

Trend of Person-Environment Fit Studies and Employees' Wellbeing: A Bibliometric Analysis

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Abstract

Purpose: The purpose of this bibliometric analysis is to map the trends in Person-Environment (PE) fit research published in the Scopus database between 1978 and 2021.

Design/methodology/approach: The VOSviewer, a computer programme used for creating bibliometric maps, is utilised for data arrangement and visualisation. The VOSviewer is evaluated by importing data from Scopus due to its completeness of data citation.

Findings: The finding shows that there is an increase in trends for the publications in PE fit research over the 10-year period. In addition, PE fit research is concentrated in two countries, namely the United States (TP = 263, 32.96%) and China (TP = 106, 13.28%).

Research limitations/implications: The selection of articles extracted only from Scopus database. However, Scopus is chosen due to its completeness of data citation which facilitate the analysis of findings.

Practical implications: The present study provides valuable insights for employers and organisations to provide focused interventions with the aim of improving employees' wellbeing.

Originality/value: This study demonstrates the relevance of the PE fit research area in recent years, and it is predicted to be continuously explored as a phenomenon of interest in the field of work stress and employees' wellbeing.

Keywords: Person-Environment Fit, Employees Wellbeing, Bibliometric Analysis

Introduction

World leaders are moving towards achieving the Sustainable Development Goal (SDG) for the betterment of all populations, universally (UN, 2017). The Sustainable Development Goals include promoting wellbeing and ensuring healthy lives for all populations at all ages, which has been emphasised in SDG-3. By the year of 2030, the SDG blueprint aims to achieve a more sustainable and better future for all people and the entire world. Inconsistent with that, research reveals that an estimated 30 million people worldwide died prematurely with a range of age of 30 to 70 (UN, 2017), which is within the working age group (Black, 2008). In 2019, about 74% of deaths (globally) were caused by non-communicable diseases (NCD) and around 8.9 million of them were attributed specifically to cardiovascular disease (CVD) such as ischaemic heart disease (World Health Organization, 2020) which ranked NCD as the world's largest cause of death (National Institutes of Health, 2021). A significant proportion of these physical health issues developing as a result of emotional responses to stressful life experiences, (Schat et al., 2005), workload burden, longer working hours and work-related stress (Idayu et al., 2021).

Misfit between person and environment, which is considered a psychosocial work stressor, has contributed to the rising prevalence of CVD risk factors such as high blood pressure, physical inactivity, obesity, and diabetes (Schnall et al., 2016). It is proved that work-related stress has resulted in organisational and economic loss associated with higher absenteeism, decreased productivity, and also direct cost of medical expenses in treating employees' health issues (Sharma & Srivastava, 2020; Siegrist, 2015). This stressor should be a focal point to be addressed by the employer or organisation in order to minimise the upcoming organisational losses. In addition to person and environmental misfits, perceived job insecurity is also a chronic stressor that leads to negative health outcomes (Schnall et al., 2016). The potential or actual job loss poses a threat to valuable resources, which would subsequently result in reduced well-being and stress reactions (Hobfoll, 1989; Saeed et al., 2021). Given the importance of work factors in the development of CVD, it is possible to infer that the workplace and work organisation should be a primary focus for CVD prevention and its risk factors (Schnall et al., 2016). Moreover, the evidence for an association between psychological work stressors, particularly job strain, and CVD is compelling where cardiovascular disease is often associated with work stress (Schnall et al., 2016; Idayu et al., 2021) and the working age group is more likely to develop the condition and at a higher risk of getting the disease. Considering the adverse effects on the health status of the working-age population, it is imperative to conduct research on employee wellbeing. Therefore, the study's objectives involve investigating the trend of employee well-being research through bibliometric analysis. The goal is to chart the evolution of research trends in the Person-Environment (PE) fit domain, as documented in the Scopus database from 1978 to 2021. This research is essential to guide employers and organizations in implementing targeted interventions designed to enhance the well-being of their employees.

Literature Review

Person-Environment Fit (PE fit)

The concept of PE fit is broadly agreed upon as the interaction between individual employees and their working environments, which could be a good match or an unfortunate mismatch. As supported by Kristof-Brown et al. (2005), PE fit is widely described as the compatibility between an individual and their work environment and more specifically the individual level criteria. Kristof-Brown et al. (2005) has conceptualised the fit into two categories, which are supplementary fit, that is, the extent to which “the individual and the environment are similar”, and complementary fit, that is, the extent to which the “individual's characteristics fill a gap in

the current environment or vice versa”. In addition, complementary fit can be further subdivided into: i) demand-abilities fit, that is, the extent to which the individual’s skills meet the environmental demand, and ii) need-supplies fit, that is, the extent to which the “individual’s needs are met by environmental supplies” (Kristof-Brown et al., 2005). The absence of those compatibilities will lead to a negative outcome, as Chunghun et al. (2016) mentioned that stress arises when there is an imbalance between the person and environmental factors. This is in line with the PE fit theory that alludes to the mismatch between the individual and the environment that can result in psychological (dissatisfaction, boredom, anxiety, and depression), physical, and behavioural strains (Caplan et al., 1980; Edwards & Harrison, 1993; Harrison, 1978). In addition, PE fit theory suggests that job-related stress is the result of a misfit between the characteristics of the person (e.g., values and abilities) and the work environment (e.g., workload and support) (French et al., 1982).

The PE fit model is considered to be one of the most widely used theories for organisational stress (Cooper et al., 2001). Scholars have broadly described PE fit as the compatibility between an individual and their work environment and more emphasised the individual level criteria (Kristof-Brown et al., 2005). In short, stress and strain in the workplace are triggered by the interaction of an individual with their environment, and this is particularly true when job challenges present a threat to the individual, resulting in an incompatible PE fit, which in turn leads to physical and psychological strains (Edwards & Cooper, 1990; French et al., 1982). A structure for assessing and forecasting how characteristics of the individual and the work environment jointly influence a employees’ well-being is presented by the PE fit theory, which can further be used to develop a model for preventive interventions (Abbas et al., 2013).

Methods and Mapping Workflow

The motivation from the last study and the existing dataset is translated into the Science Mapping Workflow below. The flow is divided into three main parts, which are Data

Collection, Bibliometric Analysis and Data Visualisation. A clear visualization can be seen in Figure 1.

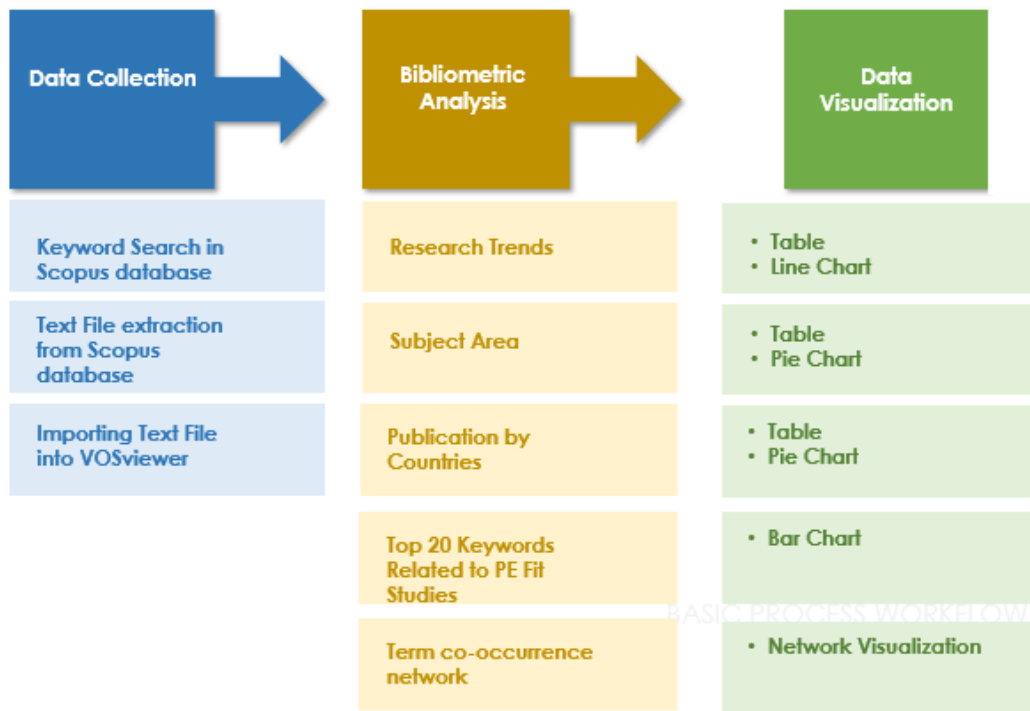


Figure 1: Trend of Person-Environment Fit Studies Science Mapping Workflow

Figure 1 portrayed the workflow in exploring the Trend of Person-Environment Fit Studies. Text files from 1978 (the first Scopus publication) through 2021 are imported into the VOSviewer using the biometric import tool. The VOSviewer, a computer programme used for creating bibliometric maps (Van Eck & Waltman, 2010), is utilised for data arrangement and visualisation. The VOSviewer is evaluated by importing data from Scopus due to its completeness of data citation (Scarr & Jagnoor, 2020). The descriptive data presents in the tables and figures below are to examine the trends in PE fit research. The search strings are entered into Scopus advanced search, and the results are aggregated to provide a list of publications that match. TITLE keywords are used to search for data (“person-environment fit” OR “person environment fit” OR “PE fit” OR “person-job fit” OR “person-organization fit” OR “person-group fit” OR “person-supervisor fit”). Data from Scopus export refinement is then extracted in Excel. To standardise duplicates and rectify spellings, thesaurus files are employed.

In the second part of this study, bibliometric analysis is used to demonstrate the relevance of PE fit studies in recent years. Bibliometric analysis is used to quantitatively assess academic research activity, as well as to analyse and describe trends in the development of a field, and it

can be a useful tool for policymakers (Scarr & Jagnoor, 2020), as it is becoming more popular as a method for determining the trend of studies (Ahmi & Mohamad, 2019). The purpose of this bibliometric analysis is to map the trends in PE fit research published in the Scopus database between 1978 and 2021. Total publications (TP) and link strength (LS) for each year of publication, country, author keywords, and subject area are tabulated. Total publications for author keywords are used to calculate link strength. Keyword visualisation maps are then developed. The latter are represented by circles, the diameter of which is determined by the number of occurrences. The distance between two circles shows the closeness of any association, and lines represent links between circles (Scarr & Jagnoor, 2020).

Data Collection

Among the numerous databases available worldwide, Scopus stands out as the most extensive resource, offering highly efficient and diverse search results for research articles, manuscripts, research papers, brief surveys, and literature reviews, as noted by Falagas et al. (2008) and Sun et al. (2019). Scopus allows the utilization of multiple keywords to retrieve papers related to specific organizations, timeframes, and other parameters. This includes the use of both foundational keywords and secondary keywords to refine search results based on the selected primary search criteria. For the objectives of this study, we concentrated on all documents with the title "person-environment fit". The search string returned a total of 798 documents, which were retrieved in January 2022, and was used for further investigation. To illustrate our search strategy, we have included Figure 2. All the documents were subjected to bibliometric analysis. We utilized (i) Microsoft Excel 2019 to calculate the frequencies and percentage of the published materials and to generate the relevant charts and graphs (Ahmi et al., 2020), and (ii) VOS viewer 1.6.17 version to generate and visualize the bibliometric networks.

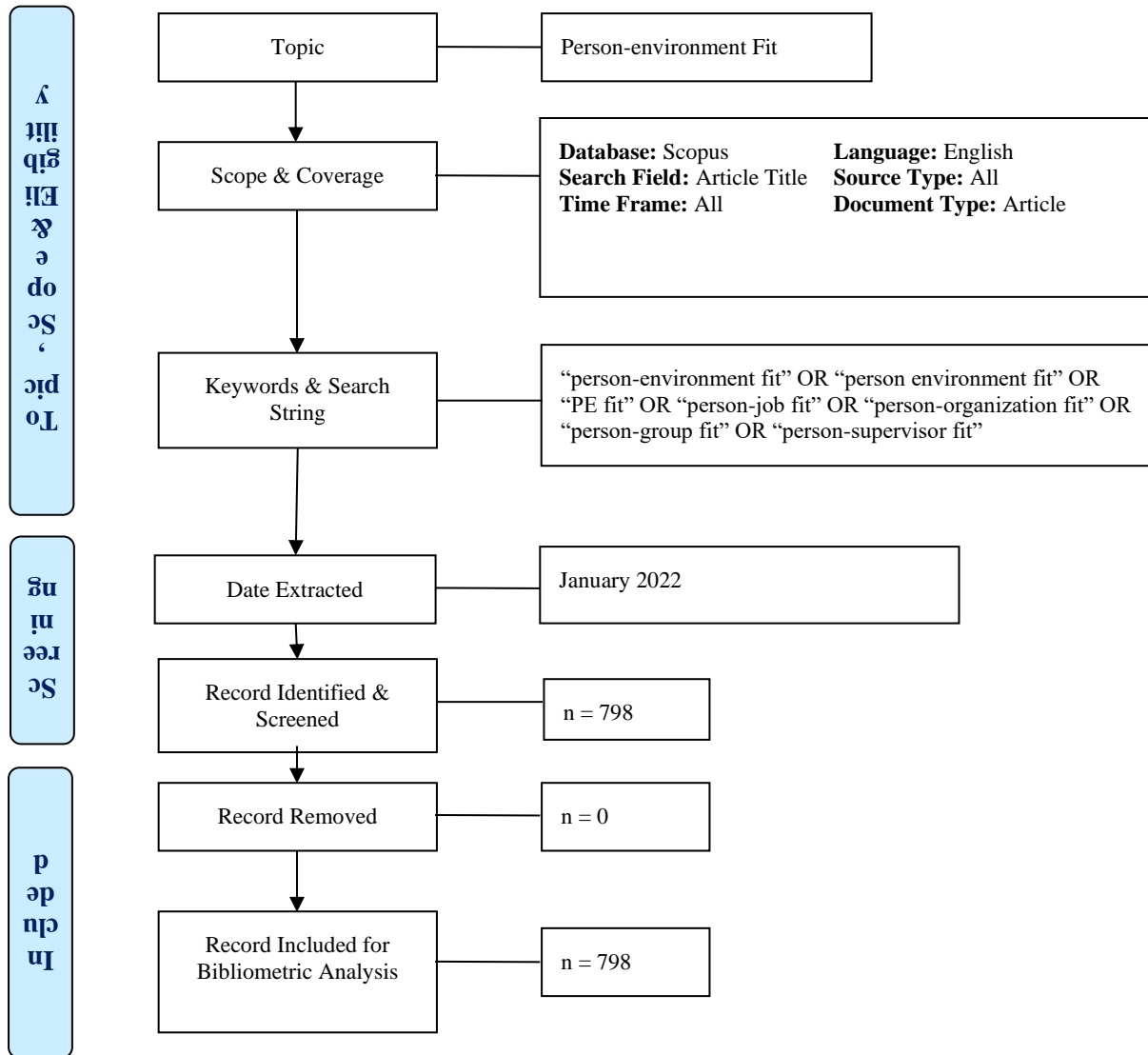


Figure 2: Flow diagram of the search strategy.

Findings

Research Trends

Table 1 depicts the data for the year of publication. The total number of publications identified is 798, spanning the years 1978 to 2022. However, publication in 2022 is excluded because incomplete data per year was extracted as of July 2022. Table 1 only shows the previous ten years of research trends.

Table 1: Year of publication

Year	TP	Percentage (%)
2021	86	10.78%
2020	76	9.52%
2019	71	8.90%
2018	46	5.76%
2017	46	5.76%
2016	47	5.89%
2015	38	4.76%
2014	39	4.89%
2013	31	3.88%
2012	29	3.63%
Total	509	63.78

Notes: TP = total number of publications

Figure. 3 has shown a steady increase in the number of publications in PE fit research over the 10-year period, from 29 in 2012 to 86 published in 2021. The period 2012–2021 (ten years) accounts for 63.78% (n = 509) of all the publications since 1978. The year 2018 and 2019 has depicted a rapid growth in the number of publications from 46 to 71 (54.35% increase). This implies the relevance of the PE fit research area in recent years and is expected to grow positively in the field of work stress.

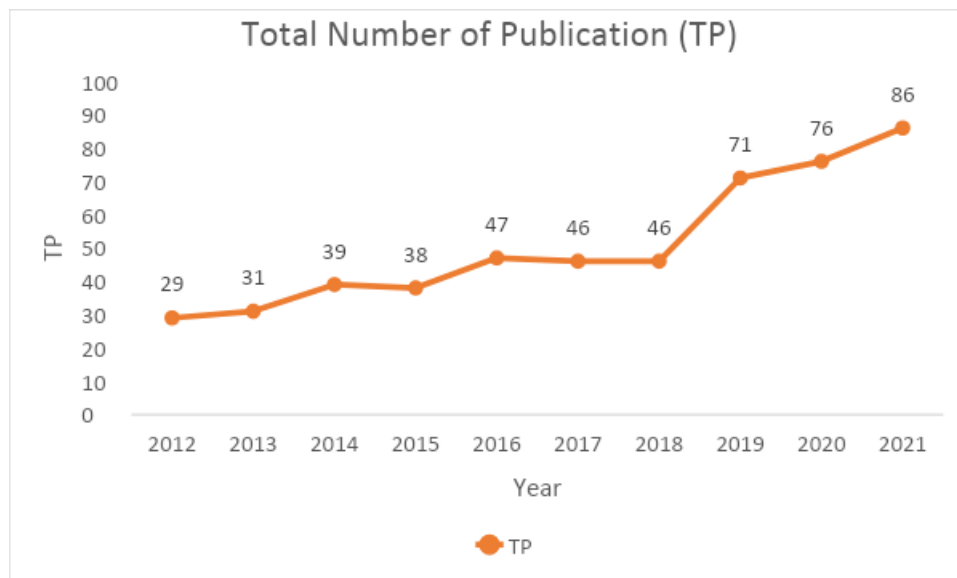


Figure 3: 10 years Trend of Total Number of Publication

Subject Area

Table 2 presents the top ten subject areas related to PE fit studies. Based on the data, it can be concluded that the majority of the publications are from the subject areas of business, management, and accounting, with a total number of publications of $n = 432$ (54.14%), followed by psychology, $n = 302$ (37.84%), and social sciences, $n = 256$ (32.08%). The Nursing subject area has the least number of publications as compared to others. This highlighted to us the opportunity to explore in this area. In terms of subject area, as presented in the following table, about half of the publications in PE fit studies were conducted in the business, management, and accounting fields, which is in line with the current study area.

Table 2: Subject area

Subject Area	Total Publications (TP)	Percentage (%)
Business, Management and Accounting	432	54.14
Psychology	302	37.84
Social Sciences	256	32.08
Medicine	72	9.02
Computer Science	61	7.64
Arts and Humanities	56	7.02
Economics, Econometrics and Finance	55	6.89
Decision Sciences	40	5.01
Engineering	32	4.01
Nursing	30	3.76

Publication by Countries

Table 3 presents the publications by country, which provides information about the prominence of research in 59 countries, while another 20 publications are undefined. Table 3 shows that the PE fit research is concentrated in two countries, namely the United States (TP = 263, 32.96%) and China (TP = 106, 13.28%). More than half of the publications were dominated by high-income countries. India (TP = 36, 4.51%), Pakistan (TP = 20, 2.51%) and Indonesia (TP = 12, 1.5%) are the only low–middle-income countries to appear in the top 20 countries. Interestingly, about 24 (3.01%) publications are contributed by Malaysia. However, all studies focus on the PE fit and work-related outcomes, including turnover intentions (10), employee retention (3), job performance (2), employees' ethical behaviour (2), job involvement (1), academic achievement (1), job satisfaction (1), employee engagement (1), affective commitment (1), innovative work behaviour (1), and work adjustment (1). This implies the missing topic of health-related outcomes in PE fit studies. Table 3 has shown Top 20 countries contributed to the publications.

Table 3: Publications by country

Country	TP	Percentage (%)	Income Group
United States	263	32.96%	High income
China	106	13.28%	Upper middle income
South Korea	51	6.39%	High income
Taiwan	38	4.76%	High income
Canada	37	4.64%	High income
India	36	4.51%	Lower middle income
United Kingdom	36	4.51%	High income
Australia	35	4.39%	High income
Netherlands	35	4.39%	High income
Germany	33	4.14%	High income
Turkey	26	3.26%	Upper middle income
Malaysia	24	3.01%	Upper middle income
Pakistan	20	2.51%	Lower middle income
France	18	2.26%	High income
South Africa	17	2.13%	Upper middle income
Belgium	16	2.01%	High income
Spain	16	2.01%	High income
Thailand	15	1.88%	Upper middle income
Hong Kong	12	1.50%	High income
Indonesia	12	1.50%	Lower middle income

Notes: TP=total number of publications

Source of Income Group: Country Classifications by Income: FY 2021-2022, The World Bank

Top 20 Keywords Related to PE Fit Studies

Figure 4 presents the top 20 author keywords from the total publication with the most occurrences of keywords: person-organization fit (n = 230, 28.82%), followed by humans (n = 203, 25.43%), person-job fit (n = 130, 16.29%), person-environment fit (n = 111, 13.9%) and job satisfaction (n = 104, 13.03%). The intended subject and audience for the publication are reflected by these author keywords (Scarr & Jagnoor, 2020). This bibliometric analysis has identified 1346 unique author keywords. All keyword analysis is performed using the VOSviewer.

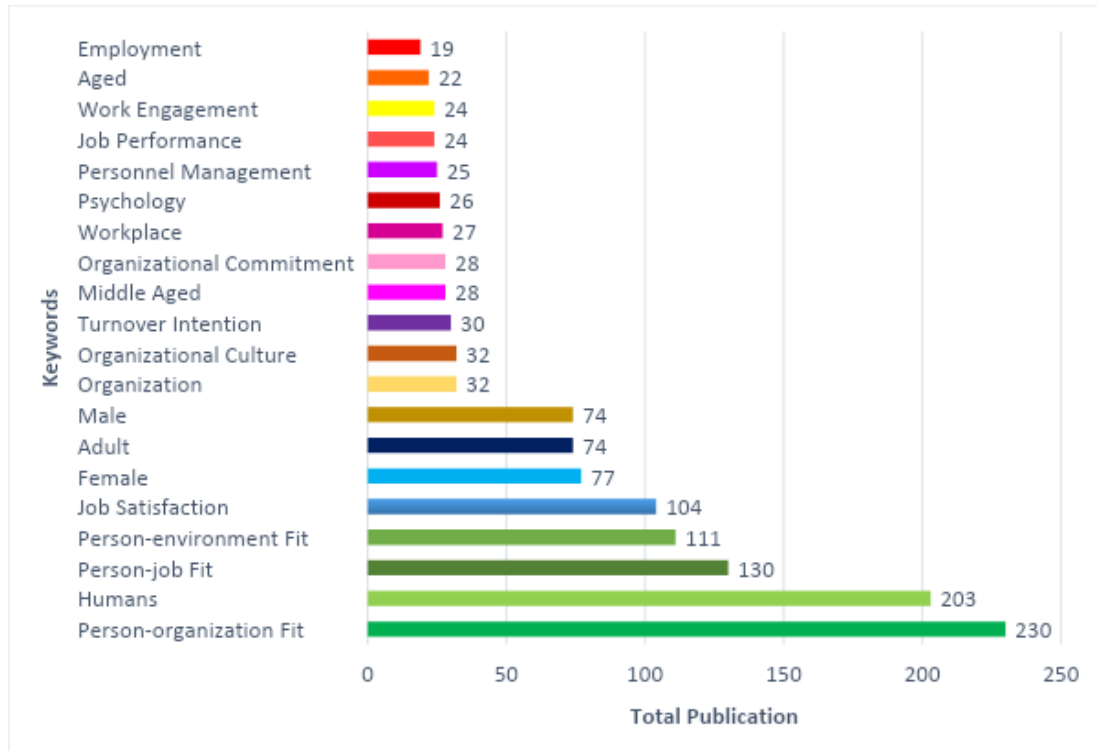


Figure 4: Top 20 keywords

The network visualisation of all keywords is shown in the following Figure 5. Font colour, node, connection line size, and weight are used to indicate their relationship to other keywords. From the VOSviewer, the keyword of perceived person-organization fit is linked to other keywords like organisational commitment and performance appraisal; PE fit is linked to academic satisfaction, anxiety, knowledge contribution and appraisal; and the keyword of person-job fit is linked to ageing and wellbeing. The PE fit is mostly researched using a single keyword, either perceived person-organization fit or person-job fit. There is a keyword used for PE fit, which could represent a comprehensive PE fit measure. However, the study linked to various outcomes not related to physical health or productivity loss, which is considered a missing topic in a perspective of multidimensional measures of PE fit.

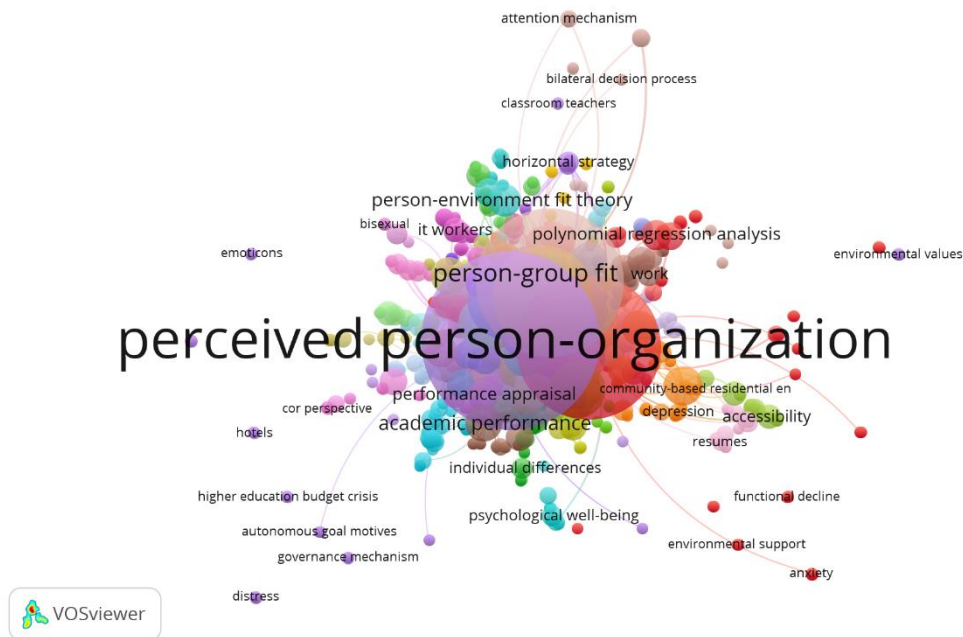


Figure 5: VOSviewer visualization of a term co-occurrence network based on title fields (Full Counting)

Discussion and Conclusion

Various studies and reviews have still fallen short of providing a comprehensive measure of PE fit, with most of the previous studies focusing exclusively on single fits of either person-job fit, or person-organisation fit, including the study that was conducted by Edwards (1991), Witt and Nye (1992), Chunghun et al. (2016), and Herkes et al. (2019). Due to this limitation, studies by Kristof-Brown et al., (2005), Vogel and Feldman (2009), and Chuang et al., (2016) have expanded the PE fit measures into wider distinct types of fit which cover person-job fit (PJF), person-organisation fit (POF), person-group fit (PGF) and person-supervisor fit (PSV). While Vogel and Feldman (2009) have added the other types of person-vocation fit (PVF). Therefore, future study should focus on measuring multidimensional person-environment fit as Chuang et al. (2016) and Kristof-Brown et al. (2005) operationalised that PE fit should be measured as a multidimensional construct with four dimensions that encompass the Person Job Fit (PJF), Person Organisation Fit (POF), Person Group Fit (PGF), and Person Supervisor Fit (PSF).

In summary, finding shows there is steady increase in the number of publications in PE fit research over the 10-year period with majority studies was conducted in the area of business, management and accounting. PE fit research is concentrated in two countries, namely the United States and China. More than half of the publications were dominated by high-income countries. However, previous researchers on PE fit have focused on work-related outcomes such as the association between PE fit and turnover intention (Andela & Van der Doef, 2018), in-role behaviour, job satisfaction, intention to quit, and organisational citizenship behaviour (Chuang et al., 2016), job satisfaction, turnover intentions, subjective career success, in-role performance, and organisational citizenship behaviours (Vogel & Feldman, 2009). This implies the missing topic of health-related outcomes and employees' wellbeing in PE fit studies. Hence, this study addresses the literature gap by emphasising employees' health-

related outcomes from the standpoint of multidimensional PE fit, rather than the work-related outcomes that have received great attention from previous scholars. This study demonstrates the relevance of the PE fit research area in recent years, and it is predicted to be continuously explored as a phenomenon of interest in the field of work stress and employees' wellbeing.

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