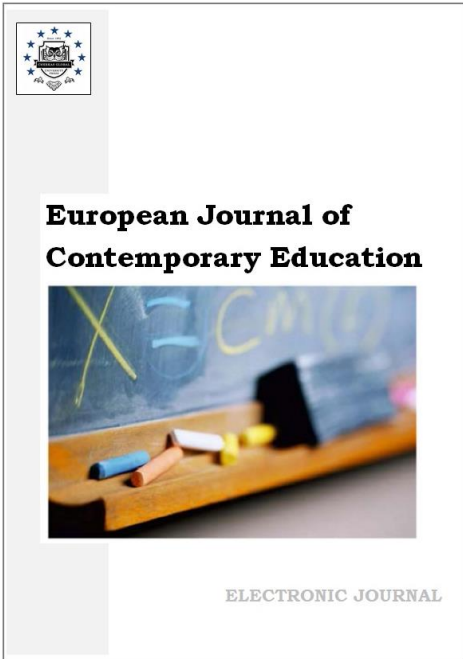




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## Do Physical Education Teachers' Family Income Predict Their Social Communication and Perceived Working Environment?

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### Abstract

Making the career choice to join the teaching profession is usually encouraged by intrinsic motives. Although external motives are less important, they are also worth considering. Among the latter, the role of teachers' income in their professional activities has been less studied. This article examines the family income of physical education teachers, along with their social communication and perceived working environment, and presents an analysis of the association between these factors. The study methodology included a cross-sectional questionnaire survey of physical education teachers. The research sample included 310 physical education teachers aged from 18 to 68 years (43.6 % female). It was found that fewer than half of the physical education teachers surveyed considered their family income sufficient. The study findings revealed that teachers' income was related to their social communication: those with less income tended to be openly negative about other people and mutual interaction. It was found that half of the physical education teachers worked under considerable pressure. Additionally, the study results revealed that evaluation of family income was statistically significantly associated with experienced tension at work and perceived working environment. Specifically, more teachers who assessed their income as insufficient indicated that they experienced a large amount of stress at work, and also demonstrated more negative attitudes towards their working environment.

**Keywords:** physical education teachers, teachers' income, social communication, teachers' attitude to their work.

### 1. Introduction

Although a teacher's role has changed over time, it remains a crucial element in the education of younger generations. Recent social and economic developments have imposed new demands on

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the education system, in general, and the teaching profession, in particular; nevertheless, the motives for choosing this career have not changed appreciably. Research has demonstrated that making the career choice to join the teaching profession is usually encouraged by such intrinsic motives as the desire to work with children, a wish to help and support students, a passion for teaching, the hope of contributing to society, or a sense of altruism (Gicheva, 2022; Fray, Gore, 2018; Sharif et al., 2016). Although external motives are less important, they are also worth considering. Previous studies have established that when teachers choose a place to work, they tend to prioritise job security, flexible working hours, the ability to balance salary, and working conditions (Fray, Gore, 2018; Dundar, 2014). Moreover, poor salaries and professional development prospects have been identified as major factors leading to withdrawal from the profession (Arviv Elyashiv, Navon, 2021; Dundar, 2014; Hassan, Mehdi, 2016; Panagopoulos et al., 2014). In light of these findings, the teachers' income factor in the context of their professional activity is somewhat complicated.

Notably, only limited scholarly attention has centred around the role that teachers' income plays in their professional activities. One study has reported a relationship between student achievement and teacher salary (Loeb, Page, 2000), but the authors cautioned that causality was very difficult to evaluate. A more recent study highlighted the complexity of the relationship between salary and teaching quality in the author's observation that salary was not always directly related to effective teaching and student outcomes (Hanushek, 2016). However, while school teachers' remuneration may be tied to the quality of the schools where they teach, this aspect primarily reflects the financial capability of an educational institution to recruit better teachers (Arviv Elyashiv, Navon, 2021; Hanushek, 2016) rather than the driving motivation behind a teacher's choice to join the staff of a particular school, a decision that goes beyond salary considerations, including intrinsic motives and administrative support (Viano et al., 2021). Other studies have focused attention on the involvement of teachers in their work (Bakker, Bal, 2010), how they perceive their working conditions, and teacher communication and cooperation (Toropova et al., 2021). Although various scholars have demonstrated that engaged teachers are more likely to contribute to the life of the school (Parker, Martin, 2009) and less likely to leave the profession (Mérida-López et al., 2020), issues surrounding the role of teachers' income remain relevant in the school context.

Current public expectations make teachers' competences related to cooperation and communication with children and their parents, as well as other teachers, a critical issue. Research has associated a teacher's expertise in the area of communication with the educator's experience of positive emotions, along with the emotions that the children in their classrooms experience and their perceptions of the teacher's support (Mazer et al., 2014). New teachers consider community support and cooperative relationships, leading to positive emotions, very important (Darby et al., 2011; Mérida-López et al., 2020). However, various education-focused reforms have had a negative impact on teachers' emotional state, affecting communication with school administrators and between teachers while eroding mutual trust to an extent that has degraded the quality of teachers' lives; moreover, such reforms have been associated with problematic administrative approaches and the magnification of pedagogical differences between administrators and teachers (Hargreaves, 2005). According to Datnow (2020), teachers have often felt relatively powerless in the face of the reform adoption process. The existing problem of poor teacher salaries also bears mention in this discussion. Some research evidence has revealed that the average teacher's salary in many countries is significantly lower than the earnings of other professionals (Dupriez et al., 2016). Although some countries (e.g. Lithuania) have witnessed an increase in teachers' salaries in recent years (Eurydice, 2021), the remuneration for educators remains, nonetheless, relatively low. The effects of low, even inadequate, salaries extend beyond educators and their households, however. Some recent studies have suggested that economic factors related to income may have a negative impact on a teacher's decision to seek a change of profession and influence the staff's approach to work (Dogar et al., 2015), student performance (Yontz, Wilson, 2021), and the teaching profession's prestige in society in general. In this context, therefore, this study raises the question of how teachers' incomes relate to their attitudes about their work and their social communication. In seeking answers to this question, we narrowed our focus to physical education teachers. This choice was influenced by several factors. The complexity of the physical education teacher's role is inherent to the situation of physical education as a school subject and its specific subject requirements (Trinkuniene, 2014). Additionally,

the versatility of physical education responsibilities, which combine two distinct functions into the dual role of a “teacher–coach”, potentially creates exhausting conditions and the possibility of role conflicts (Kwon et al., 2010; Richards, Templin, 2012). Finally, a sometimes prevalent view sets the value of physical education lower than the worth of subject areas that require and further refine cognitive skills (Bailey, 2018). In light of these observations, the aim of this research was to assess whether physical education teachers’ family income was associated with their social communication and perceived working environment.

## **2. Literature review**

Continuing and unrelenting economic and political changes, as well as new organisational challenges, have led to the frequent characterisation of the modern working environment as a source of tension for the employee (Sparks et al., 2011; Zurlo et al., 2013). Generally, teachers, including those who teach physical education, represent professions whose activities are related to permanent mental and physical tension (Klassen et al., 2010; Varea, Öhman, 2022; Zurlo et al., 2013). In particular, physical education teachers are required to control their emotions, behave impeccably, follow school regulations and rules for procedures, observe hygiene norms, sustain general health conditions, and enforce work safety rules in the gym. Difficult working conditions (Blažević et al., 2020), communication problems (Kougioumtzis et al., 2011), and insufficient remuneration (Both et al., 2010; Tsigilis et al., 2010) have been shown to have a negative impact on physical education teachers’ well-being and, consequently, on their approach to their work.

One of the working environment factors that may affect physical education teachers’ approach to their work is job satisfaction, which is closely related to the teacher’s motivation and, in turn, the productivity of the school where they work (Richards et al., 2019). Job satisfaction in the context of physical education can be understood as an evaluation of whether teachers in this subject area like or dislike their work. Notably, teachers’ attitudes to their work and their job satisfaction are generally associated with a variety of factors. For example, various studies have revealed that teachers’ self-efficacy (experienced through working with students), support from other teachers (von der Embse, 2016), and the collegial relationship between teachers (Kim, Yang, 2016) affected their positive attitude toward their work as well as their job satisfaction. Another critical factor worth mentioning is job security (Dogar et al., 2015). However, recent changes in the education system have led teachers to perceive a decrease in job security. In general, the current reform has often had negative consequences on schoolteachers’ well-being (Hargreaves, 2005; Mouza, Souchamvali, 2016; Datnow, 2020), leading them to experience negative emotions and stress that have decreased their capacity for mutual communication and diminished their approach to work as well as job satisfaction (von der Embse et al., 2016).

As for the physical education teachers’ attitudes about their work, one recent study revealed that neither men nor women demonstrated high levels of emotional identification with the organisation; specifically, few of them enjoyed working as a teacher of physical education, and even fewer were proud of the school where they worked (Trinkuniene, 2015). These data point to the insufficiently high social prestige of physical education teachers and may even suggest that they inhabit an inferior status among the teachers of other school subjects. Other scholars have observed that a profession’s poor status is one of the factors associated with negative attitudes toward the teaching profession, as well as less job satisfaction (Hassan, Mehdi, 2016; Brezicha et al., 2020).

One analysis of research results on teachers’ status in various specialities demonstrated that educators who taught school subjects that did not have examinations (Kardeliene et al., 2009) occupied a low status in the educational hierarchy. Scholars have commonly recognised that physical education in the education system is underestimated due to the generalised social perception that academic subjects involving cognitive abilities (e.g. math) are more prestigious than others focused on artistic, expressive, or physical athletic qualities (Bailey, 2018). Thus, students, other teachers, and even school principals justify the understanding of this subject area as a “second-class discipline” (Gariglio, 2021). Richards et al. (2018) pointed out that the marginal status of the physical education discipline and its teachers generates institutional conflicts, often involving limited support from principals and colleagues, which generates feelings of marginalisation.

An analysis of teachers’ work environment characteristics highlighted educators’ social communication as a critical element (Mazer et al., 2014). Some scholars have reported that the

social communication attitudes of physical education teachers are dominated by conservatism (Kardeliene, Kardelis, 2006; Masiliauskas, 2011). Arguably, physical education teachers at schools are more likely to focus on the teaching subject than the personality of the learner. Some authors observed that physical education teachers who exhibited a more positive attitude toward social communication demonstrated a more positive approach to communication with students during physical education classes. In addition, they were better able to provide students with an environment that encouraged the students' joy of knowing; such teachers also displayed other ethical competence skills. Contrariwise, the literature also offers evidence that physical education teachers, compared with teachers of other subjects, are more often characterised by open or covert hostility directed at the communication partner (Kardelienė, Kardelis, 2006). Although some other research suggested that physical education teachers evaluated their professional skills as adequate, and best of all, their communication skills with students and colleagues (Poteliuniene et al., 2012).

On another topic, somewhat conflicting data have emerged from the analysis of issues related to teachers' work specificity. Notably, income is connected to external factors that encourage individuals to choose the teaching profession and the work it entails (Dundar, 2014). Moreover, income may serve as an indication of the educational institution's financial capacity to recruit better professionals and provide better conditions for professional development (Hanushek, 2016). However, empirical studies have uncovered only a weak correlation between income and quality of work (Hanushek, 2016; Loeb, Page, 2000). According to data drawn from the Teaching and Learning International Survey (TALIS) (OECD, 2010), the majority of teachers in different countries indicated that they would not be awarded for trying harder or being more inventive and innovative, which suggests that high-quality work did not result in higher pay. Specifically, three-quarters of the teachers surveyed maintained that the best and most efficient teachers or those who applied innovations did not receive higher salaries. At the same time, it should be noted that the quality of teachers' work, as well as that of professionals in other areas, is related to professional development opportunities. However, the report shows that one of the main reasons preventing teachers from participating in professional development events is their high cost. It is worth mentioning that a recent Teaching and Learning International Survey (TALIS) (OECD, 2018) has also shown that teachers are not very satisfied with their salaries. Interestingly, more experienced teachers are, on average, less satisfied with their salaries than novice teachers.

In this context, we should note the distressing financial difficulties that assail physical education teachers. Research results have shown that male physical education teachers have concerns about their family maintenance (Smith, Leng, 2003). Because of their relatively low remuneration, physical education teachers tend to pursue an increased school workload, contributing to a practice of overwork in several schools. Moreover, their work does not end with the last school bell, as most of these teachers engage in after-school (informal) activities, such as training students and preparing them for sports competitions. Although this work is taken for granted as an additional professional commitment, unlike other after-school activities, the goal of winning sports competitions requires intensive work and daily planning throughout the year to achieve the desired results. Furthermore, school administrators, teachers, students and parents all look forward to successful performances, while teachers-coaches become officially responsible for their teams' accomplishments. These diverse responsibilities create exhausting working conditions for a teacher-coach (Ha et al., 2011; Kwon et al., 2010; Richard, Templin, 2012). The teacher-coach job involves two different professions, potentially leading to conflict between the different roles (Kwon et al., 2010; Richards et al., 2019). Never-ending work and professional troubles inevitably encroach upon teachers' private environment and leisure time. Some authors have established that teachers experience more difficulty than many other professionals in terms of combining work and family roles (Erdaman, Damirel, 2014), which may eventually lead to work-family conflict. Such conflict causes stress and depression (Ha et al., 2011; Zhang et al., 2012), increases morbidity (Zhang et al., 2012), and reduces job satisfaction (Carr et al., 2008) and family life satisfaction (Warner, Hausdorf, 2009).

Other studies have also underscored the problem of low wages (inadequate income) connected to the work of physical education teachers. For example, Tsigilis et al.'s (2011) findings suggested that Greek teachers felt great dissatisfaction with their salaries and the educational system. In a similar vein, in a study in Brazil, physical education teachers admitted to being dissatisfied with their salaries and working conditions (Both et al., 2010). Meanwhile, a study set in



Israel reported a positive correlation between salary increases and physical education teachers' professional satisfaction, although social (social interaction) and structural (school premises and equipment) factors more adequately supported high-quality work on the part of these teachers than any bureaucratic or psychological factors (Fejgin et al., 2005). Along the same lines, a recent study in Australia showed that salary was not the least important factor motivating physical education teachers to continue teaching (Whipp, Salin, 2018). In specific terms, a study conducted in Turkey discovered that physical education teachers perceived a "low salary" as a threat (Ünlü, Filiz, 2019).

In summary, research aiming at revealing the role of teachers' income in this profession appears to be lacking. Limited research suggests that income is more attributable to external reasons for choosing this profession (Dundar, 2014) and has been linked to withdrawal from the profession (Dundar, 2014; Hassan, Mehdi, 2016; Panagopoulos et al., 2014). In our opinion, the degree to which teachers' income is related to their attitudes toward their work and mutual communication remains a relevant topic of inquiry. The relevance of the questions is grounded by the evidence that the latter factors are associated with perceived school climate (Malinen, Savolainen, 2016), which is important for the quality of teaching. Meanwhile, the quality of teaching reflects the school's contribution to the development of the country in terms of educating the younger generation. With a specific focus on physical education teachers, the questions raised are relevant in the context of health education for the younger generation. In addressing the emphasis on the lack of funding for teachers, the study will seek to answer the question of whether physical education teachers' family income is associated with their social communication and perceived working environment. Little of the existing research related to our problem questions, and the results of the literature review were rather ambiguous; therefore, specific hypotheses did not emerge in our study.

## **2. Materials and methods**

### **2.1. Participants and Procedure**

Prior to beginning the study, approval was received from the Education Development Centre (from 01-09-2019 National Agency of Education). The study was conducted in Lithuania with a sample comprising physical education teachers from different cities and regions in Lithuania. The study intended to be representative of the country's physical education teacher population. According to the *Statistical Yearbook of Lithuanian Sport*, the country's schools employ 1,754 physical education teachers. Hence, based on random number tables (Cohen et al., 2018) and selecting the 95 % confidence level and 5 % confidential interval, the body of research participants should include no fewer than 317 teachers. The participants were recruited by applying multi-phase sampling (Cohen et al., 2018). First, physical education teachers in all five major cities (Vilnius, Kaunas, Klaipeda, Siauliai and Panevezys) and various regions of the country were chosen for inclusion in the study. Second, physical education teachers representing the country's major urban and rural schools were interviewed in conjunction with seminars organised by the Education Development Centre. Before the interviews were conducted, the teachers were offered explanations concerning the aim of the study. Additionally, they were informed that their responses would be anonymous and confidential. In all, a total of 330 teachers were interviewed. Because of some unlikely responses ( $n = 4$ ), an excess of missing values throughout the questionnaire ( $n = 4$ ), or missing responses regarding the family's economic status ( $n = 12$ ), 20 questionnaires were excluded. Lastly, we analysed the final sample of 310 (135 female and 175 male) physical education teachers aged from 18 to 68 ( $M = 44.55$ ,  $SD = 9.99$ ) and with teaching experience from 1 to 47 years ( $M = 20.43$ ,  $SD = 10.17$ ). Nearly half (48.5 %) of the research participants had the qualifications of a senior teacher, while 38.2 % were methodologists or expert pedagogues. The distribution of the physical education teachers' experience and level of teaching qualification did not differ by gender ( $p > 0.05$ ).

### **2.2. Measures**

#### **2.2.1. Social communication attitudes**

The participating physical education teachers' attitudes towards social communication attitudes measured using Boiko's (2000) questionnaire. This questionnaire consists of 25 statements, assessed by the research participants by selecting one of the two answer options: "I agree" or "I disagree". The questionnaire facilitates establishing the research participants'

attitudes in terms of the measure's five subscales of social communication. The "Undisclosed cruelty in dealing with people and judging them" subscale demonstrates the subject's approach to participants in the specified communication situations (5 items, e.g. *"There is envy and lack of benevolence on each team"*). The "Open cruelty dealing with people" subscale shows how much a person is not inclined to hide their negative attitude to the other person and not inclined to demonstrate concern for those around them (5 items, e.g. *"It is better to think about a person badly and make a mistake, than on the contrary – to think well and make a mistake"*). The "Reasonable negative attitude to people judging them" subscale reveals how much a research participant tends to draw deliberately negative conclusions about some individuals or certain aspects of interpersonal communication (5 items, e.g. *"Usually people do not show initiative in the workplace"*). The "Gripe" subscale uncovers how much the research participant tends to excessively negatively view negative facts about communication and social life (5 items, e.g. *"In my environment, I meet far fewer clever than stupid people"*). Lastly, the fifth subscale, "Negative experience of interaction with the surrounding persons", brings to light the research participants' attitudes about how much they have failed in life because of the surrounding people or colleagues at work (5 items, e.g. *"People with whom I have to work together usually pretend to be decent, although in fact this is not characteristic of them"*). Each statement included in a subscale is given the appropriate number of points according to the particular answer option chosen – agree or disagree. The total assessment score for all scale statements is 100 points. The corresponding scores for each subscale are also calculated. A subject's score that is higher than the average score of the group indicates that their attitude toward social communication is negative. These calculations allowed us to determine the number of subjects demonstrating negative and positive attitudes toward each subscale.

#### 2.2.2. Perceived working tension

To assess the participants' attitudes about tension experienced at work, we provided the subjects with a list of 12 factors that could possibly cause tension (Stock, Kramer, 2000). The process of assessing each factor (sample items are "Specific physical education requirements for teachers", "Competition") required participants to choose one of four options for a response from "Does not cause any tension" to "Causes permanent tension". According to the median of the scores for the answer options, we divided the research participants into two groups: periodically and episodically suffering from tension at work. Cronbach's alpha coefficient for this scale was 0.83.

#### 2.2.3. Perceived working environment

The participating physical education teachers' approaches to the working environment were measured using a modified scale comprising 14 statements (Gerikiene, 2007). The subjects' responses to these statements (sample items are "Nobody notices me at school", "My job is meaningful") were assessed on a five-point scale by choosing response options ranging from "strongly agree" to "strongly disagree". According to the estimated median of scores, we divided the subjects into two groups: "Positive approach to the working environment related to the need to cooperate" and "Negative approach to the working environment associated with the desire to confront". Cronbach's alpha coefficient for this scale was 0.74.

#### 2.2.4. Perceived family income

We evaluated the family financial condition of these physical education teachers by soliciting their answers to several questions. One question aimed at establishing family income by asking, "What is your family's monthly income after taxes?" The answer options for this question were presented with the stated amounts. The teachers were not asked to specify an exact amount of money because subjects are more likely to respond to questions about income when they are given a choice of alternatives. We analysed the data and divided the subjects into two groups: families whose income was less than or equal to the average monthly salary for all professions in the country and families whose income was higher than the average monthly salary in the country. Specifically, our allocation of research participants between these two groups in terms of income was based on information from the Lithuanian Department of Statistics concerning the average monthly gross salary in the national economy, which amounted to €751 in the fourth quarter of 2018. Accordingly, teachers who responded that their family's monthly income was not higher than this amount were allocated to the first group, while those who indicated an income higher than the national average were placed in the second group.

Additionally, the teachers answered the question, “Is this income sufficient?” Four alternative answers were provided: “Absolutely sufficient”, “It is enough”, “Not enough” and “Absolutely insufficient”. As a result of our analysis of the data, we divided the subjects into two groups: family income was sufficient, and family income was not sufficient.

#### 2.2.5. Other socio-demographics

The questionnaire also included questions about gender, age, teaching experience and pedagogical qualifications. According to our analysis of the data, we divided the respondents into two groups for each of these characteristics. For teaching experience, these groups were characterised as working 20 years and less ( $n = 161$ ) and working more than 20 years ( $n = 149$ ). In terms of pedagogical qualifications, the groups distinguished those with the teacher and senior teacher qualification ( $n = 189$ ) from those who were qualified as methodologists and experts ( $n = 121$ ).

#### 2.3. Statistical Analyses

Our statistical analysis began by describing the composition of the sample in terms of their family income and their evaluation of their family income, social communication, perceived tension at work and perceived working environment. We used a chi-square test to assess the statistical significance between groups. Next, we applied Pearson’s correlation coefficient to identify correlations among variables. Prevalence odds ratios (OR) and 95 % confidence intervals (CI) were also calculated with logistic regression modelling to estimate associations between the participating physical education teachers’ family income and social communication, perceived stress at work and evaluation of their working environment. Logistic regression was used because predictor variables were not normally distributed; moreover, the predictors and dependent variables were categorical. All analyses were performed using IBM SPSS Statistics for Windows software (version 22.0).

### 3. Results

This study’s physical education teacher survey revealed that fewer than half (46.1 %) of the participants reported a monthly family income that was not more than the national average monthly salary. Notably, more male teachers (58.5 %) indicated that their salary was slightly higher than the average family income; however, statistically significant differences in comparison to the female participants (47.9 %) were not observed. Similarly, no statistically significant differences in monthly family income emerged with respect to different levels of teaching experience. More teachers with higher qualifications (60.2 %) reported higher monthly family income in contrast to those with lower qualifications (49.7 %); nevertheless, the difference was not statistically significant ( $p = 0.08$ ). The survey showed that fewer than half of the surveyed teachers (42.0 %) considered their monthly family income to be sufficient. Moreover, sufficient monthly family income was reported by more teachers with higher qualifications (46.6 %) compared to those with lower qualifications (38.6 %). A difference in teaching experience had no apparent impact on the participants’ evaluations of their monthly family income. An assessment of the relationship between family income and its evaluation revealed a close to moderate statistically significant correlation ( $r = 0.29, p < 0.01$ ).

Next, we analysed the dependent variables in light of the study results. Our examination of social communication showed that fewer than half of the physical education teachers demonstrated negative attitudes according to the subscales of undisclosed cruelty (46.7 %), open cruelty (46.9 %), reasonable negative attitude to other people (39.9 %) and gripe (39.9 %). Slightly more physical education teachers (61.7 %) indicated a negative approach on the “Negative communication experience” subscale. On all of the social communication subscales, although men were more likely than women to demonstrate negative attitudes, the differences between the male and female teachers were not statistically significant. Similarly, no statistically significant differences were found when comparing the results of social communication in terms of different levels of teaching experience. Furthermore, different qualification levels yielded no statistically significant differences in the teachers’ social communication results. That said, more negative social communication was observed in teachers with lower pedagogical qualifications, especially in the subscale “Undisclosed cruelty in dealing with people and judging about them ( $p = 0.07$ ).

The survey revealed that 51.5 % of the participating physical education teachers worked under considerable pressure. According to their responses related to the perceived working environment, fewer than half (48.5 %) of them were inclined to cooperate. Notably, gender,

teaching experience, or educational qualification had no statistically significant impact on the percentage of teachers who were inclined to cooperate.

We then tested the link between the participants' social communication attitudes, work-related tension and approach to the working environment. Our analysis of the results revealed that work-related tension was slightly but statistically significantly associated with a reasonable negative attitude ( $r = 0.16, p < 0.01$ ) and negative communication experiences ( $r = 0.13, p < 0.05$ ). The teachers' approach to the working environment had a weak but statistically significant correlation with undisclosed cruelty ( $r = 0.19, p < 0.01$ ), open cruelty ( $r = 0.14, p < 0.05$ ), reasonable negative attitude ( $r = 0.18, p < 0.01$ ) and gripe ( $r = 0.17, p < 0.01$ ). We also identified a weak correlation between experienced tension and approach to the working environment ( $r = 0.23, p < 0.01$ ).

Univariate analysis indicated that teachers whose monthly family income was less statistically significantly more demonstrated negative attitude of open cruelty ( $\chi^2 (1, N = 310) = 46.54, p = 0.01$ ) and reasonable negative approach ( $\chi^2 (1, N = 310) = 3.83, p = 0.05$ ) in the subscales of social communication (Table 1). However, other social communication subscales were not predictable by teachers' family income. Furthermore, the teachers' evaluation of their family income was not linked to social communication.

**Table 1.** Links between physical education teachers' family income and social communication

Social communication subscales	Income		Evaluation of income	
	Less or average	More than average	Insufficient	Sufficient
Undisclosed cruelty	48.8 %	43.6 %	46.4 %	47.1 %
	OR = 0.79; CI 95 % [0.48-1.28]		OR = 1.08; CI 95 % [0.64-1.72]	
Open cruelty	55.0 %	39.7 %	48.5 %	45.5 %
	OR = 0.56; CI 95 % [0.34-0.91]		OR = 0.95; CI 95 % [0.88-1.55]	
Reasonable negative approach	53.4 %	41.3 %	47.9 %	48.0 %
	OR = 0.64; CI 95 % [0.40-0.99]		OR = 1.16; CI 95 % [0.71-1.90]	
Gripe	44.1 %	34.7 %	39.2 %	40.5 %
	OR = 0.67; CI 95 % [0.40-1.11]		OR = 1.11; CI 95 % [0.67-1.85]	
Negative cooperation experience	60.2 %	60.9 %	63.1 %	58.6 %
	OR = 1.13; CI 95% [0.68-1.89]		OR = 0.83; CI 95 % [0.49-1.39]	

The study revealed that the average monthly household income that the participating physical education teachers reported was not statistically significantly associated with experienced tension at work or perceived working environment (Table 2). However, more of the teachers whose income was lower tended to say that they experienced great pressure at work. Interestingly, the opposite tendency was observed in the higher-income teachers, in particular, in demonstrating a more negative approach to the work environment.

Logistic regression analyses revealed that evaluation of family income was statistically significantly associated with experienced tension at work and perceived working environment (Table 2). According to the survey, more teachers who assessed their income as insufficient indicated that they experienced a large amount of stress at work ( $\chi^2 (1, N = 310) = 14.1, p = 0.001$ ). Moreover, more of these teachers, in comparison to those who assessed their income as sufficient, demonstrated negative attitudes towards their working environment ( $\chi^2 (1, N = 310) = 3.82, p = 0.05$ ).



**Table 2.** Links between physical education teachers' family income and perceived tension and working environment

Perceived tension and working environment	Income		Evaluation of income	
	Less or average	More than average	Insufficient	Sufficient
Experiencing much tension at work	56.5 %	49.1 %	62.0 %	39.01 %
	OR = 0.88; CI 95 % [0.53-1.42]		OR = 0.61; CI 95 % [0.44-0.88]	
Typical negative approach to work	47.6 %	53.7 %	56.5 %	43.4 %
	OR = 1.23; CI 95 % [0.76-2.06]		OR = 0.46; CI 95 % [0.36-0.99]	

#### 4. Discussion

This study aimed to determine whether physical education teachers' family income was associated with their social communication and perceived working environment. Based on this aim, in our investigation, we began by collecting information on the family financial conditions that our participants, comprising a sample of physical education teachers in Lithuania, were experiencing. The results revealed that fewer than half of the surveyed physical education teachers reported monthly family income that was less or equal to the national average monthly salary; moreover, fewer than half of the teachers considered their monthly income sufficient. Some recent qualitative studies aiming to explore the job satisfaction of physical education teachers also found that 50 % were not satisfied with their salary (Eirín-Nemiñ et al., 2022). Prior research in other countries has also highlighted physical education teachers' low salaries (inadequate income) and the problems that arise from this financial situation (Panagopoulos et al., 2014; Tsigilis et al., 2011; Ünlü, Filiz, 2019; Whipp, Salin, 2018). While it is likely that obtaining or possessing a higher level of professional qualification should support a reasonable expectation of higher remuneration for work, in the case of the physical education teachers who participated in this study, the survey results indicated no significant differences in the assessment of reported salaries based on their qualifications.

The results related to teachers' social communication and their approach to work are also worth noting. The survey showed that physical education teachers mostly reported a negative experience of communication with others. Notably, more than one-third of the teachers had negative attitudes toward social communication in general. This finding is in line with the observations of Kardeliene and Kardelis (2006), who found that the linguistic behaviour of some physical education teachers was dominated by a hierarchical approach to communication. Specifically, the authors mentioned the teachers' occasional use of unsuitable expressions during physical education lessons, especially when the learner failed in some exercise. Prior research has revealed that such an approach is more common for physical education teachers who are closer to the negative attitude to social communication (Masiliauskas, 2011). When discussing teachers' communication results it is important to note that both the teachers' communication with students and with other teachers is important for the learning process and for the teachers' development in general (Gonçalves et al., 2022; Simonton et al., 2021). While communicating with others, teachers may demonstrate various emotions, but it is important for the teacher to understand how to express these emotions when communicating with students and how they can be perceived by students (Simonton et al., 2021). Teacher's ability to express and manage their emotions and feelings and to use them constructively is an important aspect of teacher competency (Lohmann et al., 2021). Therefore, respect, trust-based communication with others, and even having opportunities to hear constructive criticism from colleagues are important for the professional development of physical education teachers (Goncalves et al., 2022).

In this research we also found that one out of two physical education teachers reported experiencing stress at work. These results support the findings of other researchers who classified the teaching profession as a high-risk occupation (Klassen et al., 2010; Varea, Öhman, 2022; Zurlo et al., 2013).

The main research question in this study called for assessing associations between physical education teachers' family income and their social communication and perception of their working

environment. While several links emerged between teachers' family income and their social communication, other relationships were not found to be statistically significant. According to our data, teachers who receive lower incomes are more susceptible to open cruelty, indicating their propensity to express negative attitudes to others more openly, as well as show less concern for the interests of others. In addition, teachers with lower incomes more often draw reasonable conclusions about other people and mutual interaction. Because attitudes about social communication tend to be reflected in various aspects of an individual's interpersonal communication, lower-income teachers are more likely to draw adverse inferences about others and their interaction with others. Importantly, no link was established in the study findings between teachers' evaluation of their income and their attitudes regarding social communication. Nevertheless, almost half of the participating teachers reported receiving an income that was lower than the national average salary for all occupations, and even fewer participants believed that their income was sufficient. This finding might be explained by other researchers' reports that salary is not the most important factor in choosing the teaching profession because altruistic factors are more important (Fray, Gore, 2018; Sharif et al., 2014; Sharif et al., 2016). That said, actual income, not a teacher's evaluation of that income, has been shown to adversely affect communication between teachers. In this context, it is worth mentioning other researchers' claims that the lack of a material reward, which might describe the situation of earning a low salary, can be a factor that causes stress (Kongcharoen et al., 2019; Merkys et al., 2011). Moreover, recent research has pointed to the lack of income, stress, and a high workload, along with problems concerning schoolchildren's behaviour, as factors that encourage teachers to change jobs (Arviv Elyaskiv, Navon, 2021). In addition to these factors, the low status of physical education teachers can increase their intention to change professions (Eirín-Nemiña et al., 2022; Mäkelä et al., 2014).

The current study analysed links between physical education teachers' income and experienced tension at work as well as their perceived working environment. When these teachers negatively evaluated their income, they were more likely to experience stress at work and had a more negative attitude toward their working environment. These data partly correspond to other scientists' claims that a lack of earnings is associated with poor job satisfaction (Hassan, Mehdi, 2016; Malinen, Savolainen, 2016; Eirín-Nemiña et al., 2022). However, no association was established between the average monthly household income reported by physical education teachers and their experienced work-related stress as well as their perceived working environment. Thus, while teachers' income is important in terms of their mutual communication and approach to their work, other aspects are noteworthy as well. Among these are the material working conditions (Eirín-Nemiña et al., 2022; Trinkuniene et al., 2016), support from school management for employees (Eirín-Nemiña et al., 2022; Tsigilis et al., 2011), employee involvement in decision-making (Kim, Yang, 2016), and teacher self-efficacy and perceived autonomy (Avanzi et al., 2013; Skaalvik, Skaalvik, 2014). At the same time, teachers' mutual cooperation is essential for job satisfaction (Eirín-Nemiña et al., 2022; Klasser, 2010). Hence, teachers' income is a complex factor in that it has an impact on the total positive climate of the school as well as teachers' job satisfaction (Malinen, Savolainen, 2016).

In summary, physical education teachers' family income and their evaluation of that income are essential elements when seeking to understand their social communication and perceived working environment. However, our study revealed some differences in the participants' evaluation of income and income perception. Income is more closely associated with social communication, while the individual's income perception connects with tension experienced at work and their approach to work. The survey results reflect the context of our study, which was the teaching profession. These professionals must meet profession-specific requirements related to the fact that they work with children. Therefore, the specificity of working with children is important in the assessment of school staff interaction, well-being at work and, consequently, their approach to work. It is no coincidence that teachers' well-being at work is linked to their personal capabilities in terms of performing classroom-related duties (Woolfolk-Hoy, Davis, 2006), teacher self-efficacy in the classroom (von der Embse et al., 2016), and their students' motivation, as well (Hassan, Mehdi, 2016). In the evaluation of the specificity of the school as an organisation and, in particular, the teaching profession, it should be noted that teachers as employees face many challenges, ranging from the impact of the ongoing reforms to the lack of support from parents, while continually being forced to endure financial security issues. In this context, attention should be

paid to the limitations of our study and the opportunities for future research that these limitations suggest. Among the study limitations was the methodology. In particular, our evaluation of the income of the participating physical education teachers did not separate the spouse's income and did not consider the spouse's occupation. Although salary is not the only factor related to incentive, especially in terms of teachers' professional activities, we did not evaluate any existing school system targeting staff motivation. Therefore, further research should supplement the consideration of teachers' income by including other teacher promotion measures (e.g. the possibility of participating in training courses, internships) related to teachers' job satisfaction and the quality of work. Although this study aimed to uncover the relationships between physical education teachers' income and their perceived social communication as well as work-related stress and approach to their work, further research should include teachers of other subjects and school administrators.

## 5. Conclusion

In conclusion, this study has extended the evidence base in terms of understanding the significance of physical education teachers' income as it relates to their social communication and perceived working environment. The current study revealed that fewer than half of the participating physical education teachers evaluated their family income as sufficient. The study findings suggest that teachers' income, albeit not their income evaluation, is related to their social communication, as those with less income tended to be openly negative about other people and in their mutual interaction. It was also revealed that teachers' more negative perception of their income (negatively evaluating their income/evaluating it as insufficient) was related to their experience of tension at work and led to a more negative approach to work.

## References

- Arviv Elyashiv, Navon, 2021 – Arviv Elyashiv, R., Navon, Y. (2021). Teacher attrition: Human capital and terms of employment-do they matter? *Education Policy Analysis Archives*. 29(76): 76.
- Avanzi et al., 2013 – Avanzi, L., Miglioretti, M., Velasco, V., Balducci, C., Vecchio, L., Fraccaroli, F., Skaalvik, E.M. (2013). Cross-validation of the Norwegian Teacher's Self-Efficacy Scale (NTSES). *Teaching and Teacher Education*. 31: 69-78.
- Bailey, 2018 – Bailey, R. (2018). Sport, physical education and educational worth. *Educational Review*. 70(1): 51-66.
- Bakker, Bal, 2010 – Bakker, A.B., Bal, P.M. (2010). Weekly work engagement and performance: A study among starting teachers. *Journal of Occupational and Organizational Psychology*. 83(1): 189-206.
- Blažević et al., 2020 – Blažević, I., Benassi, L., Šterpin, A. (2020). Material working conditions in teaching physical education. *Economic Research*. 33(1): 1240-1254.
- Boiko, 2000 – Boiko, V.V. (2000). Metodika diagnostiki komunikativnoj ustanovki [Methodology for Diagnosing a Communicative Attitude]. *Psichologicheskie testy*. 2: 298-302. [in Russian]
- Both et al., 2010 – Both, J., Nascimento, J.V., Sonoo, C.N., Lemos, C.A.F., Borgatto, A.F. (2010). Worker's life conditions in the teaching profession: Association between lifestyle and quality of life at work among physical education teachers. *Motricidade*. 6(3): 39-52.
- Brezicha et al., 2020 – Brezicha, K.F., Ikoma, S., Park, H., LeTendre, G.K. (2020). The ownership perception gap: exploring teacher job satisfaction and its relationship to teachers' and principals' perception of decision-making opportunities. *International Journal of Leadership in Education*. 23(4): 428-456.
- Carr et al., 2008 – Carr, J.C., Boyar, S.L, Gregory, B.T. (2008). The moderating effect of work-family centrality and work-family conflict, organizational attitudes and turnover behaviour. *Journal of Management*. 34(2): 244-262.
- Cohen et al., 2018 – Cohen, L., Manion, L., Morrison, K. (2018). Research methods in education. 8<sup>th</sup> Edition. New York: Routledge.
- Darby et al., 2011 – Darby, A., Mihans, R., Gonzalez, K., Lyons, M., Goldstein, J., Anderson, K. (2011). The influence of school socioeconomic status on first-year teachers' emotions. *Research in Education*. 85(1): 69-80.

[Datnow, 2020](#) – [Datnow, A.](#) (2020). The role of teachers in educational reform: A 20-year perspective. *Journal of Educational Change*. 21(3): 431-441.

[Dogar et al., 2015](#) – [Dogar, I.A., Afzal, S., Ali, M.A., Haider, N., Asmat, A.](#) (2015). Job satisfaction of physicians and teachers; Regular verses contract basis jobs. *Professional Medical Journal*. 22(11): 1525-1530.

[Dundar, 2014](#) – [Dundar, S.](#) (2014). Reasons for choosing the teaching profession and beliefs about teaching: A study with elementary school teacher candidates. *College Student Journal*. 48(3): 445-460.

[Dupriez et al., 2016](#) – [Dupriez, V., Delvaux, B., Lothaire, S.](#) (2016). Teacher shortage and attrition: Why do they leave? *British Educational Research Journal*. 42(1): 21-39.

[Eirín-Nemiña, et al., 2022](#) – [Eirín-Nemiña, R., Sanmiguel-Rodríguez, A., Rodríguez-Rodríguez, J.](#) (2022). Professional satisfaction of physical education teachers. *Sport, Education and Society*. 27(1): 85-98.

[Erdamar, Demirel, 2014](#) – [Erdamar, G., Demirel, H.](#) (2014). Investigation of work-family, family-work conflict of the teachers. *Procedia-Social and Behavioral Sciences*. 116: 4919-4924.

[Fejgin et al., 2005](#) – [Fejgin, N., Talmor, R., Erlich, I.](#) (2005). Inclusion and burnout in physical education. *European Physical Education Review*. 11(1): 29-50.

[Fraym Gore, 2018](#) – [Fray, L., Gore, J.](#) (2018). Why people choose teaching: A scoping review of empirical studies, 2007–2016. *Teaching and Teacher Education*. 75: 153-163.

[Gariglio, 2021](#) – [Gariglio, J.A.](#) (2021). Beginning Physical Education teachers' induction: discoveries and survival in the profession. *Sport, Education and Society*. 26(7): 733-745.

[Gerikiene, 2007](#) – [Gerikiene, V.](#) (2007). Work satisfaction of Lithuanian community nurses in the context of primary health care reform (Doctoral dissertation), Kaunas: Kaunas Medical University.

[Gicheva, 2022](#) – [Gicheva, D.](#) (2022). Altruism and burnout: Long hours in the teaching profession. *ILR Review*. 75(2): 427-457.

[Goncalves et al., 2022](#) – [Gonçalves, L.L., Parker, M., Luguetti, C., Carbinatto, M.](#) (2022). The facilitator's role in supporting physical education teachers' empowerment in a professional learning community. *Sport, Education and Society*. 27(3): 272-285.

[Ha et al., 2011](#) – [Ha, J.P., Hums, M.A., Greenwell, T.C.](#) (2011). Dual role of physical education teacher-athletic directors in Korean secondary schools. *Physical Educator*. 68(4): 221-233.

[Hanushek, 2016](#) – [Hanushek, E.A.](#) (2016). School human capital and teacher salary policies. *Journal of Professional Capital and Community*. 1(1): 23-40.

[Hargreaves, 2005](#) – [Hargreaves, A.](#) (2005). Educational change takes ages: Life, career and generational factors in teachers' emotional responses to educational change. *Teaching and Teacher Education*, 21(8): 967-983.

[Hassan, Mehdi, 2016](#) – [Hassan, S.A., Mehdi, D.](#) (2016). An investigation into factors contributing to Iranian secondary school English teachers' job satisfaction and dissatisfaction. *Research Papers in Education*. 31(3): 274-298.

[Kardeliene et al., 2009](#) – [Kardeliene, L., Kardelis, K., Sukys, S., Karanauskiene, D.](#) (2009). Identification would-be specialists of physical education and sports: Academic, athletic and professional., Kaunas: LKKA.

[Kardeliene, Kardelis, 2006](#) – [Kardeliene, L., Kardelis, K.](#) (2006). Pedagogical communication in physical education activities. Kaunas: Technologija.

[Kim, Yang, 2016](#) – [Kim, S., Yang, S.](#) (2016). Childcare teachers' job satisfaction: Effects of personality, conflict-handling, and organizational characteristics. *Social Behavior & Personality: An International Journal*. 44(2): 177-184.

[Klassen et al., 2010](#) – [Klassen, R.M., Usher, E.L., Bong, M.](#) (2010). Teachers' collective efficacy, job satisfaction, and job stress in cross-cultural context. *Journal of Experimental Education*. 78(4): 464-486.

[Kongcharoen et al., 2019](#) – [Kongcharoen, J., Onmek, N., Jandang, P., Wangyisen, S.](#) (2019). Stress and work motivation of primary and secondary school teachers. *Journal of Applied Research in Higher Education*. 12(4): 709-723.

[Kougioumtzis et al., 2011](#) – [Kougioumtzis, K., Patriksson, G., Strahlman, O.](#) (2011). Physical education teachers' professionalization: A review of occupational power and professional control. *European Physical Education Review*. 17(1): 111-129.



**Kwon et al., 2010** – Kwon, H.H., Pyun, D.Y., Kim, M. (2010). Perceived leadership behavior of physical education teacher-coaches: When they teach vs. when they coach. *Journal of Teaching in Physical Education*. 29(2): 131-145.

**Loeb, Page, 2000** – Loeb, S., Page, M.E. (2000). Examining the link between teacher wages and student outcomes: The importance of alternative labor market opportunities and non-pecuniary variation. *Review of Economics and Statistics*. 82(3): 393-408.

**Lohmann et al., 2021** – Lohmann, J., Breithecker, J., Ohl, U., Gieß-Stüber, P., Brandl-Bredenbeck, H.P. (2021). Teachers' professional action competence in education for sustainable development: A systematic review from the perspective of physical education. *Sustainability*. 13(23): 13343.

**Mäkelä et al., 2014** – Mäkelä, K., Hirvensalo, M., Whipp, P.R. (2014). Should I stay or should I go? Physical education teachers' career intentions. *Research Quarterly for Exercise and Sport*. 85(2): 234-244.

**Malinen, Savolainen, 2016** – Malinen, O.P., Savolainen, H. (2016). The effect of perceived school climate and teacher efficacy in behavior management on job satisfaction and burnout: A longitudinal study. *Teaching & Teacher Education*. 60: 144-152.

**Masiliauskas, 2011** – Masiliauskas, D. (2011). The link between physical education teachers' professional and pupils' subject-related position during the lesson (Doctoral dissertation), Siauliai: Siauliai University.

**Mazer et al., 2014** – Mazer, J.P., McKenna-Buchanan, T.P., Quinlan, M.M., Titsworth, S. (2014). The dark side of emotion in the classroom: Emotional processes as mediators of teacher communication behaviours and student negative emotions. *Communication Education*. 63(3): 149-168.

**Mérida-López et al., 2020** – Mérida-López, S., Sánchez-Gómez, M., Extremera, N. (2020). Leaving the teaching profession: Examining the role of social support, engagement and emotional intelligence in teachers' intentions to quit. *Psychosocial Intervention*. 29(3): 141-151.

**Merkys et al., 2011** – Merkys, G., Urmonas, A., Bubeliene, D. (2011). Evaluation of objective teacher's right to a healthy and safe working environment and of security of subjective rights. *Jurisprudence*. 18(2): 575-594.

**Mouza, Souchamvali, 2016** – Mouza, A., Souchamvali, D. (2016). Effect of Greece's new reform and unplanned organizational changes on the stress levels of primary school teachers. *Social Indications Research*. 128(2): 981-994.

**OECD, 2010** – OECD. TALIS 2008 Technical Report, 2010. [Electronic resource]. URL: <http://www.oecd.org/education/school/44978960.pdf>

**OECD, 2018** – OECD. The OECD Teaching and Learning International Survey, 2018. [Electronic resource]. URL: <http://www.oecd.org/education/talis>

**Panagopoulos et al., 2014** – Panagopoulos, N., Anastasiou, S., Goloni, V. (2014). Professional burnout and job satisfaction among physical education teachers in Greece. *Journal of Scientific Research & Reports*. 3(13): 1710-1721.

**Parker, Martin, 2009** – Parker, P.D., Martin, A.J. (2009). Coping and buoyancy in the workplace: Understanding their effects on teachers' work-related well-being and engagement. *Teaching and Teacher Education*. 25(1): 68-75.

**Poteliuniene et al., 2012** – Poteliuniene, S., Blauzdys, V., Juskeliene, V. (2012). Readiness of Lithuanian physical education teachers to apply new physical education ideas. *Pedagogy*. 105: 94-101.

**Richards et al., 2018** – Richards, K.A.R., Gaudreault, K.L., Starcka, J.R., Woods, A.M. (2018). Physical education teachers' perceptions of perceived mattering and marginalization. *Physical Education and Sport Pedagogy*. 23(4): 445-459.

**Richards et al., 2019** – Richards, K.A.R., Washburn, N.S., Hemphill, M.A. (2019). Exploring the influence of perceived mattering, role stress, and emotional exhaustion on physical education teacher/coach job satisfaction. *European Physical Education Review*. 25(2): 389-408.

**Richards, Templin, 2012** – Richards, K.A.R., Templin, T.J. (2012). Toward a multidimensional perspective on teacher-coach role conflict. *Quest*. 64(3): 164-176.

**Sharif et al., 2016** – Sharif, T., Upadhyay, D., Ahmed, E. (2016). Motivational factors influencing teaching (FIT) as a career: An empirical study of the expatriate teachers in the Emirates. *The Journal of Developing Areas*. 50(6): 209-225.

Simonton et al., 2021 – Simonton, K.L., Richards, K.A.R., Washburn, N. (2021). Understanding emotion in physical education teaching: A conceptual framework for research and practice. *Quest*. 73(3): 306-322.

Skaalvik, Skaalvik, 2014 – Skaalvik, E.M., Skaalvik, S. (2014). Teacher self-efficacy and perceived autonomy: Relations with teacher engagement, job satisfaction, and emotional exhaustion. *Psychological Reports*. 114(1): 68-77.

Smith, Leng, 2003 – Smith, D., Leng, G.W. (2003). Prevalence and sources of burnout in Singapore secondary school physical education teachers. *Journal of Teaching in Physical Education*. 22(2): 203-218.

Sparks et al., 2011 – Sparks, K., Cooper, C., Fried, Y., Shirom, A. (2011). The effects of hours of work on health: A meta-analytic review. *Journal of Occupational and Organizational Psychology*. 70(4): 391-408.

Stock, Kramer, 2000 – Stock, C., Kramer, A. (2000). Psychosoziale belastung und psychosomatische beschwerden von studierenden [Psychosocial stress and psychosomatic complaints of students]. In U. Sontag, S. Graser, C. Stock, A. Kramer (Hrsg), *Gesundheitsfordernde Hochschulen. Konzepte, Strategien und Praxisbeispiele* (pp. 127-138). Weinheim und München: Juventa verlag. [in German]

Toropova et al., 2021 – Toropova, A., Myrberg, E., Johansson, S. (2021). Teacher job satisfaction: the importance of school working conditions and teacher characteristics. *Educational Review*. 73(1): 71-97.

Trinkuniene et al., 2016 – Trinkuniene, L., Beitnaras, L., Simokaitis, B. (2016). The situation of physical education in Prienai region schools: Teachers' point of view. *Sport Science*. 85(3): 16-23.

Trinkuniene, 2014 – Trinkuniene, L. (2014). Professional role complexity of physical education teachers in the context of profession regulating documents. *Sport Science*. 76(2): 59-70.

Trinkuniene, 2015 – Trinkuniene, L. (2015). Attitudes of physical education teachers towards their work as a precondition of their professional position. *Pedagogika*. 118(2): 145-158.

Tsigilis et al., 2011 – Tsigilis N., Zournatzi E., Koustelios A. (2011). Burnout among physical education teachers in primary and secondary schools. *International Journal of Humanities and Social Science*. 1(7): 53-58.

Ünlü, Filiz, 2019 – Ünlü, H., Filiz, B. (2019). Work ability of the Turkish physical education teachers. *Research Quarterly for Exercise and Sport*. 90(4): 666-677.

Varea, Öhman, 2022 – Varea, V. Öhman, M. (2022). 'Break the rules or quit the job': Physical education teachers' experiences of physical contact in their teaching practice. *Sport, Education and Society*. DOI: 10.1080/13573322.2022.2036119

Viano et al., 2021 – Viano, S., Pham, L.D., Henry, G.T., Kho, A., Zimmer, R. (2021). What teachers want: School factors predicting teachers' decisions to work in low-performing schools. *American Educational Research Journal*. 58(1): 201-233.

Von der Embse et al., 2016 – Von der Embse, N.P., Sandilos, L.E., Pendergast, L., Mankin, A. (2016). Teacher stress, teaching-efficacy, and job satisfaction in response to test-based educational accountability policies. *Learning & Individual Differences*. 50: 308-317.

Warner, Hausdorf, 2009 – Warner, M.A., Hausdorf, P.A. (2009). Understanding work-to-family conflict: The role of organization and supervisor support for work-life issues. *Organization Management Journal*. 6(3): 130-145.

Whipp, Salin, 2018 – Whipp, P.R., Salin, K. (2018). Physical education teachers in Australia: Why do they stay? *Social Psychology of Education*. 21(4): 897-914.

Woolfolk-Hoy, Davis, 2006 – Woolfolk-Hoy A., Davis, H.A. (2006). Teacher self-efficacy and its influence on the achievement of adolescents. In F. Pajares & T. Urdan (Eds.). *Adolescence and Education*, Vol. 5: Self-efficacy and adolescence (pp. 117-138). Greenwich, CT: Information Age Publishing.

Yontz, Wilson, 2021 – Yontz, B.D., Wilson, R.E. (2021). Teacher salary differentials and student performance: Are they connected? *Journal of Educational Issues*. 7(1): 168-183.

Zhang et al., 2012 – Zhang, M., Griffeth, R.W., Fried, D.D. (2012). Work-family conflict and individual consequences. *Journal of Managerial Psychology*. 27(7): 696-713.

Zurlo et al., 2013 – Zurlo, M.C., Pes, D., Capasso, R. (2013). Teacher stress questionnaire: Validity and reliability study in Italy. *Psychological Reports: Measures & Statistics*. 113(2): 1-28.