

Mental Health of Educators: A Pilot Study on Personality and Physical Activity as Correlates of Teachers' Occupational Burnout

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Abstract

The study explores burnout among 73 school teachers, examining associations with personality, physical activity, and differences based on age, gender, and specialization. Utilizing the NEO-FFI Personality Inventory, Maslach Burnout Inventory, and International Physical Activity Questionnaire, it revealed significant correlations between personality traits (excluding openness) and all burnout dimensions. Notably, younger teachers exhibited higher depersonalization levels than their older counterparts. Given teachers' pivotal role in student development, researching occupational burnout is crucial – especially in the post-pandemic era. Understanding these dynamics is essential for fostering a healthy educational environment and ensuring overall student well-being.

Keywords: teachers, occupational burnout, physical education, personality, physical activity

Introduction

The concept of stress and occupational burnout has been addressed in the psychology literature for many years. Though metaphorical, the term “burnout” accurately captures the experience of an individual whose strength and power are exhausted due to highly stressful conditions in the workplace. Freudenberger and Richelson (1980) proposed the idea that this phenomenon develops gradually under the influence of chronic stress, which depletes energy reserves, induces negative thinking, limits motivation, and alters

behavior. Importantly, burnout more frequently affects individuals who are professionally engaged in helping others. Moreover, a person affected by burnout not only sees no prospects for further development, but also lacks satisfaction from work and even joy in everyday life (Schaufeli & Buunk, 2002). Currently, the dominant concept of burnout is the three-dimensional model created by Maslach and Jackson (1986). According to them, burnout should be defined as a psychological syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment, which may occur in individuals working with others in a specific way. According to Sęk (2001), occupational burnout is a complex set of relationships influenced not only by factors within the individual, but also by the surrounding environment.

Nevertheless, certain personality aspects can play a protective role, while others can make an individual more susceptible to burnout. Jędryszek-Geisler and Izdebski's (2018) research on Polish elementary- and secondary-school teachers showed negative correlations between emotional exhaustion and openness to experience and extraversion, agreeableness, and the burnout dimension of depersonalization. The research also revealed a positive correlation between extraversion and conscientiousness and the dimension of personal achievement. It found that extraversion and openness to experience are predictors: the former of depersonalization and personal achievement and the latter of exhaustion and personal achievement. Additionally, the intensity of neuroticism along with openness to experience explained the degree of emotional exhaustion. Furthermore, conscientiousness turned out to be a predictor of high personal achievement. Similar dependencies were found in studies on elementary school teachers in Cyprus. Neuroticism proved to be a significant predictor of all burnout dimensions. It was also found that dealing with students' inappropriate behavior and time constraints had a protective value against burnout (Kokkinos, 2007). Other studies also report that teachers exhibited elevated levels of stress and burnout in comparison to their counterparts in various human services and other occupations (Johnson et al., 2005) and that when juxtaposed with other professional cohorts, educators displayed heightened levels of both exhaustion and cynicism, key dimensions of burnout syndrome (Maslach et al., 2001).

Teaching is recognized as a challenging profession; inherent psychosocial risks and the educational environment are emerging as primary contributors to work-related accidents or illnesses. The International Labour Organization (ILO) highlights the growing prevalence of chronic stress, anxiety, exhaustion, and depression in this field. The prevalence of overall burnout among physical education teachers is notably higher when compared to teachers of other school subjects, which could be due to various factors: the curriculum, a lack of adequate facilities and equipment, low status of physical education teachers, and students' behavior and discipline problems (Alsalleh et al., 2021; González-Valero et al., 2019; Puertas-Molero et al., 2018).

The aforementioned burnout syndrome is characterized as a prolonged state of stress and a psychosocial indicator that directly impacts mental health and physical well-being (Melguizo-Ibáñez et al., 2020; Metlaine et al., 2017). Nevertheless, educators must exhibit resilience to navigate these challenges and effectively cope with adversity within contemporary education systems (Ellison & Woods, 2019). A factor that can undoubtedly influence emotion regulation and foster resilience is physical activity (Barquero, 2015). The World Health Organization (WHO, 2022), in its global recommendations on physical activity for health, asserts that adults (18–64 years) practicing a minimum of 150 minutes per week of moderate or 75 minutes of vigorous aerobic physical activity witness improved muscle and cardiorespiratory function, along with a reduced risk of non-communicable diseases and mental health issues. Failing to adhere to these recommendations and maintaining a sedentary lifestyle negatively impact health and contribute to the development of psychological illnesses such as depression, anxiety, and stress (Callow et al., 2020; Raza et al., 2020). A significant amount of research indicates that physical activity is one of the main factors positively affecting the psychological well-being of teachers, regardless of their age or the subject they teach (Corbett et al., 2022; Troy et al., 2022). Kowalczyk and Kostorz (2017) point out in their literature review that physically active teachers, especially women and physical education teachers, have low scores in individual dimensions of burnout such as emotional exhaustion, personal accomplishment, and cynicism. Among female teachers who exercise regularly, the level of burnout on individual scales was lower than that in teachers declaring no physical activity. However, no significant differences were observed in the level of life satisfaction between these groups. The results lead to the conclusion that physical activity can have a beneficial impact on mental states, reducing the effects of perceived work stress. Exercise may indirectly prevent the occurrence of undesirable emotions and the consequences of emotional exhaustion, thus reducing the intensity of occupational burnout.

Taking into account the above considerations, the aim of this article is to describe the phenomenon of occupational burnout among physical education teachers and teachers of other subjects. The research goal is to characterize differences in occupational burnout, personality, and physical activity levels between physical education teachers and other teachers, considering age and gender, and to measure the relationships between individual dimensions of occupational burnout (depersonalization, emotional exhaustion, and personal accomplishment), personality traits, and the level of physical activity in the study group.

Material and Methods

Study Design

In this study, an online survey served as the primary research method for investigating teachers' well-being and associated factors. The survey encompassed four essential components: general and demographic information, a burnout questionnaire, a personality questionnaire, and a physical activity inventory. The study design involved distributing the survey to a diverse sample of teachers, who participated by completing the aforementioned questionnaires and inventory through an online platform. Before doing so, the teachers signed an informed consent form. The burnout questionnaire gauged the prevalence and intensity of burnout symptoms, providing insight into the psychological well-being of the participants. The personality questionnaire aimed to explore individual traits and characteristics that might influence one's susceptibility to burnout. Lastly, the physical activity inventory captured data on the participants' engagement in physical activity, allowing for an examination of the potential relationship between physical activity level and burnout.

The study was conducted between March and June 2019 among school teachers from Pomeranian Voivodeship.

Participants

A total of 73 individuals (N=73) participated in the study, including 42 elementary-school teachers (57.53%), 16 secondary-school teachers (21.92%), and 15 teachers working in both types of schools (21.55%). The majority of the surveyed teachers (n=47) were employed in public schools (64.38%), while 12 worked in private schools (16.44%) and 14 worked in both types of schools (19.18%). For the purpose of analysis, the teachers were grouped according to the subjects they teach, distinguishing between physical education (PE) teachers (n=34; 46.58%) and teachers of other subjects (mathematics, Polish, natural sciences, biology, physics, chemistry, music, and art; n=39 [53.42%]). Among the respondents (aged 18–64), there were 58 women (79.45%) and 15 men (20.55%). The above data is presented in Table 1.

Table 1. Descriptive statistics

N=73		
	n	%
Age (years)		
18–25	4	5.48%
26–35	17	23.29%

N=73		
	n	%
36-64	52	71.23%
Gender		
Women	58	79.45%
Men	15	20.55%
City		
Village	18	24.66%
City with 20,000-100,000 inhabitants	20	27.40%
City with 100,000-500,000 inhabitants	15	20.55%
City with 500,000+ inhabitants	18	24.66%
Mixed	2	2.73%
Subject		
Physical education	34	46.58%
Others	39	53.42%
Level of school		
Elementary	42	57.53%
Secondary	16	21.92%
Elementary and secondary	15	21.55%
Type of school		
Private	12	16.44%
Public	47	64.38%
Private and public	14	19.18%

Secondary school – high school or technical college

The mean, minimum, and maximum values of the parameters measured for the entire group are presented in Table 2. The mean values of the parameters from the NEO-FFI inventory for the entire group of teachers were as follows: 22.97 (SD=5.98) for neuroticism, 32.10 (SD=4.19) for extraversion, 22.60 (SD=4.29) for openness, 26.03 (SD=5.10) for agreeableness, and 29.96 (SD=3.77) for conscientiousness. The mean values for the burnout scales were 27.64 (SD=12.59) for emotional exhaustion, 27.38 (SD=6.53) for the professional efficacy scale, and 7.70 (SD=5.58) for the depersonalization scale. The average value of physical activity (IPAQ total) expressed in min/week (METs) for the group was 5,655.33 (SD=6,311.66), with a minimum value of 0 and a maximum value of 35,031 METs.

Table 2. Mean, minimum, and maximum values for the study group

	N=73		
	M±SD	Min.	Max.
Neuroticism	22.97±5.98	6	36
Extraversion	32.10±4.19	20	42
Openness	22.60±4.29	13	35
Agreeableness	26.03±5.10	14	41
Conscientiousness	29.96±3.77	19	39
Emotional exhaustion	27.64±12.59	0	54
Personal accomplishment	27.38±6.53	10	41
Depersonalization	7.70±5.58	0	27
IPAQ total [METs]	5,655.33±6,311.66	0	35,031.00

Research Tools

NEO-FFI Questionnaire (Neuroticism-Extraversion-Openness Five Factor Inventory)

This questionnaire assesses personality traits according to the Big Five model. It was developed by Costa and McCrae (1992); the Polish adaptation and translation were done by Zawadzki et al. (2005). The questionnaire measures five traits: *neuroticism* – a tendency to worry, experience anxiety, and anticipate failure; *extraversion* – characterized by rational action and being active, energetic, sociable, and optimistic; *openness to experience* – a positive evaluation of life experiences, curiosity, and openness to novelty; *agreeableness* – trust, cooperation, and willingness to help; and *conscientiousness* – perseverance, reliability, and dutifulness in working toward goals. Each trait is assessed by 12 questions, totaling 60 statements. Participants rate each statement on a five-point scale, where “0” means “strongly disagree” and “4” means “strongly agree.” The reliability of the NEO-FFI Personality Inventory was estimated using Cronbach’s α , a coefficient for internal consistency.

Maslach Burnout Inventory (MBI)

This questionnaire, developed by Maslach (1993), measures burnout in the workplace. The Polish adaptation and translation were carried out by Chirkowska-Smolak and Kleka (2011). The questionnaire consists of 22 questions rated on a seven-point Likert scale, with “0” meaning “never” and “6” meaning “daily.” It comprises three subscales with reverse scaling: Emotional Exhaustion (nine questions), Depersonalization (five

questions), and Personal Accomplishment (eight questions). The Cronbach's α for the subscales were 0.91, 0.67, and 0.81, respectively.

International Physical Activity Questionnaire (IPAQ)

The short version of the questionnaire was used. It includes seven questions related to physical activities in daily life, work, and leisure (Craig et al., 2003). Participants provide responses in days/week, hours/day, or minutes/day. The Cronbach's α was 0.48.

Ethical Issues

This research was performed according to the principles of the WMA Declaration of Helsinki and with the approval of the Bioethics Commission at the District Medical Chamber in Gdańsk (project no. KB-13/17).

Data Analysis

Descriptive statistical analysis was conducted using Microsoft Excel 365. Correlation analysis and tests for independent variables were performed using Statistica version 13.

Results

Associations between occupational burnout, personality traits, physical activity, and professional seniority

The correlation analysis between personality traits, burnout dimensions, physical activity, and seniority (Table 3) revealed several statistically significant relationships ($p < 0.05$). Neuroticism intensified symptoms of emotional exhaustion (0.457) while it lowered the sense of professional efficacy (-0.511). Extraversion positively correlated with the sense of personal accomplishment (0.420) and reduced symptoms of emotional exhaustion (-0.240). Agreeableness intensified symptoms of depersonalization (0.484). The last of the NEO-FFI traits, conscientiousness, slightly intensified symptoms of depersonalization (0.235) and increased the sense of personal accomplishment (0.350).

Table 3. Correlation between personality traits, burnout dimensions, physical activity, and professional seniority

Variable	O	C	E	A	N
EE	0.116	0.088	-0.240*	0.068	0.457*
PA	0.108	0.350*	0.420*	-0.070	-0.511*
D	0.156	0.235*	0.007	0.484*	0.337
IPAQ	-0.062	0.082	0.057	0.016	-0.065
S	-0.068	0.011	0.147	-0.125	-0.059

* $p < 0.05$; NEO-FFI Scales: N – Neuroticism; E – Extraversion; O – Openness; A – Agreeableness; C – Conscientiousness; MBI Scales: EE – Emotional Exhaustion; PA – Personal Accomplishment; D – Depersonalization; IPAQ – total score; S – Seniority

Differences in occupational burnout, personality traits, and level of physical activity according to gender, age, and specialization

A between-group analysis was conducted, as shown in Table 4. There were no significant differences between the women and men. However, several statistically significant differences were identified. There was a significant difference between teachers of physical education (PE) and teachers of other subjects on the scale of Emotional Exhaustion. The PE teachers exhibited a lower level of emotional exhaustion ($M=23.21$; $SD=10.35$) than the teachers of other subjects ($M=31.51$; $SD=13.21$). Other statistically significant differences were found when comparing teachers in different age groups. A statistically significant difference was observed for the scale of Professional Achievement between teachers in the age ranges of 18–25 versus 26–35 and of 18–25 versus 36–64. Teachers in the youngest age group showed higher scores in Professional Achievement ($M=35.00$; $SD=7.12$) than teachers in the 26–35 ($M=26.94$; $SD=5.38$) or 36–64 ($M=26.94$; $SD=1.17$) age groups. On the other hand, teachers in the middle age range exhibited a higher level on the Depersonalization scale ($M=20.24$; $SD=6.46$) than individuals in the oldest age group ($M=7.10$; $SD=1.37$).

Table 4. Group differences in personality traits, burnout dimensions, and physical activity

	n	Neuroticism		Extraversion		Openness		Agreeableness		Conscientiousness		Emotional Exhaustion		Personal Accomplishment		Depersonalization		IPAQ Total Score [MEIs]		
		M±SD	p	M±SD	p	M±SD	p	M±SD	p	M±SD	p	M±SD	p	M±SD	p	M±SD	p	M±SD	p	
GENDER																				
Women	58	23.16±5.71	0.611	31.95±4.19	0.558	22.43±4.01	0.505	25.72±4.85	0.321	29.72±3.54	0.299	27.67±12.07	0.970	27.05±6.50	0.397	7.52±5.15	0.588	5438.93±6706.86	0.568	
Men	15	22.27±7.11		31.67±4.30		23.27±5.35		27.20±5.99		30.87±4.57		27.53±14.93		28.67±6.71		8.40±7.18		6492.07±4559.75		
SUBJECT																				
Physical Education	34	23.35±5.59	0.615	32.41±4.06	0.551	22.56±4.30	0.936	26.21±5.22	0.782	29.94±3.57	0.970	23.21±10.35	0.004*	28.09±6.06	0.393	7.68±4.94	0.185	6708.99±6903.06	0.185	
Others	39	22.64±6.35		31.82±4.33		22.64±4.34		25.87±5.05		29.97±3.98		31.51±13.21		26.77±6.94		7.72±6.15		4736.74±5677.96		
AGE																				
18-25	4	20.50±5.20	0.402	33.00±4.24	0.729	21.25±2.63	0.428	24.50±3.11	0.351	30.75±0.96	0.734	20.25±18.84	0.552	35.00±7.12	0.020*	4.75±5.91	0.138	3693.88±3437.11	0.506	
26-35	17	23.29±5.98		33.29±3.98		23.00±4.08		27.35±5.69		29.94±4.59		24.47±10.95		26.94±5.38		10.24±6.46		5315.74±4451.80		
18-25	4	20.50±5.20	0.418	33.00±4.24	0.538	21.25±2.63	0.564	24.50±3.11	0.637	30.75±0.96	0.648	20.25±18.84	0.184	35.00±7.12	0.023*	4.75±5.91	0.380	3693.88±3437.11	0.534	
36-64	52	23.06±6.09		31.64±4.24		22.58±2.92		25.71±4.49		29.90±14.56		29.25±2.29		26.94±1.17		7.10±1.37		5917.23±6994.14		
26-35	17	23.29±5.98	0.889	33.29±3.98	0.160	23.00±4.08	0.732	27.35±5.69	0.261	29.94±4.59	0.973	24.47±10.95	0.163	26.94±5.38	0.999	10.24±6.46	0.042*	5315.74±4451.80	0.741	
36-64	52	23.06±6.09		31.64±4.24		22.58±2.92		25.71±4.49		29.90±14.56		29.25±2.29		26.94±1.17		7.10±1.37		5917.23±6994.14		

*p<0.05

Discussion

In the realm of education, understanding the intricate interplay between teacher occupational burnout, personality traits, and physical activity is paramount for fostering a sustainable and thriving teaching environment. The demanding nature of the profession often places educators at risk of burnout, prompting a critical examination of how individual personality traits may influence susceptibility. The decision to focus on a sample of Polish teachers with different specializations – in particular, distinguishing physical education teachers from others – adds a nuanced layer to the discussion. This approach allows for a more refined analysis, recognizing that the unique demands and characteristics of various teaching specializations may impact the experience of burnout differently. Additionally, delving into the role of physical activity in mitigating or exacerbating teacher burnout unveils a holistic perspective on well-being within the educational landscape (Corbett et al., 2022; Jędryszek-Geisler & Izdebski, 2018). Therefore, we decided to measure the above components among a Polish sample of teachers of different specializations (physical education vs. others).

There were a few associations between the characteristics of burnout and personality traits. We observed that those teachers who had higher emotional instability (neuroticism) also had higher emotional exhaustion with their work. Also, teachers identified as more extraverted exhibited a positive correlation with a heightened sense of personal accomplishment, indicating that their outgoing and sociable nature may contribute to greater fulfillment in their professional achievements. Additionally, these extraverted teachers experienced fewer symptoms of emotional exhaustion, suggesting that their energy and enthusiasm positively correlates with emotional well-being within the teaching context. On the contrary, teachers characterized by higher levels of agreeableness displayed an interesting dynamic: while their agreeable nature fosters positive interpersonal relationships, it was found to intensify symptoms of depersonalization. This implies that, despite their amiable and cooperative demeanor, agreeable teachers may be more prone to feelings of detachment in their interactions within the educational environment.

Higher negative affectivity increases a person's difficulty in coping with stressful events and the probability of burnout developing. Mosa-Kaja et al. (2015) showed in their study that Polish teachers dealing with burnout reported a greater sense of incongruence between themselves and their work environment than their engaged counterparts, who exhibited a more harmonious alignment. The engaged teachers displayed lower levels of negative affectivity and higher levels of self-directedness compared to those experiencing burnout. The study suggests that negative affectivity may serve as a predisposing risk factor, while self-directedness emerges as a protective element against burnout.

A comparison between age groups on the aspects of occupational burnout confirmed earlier research indicating that younger workers tend to experience higher levels

of burnout, particularly in terms of depersonalization. This is evidenced by the comparison between the 26–35 and 36–64 age groups, in which the younger teachers were characterized by significantly higher depersonalization. Therefore, employers should pay attention to younger employees, especially their adaptation to the environment (Lubrańska, 2016). The current study also showed that PE teachers experience less emotional exhaustion than teachers of other specializations. However, there were no significant differences in the level of physical activity and no associations between the level of physical activity and the characteristics of burnout, which was the authors' assumption. On the other hand, we think the fact that physical education teachers exhibited lower emotional exhaustion may be linked to physical activity (METs). Teachers who practice sports on a daily basis are consequently more physically active, dedicating significantly more time to sports activities than teachers of other subjects. The association between physical activity and burnout, however, did not yield significant results. Nonetheless, the study underscores the potential protective role of physical activity, which has also been confirmed by González-Valero et al. (2023), that physical activity significantly reduces symptoms of burnout among physical education teachers.

In summary, the study provides valuable insight into the intricate interplay between personality traits and different facets of teacher well-being, contributing to a deeper understanding of occupational burnout issues within socially imperative professions, particularly among educators. However, there are limitations to this study. It exclusively outlines correlations and differences in certain variables without delving into an exploration of the predictors of burnout among the educators in question, a crucial next step in the analysis of this specific group. Also, the sample size should be much larger in order to more thoroughly investigate the problem of burnout among Polish teachers. Furthermore, future research should concentrate on formulating specific mental health recommendations or activities aimed at alleviating burnout among teachers. Educational institutions should consider implementing tailored support programs that take into account the personality traits specifically associated with burnout. Providing resources and interventions aligned with individual teacher profiles can contribute to the prevention and mitigation of burnout. Tailored support programs for younger teachers that would equip them with coping mechanisms and stress management skills could be particularly beneficial. Schools and educational authorities should establish mechanisms for ongoing monitoring of teacher well-being, especially in the post-pandemic era. Early identification of burnout risk factors and timely interventions can contribute to a healthier and more sustainable teaching environment. Encouraging and facilitating physical activity among teachers may have positive implications for mitigating burnout. Institutions could consider initiatives that promote regular exercise and well-being, recognizing the interconnectedness of physical health and occupational stress.

Conclusion

The findings of this study shed light on the intricate relationship between personality traits, physical activity, and occupational burnout among school teachers and provide insight into the factors associated with burnout in the educational setting. The key points of the study are as follows:

- 1) Personality traits and burnout: The study emphasizes the significance of personality traits in understanding burnout among teachers. Notably, all dimensions of burnout except for openness showed significant correlations with specific personality traits. This underscores the need for tailored interventions and support based on individual personality profiles.
- 2) Age disparities in burnout: The identification of higher levels of depersonalization among younger teachers highlights a critical aspect of burnout dynamics. This insight prompts a closer examination of the unique challenges faced by early-career educators and the development of targeted strategies to mitigate burnout risk in this demographic.

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