

---

**Confirmation of the Dimensional Adjustment Model of Organizational Structure in  
Municipal Sports Organizations**

**Sofia Nikolaidou, Vasilis Gialamas, Georgia Yfantidou, George Costa & George  
Mavrommatis**

Department of Physical Education and Sport Science  
Democritus University of Thrace, Greece

**Correspondence with:**

**Sofia Nikolaidou**

[s.nikolaidou7@gmail.com](mailto:s.nikolaidou7@gmail.com)

Athinas 10, 17455

Alimos, Greece

*International Journal of Sport Management Recreation & Tourism*, Vol.19, p.1-11, 2015

© 2015 I.J.S.Ma.R.T. All rights reserved. ISSN: 1791-874X

**To link to this article: <http://dx.doi.org/>**

**DOI: 10.5199/ijsmart-1791-874X-19a**

## **Confirmation of the Dimensional Adjustment Model of Organizational Structure in Municipal Sports Organizations**

### **Abstract**

The presence of municipal sport organizations indicates the priority, which is given from the local authority in the well-being of citizens. On the other hand, it constitutes the basis upon which sports are built in national level. The whole body of the organizations has an organizational structure. The organizational structure is a system of registration of employment and the relations that govern them. The basic dimensions are: concentration, complexity and formalization. The purpose of this study is to confirm or contradict the proposed, based on the literature, model of organizational structure in municipal sports organizations. The Sport Commission Organization Structure Survey questionnaire was used in order to conduct it. The participants were 100 Greek municipal sport organizations. Factor analysis detected four factors: departmentalization, concentration, specialization and formalization. The results confirmed partially the proposed model. The 'Cronbach a' was used to calculate the reliability factors ranged from .40 to .70. The confirmatory factor analysis was used to determine the adjustment or not to the new model in the data. Based on the model of the confirmatory factor analysis it is revealed that it was slightly acceptable. Finally, although there was a marginal confirmation of the new model, it appears that questions of this survey require further improvement.

**Keywords:** concentration, complexity, standardization, departmentalization, specialization

## **Confirmation of the Dimensional Adjustment Model of Organizational Structure in Municipal Sports Organizations**

### **Introduction**

The way of life and physical activity are closely linked with mental and physical health. Also, they are linked with the social development of children and adults (Berger, 1996). These are an important determinant of quality in life across all ages. For this reason, the creative use of citizen's leisure time is a social investment and improves their quality of life (Pylianidis, Vaskanou, Taxildaris & Tokmakidis, 2002). Today in our country, the sports programs for all involving more than 350,000 people, while 50% are children. Several municipal sports organizations have resources, staff, facilities and administrative structure for the formation of a diverse sport program. The municipal services are aimed at: general population, elderly, workers, children, people with disabilities, people with chronic diseases and rehabilitation-specific categories of people (addicts) (Afthinos, 2001). The aim of sport municipal services is to provide to the citizens the chance to improve their biotic level and at the same time their sporting culture and conscience (Afthinos, 2001., Kakkos, 1996., & Chelladurai, 1999).

For Thompson (1967), organizational structure referred to the departments of an organization and the connections "established within and between departments". He suggested that structure was the means by which an organization was able to set limits and boundaries for efficient performance through controlling resources and defining responsibilities. According to Papadimitriou (2005), the organizational structure is one of the fundamental ways in which organizations try to achieve their goals.

The three most common dimensions of organizational structure are: "centralization", "complexity" and "formalization". Centralization is concerned with the people who take decisions in a sport organization. When decisions are taken at the top of an organization it is considered centralized; when decisions are made at the lower levels it is decentralized. Moreover, complexity describes the way in which an organization is differentiated. Three types of differentiation are usually found in a sport organization: horizontal, vertical and spatial. Sport organizations are horizontally differentiated when work is broken down into narrow tasks, when professionals or craft workers are employed and when the organization is departmentalized. Vertical differentiation refers to the number of levels in the organizational hierarchy. A sport

organization is spatially differentiated when tasks are separated geographically. Formalization, the last dimension of structure, refers to the existence of mechanisms, such as rules and procedures that govern the operation of a sport organization. The majority of researchers use these dimensions in order to describe and understand the organizational structure (Parent & Slack, 2006; Kikulus and et., 1995a; Theodoraki & Henry, 1994).

The Greek research findings compared to the organizational structure of municipal sport organizations are scant. Only Papadimitriou, (2005) performed research in the Greek Sport Federations in order to identify the relation between their organizational size and their effectiveness. The results showed that the smaller sport organizations (boxing, judo, skiing) were more effective than the bigger ones. In addition, federations with limited resources had economic efficiency. Increasing the size of organizations is not accompanied with clear administrative responsibilities and decentralization to a degree standard bureaucratic procedure with qualified management personnel and monitoring mechanisms and coordination would appreciate. Based on the above results, it is obvious that large in size federations face difficulties in meeting their members needs in leadership and decisions.

Several researches compared the dimensions of organizational structure in sports organizations. Thibault and et. (1993), studied and introduced analysis plans of non-profit sports organizations. They recognized the differences between profit and nonprofit sport organizations and emphasized the existence of many classifications of structures in relation to the strategy followed in any organization. Amis & Slack (1996), studied the relationship of organizational size and structure and found that the size of the organization affects the type of structure. Recently, Cunningham and Rivera (2001), studied organizational structures in American college sections using the dimensions of concentration, complexity and standardization in order to classify the sections. The emerging results depicted the three dimensions of organizational structure. From their findings, they also promoted the development of enable structure as the most effective in order American college sections to achieve their goals. Bradish (2003), further studied and compared the differences between the dimensions of structural organizations in large and small regional sport commissions in the United States of America. She noted that both small and large sport commissions were similar in organization and structure. Furthermore, the previous research showed moderate levels of complexity and centralization and moderate to low level of formalization.

### ***Purpose***

The aim of the present research is to confirm or to contradict the proposed, based on the literature, model of organizational structure in municipal Greek sports organizations by examining their dimensions.

### **Methodology**

#### ***Sample***

The sample of research was 100 Greek municipal sport organizations of the total 125. 100 questionnaires were sent via e-mail to the presidents of the municipal sport organizations. One week ago, all the presidents were informed by phone about the purpose of the research. A week after the sending of the questionnaires followed another telephone conversation in order to confirm the sending of the questionnaires.

#### ***Questionnaire - Pilot research of Questionnaire***

The survey instrument used for this study was the Sport Commission Organization Structure Survey (SCOSS). The questionnaire included 40 questions and was constituted by 4 parts. The first three parts were designed by Robbins (1987) prototype. The first part included questions concerning the centralization; the second part concerned the complexity, while the third part concerned the formalization. The fourth part was designed to assess general descriptive organizational characteristics. This part was developed and endorsed by the National Associations of Sports Commissions (1994) and more recently endorsed by sport management and market specific scholars (Amis & Slack, 1996; Slack & Parent, 1997).

The SCOSS was translated and followed pilot research in 31 Greek municipal sport organizations in order to approve its validity and its reliability. For the first three parts of the questionnaire the presidents of municipal sport organizations marked "x" to their chosen number of a scale from the 1 (never) to 5 (always). At the general descriptive organizational characteristics, they marked with an "x" their answer. The reliability of the questionnaire was checked by using the exploratory factor analysis which indicated the existence of four factors namely "concentration", "departmentalisation", "specialization" and "formalization" which explained the 74.8% of the total variance, while 'Cronbach's a' were  $a = .86$  for the first and  $a = .85$  for the second one. The other two factors showed unacceptable 'Cronbach's a' (.50, .53). For this reason, the questions which concerned the concentration and the departmentalisation remained the same. This led to a further development of the

questionnaire. In particular, there were made: a) review of literature, and b) interviews with presidents of the municipal sport organizations in order to design supplementary questions.

The final shape of the questionnaire contained 3 sections with 37 questions which contain 1) demographic characteristics (4 questions), 2) dimensions of organizational structure (14 questions), and 3) organizational characteristics (19 questions).

### ***Procedure***

The final questionnaire was subjected to critical analysis by three academics that teach statistics and research methodology at the University of Thrace and were assessed by a philologist to ensure the interpretation of questions. Then, a second pilot research was carried out in the same municipal sport organizations. Factor analysis revealed four factors which interpreted 78.8% of the total variance. Specifically, the factors were a) “concentration”, b) “departmentalisation”, c) specialization”, and d) “formalization” with high consistency variables for each factor ( $\alpha = .83$ ,  $\alpha = .85$ ,  $\alpha = .80$ ,  $\alpha = .63$ ). In conclusion, it seems that the questionnaire is a reliable and valid working instrument, able to evaluate the organizational structure of the municipal sport organizations. The new questionnaires were sent by e-mail in 125 municipal sport organizations. The final number of questionnaires which was collected was 100.

### ***Statistical analysis***

Exploratory factor analysis was used to find the dimensions of organizational structure in Greek municipal sports organizations. Specifically, the factor analysis indicated four factors, namely “concentration”, “departmentalisation”, “specialization” and “formalization”. Afterwards, ‘Cronbach  $\alpha$ ’ (1951) was used in order to calculate the reliability of the factors. Finally, confirmatory factor analysis was held in order to determine the adjustment or not of the new model in the data.

## **Results**

### ***Structural validity and reliability***

The examination of structural validity of questionnaires was made through the exploratory factor analysis which included the analysis in main components and then the varimax rotation of axes. The number of factors was set at 4 with the help of graph of variations and the cut off point loads of questions on the factors was 0.45. The factor analysis (Table 1) revealed four factors that interpret the 50,507% of the total variance:

1) “departmentalisation”, 2) “concentration”, 3) “specialization” and 4) “formalization”.

The factors of this research were 4, in contrast to previous researches in which the factors were 3. Of course, the first and the third factor were related to the horizontal differentiation of complexity, as mentioned in the introduction. The model of Robbins (1987) & National Associations of Sports Commissions (1994) seems that does not reflect the Greek data in relation to the organizational structure.

**Table 1.** Results of factor analysis, which revealed four factors & their loadings.

VARIABLES	FACTORS			
	1	2	3	4
Number of departments	.64			
Staff participation in intakes-layoffs	.64			
Staff participation in the way of evaluating	.61			
Staff participation in design new programs	.56			
Staff experience in sport management	.46			
Involment of president in making decisions		.64		
Involment of president in interpretation of rrmation		.65		
Control of president in execution of decisions		.74		
Number of staff levels		.45		
Specified tasks			.73	
Group tasks			.62	
Job titles			.59	
Written job descriptions				.63
Limitation of autonomy				.58

Furthermore, the internal consistency of the factors examined with the coefficient alpha of Cronbach. The results are shown in Table 2.

**Table 2.** Number of questions & internal consistency of factors.

Factor	Number of questions	Cronbach's a
Departmentalization	5	.65
Concentration	4	.70
Specialization	3	.61
Formalization	2	.43

Finally, confirmatory factor analysis was held in order to determine the adjustment or not to the new model in the data. Regarding to the confirmatory factor analysis, the results revealed the following fit indices:

- Relative Chi-Square Test ( $X^2/df$ ) = 1,20
- Root Mean Square Error Of Approximation (RMSEA) = 0,045,  $p$  (RMSEA  $\leq$ , 05) = 0,558
- Comparative Fit Index (CFI) = 0,85
- Tucker Lewis Index (TLI) = 0,81

Therefore, base of the fit indices, seems that the new model is marginally acceptable.

### **Discussion and Conclusion**

The aim of the present research was to confirm or to contradict the proposed, based on the literature, model of organizational structure in Greek municipal sports organizations by examining their dimensions. The factor analysis revealed four factors:

1) “departmentalisation”, 2) “concentration”, 3) “specialization” and 4) “formalization”. The results of this research did not confirm the construct validity of the model of Robbins, (1987) and the National Associations of Sports Commissions (1994), for the dimensions of organizational structure.

Comparing the results of this investigation with the above model the second, third and fourth question (Table 1.) which were in the concentration factor, grouped with other two questions in one factor which is named departmentalisation. In the second factor, concentration was added the question which concerns the number of levels between the president and lower employee. According to SCOSS the last question belonged to the factor complexity. It seems that the Greek sports municipal organizations consist of few levels between president and lower employee and for this reason; the specific question was incorporated in the second factor. According to Robbins, (1987) and the National Associations of Sports Commissions (1994), the last two questions of the third factor, belonged to complexity and the first question to formalization. In this study, these questions were incorporated in one factor namely specialization. Finally, the last factor remained the same, except for the noted above question. The results of the internal consistency factors were satisfactory, apart from formalization. But the index ‘Cronbach  $\alpha$ ’ is influenced by the number of questions, and this factor had only two questions.

Regarding to the confirmatory analysis, it showed that the new model which was resulted from this research, is marginally acceptable. Particularly, as mentioned by Mac Callum & Austin (2000), the use of the root means square error of approximation (RMSEA), and therefore that index was used to assess absolute fit with values less than .10 which indicate a good fit to the data and values below .05 which indicate a very good fit to the data (Steiger, 1990). In this research, the RMSEA indicated a very good fit to the data (RMSEA=0.045). Furthermore, the chi-square was calculated. Due to the sensitivity of this index in the sample was used the relative chi- square ( $X^2/df$ ). According to Bentler et. (1980), the desired value defined as less than 2 ( $X^2/df < 2$ ). Also the value of this index in the research was highly satisfactory ( $X^2/df=1.20$ ).

Although, the two above indices were quite satisfactory, it was not applied the same to the other two. Specifically, the range of values for CFI and TLI are from 0 (none fit) to 1 (best fit). Particularly, consulted that the optimum values for CFI and TLI are greater than 0.90. In the research, the index were 0.85 for CFI and 0.81 for TLI. Therefore, although the indicators did not show values greater than .90, we can say that one's appearance moderate adjustment. Therefore, we conclude that the model appeared in this research is marginally acceptable which leads to the result of the requirement of the re-examination of the model by adding some questions that will ensure the acceptance of the model.

### References

- Afthinos J. (2001). Structure and function of municipal sports organizations. Version B. Athens.
- Amis, J., & Slack, T. (1996). The size-structure relation-ship in voluntary sport organizations. *Journal of Sport Management*, 10, 76-86.
- Bentler, P. M. (1993). EQS: Structural equations program manual .Los Angeles: BMDP Statistical Software.
- Bentler, P. M., & Boonet, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88, 588-606.
- Berger B. (1996). Psychological benefits of an active lifestyle: what we know and what we need to know? *Quest*, 48, 330-353.
- Bradish C. (2003). Fulfillment of Florida State University. An Examination of the relationship between Regional Sport Commissions & Organizational Structure.

- Chelladurai P. (1999). Human resource management in sport and recreation. USA : Human Kinetics.
- Cronbach L. J (1951). "Coefficient alpha and the internal structure of tests". *Psychometrika* 16 (3): 297–334.
- Cunningham, G. B. & Rivera, C. A. (2001). Structural designs within American intercollegiate athletic departments. *The International Journal of organizational analysis*, 9(4), 369-390.
- Joreskog, K. G. & Sordom, D. 1996. Lisrel 8: User's reference guide. Chicago: Scientific Software International.
- Kakkos V. (1996). The organization of sport in local government. A National conference E.L.L. E. D. A. Thessaloniki.
- Kikulis, L., Slack, T., & Hinings, C. R. (1995a). Does decision making make a difference: Patterns of change within Canadian national sport organizations. *Journal of Sport Management*, 9, 273-299.
- MacCallum, R.C., & Austin, J. T. (2000). Applications of structural equation modeling in psychological research. *Annual Review of Psychology*, 51, 201-226.
- National Associations of Sports Commissions (1994). Sports commission 101. Cincinnati, OH: Author Papadimitriou D. (2005). Management of sports organizations and businesses. Prentice Hall, Athens.
- Pilianidis Th., Vitsikanou F., Taxildaris K. & Tokmakidis S. (2002). Organization of the municipal sport organization of Komotini. Sports programs for all. 10th International Congress of Physical Education and Sports. *Sport and Society*, 31, 144 -145.
- Robbins, S. P.(1987). Organizational theory: Structure, design and applications (2<sup>nd</sup> ed.). Englewood Cliffs, NJ: Prentice Hall.
- Slack,T. & Parent,M. M. (2001). Understanding Sport Organizations. The Application of Organization Theory. Second Edition. Champaign, IL: Human Kinetics.
- Steiger, J. H (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*,25, 173-180.
- Theodoraki, E., & Henry, I. P. (1994). Organizational structures and context in British national governing bodies of sport. *International Review for the Sociology of Sport*, 29, 243-263.
- Thibault, L., Slack, T., Hinings, C. R.(1993). A framework for the analysis of strategy in nonprofit sport organizations. *Journal of Sport Management*, 7, 25-43.

Thompson, J. D. (1967). *Organizations in action*. New York: McGraw-Hill.

Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, 38, 1-10.