires the Confirmatory Factor Analysis was used, which was made through the statistic pack EQS 5.7 (Bentler, 1995).

For the level Coaching behavior that examined a model of two factors first class with equivalent questions. The factor variation was defined in 1 and the factorial loadings were free to be estimated. At this model the variations between the factors were allowed but not between the mistakes of the items. The results showed that the specific model represented efficiently the variations between the variables. The index of this model were  $\chi^2_{(89)} = 217.292$   $p < .001$ , Bentler – Bonett normed fit index (NFI) = 0.834, Bentler – Bonett non normed fit index (NNFI) = 0.876, Comparative fit index (CFI) = 0.895, RMSEA = 0.061 and 90% confidence interval of RMSEA = (0.079-0.093). The descriptive statistics of every sub scale are presented on table 4 and the rates of every factor on table 5, as well as the MARDIA'S COEFFICIENT = 293.944.

**Table 4.** Descriptive statistics of every subscale for the coaching behavior.

ITEMS	MEAN	SDV	SKEWNESS		KURTOSIS	
			G1	G2	G1	G2
Criticism from my coach is done in a constructive manner	3.1	0.60	-0.30		0.86	
When I need it, my coach's tone of voice is shouting and relaxed	2.8	0.71	-0.44		0.24	
My coach is appropriately composed and relaxed	2.4	0.93	0.01		-0.86	
My coach shows support for me even when I make a mistake	2.9	0.65	-0.23		0.12	
During timeout and halftime my coach emphasizes what should..	3.0	0.71	-0.34		-0.01	
My coach's mannerisms and display of emotions help me relax and play better	2.8	0.74	-0.11		-0.34	
My coach uses timeouts and halftime to build our confidence	2.8	0.64	-0.48		0.55	
My coach controls his emotions well during games	2.5	0.77	-0.11		-0.41	
My coach's behavior during a game makes me feel tight and tense	2.3	0.74	0.33		-0.07	
My coach's mannerisms and display of emotions contribute to me playing poorly	2.1	1.76	14.68		262.8	
My coach's sideline behavior distracts my attention during a game	2.0	0.78	0.47		-0.15	
When my coach appears uptight, I don't play well	2.3	0.70	0.11		-0.19	
My coach's behavior during a game makes me worry about my performance	2.1	0.70	0.25		-0.06	
I get more nervous watching my coach on the sidelines than I do playing a game	2.1	0.75	0.37		-0.06	
My coach makes me feel uptight	1.8	0.69	0.43		-0.20	

**Table 5.** Factor loadings (coaching behavior).

ITEMS	LOADING	ERROR	R SQUARED
			(%)
Criticism from my coach is done in a constructive manner	0.61	0.79	0.37
When I need it, my coach's tone of voice is shouting and relaxed	0.64	0.77	0.41
My coach is appropriately composed and relaxed	0.36	0.94	0.13
My coach shows support for me even when I make a mistake	0.64	0.77	0.41
During timeout and halftime my coach emphasizes what should..	0.51	0.86	0.26
My coach's mannerisms and display of emotions help me relax and play better	0.64	0.77	0.41
My coach uses timeouts and halftime to build our confidence	0.46	0.89	0.21
My coach controls his emotions well during games	0.26	0.97	0.07
My coach's behavior during a game makes me feel tight and tense	0.52	0.85	0.27
My coach's mannerisms and display of emotions contribute to me playing poorly	0.23	0.97	0.05
My coach's sideline behavior distracts my attention during a game	0.51	0.86	0.26
When my coach appears uptight, I don't play well	0.45	0.89	0.21
My coach's behavior during a game makes me worry about my performance	0.66	0.75	0.44
I get more nervous watching my coach on the sidelines than I do playing a game	0.58	0.82	0.33
My coach makes me feel uptight	0.75	0.66	0.56

For the level Role *Ambiguity in defense* that examined a model of four factors first class with equivalent questions. The factor variation was defined in 1 and the factorial loadings were free to be estimated. At this model the variations between the factors were allowed but not between the mistakes of the items. The results showed that the specific model represented efficiently the variations between the variables. The index of this model were  $\chi^2_{(164)} = 689.163$   $p < .001$ , Bentler – Bonett normed fit index (NFI) = 0.876, Bentler – Bonett non normed fit index (NNFI) = 0.887, Comparative fit index (CFI) = 0.903, RMSEA = 0.089 and 90% confidence interval of RMSEA = (0.082-0.095).

**Table 6.** Descriptive statistics of every subscale for the role ambiguity.

ITEMS	MEAN	SDV	SKEWNESS		KURTOSIS	
			G1	G2	G1	G2
I understand the extent of my defensive responsibilities	7.88	1.11	-1.03		1.00	
I understand the scope of my defensive responsibilities	7.81	1.12	-1.02		1.23	
I understand all of my defensive responsibilities	7.72	1.15	-0.83		0.39	
I am unclear about the breadth of my defensive responsibilities	7.19	1.89	-1.14		0.59	
I am clear about the different responsibilities that make up my defensive role	7.48	1.28	-1.04		1.45	
I understand what adjustments to my behavior need to be made to carry out my defensive role	7.66	1.18	-1.04		1.77	
I understand the behaviors I must perform to carry out my defensive role	7.58	1.26	-1.16		2.17	
I know what behaviors are necessary to carry out my defensive responsibilities	7.67	1.16	-0.75		0.25	
It is clear what behaviors I should perform to fulfill my defensive role	7.50	1.24	-1.07		2.59	
I am unclear what behaviors are expected of me in order to carry out my defensive role	7.17	1.79	-1.21		0.98	
I understand the criteria by which my defensive role responsibilities are evaluated	7.37	1.43	-1.16		1.96	
I understand how my defensive role is evaluated	7.37	1.37	-0.96		1.16	
It is clear to me how my defensive role responsibilities are evaluated	7.36	1.48	-1.18		1.84	
I am unclear about the way in which my defensive role responses are evaluated	6.82	2.04	-0.90		-0.16	
The criteria by which my defensive role is evaluated are clear to me	7.34	1.38	-0.97		1.04	
It is clear to me what happens if I fail to carry of my defensive role responsibilities	7.54	1.36	-1.35		2.74	
I understand the consequences of failing to carry out my defensive role responsibilities	7.74	1.20	-1.51		4.79	
I am unclear about the consequences of failing to carry out my defensive role responsibilities	6.69	2.23	-0.89		-0.28	
I understand the consequences of unsuccessful defensive role performance	7.78	1.19	-1.72		5.56	
I know what will happen if I don't perform my defensive role responsibilities	7.57	1.48	-1.61		3.43	

**Table 7.** Factor loadings (role ambiguity).

ITEMS	LOADING	ERROR	R SQUARED (%)
I understand the extent of my defensive responsibilities	0.806	0.61	0.634
I understand the scope of my defensive responsibilities	0.83	0.56	0.683
I understand all of my defensive responsibilities	0.83	0.56	0.686
I am unclear about the breadth of my defensive responsibilities	0.59	0.81	0.35
I am clear about the different responsibilities that make up my defensive role	0.79	0.61	0.62
I understand what adjustments to my behavior need to be made to carry out my defensive role	0.74	0.68	0.54
I understand the behaviors I must perform to carry out my defensive role	0.81	0.59	0.65
I know what behaviors are necessary to carry out my defensive responsibilities	0.81	0.59	0.65
It is clear what behaviors I should perform to fulfill my defensive role	0.79	0.61	0.63
I am unclear what behaviors are expected of me in order to carry out my defensive role	0.59	0.80	0.35
I understand the criteria by which my defensive role responsibilities are evaluated	0.82	0.57	0.67

I understand how my defensive role is evaluated	0.83	0.56	0.69
It is clear to me how my defensive role responsibilities are evaluated	0.84	0.55	0.70
I am unclear about the way in which my defensive role responses are evaluated	0.57	0.83	0.32
The criteria by which my defensive role is evaluated are clear to me	0.80	0.60	0.64
It is clear to me what happens if I fail to carry of my defensive role responsibilities	0.73	0.68	0.53
I understand the consequences of failing to carry out my defensive role responsibilities	0.77	0.64	0.59
I am unclear about the consequences of failing to carry out my defensive role responsibilities	0.38	0.92	0.14
I understand the consequences of unsuccessful defensive role performance	0.88	0.48	0.77
I know what will happen if I don't perform my defensive role responsibilities	0.78	0.63	0.61

**Table 8.** Fit assessments (\* p<.001)

	<b>Role ambiguity in defense</b>	<b>Coaching behavior</b>
X <sup>2</sup> /(df)	689.163 (164)*	217.292 (89)*
NFI	0.876	0.834
NNFI	0.887	0.876
CFI	0.903	0.895
IFI	0.903	0.897
GFI	0.846	0.932
AGFI	0.803	0.909
RMR	0.230	0.039
RMSEA	0.089	0.061

### Discussion

The purpose of this research was to investigate the relationship between coaching behavior and role ambiguity in defense using interdependent Greek sport teams. Firstly, the reliability of the questionnaire and the structural validity was confirmed. Considering the questionnaire of Coaching Behavior in the research of Zourbanos, Theodorakis and Hatzigeorgiadis, (2004) in the Confirmatory Factor Analysis, the fit analysis was rather poor as mentioned. More positive and encouraging results regarding the structural validity and reliability via CFA were presented in posterior research of Zourbanos, Theodorakis and Hatzigeorgiadis, (2006), and the indexes of this model were  $\chi^2_{(89)} = 115,22$  p<.001, Bentler – Bonett non normed fit index (NNFI)= 0.94, Comparative fit index (CFI)=0.95, RMSEA = 0,04, whereas similar were the results in the most recent research of Zourbanos, Hatzigeorgiadis and Theodorakis, (2007).

The correlation analysis for the two factors of Coaching Behavior presented negative from medium to high correlation ( $r = -.38$ , p<.01). This is absolutely logical because a coach should not behave positively and negatively at the same time. Similar negative medium correlations between the two factors were presented in two recent researches of Zourbanos, Theodorakis and Hatzigeorgiadis, (2006), Zourbanos, Hatzigeorgiadis and Theodorakis, (2007).

For the Role Ambiguity Scale questionnaire, considering the defensive responsibilities, a model of four factors first class was examined, the questions were the same and the results showed that the particular model represented adequately the pattern of variation among the variables. Regarding the structure of the scale it was presented as multi factorial and agreed almost totally with the factorial structure of the first edition by Beauchamp et.al (2002). As for the correlation of the four factors of role ambiguity in defense there were medium to high confirmation and conclusion results. The positive correlations confirmed the reliability of the factors of the questionnaires and similar results of positive correlations were found, in the research by Beauchamp and Bray, (2001).

According to the results of the correlations some positive correlations were confirmed for the first factor of Coach Behavior (*Supportiveness / Emotional*) in relation to the four factors of the Role Ambiguity for defensive responsibilities, the more positive way the coach criticises the athlete, the more he was calm, as long as he had positive feedback the more well defined the role of the athlete for the defence and there was little role ambiguity for all involved. In few words, when the coach behavior was positive, with positive feedback, correction of the mistakes, commendation and encouragement he gave the athletes clear and definite messages about which their responsibilities are so as to achieve the highest performance.

On the other hand, for the next factor of Coaching Behavior (*Negative activation*), there were medium negative correlations with the factors of Role ambiguity for the defense responsibilities, as the behavior makes the athletes to feel nervous, tensed and generally they are activated and behave in a negative way and also the amplitude of Role ambiguity was higher and higher for the role they should have in defense.

This research confirms the significance of the two factors for sports. The coaching behavior has an interaction on role division and they are unbreakably connected. Positive support, backing, emotional peace; all these when associated with clear roles eventuates to athletes with better performances.

In the near future, we should approach those two factors and combined with other factors such as: anxiety, confidence, athletic satisfaction and some other variables for example: offensive responsibilities, form of leadership, sex, level of athletic experience, etc. More use of the questionnaires would be useful and could move in those directions.

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