

Identifying Administrative Competencies of Physical Education Teachers in Primary and Secondary Education according to Gender, Level of Education and Age

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How to cite this paper: Lamprini, T. (2025). Identifying Administrative Competencies of Physical Education Teachers in Primary and Secondary Education according to Gender, Level of Education and Age. *Advances in Physical Education*, 15, 352-360.
<https://doi.org/10.4236/ape.2025.153024>

Received: July 22, 2025

Accepted: August 18, 2025

Published: August 21, 2025

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Abstract

The purpose of this study was to identify the administrative skills required by physical education teachers according to demographics. For this reason, the Toh questionnaire was translated and processed by Tasiopoulos, Tripolitsioti, and Stergioulas with 24 questions. 81 participants responded anonymously, filling out the questionnaire through a Google form from both primary and secondary education. The analysis of the data obtained descriptive statistics, reliability analysis, and t-test and variance analysis with the Cronbach's α coefficient factors of the questionnaire showed internal consistency (0.42 - 0.82). For the data analysis, the IBM SPSS Statistics version 29 was used. The data analysis with exploratory factor analysis, revealed seven factors: "knowledge of sport" (5 questions), "event management" (1 question), "communication-public relations" (6 questions), "computer skills" (5 questions), "facility-equipment" (2 questions), "risk management" (2 questions), "management techniques" (3 questions). Results didn't show statistically significant differences according to gender, educational status, and age. On the contrary, statistically significant differences were found on the factor "communications-public relations" between PET aged < 50 and those aged > 50 years old. Concluded that physical education teachers understand that the knowledge and skills required for meeting their obligations are related to the seven factors examined, with those who are older giving more emphasis to the communications-public relations factor.

Keywords

Competencies, Educational Administration, Sports Management, Physical Education Teachers

1. Introduction

According to Michalis Papadopoulos, President of the Pedagogical Institute, “the improvement of the quality of the education provided and the exploration of the challenges related to its content constitute a significant priority and a central issue in the dialogue and research conducted by institutions that influence the shaping of educational policy.”

The current reality of Greek schools compels the physical education teacher to recognize their important role as an educational leader and as a key contributor to the provision of quality education within the Greek educational system. The academic fields of *school effectiveness* and *educational leadership* cannot leave them unaffected or indifferent (Alatzoglou, 2014).

The present study was conducted based on the researcher’s interest in exploring the extent to which physical education teachers’ awareness of administrative competencies could contribute to the improvement of their professional life and the development of a positive learning environment. Furthermore, the findings of the study are expected to provide valuable insights to relevant stakeholders, enabling them to design appropriate curricula and educational programs.

Undoubtedly, the possession of administrative and organizational competencies can be regarded as a significant professional qualification that contributes to an individual’s career development and performance within their field. Knowledge of administrative skills is important as it enhances pedagogical practice and creates the conditions necessary for the improvement of both education and learning. In an ever-evolving and dynamic educational environment, the increasing responsibilities placed on teachers—along with the assumption of multiple roles—introduce new obligations and challenges. Subject-matter expertise and teaching techniques alone are no longer sufficient. In order to enhance the quality of their teaching and achieve educational goals, educators must also possess administrative competencies.

The role of sports management within the educational context, and its contribution to enhancing both the teaching and learning process, has been the subject of investigation by numerous scholars focusing on the leadership competencies of educational administrators (Krikeli, 2019; Tsaroucha, 2018; Papanagnostou, 2016). However, there is a notable gap in the literature regarding non-administrative personnel, particularly Physical Education (PE) teachers. As integral members of the school unit, educators are expected to respond to contemporary challenges by cultivating a broad spectrum of competencies. According to a definition provided by a working group of the European Commission (2004), the term “competence” encompasses not only knowledge, skills, and attitudes, but also the individual’s capacity to adapt to change through lifelong learning. The role of the PE teacher, in particular, is multidimensional.

The present study aims to explore the specific administrative competencies required in the context of the educational and instructional process. Identifying these

competencies is critical for the design and implementation of targeted professional development programs. Such programs would not only enhance individual career progression but also contribute to the overall advancement of the school unit, the quality of education, and the effectiveness of instruction. [Petridou \(2000\)](#) asserts that educational administration is inherently aligned with the operational functions of the school unit, defining it as “a continuous and dynamic process of planning, organizing, directing, and controlling all productive resources engaged in the educational endeavor, in order to ensure the effectiveness of decisions, actions, and the outcomes of knowledge production.” Similarly, [Alatzoglou \(2014\)](#) emphasizes that PE teachers represent the fourth largest professional group holding leadership positions in secondary education. Given that undergraduate programs do not sufficiently equip them with the administrative competencies required for school leadership, a critical question arises regarding their capacity to undertake effective school management. Various studies have explored the concept of perceived administrative competencies, further highlighting the importance of this research focus. [Jamieson and Toh \(1996\)](#) focused on developing a research tool aimed at identifying sport management competencies and constructing a sport management organizational model. Based on the statistical findings of their study, the resulting competency model in sport management comprised six factors derived from 31 individual competencies. These factors included: Governance, Sport Foundations, Budgeting, Risk Management, ICT Skills, and Communication. In relation to Physical Education (PE) teachers, a study was conducted by [Yasin and Colakoglu \(2022\)](#) with the aim of examining their leadership orientations according to various demographic variables. A total of 329 PE teachers, working in both public and private primary and secondary schools in Türkiye, voluntarily participated in the study. Data were collected via a Google Form during the COVID-19 pandemic. The research instrument used was the Multidimensional Leadership Orientations Scale (MLOS), developed by [Dursun et al. \(2019\)](#), which comprises 19 items. The scale broadly measures four dimensions: Political Leadership, Human Resources Leadership, Charismatic Leadership, and Structural Leadership. The findings of the study indicated that PE teachers primarily demonstrated an orientation toward Human Resources Leadership. Furthermore, statistically significant differences were observed in the sub-dimensions of the scale in relation to age, years of professional experience, and managerial status.

2. Method

A total of 81 Physical Education (PE) teachers from across Greece participated in the study. The sample included individuals working in both primary and secondary education. Participants were invited to complete an anonymous questionnaire distributed via Google Forms. For the purpose of data collection, a translated and adapted version of the questionnaire developed by [Toh \(1997\)](#), as modified and utilized by [Tasiopoulos et al. \(2014\)](#), was employed. The instrument consisted of 24 items, each evaluating essential administrative competencies. Participants were

asked to rate the importance they attribute to each competency using a five-point Likert scale, ranging from (1) “not at all” to (5) “very much.” In addition, nine demographic variables were examined. Data were analyzed using IBM SPSS Statistics (Version 29). The level of statistical significance was set at $p < 0.05$.

3. Measurement Procedure

Data were collected via Google Forms. Participants provided informed consent and completed the questionnaire anonymously online. The researcher distributed the questionnaire and communicated the purpose of the study through personal emails and posts in social media groups, requesting voluntary participation. Additional clarifications were provided when necessary. Permission to use the questionnaire was obtained orally from Mr. Ioannis Tasiopoulos. Completion of the questionnaire required approximately 5 to 10 minutes.

4. Delimitations

The participating educators came from both primary and secondary education levels across Greece. Responses were collected within a specific time frame (March 2023). Participants responded solely to the items included in the questionnaire. Permission to use the questionnaire was obtained from the researcher, Mr. Ioannis Tasiopoulos. Educators provided informed consent prior to completing the questionnaire. Participants answered the questions honestly.

5. Outcomes

Descriptive Statistics

The descriptive statistics (means and standard deviations) for the seven factors of the administrative competencies questionnaire for Physical Education teachers are presented in detail in **Table 1**.

Table 1. Descriptive statistics, reliability analysis, and correlation analysis among the seven variables of the administrative competencies questionnaire for physical education teachers.

Variables	M	SD	α	1	2	3	4	5	6	7
1. Knowledge of sport	4.46	0.43	0.68	-						
2. Risk management	4.36	0.65	0.58	0.66**	-					
3. Communication-public relations	3.99	0.67	0.82	0.65**	0.59**	-				
4. Computer skills	3.75	0.69	0.68	0.49**	0.42**	0.63**	-			
5. Facility-equipment	4.44	0.69	0.77	0.63**	0.60**	0.56**	0.61**	-		
6. Management techniques	3.82	0.64	0.42	0.59**	0.58**	0.75**	0.57**	0.55**	-	
7. Event management	3.47	1.30	-	0.46**	0.34**	0.54**	0.47**	0.44**	0.40**	-

M = Mean; SD = Standard Deviation; α = Cronbach's alpha reliability coefficient.

Investigation of the Internal Consistency of the Seven (7) Factors of Administrative Competencies

Reliability analysis using Cronbach's alpha coefficient indicated low to acceptable levels of internal consistency (ranging from 0.42 to 0.82) across the seven factors of the administrative competencies questionnaire for Physical Education teachers (**Table 1**).

Correlation Analysis

Pearson's correlation analysis (r) revealed moderate to strong positive correlations among the seven factors of the administrative competencies of Physical Education teachers (**Table 1**).

Differences in the Administrative Competencies of Physical Education Teachers Based on Gender

Separate independent samples t-tests showed that there were no statistically significant differences between males and females in knowledge of sport ($t_{79} = 0.549$, $p = 0.584$), in risk management ($t_{79} = 0.120$, $p = 0.905$), in communication-public relations ($t_{79} = -0.580$, $p = 0.563$), in computer skills ($t_{79} = 0.456$, $p = 0.649$), in facility-equipment ($t_{79} = 1.376$, $p = 0.173$), in management techniques ($t_{79} = -0.040$, $p = 0.968$) and event management ($t_{79} = 1.706$, $p = 0.09$) between males and females (**Table 2**).

Table 2. Descriptive statistics of males and females on administrative competencies.

Variables	Male (M ± SD)	Female (M ± SD)
Knowledge of sport	4.50 ± 0.40	4.44 ± 0.44
Risk management	4.37 ± 0.66	4.35 ± 0.66
Communication-public relations	3.93 ± 0.74	4.02 ± 0.64
Computer skills	3.80 ± 0.77	3.73 ± 0.64
Facility-equipment	4.59 ± 0.61	4.37 ± 0.72
Management techniques	3.81 ± 0.62	3.82 ± 0.66
Event management	3.81 ± 1.27	3.30 ± 1.30

M = Mean; SD = Standard Deviation.

Differences in the Administrative Competencies of Physical Education Teachers (PET) Based on Age Group (Up to 50 Years vs. Over 50 Years)

Separate independent samples t-tests showed that there were no statistically significant differences in knowledge of sport ($t_{79} = -0.533$, $p = 0.596$), in risk management ($t_{79} = -0.231$, $p = 0.818$), in computer skills ($t_{79} = 0.091$, $p = 0.928$), in facility-equipment ($t_{79} = -1.861$, $p = 0.07$), in management techniques ($t_{79} = -1.113$, $p = 0.269$), and event management ($t_{79} = -1.558$, $p = 0.123$) between younger PET (up to 50 years old) and older PET (over 50 years old) (**Table 3**). On the contrary, statistically significant differences were found in communication-public relations ($t_{79} = -2.012$, $p < 0.05$, $d = 0.43$) between younger PET (up to 50 years old) and older PET (over 50 years old) (**Table 4**). Specifically, a comparison of the mean scores revealed that older PETs (over 50 years old) reported higher scores in communication-public relations than younger PETs (up to 50 years old).

Table 3. Descriptive statistics of younger PETs (up to 50 years old) and older PETs (over 50 years old) on administrative competencies.

Variables	Younger PETs (Up to 50 Years Old; M ± SD)	Older PETs (Over 50 Years Old; M ± SD)
Knowledge of sport	4.43 ± 0.39	4.48 ± 0.45
Risk management	4.34 ± 0.59	4.37 ± 0.70
Communication-public relations	3.81 ± 0.64*	4.11 ± 0.68*
Computer skills	3.76 ± 0.72	3.74 ± 0.67
Facility-equipment	4.28 ± 0.71	4.56 ± 0.66
Management techniques	3.73 ± 0.63	3.89 ± 0.65
Event management	3.21 ± 1.34	3.66 ± 1.26

PET = Physical Education Teachers; M = Mean; SD = Standard Deviation; * $p < 0.05$.

Table 4. Descriptive statistics of PET in primary and secondary education on administrative competencies.

Variables	Primary education (M ± SD)	Secondary education (M ± SD)
Knowledge of sport	4.42 ± 0.46	4.54 ± 0.34
Risk management	4.39 ± 0.66	4.30 ± 0.64
Communication-public relations	3.96 ± 0.69	4.04 ± 0.65
Computer skills	3.74 ± 0.64	3.78 ± 0.77
Facility-equipment	4.47 ± 0.65	4.39 ± 0.77
Management techniques	3.82 ± 0.60	3.81 ± 0.73
Event management	3.32 ± 1.34	3.75 ± 1.21

M = Mean; SD = Standard Deviation.

Differences in the Administrative Competencies of PE Teachers Based on the Educational Level They Teach (Primary vs. Secondary Education)

Separate independent samples t-tests showed that there were no statistically significant differences in knowledge of sport ($t_{79} = -1.174$, $p = 0.244$), in risk management ($t_{79} = 0.543$, $p = 0.589$), in communication-public relations ($t_{78} = -0.464$, $p = 0.644$), in computer skills ($t_{78} = -0.265$, $p = 0.791$), in facility-equipment ($t_{78} = 0.487$, $p = 0.627$), in management techniques ($t_{78} = -0.095$, $p = 0.925$), and event management ($t_{78} = -1.417$, $p = 0.160$) between PET teaching in primary education and those teaching in secondary education (Table 4).

6. Discussion and Conclusion

In the present study, 81 PE teachers participated, of whom 27 were male and 54

were female. A total of 47 physical education teachers were over the age of 50, while 34 belonged to the 21 - 50 age group. This distribution reflects a generally “aging” teaching workforce. Regarding educational attainment, a substantial proportion of the physical education teachers ($n = 52$) held a second degree, a post-graduate degree, and a doctoral diploma. Only 29 physical education teachers in the sample held solely a basic degree. Regarding teaching experience, only 15 individuals had between 0 and 9 years of experience, 22 had between 10 and 19 years, while 44 physical education teachers had more than 19 years of experience. This distribution, in conjunction with the age of the respondents, may be related to the low hiring rates in education over the past decade and the high number of substitute teachers employed.

In the present study, physical education teachers rated the following five questions as the most important on a five-point Likert scale:

- Knowledge of the warm-up and cool-down procedures (Q 13).
- Understanding the relationship between health and mass sports participation (Q 17).
- Supervising the operation of the sports facility (Q 6).
- Awareness of the risks associated with participation in sports activities (Q 10).
- Demonstrating an understanding of human limits in sports (Q 5).

It is evident that the most important competencies are those related to sports knowledge and administrative skills (Items 5, 10, 13, and 17), which received the highest ratings. This finding aligns with the study by [Giovani \(2001\)](#), which identified sport-specific knowledge, the creation of safe sporting conditions, and communication with athletes as key competencies. Similarly, [Bakopoulou \(2001\)](#) confirmed that the most important competencies included creating safe sporting environments and knowledge of first aid. In the present study, physical education teachers considered these competencies essential for effectively performing their professional duties.

The results indicated that older PE teachers (50 years and above) assign greater importance to communication-public relations compared to younger PE teachers (up to 50 years old).

This may be attributed to the greater experience of these teachers, as well as to the long-term relationships they have built with their students. These findings are partially consistent with the study conducted by [Tripolitsioti, Moudakis, Konstantinakis, and Theodorikakos \(2007\)](#), in which statistically significant differences were found in relation to age, education level, years of service, and participation in training seminars, whereas no significant differences were observed in relation to marital status.

Regarding age, it may be considered that they might not be as effective in their work. However, in a study by [Rodrigues, Andrade, Graça, and Mesquita \(2009\)](#), which analyzed the importance attributed to different knowledge areas for coaching and the perception of professional competence among Portuguese basketball coaches, it was found that experienced coaches assign greater importance to and

perceive themselves as more competent in matters related to knowledge and professional skills compared to those with lower levels of experience.

We could suggest that over the years, experienced teachers have more opportunities to communicate with parents, handle requests and concerns, and build trust. Long-term experience in the school environment provides teachers with tools to handle disagreements among students or colleagues more effectively. Coordinating and organizing school events enhances the ability to communicate with a broader audience. We could also assume that older teachers often act as mentors, which requires clear and effective communication.

No statistically significant differences were found in the other factors, contrary to the study by Tasiopoulos et al. (2014), which observed differences among various age groups in the factors of “Risk management” and “Computer skills”. Younger PE teachers rated the factor “Knowledge of sport” relatively high, whereas older teachers rated “Facility-equipment” higher. This aligns with Tasiopoulos et al. (2014), where coaches aged 45 - 54 rated the “Facility-equipment” factor highly. Regarding gender, no statistically significant differences were observed in the factors. Male PE teachers rated “Facility-equipment” as more important, while female PE teachers emphasized “Knowledge of sport”. Finally, no statistically significant differences were found in the administrative competencies of PE teachers based on the educational level they teach (primary vs. secondary). PE teachers in primary education rated higher scores on the factor “Facility-equipment”, whereas those in secondary education rated higher on “Knowledge of sport”.

In summary, possessing administrative and organizational skills is essential for gaining a competitive advantage in the educational field. These skills are important because they create conditions for personal development and improvement of educational and learning environments. Training programs must take into account research findings so that educational professionals are supported in their work and in the multiple roles they are required to fulfill in the modern educational context. The improvement of educational quality also depends on the educators’ positive attitude and active participation in training and development activities related to organizational and administrative matters. Thus, through the expertise gained from training and development, we can anticipate a more promising educational and learning environment.

A study using the same questionnaire but with a larger sample of physical education teachers is recommended. Additionally, research examining differences in administrative competency factors among various teaching specialties would be valuable.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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