

Psychological capital and well-being: An opportunity for teachers' well-being? Scoping review of the scientific literature in psychology and educational sciences

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ABSTRACT

In a context marked by teachers' shortage, prioritizing teachers' well-being emerges as one of the factors that can encourage them to stay in the profession. Well-being is a multidimensional concept and difficult to define and measure. Moreover, its link with Psychological Capital (PsyCap), a concept that includes personal psychological resources (hope, self-efficacy, resilience, and optimism) (Luthans & Youssef, 2004), has received little attention in the educational sciences. The main objective of this paper is therefore to investigate the links between these two concepts from a theoretical point of view in psychology and educational sciences. For this purpose, the scoping review methodology (Tricco et al., 2018) is mobilized to identify research issues, methodological questions, and the various links between well-being and PsyCap. Based on a systematic review of 376 bibliographic references conducted in the main databases in psychology and educational sciences, 32 articles were selected analysed. The data extracted indicate that these concepts particularly affect teachers (42.11 % of subjects concerned, $N = 42,750$). In addition, all the sources selected report significant and positive statistical links between well-being and PsyCap. These results suggest possible avenues for research on teachers' well-being.

1. Introduction

The main purpose of this article is to highlight the links that exist between the concept of well-being and Psychological Capital (PsyCap) (Luthans & Youssef, 2004) through a systematic review of the scientific literature (scoping review). This review is carried out specifically in the fields of psychology and educational sciences to determine how the study of these concepts represents an opportunity for educational sciences. Indeed, teachers' well-being is an important issue for the quality of education systems for at least two reasons.

On the one hand, the lack of well-being among teachers is one of the recognized causes of teachers leaving the profession (Karsenti et al., 2015). The teaching profession is complex and generates stress (Rojo & Minier, 2015; Tardif & Lessard, 2004). This stress causes ill-being, depression, burnout and the desire to give up the profession (Borman & Dowling, 2008; Madigan et al., 2023; Skaalvik & Skaalvik, 2016). Novice teachers are particularly affected by this phenomenon, especially because the difficulties experienced during the professional integration phase exacerbate the stress inherent in the profession (Cattonar, 2006;

Ciavaldini-Cartaut et al., 2017; Høigaard et al., 2012; Hong, 2012; Mukamurera et al., 2019). The shortage of teaching staff affects most school systems and has a negative impact on their quality (Karsenti et al., 2015; Lothaire et al., 2012; OECD, 2005; Wyatt & O'Neill, 2021).

On the other hand, in contrast to a deficit view, some research has highlighted the issues related to the development of teacher well-being. A high level of teacher well-being seems to be linked to a high level of pupils' well-being (Baudoin & Galand, 2018; Soini et al., 2010). But these links are often indirect, and it is necessary to pay close attention in attributing student well-being or academic performance causally to teacher well-being (Kun & Gadanez, 2022). Nevertheless, the well-being felt at work is positively linked to expected behaviours: performance in the activity, adaptation to obstacles, etc. (Kalman & Summak, 2017; Kun & Gadanez, 2022; Li, 2018; Luthans & Youssef-Morgan, 2017).

Given these two issues, the study of retention factors, and in particular the resources that can be developed to cope with work-related stress, is more than relevant. This is what is proposed here with the concepts of well-being and PsyCap. However, well-being is a concept

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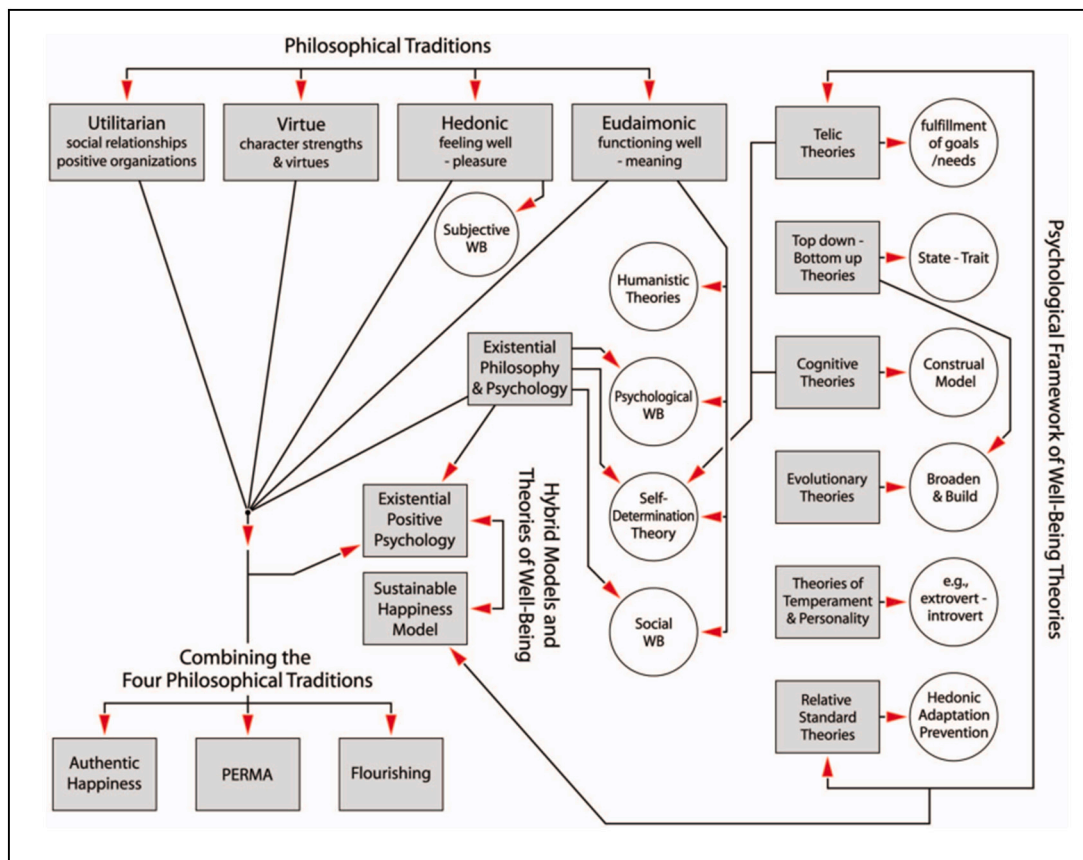


Fig. 1. Roadmap of well-being orientations (Lambert et al., 2015).

whose definition is ambiguous, complex and multidimensional (Diener et al., 1999; Hascher & Waber, 2021; Lambert et al., 2015; Mamprin, 2021). Moreover, PsyCap is defined as the interaction of four personal psychological resources (hope, resilience, self-efficacy and optimism) (Luthans & Youssef, 2004). It represents an interesting avenue for the development of well-being. Numerous studies have already demonstrated the positive effects of a high PsyCap or of interventions based on its development on well-being (Avey, Reichard, et al., 2011). But there is currently little research linking teachers' well-being and PsyCap (Kalman & Summak, 2017; Kun & Gadanez, 2022; Kurt & Demirbolat, 2018; Li, 2018; Soykan et al., 2019).

A systematic review can therefore contribute to the advancement of knowledge in response to the lack of literature outlined above. This study is not limited to the notions of well-being and PsyCap only among teachers, but covers all individuals, regardless of their profession or socio-demographic characteristics. The aim is to consider the main research trends in scientific literature and to study the consistency between the results obtained for all the professions. Indeed, this can also allow determining further implications for teachers more specifically. The specific aim of this review is therefore to highlight the research and methodological issues and the links between well-being and PsyCap.

2. Theoretical framework

2.1. Well-being and its many approaches

In her work, Mamprin (2021), quoting Voyer and Boyer (2001), warns against confusing the various aspects of well-being with other related concepts, such as morale, quality of life, life satisfaction, subjective well-being, happiness, mental health, and psychological well-being. The concepts of subjective well-being and psychological well-being are the most frequently mobilized in the scientific literature

(Creusier, 2013; Drouin et al., 2019). On the one hand, subjective well-being includes positive and negative emotions, in addition to life satisfaction (Diener, 1984). This conceptualization is referred to hedonism because it focuses on pleasure and satisfaction of needs (Fig. 1). Achieving such a state of well-being therefore involves satisfying desires and avoiding negative situations (Diener, 1984; Mamprin, 2021). Lambert et al. (2015) point out the various criticisms formulated against the pursuit of this type of well-being only. These are affects that do not last over time, and those who pursue essentially hedonic well-being experience less satisfaction overall in their lives. Nevertheless, hedonic well-being has a positive impact on well-being in general, as long as the individual encounters other eudemonic aspects (Lambert et al., 2015). On the other hand, psychological well-being is linked to eudemonism because it concerns a deeper sense of commitment and meaning in life (Collange et al., 2017; Creusier, 2013; Drouin et al., 2019). Ryff (1989) identifies six components of psychological well-being: self-realization, self-acceptance, personal development, positive relationships, autonomy, meaning of life and mastery of environment.

Lambert et al. (2015) propose an integrative model of conceptions of well-being (Fig. 1) that derives from both psychological (placed vertically on the right) and philosophical conceptions (placed horizontally at the top). According to this model, psychological well-being and self-determination theory (Ryan & Deci, 2001) relate to the eudemonic philosophical tradition, which itself, in combination with others, grounds the concepts of authentic happiness (Seligman, 2002), PERMA well-being (Seligman, 2012) and flourishing (Keyes, 2002).

All of these conceptualizations of well-being and related notions have complex links. Researchers use many psychometric scales to measure them, including the PERMA profiler (Butler & Kern, 2016), the psychological well-being scale (Ryff & Keyes, 1995), the flourishing scale (Diener et al., 2010), etc. In addition, other concepts and/or psychometric scale are adapted to specific situations, like organizational

Table 1
Main areas of research into teacher well-being and definitions, according to Hascher and Waber (2021).

Research areas	Definitions of well-being
Psychology of well-being	Subjective well-being (SWB) is defined as ‘a person’s cognitive and affective evaluations of his or her life’ (Diener, Lucas, & Oishi, 2002).
Positive psychology	Well-being is a construct; and well-being, not happiness, is the topic of positive psychology. Well-being has five measurable elements (PERMA) that count toward it: Positive emotion (of which happiness and life satisfaction are all aspects), engagement, relationships meaning and purpose, accomplishment (Seligman, 2012, p. 57f.)
Psychology of Work and Organization	Positive indicators of SWB include work engagement, happiness at work, and job satisfaction. Negative indicators include workaholism and burnout (Bakker & Oerlemans, 2011)
Teacher well-being	Occupational well-being is construed as a positive evaluation of various aspects of one’s job, including affective, motivational, behavioural, cognitive and psychosomatic dimensions (Van Horn et al., 2004, p. 366).
Health science	Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (WHO, 1984).
Others	Definitions are related to Individual Psychology, Sociology, or to an interdisciplinary background.

contexts (Psychological well-being at work by Dagenais-Desmarais and Savoie (2012)) or, more specifically, teaching (Soini et al., 2010).

To summarize this plurality of approaches, Hascher and Waber (2021), in their systematic review of the literature, drew up a list of well-being’s definitions within the various fields of research concerned (Table 1). These include among others PERMA well-being and a concept of well-being at work to be applied to teaching. In addition, Fox et al. (2023) have shown that to date, there is no consensus on a precise conceptualization of teacher well-being or on how to measure it. There are a few models (Van der Doef & Maes, 1999; Aelterman et al., 2007; Collie et al., 2015; Renshaw et al., 2015, all cited by Fox et al., 2023) that involve commitment, support, relationships, school conditions, etc. But the concepts measured only partially overlap.

2.2. Psychological capital

PsyCap is a concept that belongs to the field of positive psychology and relates to organizational context (organizational positive psychology) (Luthans & Youssef-Morgan, 2017). Positive psychology is a complementary approach to traditional psychology, promoting development of resources by individuals in a preventive way (2002). In this field, PsyCap is defined as a psychological state characterized by the interaction of four resources: self-efficacy, optimism, hope and resilience. Self-efficacy refers to confidence in one’s ability to cope with challenges; optimism is confidence in the future success of projects, based on positive styles of attributing cause to events (Shankland & Martin-Krumm, 2012); hope helps with perseverance and redefining goals; finally, resilience is the resource that enables one to cope with adversity (Kalman & Summak, 2017; Luthans & Youssef-Morgan, 2017).

The emergence of this concept in the field of organizational positive psychology is a response to the aim of developing resources that increase individuals’ sense of perceived well-being, but also their performance. Statistical links have been established between this construct and performance, positive attitudes at work and well-being (Avey, Reichard, et al., 2011; Lupşa et al., 2020; Luthans & Youssef-Morgan, 2017). However, there is still very little research focusing exclusively on the links between PsyCap and well-being, specifically among teachers or not (Kalman & Summak, 2017; Kun & Gadanez, 2022; Kurt & Demirbolat, 2018; Li, 2018; Soykan et al., 2019).

3. Methodology

Based on the lack of literature cited in the previous section, the aim of this study is to increase knowledge of the links between PsyCap and well-being and the way in which this subject is studied. To achieve this, the scoping review methodology was employed in the fields of psychology and educational sciences. This type of systematic review was chosen because it is the one that best corresponds to the issue under consideration. It allows less specific questions to be asked than in a traditional systematic review (Munn et al., 2018; Tricco et al., 2018). According to Munn et al. (2018), the scoping review is a tool used to characterize the coverage given to a specific topic in the literature, to give an indication of the volume of this literature, and to provide an overview of the evidence when a topic is still emerging. These authors identify six purposes for scoping reviews: to identify the types of evidence in a given field of study, to clarify key concepts and definitions in the literature, to examine how research is conducted in a given subject or field of study, to identify the key factors and characteristics related to a concept, to serve as a precursor to a future systematic review and, finally, to analyse and identify gaps in knowledge. The research questions listed below contribute to these different objectives.

3.1. Research questions

The purpose of the scoping review is to answer three main research questions, operationalized by secondary research questions. The first two questions cover epistemological dimensions, while the last one focuses on the links between concepts.

- 1) What are the research issues¹ involved in studying PsyCap and well-being?
 - a. What fields of research have already investigated this subject?
 - b. What are the profiles of the subjects concerned by this research?
- 2) What are the methodological issues involved in studying PsyCap and well-being?
 - a. What type of research has already been carried out in this area?
 - b. What methodologies do they use?
 - c. What tools are used in this research?
 - d. What are the limitations of this research?
- 3) What evidence exists on the links between PsyCap and well-being?
 - a. What results does this research present?
 - b. Are these results consistent with each other?

3.2. Literature review process

In order to answer these questions with as many as relevant sources as possible, a search was conducted in the main psychology and educational science databases: Psychinfo, Eric, Psychological and Behavioural Science collection, Cairn, Erudit, Education source. The search was conducted using a combination of search equations including several spellings of “well-being” and “PsyCap” concepts in English and in French.² The search results should include the descriptors in the title and in the summary. Filters were applied to retain only searches in peer-reviewed scientific articles, written in English or French, published between 2011 and 2021, over a recent ten-year period from the date of the review. 376 article abstracts were inspected and 100 were selected for their relevance to the themes studied. 12 references were excluded because they appeared in duplicate. The remaining 88 references were

¹ By research issues, we mean the broad areas of research and, consequently, the types of subjects they address.

² For example noft(“Psychological capital”) AND noft(“Well-being”); Psychological capital OR PsyCap + Wellbeing OR well-being OR well being.

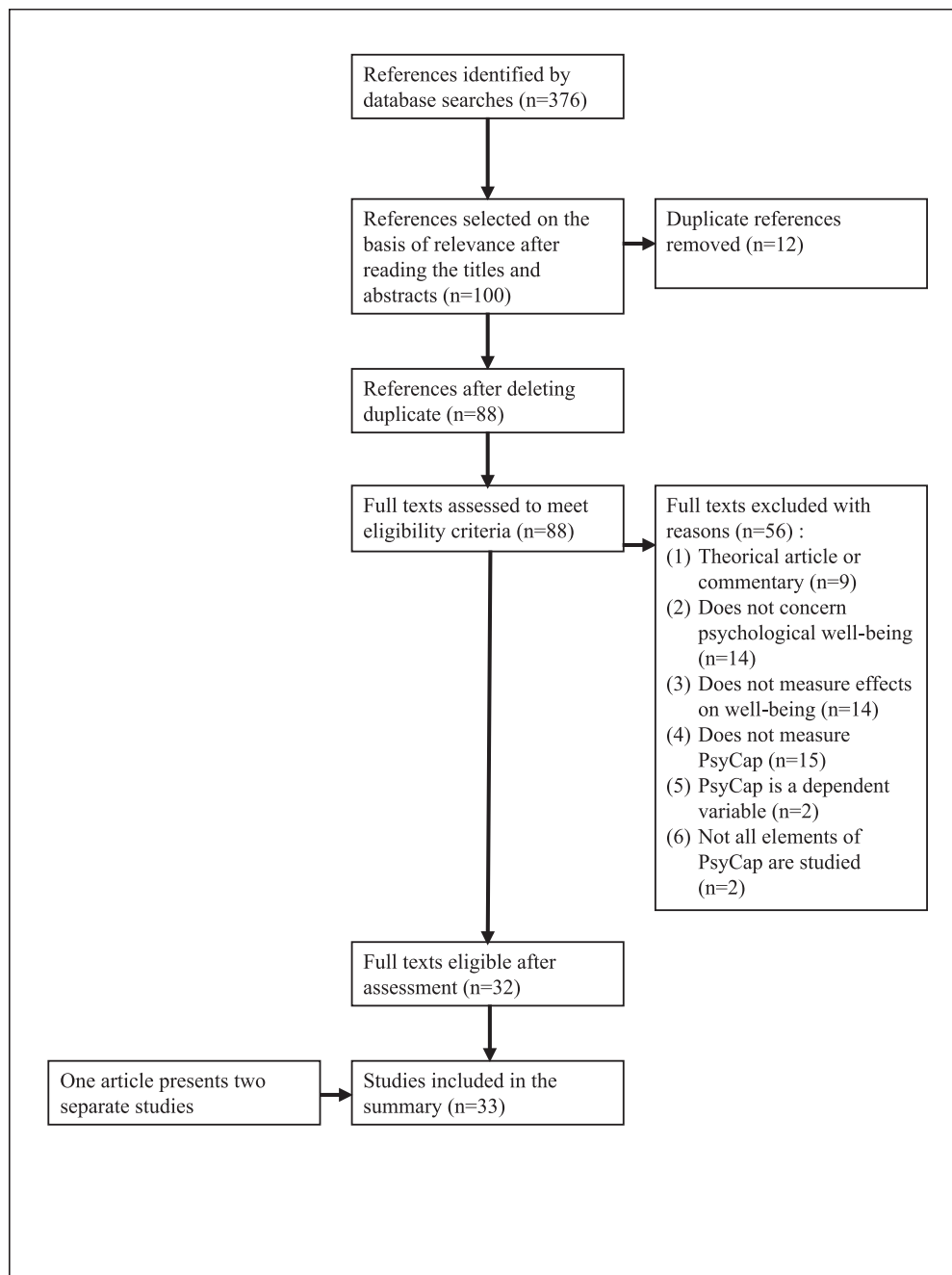


Fig. 2. PRISMA-ScR flow chart.

assessed on the basis of the following eligibility criteria: they should be empirical research and not theoretical articles or commentaries, they should concern the theoretical field of well-being, they should present results on well-being using a measurement scale, they should consider PsyCap as an independent variable, they should measure PsyCap, and they should consider all the components of PsyCap and not just some of its variables. The PRISMA flow diagram summarizes the stages followed (Fig. 2). At the end of the review, 32 papers were retained, for a total of 33 studies, with one of the articles presenting two separate studies (Avey, Wernsing, & Mhatre, 2011). After this process of selection, all the sources identified are in English and they concern 42,750 subjects. One of the references is a meta-analysis carried out in 2011. This was conserved because of its relevance (measuring the effects of PsyCap on well-being, among other results) and the fact that it did not include any of the other studies (Avey, Reichard, et al., 2011). The list of references

retained is preceded by a * in the bibliography.

3.3. Data processing

The studies retained are listed in an Excel document and the following information is identified: authors, year of publication, title, publication title, nature of the research (quantitative, qualitative, mixed), research instrumentation, number of participants, country where the research was conducted, description of the participants' profile, summary of the methodology, aim of the study, variables measured, psychometric measurement tools used, main results, limitations mentioned by the authors and critical appraisal of the source. These elements are inspected in line with the checklist of items mentioned by Tricco and al., (2018) in their prescriptive work on scoping review methodology.

Table 2

Distribution of studies in the research fields investigated by the journals in which they are published ($N = 33$).

Search fields	Health/economy	Number of papers	Percentage
Education	E	9	27.27 %
Business & management	E	8	24.24 %
Social Psychology	H	8	24.24 %
Psychiatry	H	2	6.06 %
Experimental Psychology	H	2	6.06 %
Industrial Relations	E	1	3.03 %
Sports, Leisure & Tourism	E	1	3.03 %
Developmental Psychology	H	1	3.03 %
Nursing	H	1	3.03 %

To make the results report as objective as possible, various methods were used to classify and code the data obtained. To determine the scientific field of publication, the Science Metrix³ classification of publications is used, along with the Scimagojr⁴ index. The countries in which the studies were carried out were classified by continent. Several classifications have been applied to the participants' profiles because of their diversity. They may relate to a social class, an occupation, or an age group. When a study presents many subjects who fall into several classes, details are sought in the article. The classifications used are ISCO (International Standard Classification of Occupation)⁵ and ISIC-Rev4 (4th revised version of the International Standard Industrial Classification of all branches of economic activity).⁶ Neither of these classifications covers all the situations experienced by the subjects, but they do complement each other to some extent. The measurement scales used to measure the different variables are classified into 6 main categories: PsyCap, well-being, relationship to work, ill-being, health and identity development. These categories are subdivided into subcategories (Appendix 1). For example, in the case of well-being, we find the diversity of concepts addressed in the theoretical framework: subjective well-being, psychological well-being, well-being at work, etc. The limitations (announced by the authors or resulting from the evaluation carried out for this review) are dealt and classified together. They do not lead to the exclusion of the publication as the aim of this work is to identify the methodologies used and to begin a reflection on possible shortcomings.

The diversity of the methodologies, the scales used (103 scales, 59 of which are different) and their combinations make it impossible to attempt any comparison or calculation of effect. Consequently, the results are presented in summary form.

4. Results

The results presented here follow the order of the research questions set out in the methodology.

4.1. Results concerning the research issues

4.1.1. Analysis of research fields

Analysis of the papers reveals that 19 of the 33 studies considered (57.58 %) were published in economic and social science journals (E),

³ Elsevier. (2023). *Science-metrix: Classification*. <https://www.science-metrix.com/fr/classification/>.

⁴ Scopus. (2022). *Scimago Journal & Country Rank*. <https://www.scimagojr.com/>.

⁵ International Labour Office of Geneva. (2012). *International Standard Classification of Occupation*. https://www.ilo.org/wcmsp5/groups/public/-dgreports/-dcomm/-publ/documents/publication/wcms_172572.pdf.

⁶ International Labour Office of Geneva. (2023). *Classification internationale type, par industrie, de toutes les branches d'activité économique (CITI)*. <https://ilostat.ilo.org/fr/resources/concepts-and-definitions/classification-economic-activities/>.

Table 3

Distribution of search fields by continents ($N = 33$).

Continent	Search fields	
	Economic and social sciences	Health sciences
Africa	0	2
North America	5	0
South America	0	0
Asia	9	9
Europe	1	3
Oceania	4	0

Table 4

Distribution of individuals according to international classifications (CITI-Rév4 & ISCO) ($N = 42,750$).

Distribution of individuals ($N = 42,750$) according to CITI-Rév4	
Economic activities	Percentages
Unclassified	44.05 %
Education	42.12 %
Activities related to human health and social action	5.32 %
Manufacturing	3.18 %
Public administration and defence	1.81 %
Other service activities	1.20 %
Financial and insurance activities	1.08 %
Wholesale and retail	0.64 %
Accommodation and catering	0.60 %

Distribution of individuals ($N = 42,750$) according to ISCO	
Occupation	Percentages
Intellectual and scientific occupations	47.64 %
Teachers and education professionals	42.11 %
Doctors and health professionals	5.07 %
Culture professionals	0.46 %
Unknown occupation	37.30 %
Other unemployed individuals	8.83 %
Students	8.83 %
Salaried intermediate occupations	2.79 %
Executive managers	2.69 %
Qualified employees	0.74 %

while the remaining 14 (42.42 %) came from health science journals (H). Table 2 shows the distribution of studies by fields of research. It shows that education is the most represented field, and that the first two belong to the economic and social sciences.

This analysis is followed by the integration of two data sets: the country where the research was carried out and the number of research participants. In fact, the participants live in the country where the research was conducted, even if their origin is not known. Out of a total of 42,750 subjects for all the studies listed, 49 % came from Asia, 36 % from North America, 8 % from Oceania, 5 % from Europe and 1 % from Africa. There was no study conducted in South America. Furthermore, comparing the number of studies, divided by a field of research, with the countries (Table 3) shows that North American and Oceanian studies tend to explore specific economic and social issues (including education), while Africa and Europe study the subject from a more health-oriented point of view. In Asia, publications are equally distributed between the two fields.

4.1.2. Analysis of subjects' socio-economic profile

The two classifications used (Table 4) both show the prevalence of education in the representation of subjects. According to ISIC-Rev4, 42.12 % of subjects belong to the education category. This result is confirmed by the ISCO classification which reveals the same percentage of teachers (42.11 %), besides 8.83 % of students, even though studies on education concerned 27.27 % of the entire corpus studied (Table 2). These results also show the difficulty of classifying some subjects, since

44.05 % of individuals are not classified according to the first nomenclature (ISIC-Rev4) and 37.30 % according to the second (ISCO).

4.2. Analysis of methodologies

4.2.1. Nature of research and methodologies

31 of the 33 studies analysed involved quantitative research, 1 involved mixed research and 1 involved qualitative research (on the effects of an intervention). The quantitative research was conducted using questionnaires. In 5 studies, the researchers took several measurements spaced out over time, compared with 26 studies which reported a single measurement. Studies based on a mixed or qualitative methodology used an online questionnaire and an inductive thematic analysis.

4.2.2. Measurement tools

Appendix 1 lists all the psychometric scales used to measure the several variables in the quantitative studies. In the case of PsyCap, the scale used by the authors who promoted the concept (Luthans & Youssef-Morgan, 2017) is the most used. Two studies used 4 distinct scales for the components of PsyCap. Regarding well-being, the table of occurrences shows the conceptual diversity present in the studies reviewed. In fact, the life satisfaction scale and the Positive and Negative Affect Schedule are the most frequently used (4 occurrences each). However, these scales do not measure well-being per se, but rather related concepts. Furthermore, the Psychological Well-being scale by Ryff (1989) and the Flourishing scale by Diener et al. (2010) are each used 3 times.

An analysis of the categories shows that the well-being is measured by a conception mainly linked to both hedonic and eudemonic views: commitment, positive relationships, positive and negative emotions, and life satisfaction. The other categories (relationship to work, ill-being, health, identity development) are complementary scales. The inclusion criteria of the scoping review require a link between PsyCap and well-being. These other scales are present outside this framework and allow us to see the themes associated with this research subject. Job satisfaction is a recurring theme (6 occurrences), as the study of symptoms of stress and burnout (7 occurrences). Health is also occasionally present (7 occurrences). Identity development remains a subject rarely addressed (4 occurrences). The authors of the studies reviewed rarely use only two scales to measure the link between well-being and PsyCap. More often, a combination of scales is used. For example, Adil and Kamal (2016) investigate the impact of PsyCap on authentic leadership, work engagement and work-related affect well-being. All these combinations are different, and no common approach emerges from the studies reviewed. Moreover, some studies are exclusively placed within the positive psychology paradigm (Datu & Valdez, 2019; Ganotice et al., 2016; Kun & Gadanez, 2022), while others address both well-being and ill-being (Avey, Wernsing, & Mhatre, 2011; Wang et al., 2017).

4.2.3. Methodological limitations

All the authors of the studies reviewed mention that these are not free of bias that may impact the quality of their results. For example, a longitudinal perspective was not taken by 28 studies, while multiple data collection over time were conducted in 5 studies. 16 studies were reported using a restricted sample and 6 studies were reported using a convenience sample, which may have an impact on the generalizability of the results. Social desirability bias was highlighted in 13 studies. Other biases were mentioned, but only once or twice: the fact that direct causal links could not be clearly established, the fact that the measurement tools used were ill suited to the reality of well-being, etc.

4.3. Links between PsyCap and well-being

The analysis of methodologies shows the complexity to apprehend the links between PsyCap and well-being. It is therefore not relevant to

compare the results obtained mathematically. Nevertheless, some observations can be made. Overall, there are several ways of characterizing the links between the concepts. Firstly, the studies report correlational links. The lowest correlation obtained is between PsyCap and Psychological Well-being scale (0.31) (Clarence et al., 2021), the highest is 0.77 between PsyCap and Well-being manifestation measurement scale (Mensah & Amponsah-Tawiah, 2016). However, no dimension of well-being shows lower or higher correlations. Secondly, some studies present models in which PsyCap is considered as a predictor of well-being. All these studies report significant effects, but it is not possible to generalize the conclusions about the magnitude of these effects or the accuracy of the models. In some studies involving more complex models, PsyCap is reported, to have mediating, indirect and moderating effects on well-being. Finally, qualitative analyses show that developing PsyCap increases awareness of events and personal resources, increases positive emotions, solves problems, and fosters positive attitudes toward students and the profession.

All these results are consistent, and there is no contradiction in the positive effects attributed to PsyCap. At the very most, there is considerable variability in the data, but not to the extent of negative effects or no effects at all. Furthermore, studies investigating ill-being show that PsyCap is negatively correlated with depression and helps to reduce its symptoms.

5. Discussion

The aim of the scoping review was to highlight, firstly, the areas of research concerned by the joint concepts of well-being and PsyCap in the fields of psychology and educational sciences, secondly, the methodologies for studying them and, finally, the quantitative or qualitative links. In so doing, it was hoped to identify a potential benefit to the study of teachers' well-being. This review made it possible to isolate a corpus of papers. The data analysis highlights a series of findings which are commented on and enlarged here.

Firstly, it appears in the results that the combination of the concepts of PsyCap and well-being is particularly well studied in the field of educational sciences. This may be positive in the light of the issues presented at the beginning of this study (i.e. the search for elements that can foster teacher retention). If the positive results reported in this review were to be confirmed in subsequent work, this would mean that PsyCap has a positive influence on teachers' well-being. As a result, this is a good reason to continue research and develop training and intervention devices using PsyCap. Meta-analyses and systematic reviews have shown that such positive psychology programmes have significant and positive effects on individuals in general (Bolier et al., 2013; Hendriks et al., 2020; Sitbon et al., 2019) and more specifically on teachers (Hascher & Waber, 2021; Hwang et al., 2017). Furthermore, analysis of the treatment given to this subject has shown that the tendency to investigate these concepts in the educational sciences comes mainly from North America and Asia. One of the extensions offered by this review might be to export this field to continents where it is not yet widely used (Europe, Africa, etc.), as shown in the results.

In addition, the analysis of the methodologies shows that both well-being and PsyCap have mainly been investigated using quantitative surveys. Future research would benefit from addressing the gaps found in the results. For example, more explanatory methodologies (qualitative or mixed surveys, interventions) could be used, conducted over the long term and with more robust samples. This is in fact a response to most of the limitations declared by the authors of the publications listed in the review. Clearly, this represents a challenge, but the initial evidence provided by this scoping review encourages continuing in this direction.

Moreover, the scoping review confirmed the need for researchers to have solid, comparable measurement scales and methodologies to study this phenomenon. Given the diversity of conceptions of well-being (Hascher & Waber, 2021; Mamprin, 2021), it is not surprising to find

this same diversity in the present review. However, analysis of the scales used showed that most of them covered most of the dimensions of well-being concepts (dimensions of subjective well-being, psychological well-being, among others). Furthermore, the results show that there are very few scales that measure teacher well-being. However, some authors have provided definitions of teaching well-being and developed certain dimensions (Aelterman et al., 2007; Hascher & Waber, 2021; Soini et al., 2010; Turner & Thielking, 2019; Van Horn et al., 2004). Another extension might be to take up and validate one of the few existing scales (Kutsyuruba et al., 2019; Renshaw et al., 2015; Yildirim, 2014).

Finally, the results of this study also highlighted that certain several notions were very little considered in studies linking PsyCap and well-being. This is particularly the case for the development of professional identity (Gohier et al., 2001; Riopel, 2006). According to Goyette (2023), if novice teachers are supported in developing a positive professional identity, this can stem the attrition phenomenon. It is in this spirit that Goyette et al. (2020) define the “psychopédagogie du bien-être”, freely translated by “psychoeducation of well-being”, i.e. a sub-field of psychoeducation that brings together positive psychology, the development of well-being and optimal functioning. Therefore, as an extension of this study, devices promoting the well-being of teachers can be promoted in the field of the psychoeducation of well-being to help them to build a positive professional identity.

Although as many precautions as possible have been taken to limit bias, some limitations may affect the scientific validity of this work. For example, the choice of databases necessarily has an influence, and a broader search could weaken the proportion of studies aimed at teaching. More in-depth research could possibly question more databases linked to the field of healthcare or economics, beyond the psychological sciences. It should also be kept in mind that teachers are easily identifiable occupation in the categories used to classify subjects, which may give the impression that they are well represented compared with other occupations. Furthermore, the classifications used to objectify the data extracted from the review may also have shortcomings. For example, socio-demographic classifications fail to provide an accurate picture of all the samples considered by the studies. Finally, the researcher's subjectivity can interfere in this type of approach, as choices are made at each stage of the review, particularly regarding the inclusion and exclusion criteria. Nevertheless, particular care has been taken in this process and several researchers have had the opportunity to compare their points of view in order to avoid this bias as far as possible.

6. Conclusion

At the end of this research, it appears that the scoping review methodology has made it possible to achieve the objective set. Indeed, the knowledge was increased concerning, on the one hand, the links between PsyCap and well-being, and, on the other hand, the nature of these links. It has emerged that these two concepts are closely linked and particularly studied in the field of educational sciences. One of the questions guiding this research was namely how the study of PsyCap could benefit teachers' well-being.

The fact that PsyCap is studied more in relation to conceptions of psychological well-being, from a eudemonic perspective, indicates that it may be a tool of choice for developing teachers' positive professional identity. Indeed, interventions or training devices designed to improve it could then meet the central issues of the profession (meaning and commitment) and thus promote the maintenance of a high level of well-being and retention in the profession (Goyette, 2023).

The scoping review fulfilled a second objective. By mapping the areas already explored by research, it has also brought to light areas that have not yet been explored by researchers. These grey areas represent opportunities to access new knowledge in the field of positive psychology applied to teachers. Examples include working on surveys that are both quantitative and qualitative, or combining these concepts with those of developing a positive professional identity⁷.

CRedit authorship contribution statement

Denis Bertieaux: Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Madysson Hesbois:** Writing – review & editing, Writing – original draft, Formal analysis, Data curation. **Nancy Goyette:** Writing – review & editing, Supervision, Project administration, Methodology, Conceptualization. **Natacha Duroisin:** Writing – review & editing, Writing – original draft, Supervision, Project administration, Methodology, Conceptualization.

Declaration of competing interest

None.

Data availability

Data will be made available on request.

Appendix 1. List of psychometric scales used in the articles selected in the scoping review ($N = 32$) and frequency of use

Main concepts	Occurrences	Secondary concepts	Occurrences	Scales	Occurrences
PsyCap	34	PsyCap	26	PsyCap Questionnaire (Luthans, Youssef, & Avolio, 2007)	24
				Psychological Capital Scale (King & Caleon, 2015)	2
		Hope	2	Children's Hope Scale (Snyder, Hoza, Pelham, Rapoff, Ware, Danovsky et al., 1997)	1
				Adult Hope Scale (Snyder et al., 1991)	1
		Resilience	2	Child and Youth Resilience Measure (Liebenberg, Ungar, LeBlanc, 2013)	1
				Brief Resilience Scale (Smith et al., 2008)	1
		Self-efficacy	2	Self-Efficacy Scale for Children (Gambin & Świącicka, 2012)	1
				General Self-Efficacy Scale (Schwarzerand & Jerusalem, 1995)	1
		Optimism	2	Youth Life Orientation Test (Ey, Hadley, Allen, Palmer, Klosky, Deptula et al., 2005)	1
				Life Orientation Test –Revised (Scheier et al., 1994)	1
Well-being	36	Well-being (general)	3	Well-being scale (Berkman, 1971)	1
				Well-Being Manifestation Measure Scale (Masse et al., 1998)	1

(continued on next page)

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(continued)

Main concepts	Occurrences	Secondary concepts	Occurrences	Scales	Occurrences
				Warwick Edinburgh Mental Well-being Scale-form (Tennant et al., 2007)	1
		Subjective Well-being	2	Subjective well-being inventory (Dalbert, 1992)	1
				Concise Measure of Subjective Well-Being (Suh & Koo, 2011)	1
		Psychological Well-being	9	Psychological Well-being Scale (Ryff, 1989)	3
				PWB (Van Dierendonck, 2004)	1
				Psychological well-being scale of An Organizational Stress Screening Tool (Cartwright & Cooper, 2002)	1
				Flourishing Scale (Diener et al., 2010)	3
				PERMA-Profilier (Butler & Kern, 2016)	1
		Positive relationships	4	Interdependent Happiness Scale (Hitokoto & Uchida, 2015)	1
				Perceived Social Support Scales (Procidano & Heller, 1983)	1
				Social support scale (Marcinkus et al., 2007)	2
		Engagement	5	Utrecht Work Engagement Scale (Schaufeli, Bakker, & Salanova, 2006)	2
				Organizational Commitment Scale (Meyer & Allen, 1997)	1
				12-item Career Commitment measure (Carson & Bedeian, 1994)	1
				Job resources via job discretion scale (from Karasek et al., 1985)	1
		Positive and Negative Affects	4	PANAS (Watson, Clark & Tellegen, 1988)	4
		Meaning	1	Meaning in life (Steger et al., 2006)	1
		Life Satisfaction	4	Satisfaction With Life Scale (Diener et al., 1985)	4
		Happiness	1	Orientation to happiness scale (Peterson et al., 2005)	1
		Workplace Well-being	3	Psychological Well-Being at Work (Dagenais-Desmarais & Savoie, 2011)	1
				Job related affective well-being scale (Van Katwyk, Fox, Spector & Kelloway, 2000)	2
Work related items	12	Management	3	Authentic leadership questionnaire (Walumbwa, Avolio, Gardner, Wernsing & Peterson, 2008)	1
				Relationship with subordinates (Shanock and Eisenberger's, 2006)	1
				Servant Leadership Scale (Liden et al., 2015)	1
		Inclusion	2	Organizational Justice Scale (Colquitt, 2011)	1
				Psychological Sense of School Membership Questionnaire (Goodenow, 1993)	1
		Performance	1	Job Performance (Van Scotter and Motowidlo, 1996)	1
		Job satisfaction	6	Minnesota Job Satisfaction Questionnaire (Weiss, 1967)	3
				Predicting Police Job satisfaction (Brough and Frame, 2004)	1
				Global job satisfaction measure developed (Warr, Cook, & Wall, 1979)	1
				Job satisfaction subscale of the Michigan Organizational Assessment Questionnaire (Cammann et al., 1979)	1
Ill-being	10	Stress, anxiety, depression, burnout	7	Academic Expectation Stress Inventory (Ang & Huan, 2006)	1
				Depression, Anxiety and Stress Scale (Lovibond & Lovibond, 1995)	2
				Revised Children's Anxiety and Depression Scale-Short Version (Chorpita et al., 2005)	1
				Job-Related Tension Index (Kahn, Wolfe, Quinn, Snoek, and Rosenthal, 1964)	1
				Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983)	1
				Maslach Burnout Inventory-General Survey (Maslach, Jackson, Leiter & Schaufeli, 1996)	1
		Bullying	1	Negative Acts Questionnaire (NAQ) (Einarsen & Raknes, 1997)	1
		Adaptation	2	Brief COPE (Carver, 1997)	1
				Cognitive Appraisal Scale (Skinner & Brewer, 2002)	1
Health	7	Health	6	Health satisfaction scale (Ware, Kosinski, Turner-Bowker, & Gandek, 2002)	1
				General Health Questionnaire (Goldberg, 1972)	5
		Mental health	1	Mental Health Inventory (Khan et al., 2015)	1
Identity development.	4	Identity	2	Big Five personality traits (Donnellan, Oswald, Baird, & Lucas, 2006)	1
				Professional Identity Scale (Zhao et al., 2010)	1
		Self-Esteem	1	Rosenberg self-esteem scale (Rosenberg, 1965)	1
		Gender	1	Perceived gender equity scale (Radha, 2013)	1

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