

# Job Satisfaction Among Physical Education Teachers: A Scientometric Review

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Despite the existence of numerous studies pertaining to the topic of job satisfaction among physical education teachers, a complete review that thoroughly examines the progression of this study remains absent. The main objective of this paper is to provide a deeper insight into this research through a scientometric approach. We analysed 249 papers contained in the Scopus and Web of Science databases from 1975 to 2023 using ScientoPy software. Our analysis revealed an increasing trend in this research from 1975 to the present. The United States appears to be a major contributor in terms of authors, journals, and institutions that significantly influence this topic. This paper provides useful data, concepts, thoughts, and insights for researchers and practitioners in the field of physical education teacher job satisfaction. This information can be used to enrich their theory and practice. Furthermore, future research could be further developed by combining this scientometric or bibliometric analysis with content analysis and a literature review.

**Keywords:** job satisfaction; teacher; physical education; scientometrics

## I. INTRODUCTION

Quality in education can only be achieved if there is quality delivery of all subjects, including physical education (Varja, 2018). As a core subject in the national curriculum, physical education plays a vital role in promoting the overall well-being of students, encompassing their spiritual, emotional, moral, social, and cultural development (Cale *et al.*, 2016; Harris, 2018). This connection between quality education and the comprehensive development of students is of paramount importance, as it equips them not only for personal well-being but also enables them to contribute meaningfully to the betterment of society at large. Therefore, emphasising the nexus between the quality of education and the holistic impact of physical education becomes instrumental in fostering a balanced and enriched student experience (Akhter & Ahmed, 2021).

Problems that impede or hamper the effective implementation of physical education are gaps that need to be corrected (Sceisarriya, 2017), as experienced by physical education teachers in schools. In ensuring Physical

education is executed efficiently, Physical education teachers have to play a very important role and their work involves myriad and challenging tasks such as planning, teaching, assessment, administration and various unclassified tasks (Şentuna, 2015). These tasks may be routine, mundane, or tedious and energy-sapping. In line, Physical education teachers are considered a valuable human resource in schools and are an important asset in education (Şentuna, 2015).

However, in reality, physical education teachers have not been able to improve the value of students' physical fitness and student achievement in physical education in schools (Ihsan *et al.*, 2017). In practice, the performance of physical education teachers has still not been optimal (Jumriati, 2017). Many factors impede and hamper teachers from performing efficiently at work, which leads to failure in producing the desired results or meet the targets envisioned. One of the reasons that has led to this consequence is that physical education teachers have had to shoulder excessive workloads (Adilogullari *et al.*, 2014) besides a variety of

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responsibilities other than teaching (Şentuna, 2015). As a result, physical education teachers feel tired at work (Adilogullari *et al.*, 2014; Carraro *et al.*, 2019; Skaalvik & Skaalvik, 2017) as well as endure high levels of stress at school (Richards *et al.*, 2017).

Many of the pressures felt by these physical education teachers indicate that there is no job satisfaction among them (Ali *et al.*, 2017). Undeniably, teachers who are dissatisfied at work cannot do a good job at school (Qazi & Jeet, 2016) and which may indirectly give rise to an onset of a trend of demotivation, burnout and poor performance at work. Worse still, job dissatisfaction also causes teachers to leave their jobs (Gaikhorst *et al.*, 2014; Mäkelä & Whipp, 2015; Mccarthy *et al.*, 2016). This had been highlighted by the Alliance for Excellent Education (AEE) in collaboration with the New Teacher Centre, that is approximately 13 percent of the 3.4 million teachers in the United States changed schools or left the profession each year (Haynes *et al.*, 2014). Furthermore, Goldring *et al.* (2014) indicated that teacher turnover was close to 16% and was much higher in urban schools with high poverty rates. The main sources of teacher dissatisfaction rooted from careers desired by socially disadvantaged teachers, very low salaries, school facilities (Yaghoubinejad *et al.*, 2017), and leadership (Mawaddah *et al.*, 2020; Tajnia *et al.*, 2014; Yaghoubinejad *et al.*, 2017). This had also been evidenced by the many studies that revealed dissatisfaction at work by physical education teachers (Carraro *et al.*, 2017; Ješinová *et al.*, 2014; Lee *et al.*, 2019; Mäkelä & Whipp, 2015; Rutkowska & Zalech, 2015). Crucially, the research results of Richards *et al.* (2017) emphasised that the structural elements of the workplace and relationships with others were found to affect the job satisfaction of physical education teachers.

Although there are many universal definitions of job satisfaction in the literature field, job satisfaction plays a decisive role in achieving a goal or not (Pradhan *et al.*, 2019). Job satisfaction has a complex structure and relationships in many areas, such as personal, social, cultural, environmental and financial factors (Stankovska *et al.*, 2017). Job satisfaction is defined as the overall emotions, thoughts, and beliefs that people have about their work (Elif & Zekiye, 2020). Radchenko (2015) reiterated that job satisfaction was one of the important factors that help

maintain a high level of performance. Job satisfaction refers to a person's personal assessment of the current situation at work (Khalid *et al.*, 2011). Furthermore, Hülshager *et al.* (2013) stated that job satisfaction is a positive feeling about an employee's professional life, based on range, experience, and preferences.

Previous researchers have been compelled to conduct in-depth studies on the job satisfaction of physical education teachers. These studies can be in the form of empirical methods (Carraro *et al.*, 2017; Ješinová *et al.*, 2014; Lee *et al.*, 2019; Mäkelä & Whipp, 2015; Rutkowska & Zalech, 2015), and literature reviews (Richards *et al.*, 2017). However, the increase in research productivity that discusses the job satisfaction of physical education teachers has never been thoroughly mapped using the scientometric method. Therefore, this is one of the gaps that can be developed or filled in constructively, which also becomes the reason why this study is significant.

Scientometrics is a study of science with a different identity and methodology (Garfield, 2009). The term has grown in popularity and recognition in recent decades, and is used to describe the study of science, including the growth, structure, interrelation and productivity of certain research (Ramy *et al.*, 2018). Mingers and Leydesdorff (2015) found that the main themes of scientometric research include how to measure the quality and impact of research. Scientometrics deals with the impact of some things (research), but not what (Abramo, 2018).

The aim of this study was to conduct a scientometric analysis of the scientific production of physical education teacher job satisfaction, focusing on productivity, topics, and patterns of collaboration. It provides a comprehensive perspective on this theme, detects promising or weakening areas, and determines the pattern of their collaboration by providing an objective and up-to-date overview of the physical education teacher job satisfaction literature based on scientometric analysis and visualisation. Therefore, this research sought to answer the following questions: What are the trends in publications in recent years regarding research on job satisfaction in the field of physical education? Additionally, who are the most influential authors, journals, papers, keywords, institutions, and countries in this area, based on scientometric analysis? By exploring the

knowledge domains, measurable research patterns, intellectual structures, and emerging trends in this field, this study aims to provide more accurate and complete information, offering valuable insights into research topics and trends over time from different perspectives. The results of this method and paper can thus serve as a valuable resource for future research, providing an alternative demonstration of research progress and guiding further exploration in the area of job satisfaction among physical education teachers.

## II. MATERIALS AND METHOD

The Scopus database and Web of Science (WoS) were used to collect and analyse the data for this paper. This bibliographic database contains information on high-quality multidisciplinary research published in scientific journals with significant global impact and allows consolidation of the datasets to contribute to this research (Santamaria-Granados *et al.*, 2021), as well as the databases most frequently visited by previous researchers around the world (Sweileh, 2020; Abdullah, 2021; Yang *et al.*, 2021; Nurhuda *et al.*, 2023). This section describes the collection of bibliographic datasets and their pre-processing.

### A. Dataset Collection

Initially, a special search for papers from the Web of Science (WoS) and Scopus databases was conducted, as they both

claim strong coverage of selected peer-reviewed journals (Kulkarni *et al.*, 2009). According to Chadegani *et al.* (2013) and Lis (2020), these voluminous databases are extensively used for literature searches. Along with the Web of Science, Scopus is found among the most reliable sources indexing high-quality publications (Mongeon & Paul-Hus, 2016). The search keywords were “job satisfaction” OR “teacher satisfaction” OR “educator contentment” OR “instructor fulfilment” OR “teaching profession well-being” OR “pedagogical job gratification”, OR “academic staff satisfaction” OR “classroom job enjoyment” OR “instructional career joy” OR “training occupation happiness” AND “physical education” OR “physical education teacher” OR “physical education instructor” OR “phys ed teacher” OR “PE teacher” OR “sports teacher”. Based on the data collected from the bibliographic platform on July 29, 2023, a total of 249 papers were obtained, consisting of 123 from Scopus databases and 126 from WoS databases, and all of these papers were restricted to document types, including only articles, proceedings papers, and review articles. This substantial number of papers exceeds both the minimum requirements of 200 documents suggested by Rogers *et al.* (2020) and the minimum of 50 documents proposed by Bornmann *et al.* (2014), and Sjöstedt *et al.* (2015), thus making it suitable for in-depth bibliometric analysis of the research field.

Table 1. Filters are applied to the search string. The documents correspond to the WoS and Scopus dataset.

Filter	Scopus	Papers	WoS	Papers
By document type: Include	Article, Conference Paper & Review	124	Articles, Proceedings Papers & Review Articles	131
By source type: Exclude	Book Series	<b>123</b>	Book Series	<b>126</b>

### B. Pre-Processing Data

Pre-processing of bibliographic datasets generated with the ScientoPy tool (Ruiz-Rosero *et al.*, 2019). Table 2 shows a pre-processing summary of duplicate documents that were removed from the combined Scopus and WoS data set. In addition, it presents statistical information on bibliographic datasets filtered by document type (articles and review

articles). Specifically, the first information column describes the input data set. The second column determines the number of documents issued and the number of papers generated from the duplicate filter. Finally, the third column shows the relative percentage before and after the filter.

Table 2. Preprocess brief with ScientoPy for the dataset obtained from WoS and Scopus.

Information	Number	Percentage
Total Loaded papers	249	
Omitted papers by document type	9	0,36%
Total papers after omitted papers removed	240	
Loaded papers from WoS	118	4,92%
Loaded papers from Scopus	122	5,08%
<b>Duplicated removal results:</b>		
Duplicated papers found	48	2%
Removed duplicated papers from WoS	0	0,0%
Removed duplicated papers from Scopus	48	39,3%
Duplicated documents with different cited by	28	5,83%
Total papers after removed duplicated	192	
Papers from WoS	118	6,15%
Papers from Scopus	74	3,85%

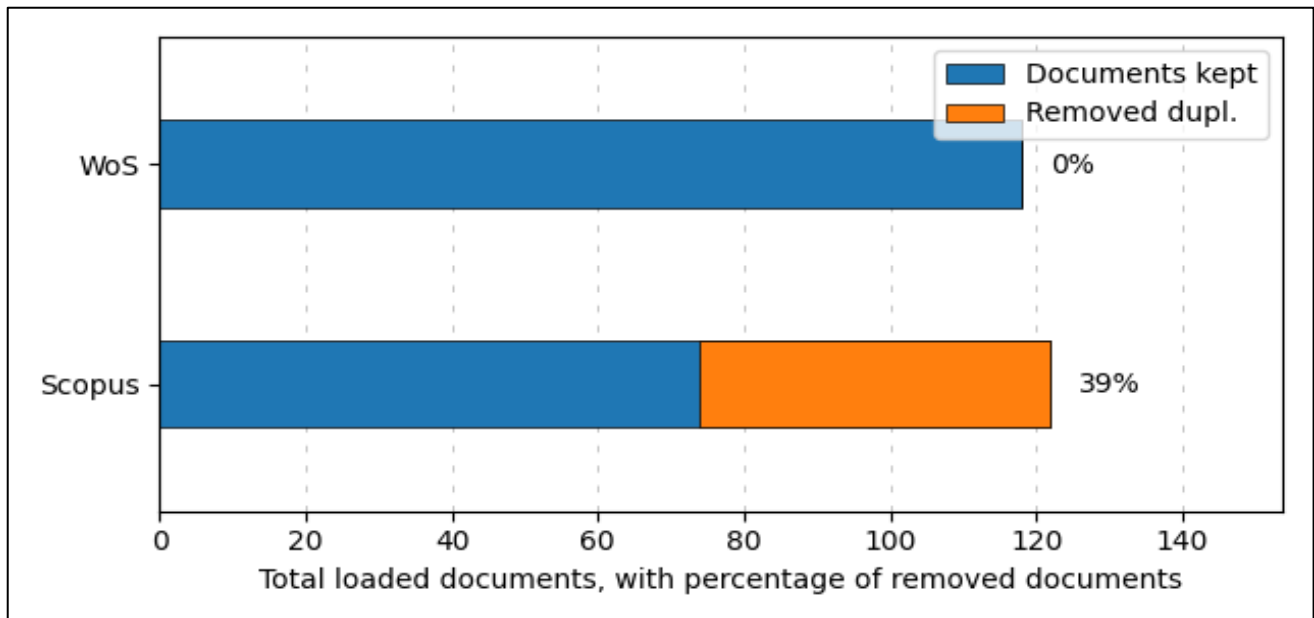


Figure 1. Data pre-processing from WoS and Scopus databases.

The quick pre-processing graph in Figure 1 shows all loaded documents for each database and the duplicate records removed. Based on Figure 1, the ScientoPy pre-processing script places the WoS document on top of the Scopus document; there were more documents from the WoS database than the Scopus after the duplication removal. The raw source dataset used in this study includes 249 papers and entries added from the WoS and Scopus databases. This study had eliminated 48 papers resulting from the automatic classification of ScientoPy publications. After data reconciliation, this study worked with 192

individual entries from both databases, containing 118 papers from WoS and 74 papers from Scopus. Based on the duplicate WoS database, nothing was deleted. Meanwhile, from the Scopus database, 48 duplicate papers were deleted.

### III. RESULT AND DISCUSSION

#### A. Trends of Publications

This study collected a total of 249 papers related to the fields of job satisfaction and physical education. The history of the development of this literature dates back to 1975, when only one paper was published. However, in the period 1976–1979, no papers were published on this topic. In 1980 and 1981, there was a slight increase, with two papers published each year. Furthermore, from 1982 to 2007, the number of papers published remained limited, with a maximum of only two papers in a year.

A significant increase in publications occurred in 2008, and recent data shows an increasing trend in the last five years, namely 2019 (15 papers), 2020 (14 papers), 2021 (18 papers), 2022 (19 papers), and 2023 (6 papers). Although there was a decrease in the number of papers published in 2023, this is likely due to the fact that the year is still running and several months remain. The data analysis also highlighted that this progression of literature is more dominant in the Scopus database, confirming the importance of job satisfaction and physical education as increasingly important research domains in related disciplines.

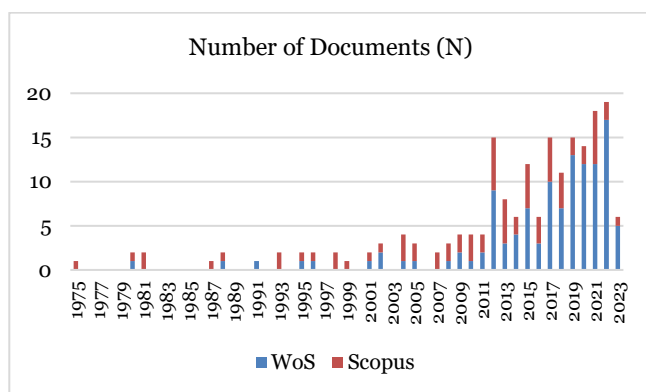


Figure 2. Growth of publications on job satisfaction among physical education teachers in the WoS and Scopus databases.

#### B. The Most Influential Authors, Journals, Papers, Keywords, Institutions and Country in the Field of Job Satisfaction and Physical Education

##### 1. Author analysis

Researchers use the number of publications and the number of citations as indicators to identify the most active and influential researchers in the fields of job satisfaction and physical education (Zupic & Cater, 2015). Citations are considered an important measure of influence (Zupic & Cater, 2015). Table 3 was compiled to list the top ten authors who made significant contributions to research on physical education teacher job satisfaction. Relevant information in the table includes total publications, average growth rate (AGR), average documents per year (ADY), percentage of documents in recent years (PDLY), and the h-index of the authors. The h-index is an important bibliometric indicator used to assess researcher performance (Fraumann & Mutz, 2021). Besides the h-index, other bibliometric indicators such as AGR, ADY, and PDLY have also been proposed to evaluate the scientific impact of individuals, institutions, colleges, universities, and research teams (Roldan-Valadez *et al.*, 2019). These indicators aim to extend the properties of the h-index and overcome its limitations. The main purpose of these indicators is to study and evaluate the scientific impact of individual researchers or groups of researchers.

Table 3 also displays the top ten authors who have a large impact based on the number of citations. These authors are important because their work is frequently cited in research, which helps with scientific dissemination and recognition. The presentation of Table 3 aims to make it easier for readers and future researchers to identify leading authors in the field of physical education teacher job satisfaction. This information may aid potential future collaborations. Within the field of physical education teacher job satisfaction, K. Andrew R. Richards from the University of Illinois at Urbana-Champaign, United States, dominates as the most prolific and influential author, with a total of 11 papers and an impressive 137 citations. However, when viewed from Table 3, K. Andrew R. Richards' AGR (Annual Growth Rate) has a negative value of -1.0, meaning that the number of publications or citations in the field has decreased every year. AGR is calculated by representing the percentage rate

of positive or negative growth of a product in a given year (2015). compared to the previous year (Kumar & Kaliyaperumal,

Table 3. The top ten proactive authors on job satisfaction research and physical education.

Rank	Author	Total	AGR	ADY	PDLY	h-index	Citations
1	Richards, K.A.R.	11	-1.0	1.0	18.2	7	137
2	Both, J.	6	-0.5	0.0	0.0	2	13
3	Hemphill, M.A.	4	0.0	0.5	25.0	4	72
4	do Nascimento, R.K.	4	-0.5	0.0	0.0	1	2
5	Guelmami, N.	3	-0.5	1.0	66.7	1	6
6	Hirvensalo, M.	3	0.0	0.0	0.0	3	62
7	Lee, Y.H.	3	0.0	0.5	33.3	2	30
8	Makela, K.	3	0.0	0.0	0.0	3	62
9	Washburn, N.	3	-0.5	0.0	0.0	3	30
10	Whipp, P.R.	3	0.5	0.5	33.3	3	58

AGR, Average Growth Rate; ADY, Average Documents Per Year, PDLY, Percentage of Documents in Last Years.

### 2. Source analysis

Table 4 in the research on physical education teacher job satisfaction identifies ten sources based on the number of papers published and the number of citations in the field. The *Journal of Teaching in Physical Education* was the most productive journal with 15 papers, while the second-ranked *Research Quarterly for Exercise and Sport*, which published 14 papers, emerged as the most influential journal with 508 citations. These findings underline the importance of the quality and impact of a publication, which are not solely dependent on the number of publications.

Source analysis also confirms that in academia, the reputation of certain journals and conferences can have a major impact on the recognition and number of citations for

research (Helden, 2020). The main purpose of scientific journals is to present high-quality scientific data and share information with the research community as well as the general public (Racz & Marković, 2018). Therefore, researchers should wisely choose a publication venue for their research to ensure that their work can achieve greater impact and make a significant contribution to the development of the discipline in question. In addition, it is important to remember that the success of research is not only measured by the frequency of publication but also by the extent to which the research makes a meaningful contribution to the advancement of science and practice in the relevant field.

Table 4. Ten journals published in the field of physical education teacher job satisfaction.

Rank	Journals	Total	AGR	ADY	PDLY	h-index	Citations
1	Journal of Teaching in Physical Education	15	-1.0	1.0	13.3	8	170
2	Research Quarterly for Exercise and Sport	14	0.0	0.0	0.0	9	508
3	Teaching and Teacher Education	7	0.0	1.0	28.6	5	501
4	Energy Education Science and Technology Part B-Social and Educational Studies	6	0.0	0.0	0.0	4	34
5	Journal of Athletic Training	6	0.0	0.0	0.0	6	146
6	Frontiers in Psychology	4	0.0	1.5	75.0	1	3
7	Quest	4	-0.5	0.0	0.0	3	43
8	Sustainability	4	0.0	1.5	75.0	1	5
9	Adapted Physical Activity Quarterly	3	-1.0	0.0	0.0	1	17
10	Journal of Strength and Conditioning Research	3	0.0	0.0	0.0	3	49

AGR, Average Growth Rate; ADY, Average Documents Per Year, PDLY, Percentage of Documents in Last Years.

3. Paper analysis

In this study, as of July 29, 2023, the author metadata results generated by ScientoPy show that the top paper was written by Taylor, Ntoumanis and Standage (2008), entitled "A self-determination theory approach to understanding the antecedents of teachers' motivational strategies in physical education". This paper, published in 2008, has 191 citations. Table 7 shows the ten most cited papers in the literature relevant to this study. In addition to the papers by Taylor, Ntoumanis, and Standage, there are several other studies that have also had a significant impact on the understanding of physical education teachers' job satisfaction. For example, the paper by Cheon *et al.* (2014) entitled "The teacher benefits from giving autonomy support during physical education instruction" is one of the most important studies in this context, with over 122

citations. The paper explores the benefits autonomy support provides to teachers, including greater teaching motivation (psychological need satisfaction, autonomous motivation, and intrinsic goals), teaching ability (teaching efficacy), and teaching wellbeing (vitality, job satisfaction, and reduced emotional and physical exhaustion).

Analysing the most influential and highly cited journal papers is essential in bibliometric studies. Identifying the most cited review papers helps in recognising significant research topics and steering future directions in the field (Yan & Zhang, 2023; Zhai & Xu, 2023). Moreover, an understanding of the most impactful papers can also help in identifying vulnerabilities in the literature that still require further exploration and problem-solving (Pech & Delgado, 2021). As such, these impactful papers can make an important contribution to the development of understanding and provide a foundation for future research.

Table 5. The Ten Most Cited Papers in the Field of Physical Education Teacher Job Satisfaction.

Title	Authors	Journals	Citations	Year
A self-determination theory approach to understanding the antecedents of teachers' motivational strategies in physical education	Taylor, I. M., Ntoumanis, N., & Standage, M.	Journal of Sport and Exercise Psychology	191	2008
The teacher benefits from giving autonomy support during physical education instruction	Cheon, S.H., Reeve, J., Yu, T.H., & Jang, H.R.	Journal of Sport & Exercise Psychology	122	2014
Does the first year of teaching have to be a bad one? A case study of success	Hebert, E., & Worthy, T.	Teaching and Teacher Education	97	2001
The relationship between burnout and job satisfaction among physical education teachers: A multivariate approach	Koustelios, A., & Tsigilis, N.	European Physical Education Review	79	2005
The role of proletarianisation in physical education teacher attrition	Macdonald, D.	Research Quarterly for Exercise and Sport	79	1995
The "professional" work of experienced physical education teachers	Macdonald, D.	Research Quarterly for Exercise and Sport	56	1999
Experienced Physical Education Teachers Reaching Their "Use-by Date"	Whipp, P.R., Tan, G., & Yeo, P.T.	Research Quarterly for Exercise and Sport	41	2007
Through the years: A longitudinal study of physical education teachers from a research-based preparation program	Woods, A.M., & Lynn, S.K.	Research Quarterly for Exercise and Sport	40	2001
Role ambiguity, role conflict and job satisfaction among physical education teachers in Greece	Koustelios, A., Theodorakis, N., &	International Journal of	37	2004

	Goulimaris, D.	Educational Management		
Should i stay or should i go? Physical education teachers' career intentions	Makela, K., Hirvensalo, M., & Whipp, P.R.	Research Quarterly for Exercise and Sport	37	2014

4. Author keywords analysis

Author keywords are denoted by keywords chosen by authors to neatly describe the content of their document. Most of the authors in the data set examined included their research topic in the keyword document. Author keywords can to a great extent facilitate future readers and researchers to identify critical ideas and arguments in articles (Kwon, 2018; Lu *et al.*, 2020). Countless electronic search engines, databases, and journal sites rely on author keywords to find relevant papers and present them to potential readers. Readers should be aware that keywords generate links to other relevant publications. In this context, ScientoPy can examine the evolution of research topics or search arguments based on the keywords set by the authors (Ruiz-Rosero *et al.*, 2019).

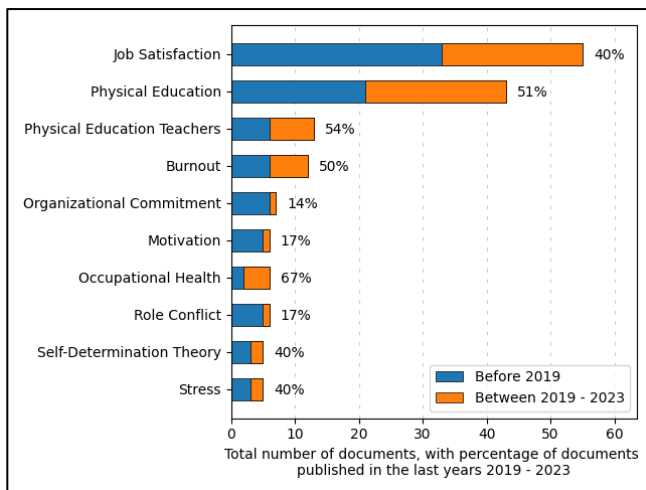


Figure 3. The Top 10 Authors Keywords on Job Satisfaction and Physical Education.

Figure 3 illustrates the 10 keywords used in previous studies. The most frequently used keywords were "job satisfaction", followed by "physical education". Data processing provided precedence for these broad terms directly related to the subject. Additionally, the significant keywords can be accessed to help future readers and

researchers in deciding which keyword to use when analysing the document. Although Figure 3 depicts the first 10 keywords, ScientoPy allows us to see an unlimited number of keywords (Ruiz-Rosero *et al.*, 2019). Figure 3 also depicts the percentage of documents issued in the previous 5 years (2019–2023) as a measure of relative growth. With this indicator, we can see that "Occupational Health" topics are on this list, but more importantly, they have the highest PDLY (67%). It's evident that this topic has exhibited the most significant growth among other keywords in the past five years. This growth aligns with the research conducted by Lipponen *et al.* (2022), which illustrates that as physical education teachers age, it becomes increasingly likely for them to experience improvements in their health conditions, albeit with some inevitability and a heightened susceptibility to various occupational health issues. Occupational health for teachers can be defined as their ability to implement optimal adjustments, function effectively, and engage in continuous professional development, as discussed by Dziuba (2021).

5. Institutions analysis

Based on the information in Figure 4, it can be concluded that analysing the institutions that contributed to the research is an important step in understanding the distribution of research on physical education teacher job satisfaction. The University of Illinois, United States, appears to dominate with a total of 10 publications, while Western Washington University, United States, is ranked second with 5 papers, and Democritus University Thrace, Greece, is ranked third with 4 papers. It should be noted that in addition to the number of publications, it is also important to consider the percentage of documents published in the last two years, which in the case of University Genoa, Italy, and University Jendouba, Tunisia, reached 67%. This indicates that these two universities have



a significant level of productivity in terms of recent research in the field of physical education teacher job satisfaction.

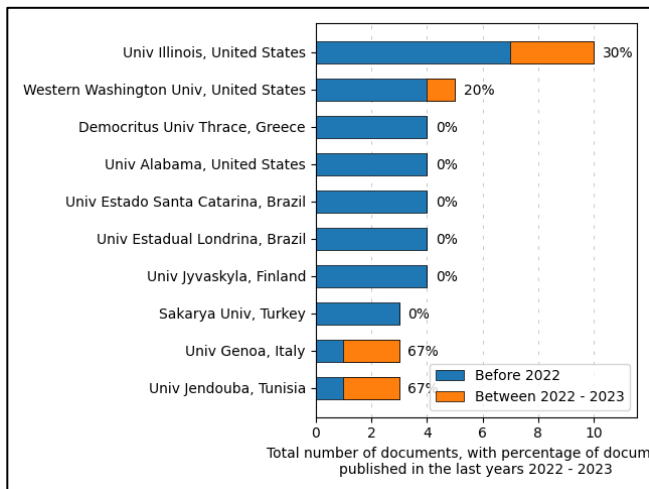


Figure 4. Top ten institutions by country with regard to physical education teacher job satisfaction.

The results also include the identification of the most cited papers, which helps to illustrate the influence and relevance of the institution's contribution to the scientific literature (Hercheui, 2011; Tan *et al.*, 2023). One of the most cited papers is a paper from the University of Birmingham, United Kingdom, authored by Taylor, Ntoumanis and Standage (2008). Furthermore, in this context, it is important to note that an understanding of the institutions that play a role in this research can provide valuable insights for the researchers and the institutions themselves. This can assist in the further development of building domestic and international research collaborations to enhance the reputation of the institution and encourage further contributions (Luo *et al.*, 2014; Mwantimwa & Kassim, 2023). With this understanding, further research and collaborative efforts between institutions can be further emphasised, aiming to improve the global understanding of physical education teachers' job satisfaction and address issues faced by professionals in this field.

### 6. Country analysis

Analysing author affiliation plays an important role in understanding the distribution of research contributions from different institutions and countries (Nishioka, Färber & Saier, 2022), especially in research on physical education teacher job satisfaction. Through the results illustrated in Figure 5, it can be seen that a number of countries are the largest contributors in this research domain. The United States led the way with 44 papers, followed by Spain and Turkey, each with 17 papers. Australia and China contributed 14 papers, while Brazil produced 13 papers. Greece, Iran, the UK, and Italy scored 11, 11, and 7, respectively.

Not only was the United States a major contributor to the number of publications, it was also the most active country in citing the research, with a total of 1852 citations. This phenomenon indicates that the United States has a central role in the development of scientific literature around physical education teacher job satisfaction and is a major focus for research in this area. Furthermore, it also reflects the amount of international attention to this topic, reflecting the global significance of job satisfaction issues in physical education (Balgá & Antala, 2022; Eirin-Nemina *et al.*, 2022). With this understanding, researchers may consider further international collaboration and knowledge exchange with the countries that played a role in this study. This could help generate deeper insights into physical education teachers' job satisfaction globally, as well as enable the development of more effective cross-border cooperation in an effort to improve the working conditions of physical education teachers around the world.

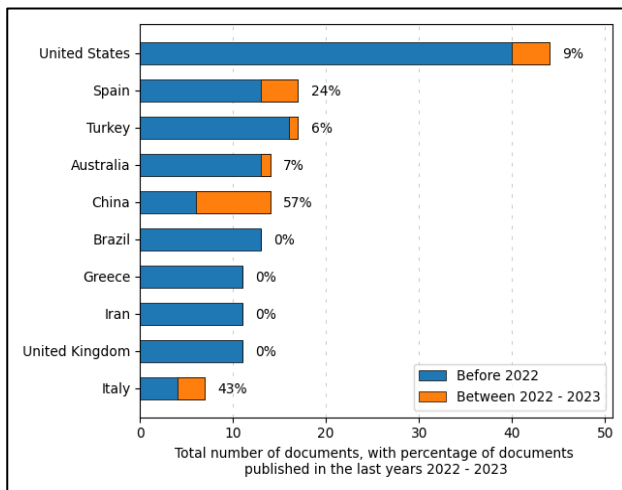


Figure 5. Ten countries that published papers in the field of physical education teacher job satisfaction.

#### IV. CONCLUSION

A scientometric review of job satisfaction in physical education was conducted on a dataset of 249 documents published over a 49-year period (1974–2023) from two databases (Scopus and Web of Science). This study offers a comprehensive scientometric overview of physical education teacher job satisfaction. We have examined the job satisfaction of physical education teachers from various perspectives: publication trends, author analysis, source analysis, paper analysis, keyword analysis, institutional analysis, and the most influential country analysis.

Over the past 49 years, there have been 249 papers related to physical education teacher job satisfaction, and the number of papers continues to grow, indicating that researchers are paying increasing attention to this area. K. Andrew R. Richards from the University of Illinois at Urbana-Champaign, United States, is the most contributed and influential author in the field of job satisfaction and physical education, with a total of 11 papers and 137 citations. The journal with the most papers is the *Journal of Teaching in Physical Education*, and *Research Quarterly for Exercise and Sport* is the most influential journal with 508 citations. The paper by Taylor, Ntoumanis, and Standage entitled "*A self-determination theory approach to understanding the antecedents of teachers' motivational strategies in physical education*," published in 2008, was the most influential, with 191 citations. The most frequently used keywords were "*job satisfaction*" and "*physical education*". However, based on the percentage of documents

published over the last 5 years (2019–2023), the keyword "occupational health" emerged with the highest PDLY (67%). The institution that contributed the highest number of papers was the University of Illinois, United States, with 10 papers. Meanwhile, the United States became the most contributing and influential country, with 44 papers and 1852 citations.

The limitations in this study are mainly related to the search strings that have been used. In this study, the keywords "job satisfaction" OR "teacher satisfaction" OR "educator contentment" OR "instructor fulfilment" OR "teaching profession well-being" OR "pedagogical job gratification", OR "academic staff satisfaction" OR "classroom job enjoyment" OR "instructional career joy" OR "training occupation happiness" AND "physical education" OR "physical education teacher" OR "physical education instructor" OR "phys ed teacher" OR "PE teacher" OR "sports teacher". were used to obtain the metadata discussed throughout the manuscript. The discussion may vary slightly if additional keywords are used. However, this analysis is only a starting point that can be expanded through more in-depth investigation, either through a scope review or a systematic literature review. Findings can be used to build theoretical frameworks, map the state of the art in the field, and quickly identify gaps in scientific research. Furthermore, as a result of keyword analysis, this finding is expected to stimulate the development of new ideas, enable more effective dissemination and communication of scientific works related to physical education teacher job satisfaction research, and be a springboard for the investigation of new concepts and dimensions that are more relevant. Furthermore, future research could be further developed by combining this scientometric or bibliometric analysis with content analysis and a literature review.

#### V. ACKNOWLEDGEMENT

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