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Sport Science as a Determinative Factor in Management of Indoor Facilities in Municipal Sport Organizations

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Abstract: The purpose of this study was to identify which was the determinative factor of the competencies needed to manage health and fitness clubs and indoor sport facilities in Greece. For the collection of the data we used an instrument validated by a sample of 101 health and fitness clubs and indoor sport facilities managers. The final sample of the study was 401 sport directors in the municipalities, selected randomly. Exploratory factor analysis with varimax rotation revealed that sport science was the determinative factor, comprising 12 competency statements. The internal validity revealed a Cronbach's alpha factor of 0.87 with a factor-loading ranging from 0.889 to 0.616. The items rated by managers demonstrated an understanding of: (a) human limitations in sport (factor loading 0.889), (b) the prevention and rehabilitation of injuries (factor loading 0.873) and (c) exercise physiology and anatomy (factor loading 0.872). These results show that the determinative factor of competencies needed to manage health and fitness clubs and indoor sport facilities are closely related to sport science.

Key words: Competencies, directors, indoor sport facilities, youth centres

INTRODUCTION

Competence can be defined as: the capacity of an employee to meet or exceed a job's requirements by producing the job outputs at an expected level or quality within the constraints of the organization's internal and external environments (Stark *et al.*, 1986). Many researchers have investigated the competencies required in the management of a variety of organizations (Quain and Parks, 1986; Chen, 1993; Dubois, 1993; Anthony, 1998; Paris and Zeigler, 2003).

A study by Jamieson (1980) determined the competencies of recreational sport managers in selected institutional settings by means of a 112 competency-statement questionnaire. After analysis 12 main factors were established: management techniques, research, programming, governance, legality, philosophical foundations, business procedures, communications, officiating, safety/accident prevention, sport science and facility maintenance.

Similarly, Lambrecht (1987) administered a questionnaire with 33 competencies to a sample of 348 club managers, dividing sports clubs into three

categories, based on the facilities and service provided to customers, annual revenue and membership size. Demographic information was also obtained from the subjects. Although, the three groups rated the factor communication with clientele highest, he didn't find significant differences in the 33 competency statements. Factor analysis revealed six main factors in competence, which were public awareness, design/control competencies, sport skills, budgeting, communication skill and accounting.

Afthinos (1993), used a questionnaire that comprised 115 competencies. He sent the instrument to 132 managers at three levels (national, regional and local) and asked them to rate the importance of each of the statements and found that the top three competencies chosen by first-level managers were as follows: communications, management techniques and sport-events administration and philosophy. Those chosen by second-level managers were communications, sport-events administration and sport science, while the third-level managers rated communications, philosophy and sport science the highest.

Lin (1998) investigated the competencies needed for the collegiate athletic directors, commercial sports managers and sport administrators in Taiwan. He used a questionnaire that comprised 58 competencies. After the factor analysis he found that the top five competencies rated by all the managers were health and fitness management, marketing, business management, leadership, human resource, organization management, the administration of physical education and athletics.

Horch and Schutte (2003) in their study, ascertained the requisite competencies of German sports club and sport federation managers. After factor analysis they found that interpersonal communication, public relations, advertising and techniques of personal management were the principal factors.

Koustelios (2003) posted an instrument consisting of 75 questions to 202 sports club managers from three national club sport federations. The analysis revealed that the principal factors were human resource management, marketing and communication and knowledge of sport and financial management.

Tripolitsioti (2005) investigated the managerial activities of directors of youth and fitness club in the municipality of Athens (Mintzberg, 1980). The analysis confirmed that most directors were males who have occupied their posts much longer and were thus more experienced than females. Female directors spend less time on figurehead and leadership and more time on maintenance/routine activities than males. No differences were observed in other managerial activities such as conflict resolution, evaluation, policymaking, coordination and public relations.

Tsai (1996) investigated the competencies needed by college recreational sport directors both in the United States and Taiwan. After factor analysis he found that the factors rated highest by the sport directors of Taiwan were as follows: staff communication, facility planning, intramural sports instructing ability, budget monitoring, control resource allocation, employee motivation and budget preparation, while sport directors from the US prioritised public relations, decision making process, employee motivation, the handling of participants' complaints, supervision of staff and personnel, problem solving, delegating responsibilities and time management. As confirmed from the literature review, the competencies needed for the practitioners in sport management profession, differs considerably. The manager who works in the health and fitness clubs and indoor facilities in municipalities is one of the professions in sport management. In order to know what to do, who is he and how to do it, these areas still remain unknown and studies are still required. Thus, the aim of this investigation was to determine which is the determinative factor in the

perceived competencies needed by the manager of the health and fitness club and indoor facilities in municipalities to manage these athletic organizations.

MATERIALS AND METHODS

The subjects of the study were 401 directors of health and fitness club and directors of indoor athletic facilities. These athletic managers were randomly chosen from the 13 regions of the country with a systematic sampling. The initial sample was 692 directors, who are the managers of the municipalities programs. All participants were provided with a packet of information, which included the questionnaire, a self-addressed envelope and a cover letter explaining the purpose of the study. Answers could be sent by post or e-mail. A follow up letter was sent to those who did not respond within 15 days and data collection closed one month after the initial mailing. After two follow-up, 401 responses were received, a total response rate of 58%.

Instrument: For this study a questionnaire of competencies of sport managers consisting of 72 statements was developed. Details of its construction can be found elsewhere (Tripolitsioti *et al.*, 2007).

Statistics: The data collected from both the directors of fitness club and the directors of indoor facilities were entered into Microsoft Excel 2003 software and later converted to the SPSS 13.0 statistical package for data analysis. The descriptive statistics of means, standard deviations, frequency rankings of the competency statements and percentages were used to obtain information from the data analysis. Cronbach's coefficient alpha was used to confirm the internal consistency reliability between items on each factor. Factor analysis was conducted to determine the number of factors in the instrument (Kabitsis, 2004).

RESULTS

In the study 110 women (27.4%) and 291 (72.6%) men participated.

Age: The data from Table 1 revealed that the greatest percentage of respondents in age were between 45 and 54. This range of age contained 72 respondents or 17.6%.

Table 1: Frequency and percentage of the respondents by age

Age (years)	Women	Men	Total
25-34	20 (29.0)	49 (71.0)	69 (17.2)
35-44	62 (26.5)	172 (73.5)	234 (58.4)
45-54	21 (29.2)	51(70.8)	72 (17.6)
55-65	7(26.9)	19(73.1)	26 (6.8)
Total	119	291	401

Values are in brackets are in percentage

Table 2: Frequency and percentage of the respondents by working years

Working years	Women	Men	Total
0-9	5 (31.3)	11 (68.8)	16 (3.9)
10-19	63 (23.5)	205 (76.5)	268 (66.8)
20-29	32 (35.2)	59 (64.8)	91(22.7)
Up 30	10 (38.5)	16 (61.5)	26 (6.6)
Total	291	110	401

Values are in bracket are in percentage

Table 3: Principal components factors analysis following varimax rotation

Factors	No. of items	Eigen values	Variance (%)	Total of variance
Sport science	12	12.583	17.476	17.476
Event management	10	8.413	11.684	29.161
Computer skills	8	7.067	9.815	38.976
Management techniques	15	6.457	8.967	47.944
Communication/public relations	8	4.905	6.813	54.757
Facility management	6	2.729	3.791	58.547
First aids/risk management	5	2.263	3.144	61.691
Governance	5	1.728	2.401	64.091

Twenty one (29.2%) of them were women and 51 (73.5%) were men. The majority of the respondents fell into the range of age between 35 and 44. This range of age contained 234 respondents or 58.3%. Sixtytwo (26.5%) of them were women and 171 (73.5%) were men.

Working years: The data from Table 2 revealed that the greatest percentage of respondents in working years were between 20 and 29. This range of age contained 91 respondents or 22.7%. Thirty two (35.2%) of them were women and 59 (64.8%) were men. The majority of the respondents fell into the range of working years between 10 and 19. This range of age contained 268 respondents or 66.8%. Sixty three (23.5%) of them were women and 205 (76.5%) were men.

Principal components factor analysis on 72 statements of the study on which data was collected, following by varimax rotation, which was executed. In this way, a total of eight factors were extracted (Table 3). The first factor was the sport science with 12 statements.

The internal validity revealed that the Cronbach's alpha of the factor was 94.6. The items that were highest rated demonstrated an understanding of:

- Human limitations in sport (37)
- The prevention and rehabilitation of injuries (31)
- Exercise physiology and anatomy (56)

DISCUSSION

The purpose of this study was to identify which factor of competencies is needed by the directors of health, fitness club and the directors of indoor facilities of youth and sport organizations of Greek Municipalities. For this we constructed an instrument, which was, pilot

tested in a sample of 101 managers (Tripolitsiotti *et al.*, 2007).

After factor analysis with varimax rotation we found that the principal factors-shown above-were those associated with sport science.

For example: while Jamieson (1980) tried to determine the competencies of recreational sport personnel in selected institutional settings, he found that the principal factor was business procedures. In Lambrecht (1987), study were examined, 348 sport and athletic club and commercial sport managers. They answered in a questionnaire comprising of 33 competencies. The sport clubs were divided into three categories, according to the service provided to the customers. Public awareness was the number one factor. Kim (1997) on the other hand, researching in the Republic of Korea and using the Jamienson's (1998) instrument, concluded that the principal factor was understanding the nature of sports. Yet another study, by Lin (1998) found that health and fitness management was the principal factor for collegiate athletic directors, sport administrators and commercial sports managers in Taiwan. Finally, Horsch and Schutte (2003) found that interpersonal communication was the principal factor in German sports club and sport federations.

As mentioned earlier, three sports management studies have been carried out in Greece. In the first, by Afthinos (1993), 132 managers at three levels (national, regional and local) participated, rating the statements of the Jamieson (1998) questionnaire. Factor analysis revealed that all managers (first, second and third level) rated communication as the principal factor.

In the second study by Koustelios (2003a, b), in which 202 sports club managers from three national club sport federations participated, it was financial management, while in the third study also by Koustelios (2003a), 186 private fitness centre managers participated, the results showed that the knowledge of sports was the principal factor.

The results of the studies are contradictory because the managerial competencies depend on a variety of factors such as: national athletic context and the type of organization (federation, public or private club, sport-for-all program), physical education and athletic administrators, commercial sports managers, etc.

Today in Greece there about 602 youth and sports organizations in the municipalities, that offer a large number of recreation programs, participated in by up to 2% of young Greeks. Establishing the required managerial competencies for Greece will enable these establishments to function more effectively, to the ultimate good of the whole population.

CONCLUSION

The results of this study showed that the determinative factor of competencies that are needed by directors of health and fitness clubs and indoor facilities is the knowledge of the sports science. Therefore, competencies should be taken into consideration by Academicians of Sports Management Departments when designing curricula programs.

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