

# International Journal of Research in Special Education



E-ISSN: 2710-3870

P-ISSN: 2710-3862

IJRSE 2023; 3(2): 20-28

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Received: 06-03-2023

Accepted: 16-07-2023

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## **Occupational burnout of physiotherapists working in the school units of central Macedonia in Greece**

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**DOI:** <https://doi.org/10.22271/27103862.2023.v3.i2a.59>

### **Abstract**

**Background:** Physiotherapy is one of the most important treatments for students with mobility disabilities in special education schools (SES). However, schools often lack specialized physiotherapy facilities and basic physiotherapy equipment, thus complicating the work of the physiotherapist.

**Aim:** The aim of this work is to investigate the possible shortcomings in terms of the adequacy of physiotherapy facilities within special schools as well as the lack of physiotherapy equipment in relation to the levels of burnout experienced by physiotherapists working in them. It also aims to explore the factors related to their personal characteristics that contribute to this burnout.

**Methods:** This study involved 74 physiotherapists working during the school year 2021-2022 in SES in Central Macedonia in Greece. Participants completed a questionnaire which contained data on personal characteristics, the characteristics of the school physiotherapy area, and the available physiotherapy equipment. The weighted Maslach Burnout Inventory – Human Services Survey (MBI-HSS) was also included. Descriptive analysis and frequency analysis of all variables were performed, while the effect of the individual personal characteristics, the suitability of the space, and the adequacy of the equipment on the individual indicators of occupational burnout were checked through the independent samples t-test and one-way ANOVA. The level of statistical significance was set at  $p < .05$ .

**Results:** The results showed that most participants were young women with few years of service and a high level of education. Participants experienced high levels of burnout, while none of the examined factors were found to affect the cause of this burnout. On the contrary, the significant deficiencies of the school units both in terms of the physiotherapy facilities and in terms of the adequacy of the physiotherapy equipment, seemed to have a statistically significant effect on the formation of the occupational burnout of the physiotherapists.

**Conclusion:** This research brings to light data that reflect the real situation that prevails today in the SES of Central Macedonia. The results of this study show that there are serious shortcomings both in terms of physiotherapy facilities and available equipment. These deficiencies seem to create serious obstacles for physiotherapists who, although young and highly educated, experience high rates of burnout. It is important for the state to take the necessary steps to create better working conditions for physiotherapists in SES.

**Keywords:** Physiotherapy in special education schools, occupational burnout, physiotherapy equipment adequacy, suitability of treatment facilities

### **Introduction**

Special education and training are gaining more and more ground in recent years. In Greece and throughout Europe, supporting children with physical and mental disabilities has been a goal of government policies in recent decades (Koutsouki *et al.*, 2011) [4].

The main relevant bodies are the special education school (SES) units, which support individuals with disabilities from kindergarten to adulthood. The aim of SES is to provide comprehensive care to children such as education and training in basic skills, as well as special treatments that include the provision of physiotherapy, occupational therapy, psychological support, nursing care, social welfare, etc. (Triantopoulou & Lachana, 2020) [9]. Physiotherapy in SES plays a very important role in supporting children with disabilities, especially when they are mobility related (Triantopoulou & Lachana, 2020) [9].

It is, however, noteworthy that most SES have serious shortcomings in terms of the adequacy of their facilities as well as the necessary equipment to adequately support these children (Chrysomallos, 2019) [10].

Inappropriate work conditions can contribute to the reduced satisfaction the physiotherapist receives from their work environment and lead to reduced motivation and burnout (Giamouridis, 2019) [3].

The term “burnout” has been used to describe the symptoms of physical and mental exhaustion of the professional. Burnout syndrome is a condition that results from the interaction of an individual’s personal traits with their work environment (Pappa *et al.*, 2008) <sup>[7]</sup>.

The purpose of this study is to capture the condition of the building infrastructure of the physiotherapy facilities in the SES of Central Macedonia, to record the available physiotherapy equipment that each school has, and to relate these factors in their effect on the occupational burnout of the physiotherapists in the SES. The building facilities, the logistical infrastructure, the adequacy of the areas in which the physiotherapy is performed, the suitability of the equipment, and factors related to the physiotherapists themselves were the study focus of this research. This study can help to draw useful conclusions as to what the SES need and to provide directions to properly support students with disabilities by improving physiotherapy services in SES.

## Methods

### Design

The study involved 74 physiotherapists during the school year 2021-2022, in SES of the Primary and Secondary Directorate of Education of Central Macedonia in Greece. The participating physiotherapists worked in the SES either as permanent staff or as substitutes. Data collection was done through a questionnaire which was provided in electronic form during the period September - October 2021. From September 2021, a phone invitation was extended to the physiotherapists of the SES, and they were informed about the purposes of the research.

### Participants

The following were the inclusion criteria for the participants: (1) Certified physiotherapists working in SES of Central Macedonia during the 2021-22 school year, (2) full-time employed at SES either as staff or as substitutes, and (3) signing a consent form to participate in the study.

### Measurement tools

Data collection was done through an anonymous self-report questionnaire, which was divided into four sections:

The first section contained the demographic characteristics of the participants regarding age, years of service, level of studies, level of specialization, employment status, etc. The second section included questions about the facilities where the physiotherapy is performed and information about the suitability of this space. The third section included questions concerning the recording of the appropriate equipment in the SES. Finally, the fourth section contained the Greek version of the Maslach Burnout Inventory – Human Services Survey (MBI-HSS) questionnaire for measuring occupational burnout.

### Statistical analysis

Data analysis was performed using the Statistical Package for the Social Sciences 23.0 (SPSS Inc., Chicago, IL, USA). Initially, a descriptive and frequency analysis of all variables was performed to present the mean frequencies and averages of the participants’ demographic characteristics, the characteristics of the physiotherapy facilities, the adequacy of the equipment, and the score of the occupational burnout scale and its subcategories.

Then, to determine the effect of personal characteristics of

physiotherapists on occupational burnout, Pearson’s two-tailed linear correlation coefficient and the independent samples t-test were used, while for the correlation of more than two independent samples one-way ANOVA was applied.

## Results

Seventy-four physiotherapists completed this questionnaire. Below are the results of their answers:

### Descriptive analysis

Regarding the personal characteristics of the participants (which are summarized in Table 1), the descriptive analysis showed the following results:

From the total sample (n = 74), 80.3% (n = 61) were women, whereas only 17.1% (n = 13) were men.

In terms of their age, the mean value was [...]. The participants were classified into four age groups: 25-34 years, 35-44 years, 45-54 years, and 55-65 years. Frequency analysis revealed that out of all the participants (n = 74), the majority (47.3%, n = 35) belonged to the 35-44 age group, 33.8% (n = 25) to the 25-34 group, 16.2% (n = 12) to the 45-54 group, and only 2.7% (n = 2) to the 55-65 group.

Regarding their level of studies, 21.1% (n = 16) had completed only their bachelor’s, without having a postgraduate or doctoral degree. The majority (73.7%, n = 56) held a master’s degree, while only 2.69% (n = 2) held a PhD.

Furthermore, regarding the school level of SES physiotherapists worked at in the school year 2021-2022, during which the present study was carried out, 50% (n = 38) were employed in special primary schools or kindergartens, 42.1% (n = 32) in special vocational education and training schools (SVETS), 5.3% (n = 4) in special vocational high schools (SVHS) or specialized Institutes of Vocational Training (IEK).

Regarding the employment status of physiotherapists during the research period, 77.6% (n = 59) worked as a substitute teacher, while only 19.7% (n = 15) were regular members of the SES.

The total years of service of physiotherapists in special education were classified into four categories: 1-5 years, 6-10 years, 11-15 years, and 16 years or more. The results of the descriptive analysis showed that 69.7% (n = 53) served in education for a period of 1 to 5 years, 19.7% (n = 13) from 6 to 10 years, 7.9% (n = 6) from 11 to 15 years and 2.6% (n = 2) more than 16 years.

Regarding the training of physiotherapists on pedagogical competence (attending an annual pedagogical competency training program), 71% (n = 54) had completed the training and had pedagogical competence, while 28.9% (n = 22) had not attended the specific education.

Moreover, only 19.7% (n = 15) of the participants were certified in a neurorehabilitation technique (e.g., Bobath technique), while 80.3% (n = 59) were not certified.

Regarding the attendance of the annual special education seminars (400 hours) 63.5% (n = 47) had completed the cycle of seminars, while 36.5% (n = 27) had not attended the specific training.

The self-perceived adequacy of the participants was evaluated with the question “How adequate do you feel about managing pediatric cases with chronic disabilities in relation to the experience and education you have received so far?” It was graded 1-3 (1-inadequate, 2-moderate, 3-very

adequate) and 52.7% ( $n = 39$ ) answered “moderate”, 39.2% ( $n = 29$ ) “inadequate”, while only 8.1% ( $n = 6$ ) answered “very adequate”.

The answers given by the participants regarding the second section of the questionnaire (questions about the suitability of the physiotherapy facilities) are presented in Table 2.

Indicatively, it is reported that 77% of physiotherapists share the treatment area with other specialties and 70.3% state that there is not enough space in the treatment room. Lastly, 70.3% express dissatisfaction with the facilities of the physiotherapy clinic at school.

The answers given by the participants regarding the third section of the questionnaire (questions about the equipment available in the school unit) are presented in Table 3.

Indicatively, it is reported that 70.3% of the physiotherapists state that they are not satisfied with the provision of the physiotherapy equipment in their school, i.e., they do not have at their disposal a treatment bed (54.1%), a walking treadmill (67.6%), standing aids (68.9%), walking and transport aids (68.9%), or a swimming pool (91.6%). However, in the school units there are some items used in the context of physiotherapy care such as gym balls (71%), therapy rollers (59.5%), and gym equipment (66.2%).

### Quantitative analysis

Concerning the occupational burnout indices, the results of the MBI-HSS questionnaire revealed that they are at high levels both in the emotional exhaustion (EE) and in the depersonalization (DP) parameters, while in the parameter personal accomplishments (PA) the mean score value fluctuated at low levels (Table 4).

For EE and DP, a higher score implies higher levels of the burnout syndrome. In contrast, in the “personal achievement” index, a high score implies lower levels of burnout. The analysis of the results shows that physiotherapists experience high rates of occupational burnout (Table 4).

The results of the t-test show that there was no significant effect on burnout rates by gender as there were no statistically significant differences in mean values between them in any of the three categories of the MBI-HSS. It is indicated, therefore, that both men and women experienced the same levels of burnout.

One-way ANOVA was chosen to assess the effect of age on the formation of the burnout parameter score. The effect of the “age group” factor at four levels (25-34, 35-44, 45-54, and 55-65 years) was evaluated on the formation of the score of the three subcategories of the MBI-HSS questionnaire (EE, DP, PA). The ANOVA results showed that there were no statistically significant differences between the mean values of the age groups in any of the three categories of the MBI-HSS questionnaire ( $p > .05$ ).

Similarly, it seems that the degree of education did not affect the level of occupational burnout in any of the subcategories of the MBI-HSS questionnaire ( $p > .05$ ).

The effect of length of service did not affect burnout parameters ( $p > .05$ ), meaning that physiotherapists experienced the same levels of burnout regardless of how many years of service they had.

Additionally, the ANOVA results between the school level and the subcategories of the MBI-HSS questionnaire did not show any effect. Physiotherapists experienced the same levels of burnout regardless of the level of education their school belonged to.

The working status (regular or substitute teacher) of the physiotherapists during the period of the research did not appear to significantly affect the burnout indices. Both regular and substitute teachers experienced the same levels of burnout regardless of their employment status.

For the effect of the acquisition or not of pedagogical competence of physiotherapists on the score of the MBI-HSS questionnaire, the independent samples t-test was applied for each of the subcategories of the questionnaire. It appears that there was no significant effect on burnout indices as to whether pedagogical competence was acquired. Both holders and non-holders of pedagogical competence experienced the same levels of occupational burnout.

Regarding the effect of attending annual special education seminars (yes or no) for physiotherapists, it appears that there was no significant effect on burnout rates, meaning that both holders and non-holders of the seminar attendance certificate experienced the same levels of burnout.

Likewise, having an international certification on special neurorehabilitation techniques did appear to significantly affect burnout indices. Consequently, both certified and non-certified physiotherapists experienced the same levels of burnout.

One-way ANOVA was chosen for the effect of self-perceived adequacy on the formation of the score of burnout parameters. The effect of the factor “self-perceived adequacy” was tested at three levels (1-inadequate, 2-moderate, 3-very adequate) in the formation of the score of the three subcategories of the MBI-HSS questionnaire (EE, DP, PA).

The ANOVA results showed that there were no statistically significant differences between the mean values of the different levels in any of the three categories of the MBI-HSS questionnaire ( $p > .05$ ).

Correlations of the score for the suitability of the physiotherapy area with the score of each burnout category from the MBI-HSS questionnaire are presented below (Table 5):

Regarding the EE score in relation to the score of the second section of the questionnaire, the analysis showed a statistically significant negative correlation with  $r = -.97$  and  $p = .002$ .

Therefore, the results of this analysis show that the more inappropriate the space of the physiotherapy is considered, the greater the emotional exhaustion that the physiotherapists experience.

Regarding the DP score in relation to the score of the second section of the questionnaire, the analysis showed a statistically significant negative correlation with  $r = -1.22$  and  $p = .006$ .

Hence, it appears that the more inappropriate the space of the physiotherapy clinic is, the greater the feeling of depersonalization that physiotherapists experience.

Regarding the PA score in relation to the score of the second section of the questionnaire, the analysis showed a statistically significant positive correlation with  $r = 2.22$  and  $p = .033$ .

Consequently, it appears that the more suitable the space of the physiotherapy center is, the greater the ability of the employee to be able to achieve personal accomplishments at work.

Correlations of the score for the adequacy of physiotherapy equipment with the score of each occupational burnout category from the MBI-HSS questionnaire are presented

below (Table 5):

Regarding the EE score in relation to the score of the third section of the questionnaire, the analysis showed a statistically significant negative correlation with  $r = -.88$  and  $p = .005$ .

Therefore, the results of this analysis show that the less adequacy there is in physiotherapy equipment, the greater the emotional exhaustion that physiotherapists experience.

Regarding the DP score in relation to the score of the third section of the questionnaire, the analysis showed a statistically significant negative correlation with  $r = -.91$  and  $p = .001$ .

Consequently, it appears that the less adequacy there is in physiotherapy equipment, the greater the feeling of depersonalization that physiotherapists experience.

Regarding the PA score in relation to the score of the third section of the questionnaire, the analysis showed a statistically significant positive correlation with  $r = 1.42$  and  $p = .022$ .

On that account, it appears that the greater the adequacy of physiotherapy equipment, the greater the ability of the employee to be able to achieve personal accomplishments at work.

## Discussion

The aim of this study was to record data regarding the spaces in which physiotherapy is performed in the SES of Central Macedonia in Greece as well as data regarding the available physiotherapy equipment. At the same time, the purpose of the research was to investigate the burnout indices of physiotherapists working in SES of all levels in Central Macedonia through the Greek version of the MBI-HSS questionnaire (Anagnostopoulos & Papadatou, 1992)<sup>[2]</sup>. The levels of occupational burnout of physiotherapists working in SES were examined as they are evaluated through this tool in three separate parameters which are EE, DP, and PA (Maslach & Jackson, 1981)<sup>[37]</sup>. The effect of other factors on occupational burnout such as age, gender, level of education, grade, length of service in special education, employment status, education and training on neurorehabilitation and special education, and the sense of self-perceived competence in their knowledge in working with children was also studied.

The results of this research showed that physiotherapists working in SES in Central Macedonia experience high levels of occupational burnout. From the factors that were examined as to the reason for this burnout, it seems to be mainly attributed to the problems and difficulties faced by physiotherapists at school, both in terms of the physiotherapy workplace and the lack of available physiotherapy equipment. On the other hand, no other variables examined (Such as gender, age, years of service, level of education and specialization, etc.), did not appear to have a significant effect on the burnout indices of physiotherapists. This finding is important as in general the physiotherapists who participated were mostly young people (81.1% under 44 years old), with a high level of education (73% holders of a master's degree), and relatively few years of service (almost 70% from one to five years of service).

More specifically, in terms of the profile of the participants, the 74 total physiotherapists who participated in the research were mostly young women (80.3%) with a master's degree (figures 3 and 4 respectively). Eight out of 10 worked as substitutes while they did not have several years of service

in special education. At the same time, a large percentage had attended pedagogical competency seminars (77.6%) as well as annual seminars on special education (63.5%), while a relatively small percentage (Less than 20%) were certified with some specialization in pediatric physiotherapy. Finally, they worked equally distributed in the special education units of both the primary (special primary schools and kindergartens) and the secondary education (SVETS, SVHS and specialized IEK).

Concerning their self-perceived adequacy in the management of pediatric cases, the majority ranged from inadequate to moderate (91.9%), which is explained by their short service in special education and the fact that few of them were certified in pediatric physiotherapy and neurorehabilitation.

A first remark concerns the choices of physiotherapists in terms of the trainings and specializations they follow. It is obvious that these choices are largely determined by the scoring criteria in the special education tables (<https://www.minedu.gov.gr/eidiki-agwgi-2/eidiki-agwgi-ekpaideutikoi/eidiki-agwgi-eep?start=70>), based on which, pedagogical competence and special education seminars are scored more than international certifications in pediatric physiotherapy or neurorehabilitation. This fact is absurd when considering that the role of the physiotherapist in school is primarily to provide treatment for neurological cases and secondarily to have pedagogical knowledge related to the teaching of courses to special education students.

The findings of this research both in terms of the profile of the participants and in terms of burnout levels show significant differences with other similar studies that have investigated the occupational burnout levels of physiotherapists in Greece. Giamouridis (2019)<sup>[3]</sup> found lower levels of occupational burnout in Greek physiotherapists working in the private and public sectors. However, the participants in our trial were physiotherapists who worked exclusively in special education, which is a demanding space with objective difficulties and limited results due to the chronicity of the cases faced by the physiotherapist.

On the other hand, the profile of the physiotherapists involved in the research does not justify the high rates of burnout. Special education is a space that has objective difficulties in managing students, a fact that works aggravatingly over time in terms of employee burnout (Triantopoulou & Lachana, 2020)<sup>[9]</sup>. As a result, physiotherapists experience high levels of burnout during their first years of service, which is a worrying factor both in terms of their long-term effectiveness in performing their work at school and in terms of their mental health and well-being.

Regarding the factors that seem to influence the deterioration of burnout, gender, age, years of service, and the level of education and training did not seem to play a role. This seemed strange as fatigue would be expected to work cumulatively and worsen over the years (e.g., factors such as age, years of service, etc.). However, this can be explained by the fact that most of the participants in the study were relatively young physiotherapists with few years of service. Therefore, the results cannot give a clear picture of the worsening of occupational burnout in the long run. In any case, the findings of this study contradict those of other research, according to which young age and female gender

are factors contributing to the occurrence of occupational burnout (Aslan *et al.*, 1998; Campbell *et al.*, 2001; McMurray *et al.*, 2016) <sup>[11, 12, 38]</sup>. Despite most of our participants being young women with few years of service in the special education sector, age, gender, and years of service did not appear to affect burnout indices.

On the other hand, another factor that mattered was the large percentage of teachers working as substitutes. We believe this indirectly affects occupational burnout indices because substitute teachers rarely remain in the same school unit for more than a year. This fact has a negative effect, because the physiotherapist does not have the time to adapt and to try to change a consolidated situation.

The main finding of this research was how important the suitability and adequacy of the physiotherapy space is. The results of this research brought to light very significant shortcomings in physiotherapy spaces, mainly in terms of space adequacy, temperature, proper ergonomics, lighting, and safety. Moreover, 70.3% of participants were unsatisfied with the physiotherapy facility at their school (Table 1). Another important finding are the very serious deficiencies in basic physiotherapy equipment such as a treatment bed (50%), standing aids (69%), wheelchairs and walking aids (69%), and a walking treadmill (67%) (Table 3). It is also worth noting that the high level of adequacy found in exercise mats and gym equipment is not purely physiotherapy equipment as it is also used by physical education teachers. Finally, an important finding was that

70% of physiotherapists were not satisfied with the provision of physiotherapy equipment at their school. The findings of our study contradict those of others, which investigated occupational burnout in medical and nursing staff and mentioned factors such as high workload, high stress levels, and conflicts with co-workers, but were not concerned with the adequacy of the workspace and equipment (Jenkins & Elliott, 2004; Visser *et al.*, 2003; Pappa *et al.*, 2007) <sup>[22, 48, 71]</sup>.

It seems that physiotherapists face significant problems in performing their duties in SES. These difficulties stem from the lack of properly designed physiotherapy facilities and the lack of basic physiotherapy equipment. It seems that there is an inconsistency in the policies of the Hellenic Ministry of Education and Religious Affairs regarding the employment status of physiotherapists in SES. While substitute physiotherapists are hired and regular staff is appointed at SES, there is no provision to create the appropriate conditions for the physiotherapist to do their job properly. In our opinion, this inconsistency is only part of the poor organization of SES staffing as well as the deficiencies that generally concern their infrastructure and the places where they are housed. It is generally observed that the special education sector often lacks proper planning, is neglected, and only follows the guidelines given by general education without considering its special conditions and needs.

**Table 1:** General characteristics of the participants

<b>Participants n = 74</b>	
Gender	Men 17.1% Women 80.3%
<b>Age (years)</b>	
25-34	33.8%
35-44	47%
45-54	16.2%
55-65	2.7%
<b>Level of education</b>	
Bachelor's	21.1%
Master's	73.7%
PhD	2.69%
<b>School grade</b>	
Special primary school or kindergarten	50%
SVETS	50%
SVHS or specialized IEK	5.3%
<b>Working condition</b>	
Substitute teacher	80%
Regular teacher	20%
<b>Years of service</b>	
1-5	69.7%
6-10	19.7%
11-15	7.9%
16 or more	2.6%
Pedagogical competency	71% Yes 29% No
Technique certification	19.7% Yes 80.3% No
Special education seminar	63.5% Yes 36.5% No
<b>Self-perceived adequacy</b>	
Inadequate	39.2%
Moderate	52.7%
Very adequate	8.1%

**Table 2:** Questions about the suitability of the physiotherapy space in the school unit and answers of the participants in percentages (Yes – No \* %)

Questions of the second section of the questionnaire (suitability of the physiotherapy area)	Percentages % of answers
Is there a physiotherapy space at your school?	67.6% Yes 32.4% No
Do you have your own space (which you do not share with other colleagues)?	23% Yes 77% No
Do you have enough space in your workplace?	29.7% Yes 70.3% No
Is the temperature of the space you work at appropriate?	40.5% Yes 59.5% No
Is ergonomics and lighting appropriate in the space where you work?	35.1% Yes 64.9% No
Do you consider the space you work in safe for performing physiotherapy?	45.9% Yes 54.1% No
Is the place where you work easily accessible to the disabled?	75.7% Yes 24.3% No
Is there adequate ventilation in the area where you work?	75.7% Yes 24.3% No
Are the safety standards regarding emergency exits and fire safety observed?	67.6% Yes 32.4% No
Are you satisfied with the physiotherapy facility at your school?	29.7% Yes 70.3% No

**Table 3:** Questions about the adequacy of physiotherapy equipment in the school unit and answers of participants in percentages (Yes – No \* %)

Questions of the third section of the questionnaire (adequacy of the physiotherapy equipment)	Percentages % of answers
Does your school have a physiotherapy bed?	45.9% Yes 54.1% No
Does your school have a walking treadmill?	32.4% Yes 67.6% No
Does your school have standing aids?	31.1% Yes 68.9% No
Are there any exercise balls?	71% Yes 29% No
Are there any therapy rollers?	59.5% Yes 40.5% No
Are there exercise mats?	94.6% Yes 5.4% No
Is there gym equipment (exercise equipment, weights, resistance bands, etc.)?	66.2% Yes 33.8% No
Is there adequacy in wheelchairs and walking aids?	31.1% Yes 68.9% No
Is there a swimming pool in the school where you work?	8.4% Yes 91.6% No
Are you satisfied with the physiotherapy equipment at your school?	28.4% Yes 70.3% No

**Table 4:** Quantitative analysis of the results of the burnout indices of the MBI-HSS questionnaire

Occupational burnout factors		Mean	Deviation	t	p
Emotional exhaustion		33.76	6.029		
Gender	Men	33.69	5.87	-.43	.966
	Women	33.77	6.10		
Working condition	Regular	33.20	5.50	-.398	.692
	Substitute	33.90	6.19		
Pedagogical competency	Yes	33.48	5.32	-.402	.577
	No	33.77	6.35		
Attendance of special education seminars	Yes	34.18	5.44	-.533	.388
	No	33.81	6.62		
Holder of international certification	Yes	33.12	5.45	-.412	.298
	No	33.91	6.72		
Age groups (years)	25-34	33.16	6.37	Variance results	<i>p</i> > .05
	35-44	34.29	6.26		
	45-54	33.58	5.16		
	55-65	33.00	5.65		
Level of education	Bachelor's	31.44	4.226	Variance results	
	Master's	34.66	6.259		

	Ph.D.	27.00	2.82	$p > .05$	
Years of service	1-5	33.83	6.09	Variance results	
	6-10	34.20	5.32		
	11-15	36.00	9.89		
	16+	27.00	2.82		
School grade	Special primary school or kindergarten	33.16	5.64	Variance results	
	SVETS	35.03	6.44		
	SVHS or specialized IEK	29.25	3.68		
Self-perceived adequacy	Inadequate	29.17	5.26	Variance results	
	Moderate	34.69	6.55		
	Very adequate	33.45	5.06		
<b>Depersonalization</b>		20.19	3.217		
Gender	Men	21.23	3.29	1.29	.201
	Women	19.97	3.18		
Working condition	Regular	20.07	2.46	-.164	.870
	Substitute	20.22	3.39		
Pedagogical competency	Yes	20.14	2.51	-.188	.866
	No	20.19	3.28		
Attendance of special education seminars	Yes	20.55	2.33	-.238	.578
	No	20.32	3.52		
Holder of international certification	Yes	20.65	2.54	-.298	.578
	No	20.52	3.77		
Age groups (years)	25-34	19.92	3.82	Variance results	
	35-44	20.40	3.11		
	45-54	20.25	2.41		
	55-65	19.50	2.12		
Level of education	Bachelor's	20.75	3.47	Variance results	
	Master's	20.13	3.05		
	PhD	17.50	6.36		
Years of service	1-5	20.28	3.47	Variance results	
	6-10	19.70	1.88		
	11-15	19.00	1.41		
	16+	21.00	1.41		
School grade	Special primary school or kindergarten	20.29	3.56	Variance results	
	SVETS	19.97	2.98		
	SVHS or specialized IEK	21.00	1.15		
Self-perceived adequacy	Inadequate	17.83	4.21	Variance results	
	Moderate	20.59	3.47		
	Very adequate	20.14	2.44		
<b>Personal accomplishments</b>		25.35	5.806		
Gender	Men	25.00	5.70	-.239	.812
	Women	25.43	5.87		
Working condition	Regular	24.27	4.92	-.808	.422
	Substitute	25.63	6.01		
Pedagogical competency	Yes	23.37	5.02	-.788	.513
	No	24.73	6.01		
Attendance of special education seminars	Yes	24.14	5.23	-.567	.613
	No	25.01	6.22		
Holder of international certification	Yes	24.34	5.43	-.439	.613
	No	25.12	6.54		
Age groups (years)	25-34	25.24	5.46	Variance results	
	35-44	25.94	6.44		
	45-54	24.75	4.86		
	55-65	20.00	0.00		
Level of education	Bachelor's	23.56	4.28	Variance results	
	Master's	26.11	6.04		
	PhD	18.50	0.70		
Years of service	1-5	25.72	6.08	Variance results	
	6-10	23.80	4.23		
	11-15	23.50	4.95		
	16+	24.00	7.07		
School grade	Special primary school or kindergarten	23.71	4.40	Variance results	
	SVETS	27.16	6.85		
	SVHS or specialized IEK	26.50	5.00		
Self-perceived adequacy	Inadequate	23.33	6.218	Variance results	
	Moderate	26.26	5.576		
	Very adequate	24.55	6.009		

**Table 5:** Correlations of scores for the suitability of the physiotherapy space and the adequacy of physiotherapy equipment with the score of each burnout category from the MBI-HSS questionnaire

MBI-HSS subcategories		r	p
Emotional exhaustion score	Score on the suitability of the physiotherapy space	-.97	.002
	Score on the adequacy of physiotherapy equipment	-.88	.005
Depersonalization score	Score on the suitability of the physiotherapy space	-1,22	.006
	Score on the adequacy of physiotherapy equipment	-1,91	.001
Personal accomplishments score	Score on the suitability of the physiotherapy space	2.22	.033
	Score on the adequacy of physiotherapy equipment	1.42	.022

### Conclusions and suggestions

The results of this research showed the problems faced by physiotherapists due to shortages concerning both their workplace and the available physiotherapy equipment in SES. These problems seemed to be able to cause high rates of occupational burnout, which negatively affects the long-term provision of their services and the level of physiotherapy benefits in special education in general. In our opinion, immediate measures are needed to mitigate the consequences of occupational burnout for physiotherapists. Some suggestions in this direction are:

- Providing the physiotherapist with their own in-school space that meets the requirements of their duties.
- Having basic physiotherapy equipment so that the physiotherapist can do their job smoothly.
- Having a rationalization of the criteria by which physiotherapists are scored in special education so that they better meet the professional needs of the physiotherapist in SES.

In conclusion, for the staffing of schools by physiotherapists to be productive, the Ministry of Education must be able to meet these basic conditions.

### References

1. Angelidis KP. The benefits of continuous and intermittent aerobic exercise in the physical condition and daily physical activity of mentally disabled adolescents: A case study (Master's thesis); c2017.
2. Anagnostopoulos F, Papadatou D. Factor composition and internal coherence of the Occupational Burnout Recording Questionnaire in a sample of nurses, *Psychological topics*. 1992;5(3):183-202.
3. Giamouridis Th. The occupational burnout of Greek physiotherapists in a period of financial crisis; c2019.
4. Koutsouki D, Douka A, Charitou E. Promotion of physical activity programs in special schools aimed at the social integration of students with multiple mobility disabilities: Training seminar; c2011.
5. Kroustalakis G. Children with special needs in the family and at school - Psychopedagogical Intervention. Athens: Lychnos; c2000.
6. Kitipi A, Sotiriadou B, Traka M. Special education in Greece and Cyprus; c2016.
7. Pappa EA, Anagnostopoulos F, Niakas D. Exhaustion of medical and nursing staff and its implications for the level of health services provided, *Archives of Greek Medicine*. 2008;25(1):94-101.
8. Polychronopoulou S. Children and adolescents with special needs and abilities, Athens: Atrapos; c2012.
9. Triantopoulou N, Lachana E. Physiotherapy programs in special schools; c2020.
10. Chrysomallos GRN. Universal design of school buildings and adaptations to educational material at the level of the classroom for students with mobility problems (Bachelor's thesis); c2019.
11. Aslan S. Gender related factors to burnout among Turkish health professionals. 1998, 7:101 – 106, *Annals of medical science*. 1998;7:101-106.
12. Campbell D. Burnout among American surgeons. *Surgery* 2001, 130:696-705, *Surgery*. 2001;130:696-705.
13. Cans C. Surveillance of cerebral palsy in Europe: A collaboration of cerebral palsy surveys and registers, *Surveillance of Cerebral Palsy in Europe (SCPE)*. 2000;42:816-824.
14. Cassell CH. 'Health care expenditures among children with and those without spina bifida enrolled in Medicaid in North Carolina, *Birth Defects Research Part A-Clinical and Molecular Teratology*. 2011;91(12):1019-1027. DOI: 10.1002/bdra.22864.
15. Dewar R, Love S, Johnston LM. Exercise interventions improve postural control in children with cerebral palsy: A systematic review, *Developmental Medicine and Child Neurology*. 2015;57(6):504-520. DOI: 10.1111/dmcn.12660.
16. Fazlıoğlu Y, Baran G. A sensory integration therapy program on sensory problems for children with autism, *Perceptual and Motor Skills*. 2008;106(2):415-422. DOI: 10.2466/PMS.106.2.415-422.
17. Ferrari A, Cioni G. The spastic forms of cerebral palsy: a guide to the assessment of adaptive functions. Springer Science & Business Media. Springer Science and Business Media LLC; c2009.
18. De Groot JF. Reproducibility of maximal and submaximal exercise testing in Normal ambulatory and Community ambulatory children and adolescents with spina bifida: Which is best for the evaluation and application of exercise training? *Physical Therapy*. 2011;91(2):267-276. DOI: 10.2522/ptj.20100069.
19. Hamdy RC. Treatment and outcomes of arthrogyrosis in the lower extremity, *American Journal of Medical Genetics, Part C: Seminars in Medical Genetics*. 2019;181(3):372-384. DOI: 10.1002/ajmg.c.31734.
20. Howlin P. Adult outcome for children with autism, *Journal of Child Psychology and Psychiatry and Allied Disciplines*. 2004;45(2):212-229. DOI: 10.1111/j.1469-7610.2004.00215.x.
21. Jeevanantham D. Application of the international classification of functioning, disability and health - children and youth in children with cerebral palsy, *Indian Pediatrics*. 2016;53(9):805-810. DOI: 10.1007/s13312-016-0935-8.
22. Jenkins R, Elliott P. Stressors, burnout and social support: Nurses in acute mental health settings. *Journal of Advanced Nursing*. 2004;48(6):622-631. DOI: 10.1111/j.1365-2648.2004.03240.x.
23. Johnson CP. Identification and evaluation of children



- with autism spectrum disorders, *Pediatrics*. 2007;120(5):1183-1215. DOI: 10.1542/peds.2007-2361.
24. Kalampokas E. Diagnosing Arthrogryposis Multiplex Congenita: A Review. *ISRN Obstetrics and Gynecology*; c2012. p. 1-6. DOI: 10.5402/2012/264918.
  25. Kane KJ. 'Preliminary study of novel, timed walking tests for children with spina bifida or cerebral palsy', *SAGE Open Medicine*. 2016;4:205031211665890. DOI: 10.1177/2050312116658908.
  26. Kanste O, Kyngäs H, Nikkilä J. The relationship between multidimensional leadership and burnout among nursing staff. *Journal of Nursing Management*. 2007;15(7):731-739. DOI: 10.1111/j.1365-2934.2006.00741.x.
  27. Kaschka WP, Korczak D, Broich K. Burnout: A fashionable diagnosis. *Deutsches Arzteblatt international*. 2011;108(46):781-7. DOI: 10.3238/arztebl.2011.0781.
  28. Koeks Z. *et al*. Clinical Outcomes in Duchenne Muscular Dystrophy: A Study of 5345 Patients from the TREAT-NMD DMD Global Database. *Journal of Neuromuscular Diseases*. 2017;4(4):293-306. DOI: 10.3233/JND-170280.
  29. Korczak D, Huber B, Kister C. Differential diagnostic of the burnout syndrome. *GMS Health Technology Assessment*. 2010;6:Doc09. DOI: 10.3205/hta000087.
  30. Kowalczyk B, Feluś J. Arthrogryposis: An update on clinical aspects, etiology, and treatment strategies. *Archives of Medical Science*. 2016;12(1):10-24. DOI: 10.5114/aoms.2016.57578.
  31. Lang R. Sensory integration therapy for autism spectrum disorders: A systematic review. *Research in Autism Spectrum Disorders*. Elsevier Ltd. 2012;6(3):1004-1018. DOI: 10.1016/j.rasd.2012.01.006.
  32. Levac D. *et al*. Active Video Gaming for Children with Cerebral Palsy: Does a Clinic-Based Virtual Reality Component Offer an Additive Benefit? A Pilot Study. *Physical and Occupational Therapy in Pediatrics*. Taylor & Francis. 2018;38(1):74-87. DOI: 10.1080/01942638.2017.1287810.
  33. Lindsay A. Function, *Experimental Physiology*. 2019;103(7):995-1009. DOI: 10.1113/EP087031.Neopterin/7.
  34. Lindsay S. A systematic review of hospital-to-school reintegration interventions for children and youth with acquired brain injury. *PLoS ONE*. 2015;10(4):1-19. doi: 10.1371/journal.pone.0124679.
  35. Lumba-Brown A. Diagnosis and Management of Mild Traumatic Brain Injury in Children: A Systematic Review. *JAMA Pediatrics*. 2018;172(11). DOI: 10.1001/jamapediatrics.2018.2847.
  36. Martin L, Baker R, Harvey A. A systematic review of common physiotherapy interventions in school-aged children with cerebral palsy. *Physical and Occupational Therapy in Pediatrics*. 2010;30(4):294-312. DOI: 10.3109/01942638.2010.500581.
  37. Maslach C, Jackson SE. The measurement of experienced burnout. *Journal of Organizational Behavior*. 1981;2(2):99-113. DOI: 10.1002/job.4030020205.
  38. Mc Murray J. '濟無' No Title No Title No Title. *Journal of General Internal Medicine*. 2016;15:372-380.
  39. Morris C. Definition and classification of cerebral palsy: A historical perspective. *Developmental Medicine and Child Neurology*. 2007;49(2):3-7. DOI: 10.1111/j.1469-8749.2007.tb12609.x.
  40. Novak I. State of the Evidence Traffic Lights 2019: Systematic Review of Interventions for Preventing and Treating Children with Cerebral Palsy. *Current Neurology and Neuroscience Reports*. *Current Neurology and Neuroscience Reports*. 2020;20(2). DOI: 10.1007/s11910-020-1022-z.
  41. Oliveira A, Jacome C, Marques A. Physical fitness and exercise training on individuals with Spina Bifida: A systematic review. *Research in Developmental Disabilities*. 2014;35:1119-1136. DOI: 10.1016/j.ridd.2014.02.002.
  42. Ruiz-González L. Physical therapy in Down syndrome: systematic review and meta-analysis. *Journal of Intellectual Disability Research*. 2019;63(8):1041-1067. DOI: 10.1111/jir.12606.
  43. Ryder S. The burden, epidemiology, costs and treatment for Duchenne muscular dystrophy: an evidence review. *Orphanet Journal of Rare Diseases*; c2017. p. 1-21. DOI: 10.1186/s13023-017-0631-3.
  44. Schonfeld IS. Inquiry Into the correlation between burnout and depression how does access to this work benefit you? Let us know! *Inquiry into the Correlation between Burnout and Depression*; c2019.
  45. Shin M. Prevalence of spina bifida among children and adolescents in 10 regions in the United States, *Pediatrics*. 2010;126(2):274-279. DOI: 10.1542/peds.2009-2084.
  46. Sugimoto D, Bowen SL, Meehan WP. Research in Developmental Disabilities Review Article Effects of Neuromuscular Training on Children and Young Adults with Down Syndrome: Systematic Review and, *Research in Developmental Disabilities*. Elsevier Ltd. 2016;55:197-206. DOI: 10.1016/j.ridd.2016.04.003.
  47. Tsimaras VK, Fotiadou EG. Effect of training on the muscle strength and dynamic balance ability of adults with down syndrome. *Journal of Strength and Conditioning Research*. 2004;18(2):343-347. DOI: 10.1519/R-12832.1.
  48. Visser MRM. Stress, satisfaction and burnout among Dutch medical specialists. *Cmaj*. 2003;168(3):271-275.
  49. Williamson E. The Effect of Inspiratory Muscle Training on Duchenne Muscular Dystrophy: A Meta-analysis. *Pediatric Physical Therapy*. 2019;31(4):323-330. DOI: 10.1097/PEP.0000000000000648.