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Teacher well-being: A systematic review of the research literature from the year 2000–2019

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ABSTRACT

In recent years, teacher well-being has received increasing attention that has led to a plethora of empirical studies from various disciplines. The aim of this paper is to contribute to the clarification of the construct teacher well-being, add knowledge about the prevalence of teacher well-being and systematize predictors and outcomes of teacher well-being. A systematic review following the PRISMA-statement was applied to peer-reviewed papers published between the years 2000–2019 and a total of 98 studies were included in the final analysis. Heterogeneous approaches could be categorized into five distinct theoretical foundations. Empirical evidence did not confirm that teacher well-being is at risk. Among the variety of correlates and predictors of teacher well-being that could be categorized into general versus job-related categories on the individual or the contextual level, social relationships seem to play a pivotal role. Although empirical evidence regarding its outcomes is scarce, results suggest that teacher well-being influences teaching quality.

1. Introduction

Teacher well-being (TWB) is a crucial issue for schools and society. It is seen as relating to teaching effectiveness, student outcomes, and educational governance (Duckworth, Quinn, & Seligman, 2009; Sutton & Wheatley, 2003). High TWB has been shown to help schools—as organizations—stabilize their functioning and increase the commitment of staff members (Creemers & Reezigt, 1996). By contrast, low TWB is considered an obstacle to school improvement and educational reforms and can lead to higher rates of teacher absenteeism (Education Support, 2019; Parker, Martin, Colmar, & Liem, 2012). TWB is also associated with other psychological constructs, including negatively with teacher stress and burnout (Burić, Slišković, & Penezić, 2019), and positively with satisfaction and positive emotions (e.g. Bullough & Pinnegar, 2009), resilience and flourishing (Beltman, Mansfield, & Price, 2011), and motivation and commitment (Cameron & Lovett, 2015). Furthermore, it has been considered within the wider context of mental health (Gray, Wilcox, & Nordstokke, 2017). Nevertheless, this plethora of research and correlational results, along with the ambiguous use of the construct of well-being, may hamper the development of well-being theory, and preclude further research and practice aimed at fostering TWB. Thus, there is a need to elucidate the conceptual core of TWB and to identify how it can be fostered. Against the background of the significance given to the role of TWB (e.g., School Mental Health Group, 2019; Viac & Fraser, 2020), the present systematic review aims to contribute to the clarification of this construct, to identify its prevalence, to systematize the factors that

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potentially influence it, and to add knowledge about effective TWB interventions. Thus, we focus on studies that have explicitly addressed TWB, in order to avoid conflating it with related concepts such as resilience.

1.1. On well-being research and TWB

An early contribution regarding the importance of well-being was provided by the World Health Organization (WHO). By 1946, the WHO had already defined health as a state of complete physical, mental, and social well-being, as opposed to the mere absence of disease or infirmity. In psychology, [Diener \(1984\)](#) was among the first researchers to examine subjective well-being and to bring the topic onto the scientific agenda. From his perspective, well-being is represented by subjective life satisfaction as well as positive and negative affect. His contributions inspired the multi-component model of well-being research, as well as later research such as the work of [Ryff \(1989\)](#), who described psychological well-being through self-acceptance, environmental mastery, autonomy, positive relations with others, personal growth, and purpose in life. [Keyes \(2002\)](#) later integrated three facets of well-being—emotional, psychological, and social—into the concept of mental health.

Diener's work also stimulated well-being research from the perspective of the psychology of work and organization. For example, [Warr \(1994\)](#) described employee well-being with the following dimensions: affective well-being, aspiration, autonomy, competence, and integrated functioning. Similarly, [Bakker and Oerlemans \(2011\)](#) developed a multilevel model of employee well-being based on the Job Demands-Resources Model, defining three positive dimensions (work engagement, happiness at work, job satisfaction) and two negative dimensions (workaholism, burnout). Furthermore, it can be argued that the well-being models prominent in positive psychology, such as [Seligman's \(2012\)](#) PERMA model, which consists of five components—positive emotion, engagement, relationships, meaning, and accomplishment—are also rooted in Diener's early work.

Despite broad agreement that well-being should be conceptualized as a multidimensional construct, there is little consensus about how well-being should be defined, potentially hampering the development of a concise theory and precluding good practice using evidence-based knowledge. Furthermore, discrepancy regarding the question of which components are constitutive and which variables are correlates can be observed. Within the various definitions available, positive emotions and satisfaction as well as stress and complaints are the most frequent components, although they are not systematically combined, leading to a blurred conceptualization of well-being. Interestingly, it seems easier to argue that well-being is the opposite of burnout and stress than to define it. Moreover, there is minimal theoretical work related to TWB that explicitly considers the characteristics of the teaching profession. Given the lack of theoretical work, it is interesting that the rationale that teachers who feel good in school are good teachers has entered scientific discourse without strong evidence (e.g., [Branand & Nakamura, 2017](#); [Hall-Kenyon, Bullough, MacKay, & Marshall, 2014](#)), yet what is meant by TWB remains vague. Also, it has been argued that TWB is in danger (e.g., [Acton & Glasgow, 2015](#); [Education Support, 2019](#)), although there is a lack of studies about its prevalence. The topic of TWB has drawn additional research attention because TWB is increasingly considered important not only from an individual but also from a societal perspective (e.g., [McCallum, Price, Graham, & Morrison, 2017](#)). Accordingly, there is a growing set of programs that aim to foster TWB. Empirical evidence regarding these programs, however, is still scarce.

1.2. Previous reviews

From a scientific perspective, this growing emphasis on TWB calls for systematic reviews. About ten years ago, [Bricheno, Brown, and Lubansky \(2009\)](#) enriched our research knowledge by publishing a comprehensive review of evidence on TWB for the UK Teacher Support Network Research Services. They found that TWB is an ill-defined concept that serves to cover a variety of aspects of teacher health, with a frequent focus on negative aspects such as teacher stress and burnout. Other reviews concentrated on a specific group of teachers or a specific aspect of well-being in order to give a deeper insight into TWB. For example, [Hall-Kenyon et al. \(2014\)](#) presented a review of 30 research papers addressing pre-school TWB, conceptualized as well-being, job satisfaction, stress, burnout, and teacher quality. Furthermore, [Naghieh, Montgomery, Bonell, Thompson, and Aber \(2015\)](#) reviewed four studies with regard to the impact of organizational interventions, such as coaching support on TWB and teacher stress. These studies viewed TWB as stress management, job-related anxiety or depression, burnout, emotional ability, and retention rates. Additionally, [Acton and Glasgow \(2015\)](#) reviewed 30 research articles and viewed TWB in the light of an intensifying neoliberal school context marked by standards, accountability, and assessment. In these studies, TWB was regarded as a holistic concept with a specific focus on individual flourishing. In another systematic review of 29 studies, [Cumming \(2017\)](#) reported on early childhood educators' well-being covering a wide array of topics, from mental health, job satisfaction and emotional skills, self-esteem, moods, to stress and emotional exhaustion. Despite the important role of these reviews for specific teacher groups or educational settings, a comprehensive review of TWB is still missing.

Some more overviews can be found in the literature. In an overview of studies published between 1993 and 2016 by [Gray et al. \(2017\)](#), TWB was conceptualized as a multifaceted mental health construct, whose importance was related to school climate, inclusion, and student outcomes. Recently, [McCallum et al. \(2017\)](#) provided a thematic overview of TWB on the basis of a definition of well-being as "diverse and fluid respecting individual, family and community beliefs, values, experiences, culture, opportunities and contexts across time and change" ([McCallum & Price, 2016](#), p. 17). They outlined a variety of factors related to TWB and the initiatives that enable it, such as fostering individual skills, as well as contextual factors like school leadership.

All these reviews have contributed significantly to TWB research and have addressed a broad range of topics, such as the definition of TWB, its related factors and outcomes, as well as TWB-enhancing programs. However, the present review is needed because previous reviews have also exhibited certain shortcomings. For instance, systematic reviews have not covered the continuous increase in articles on TWB during the past decade, meaning that their findings are of limited relevance today. Furthermore, it has to be expected that the

ambiguity of the construct of TWB has even amplified with increasing numbers of publications. In addition, reviews that have concentrated on a specific group of teachers or a specific aspect of well-being have yielded findings of limited scope and generalizability. Moreover, the existing narrative overviews leave unclear which selection criteria were applied to the reviewed papers.

1.3. Objectives

The present systematic review aims to provide a comprehensive understanding of TWB research by comparing and synthesizing the empirical research base on the issue of TWB. Given that we seek to value the existing range of approaches, we broadly operationalize TWB as a multidimensional construct that includes at least one positive component among a set of two or more dimensions. In line with the pioneering WHO definition of 1946, well-being needs to be acknowledged as more than the sole absence of negative emotional

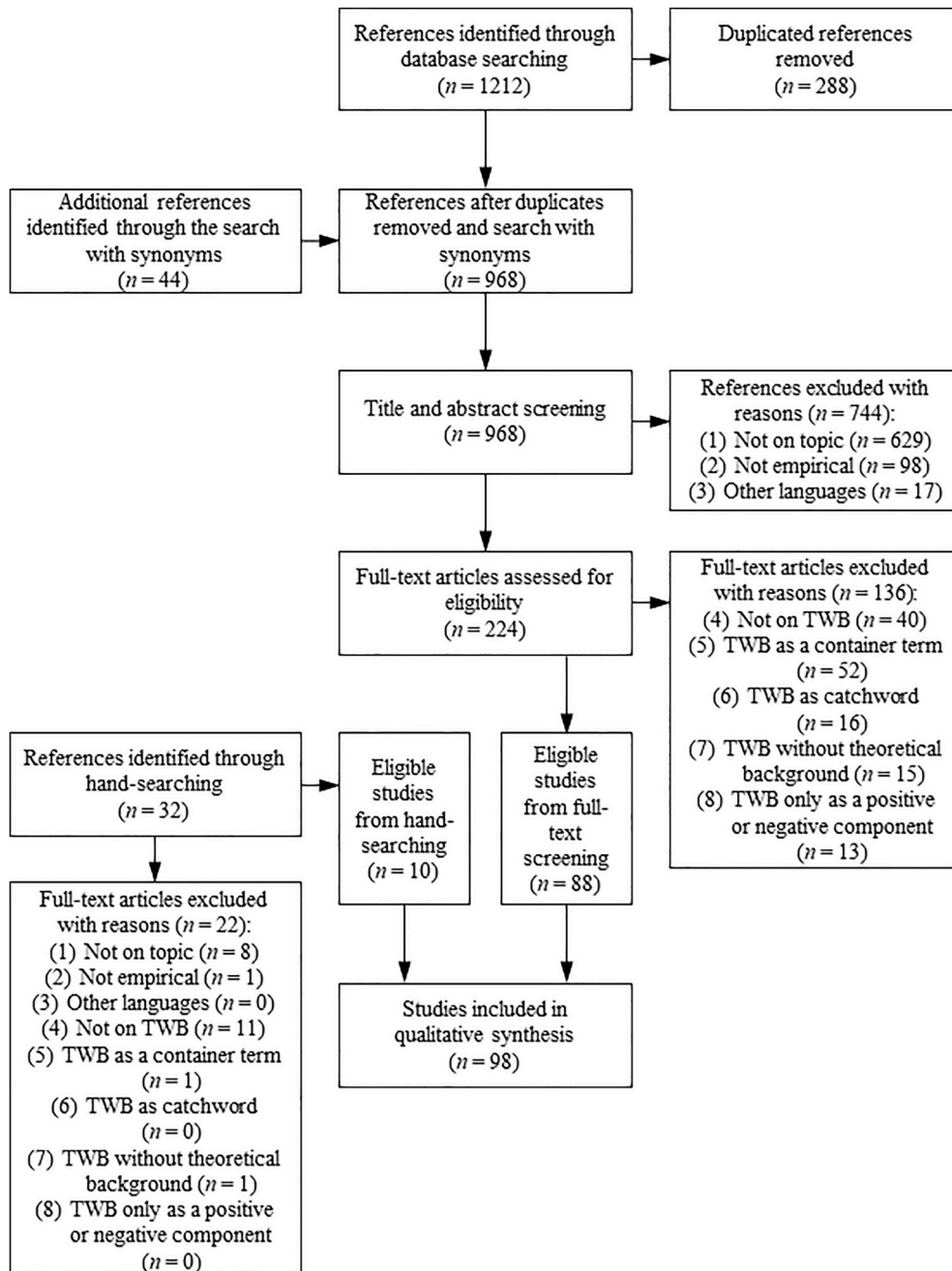


Fig. 1. PRISMA flow diagram.

experiences, complaints or illness. This means for example that an assessment solely of teacher burnout does not sufficiently represent TWB. Furthermore, an assessment exclusively based on stress scales that are post hoc inverted, with low stress being interpreted as high well-being, does not seem appropriate to measure TWB.

This systematic review analyzes the existing body of empirical literature on TWB during the period 2000–2019, and seeks to find answers to the following questions:

1. What are the main fields of TWB research, and how do their definitions and operationalizations of TWB contribute to a profound understanding of this construct?
2. What does empirical evidence suggest about the statement that TWB is at risk?
3. What does empirical evidence suggest about the correlates and predictors of TWB?
4. What does empirical evidence suggest about the effectiveness of programs that aim to foster TWB?
5. What does empirical evidence suggest about the outcomes of TWB?

All five questions are driven by our motivation to contribute to a profound and multidisciplinary understanding of TWB that might inform research and evidence-based programs aimed at supporting teachers' optimal professional functioning. Structured information about the main research fields can facilitate understanding of the meaning of TWB in various disciplines. An answer to the question of whether TWB is at risk contributes to the discussion about the challenges of the teaching profession. Knowledge about the correlates, predictors and effects of intervention programs helps inform how TWB can be fostered, and might identify the influence of personal as well as contextual factors. Finally, evidence about the outcomes of TWB can contribute to the discussion of effective teaching.

2. Methods

We chose the method of a systematic review to answer these questions. Indeed, a systematic review is an adequate method for "identifying and synthesizing the available research evidence of sufficient quality considering a specific subject" (Victor, 2008, p. 1). During the review process, we followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009) and checklist (Page et al., 2021). The PRISMA flow diagram (Fig. 1) shows the different phases of this systematic literature review, from the number of references originally identified, to the papers that were excluded, and, finally, the papers that were included.

2.1. Research strategy

To find as much of the relevant literature as possible, between July 2018 and May 2020 we conducted a search of the following databases: the Education Resources Information Centre (ERIC); Scopus; PsycInfo; Science Direct; Sage Journals; and Taylor & Francis. This database selection enabled both a discipline-specific (ERIC, Scopus, PsycInfo) and a general (Science Direct; Sage Journals; Taylor & Francis) search. We limited the search to studies published between 2000 and 2019, and we selected peer-reviewed articles, in order to ensure the greatest possible scientific quality by ensuring that the articles had received external feedback. Search strings consisted of a combination of the following terms: "teacher(s) well-being" OR "teaching and well-being"; OR "well-being of teachers". We carried out the search with both spelling variations of "well-being" and "wellbeing". We did not restrict our search to a specific school level or form. To ensure that we identified relevant empirical research articles, both authors of the study discussed the search terms. In a second search, we replaced the term "teacher" with the term "educator", which we combined with the term "well-being" or "wellbeing", respectively. We searched for the terms in titles, abstracts, and keywords, yielding a first total of 1212 hits.

Table 1
Exclusion criteria.

Criterion	Description	Example
1 Not on topic	The article addresses another topic	Boujut, Popa-Roch, Palomares, Dean, and Cappe (2017)
2 Not empirical	The article is not reporting an empirical study	Acton and Glasgow (2015)
3 Other language	The article is published in a language other than English	Fernandez Puig, Chamorro Lusaar, Longas Mayayo, and Segura Bernal (2017)
4 Not on TWB	TWB is mentioned in the abstract or used as a keyword, but a more detailed analysis of the text showed that the empirical study is not about TWB	Guo, Guo, Beckett, Li, and Guo (2013)
5 TWB as a container term	TWB is used as a collective term for other phenomena like job satisfaction, burnout etc., while teacher well-being is neither conceptualized nor measured in the study	Both, Borgatto, Lemos, Ciampolini, and Nascimento (2017)
6 TWB undefined	Although TWB is investigated, the text does not report how TWB was defined and/or empirically investigated	Garrick et al. (2017)
7 TWB without theoretical background	Studies in this category examined TWB using several components, but without defining or conceptualizing well-being. Thus, it remains unclear why the investigated components should be part of TWB	Bermejo, Hernández-Franco, and Prieto-Ursúa (2013)
8 TWB only as one positive or one negative component	TWB is addressed, but the multi-component character of well-being is ignored by exclusively analysing TWB with only a positive OR a negative component	Breeman et al. (2015)

2.2. Study selection

Study selection was based on eight criteria (Table 1). After removing duplicates (same texts from different database) and adding text from a synonym search, 968 hits remained. These studies were screened through reading the titles and the abstracts. At this screening stage, we excluded studies if they were: (1) not about TWB; (2) not an empirical study; or (3) published in languages other than English. This first screening aimed to identify studies that were not related to our research topic. The three basic criteria (1–3) were co-defined by two researchers, and the coding was conducted individually as it did not call for interpretation. Following this screening phase, the two researchers assessed the remaining 224 studies' eligibility by analyzing their full texts. Furthermore, they manually searched their reference lists for additional studies, yielding another 32. The full-text analysis resulted in the exclusion of texts that turned out not to be focused on TWB because: (4) well-being was merely mentioned in the abstract or as a keyword, but not investigated; (5) the term well-being was only used as a container term for other constructs, such as teacher health or burnout, and not investigated; (6) there was no definition of well-being in the theoretical part of the text, and it was not explained how TWB was assessed; (7) a theoretical underpinning of well-being was lacking, and the scales used did not assess well-being, but rather related concepts such as depression; or (8) even though the text explicitly outlined the multi-component character of well-being, the study measured only a single component of TWB, such as satisfaction or physical complaints.

To sum up, the particular problem arising with TWB research does not lie in the different disciplines interested in investigating TWB, but in its unsystematic use even within a single discipline. This unsystematic use may lead to a lack of a solid theoretical background of TWB research, and instead encourage an understanding of TWB as an arbitrary set of any teacher-related variables. As has already been mentioned in earlier reviews and overviews (e.g., Bricheno et al., 2009; McCallum et al., 2017), a more profound understanding of well-being would help advance the research field and facilitate the implementation of sound strategies that can aid in fostering individual well-being. Similarly, if it is implicitly assumed that a lack of complaints, burnout or emotional exhaustion is an indicator of well-being, the result is a simplistic view of well-being, as a one-dimensional and inversely dependent approach is being applied. Previous research, however, has already shown that well-being and negative experiences do not belong to a single dimension, but rather coexist individually (e.g., Watson, Clark, & Tellegen, 1988).

The applied criteria led to a rather high exclusion rate (Fig. 2). Differentiation into the eight exclusion categories was assigned independently by the two researchers. A good interrater-reliability of Cohens $k = .86$ was found.

In sum, the included studies explicitly aimed at conceptualizing and investigating TWB as a well-defined, multi-component construct. Indeed, the studies agreed on TWB as a multi-component construct, even though they differed concerning the specific components assessed. Nevertheless, they all aligned with the basic idea that TWB is a complex construct that needs to be understood through a set of components. In general, the components addressed positive as well as negative qualities (e.g., positive and negative affect), and different aspects such as emotional, cognitive, and social facets.

2.3. Data extraction and analyses

We examined the studies using MAXQDA software. The analyses were based on stepwise data extraction using a template that recorded key information about the studies (see Table 6, Appendix) such as authors, year of publication, title, sample characteristics

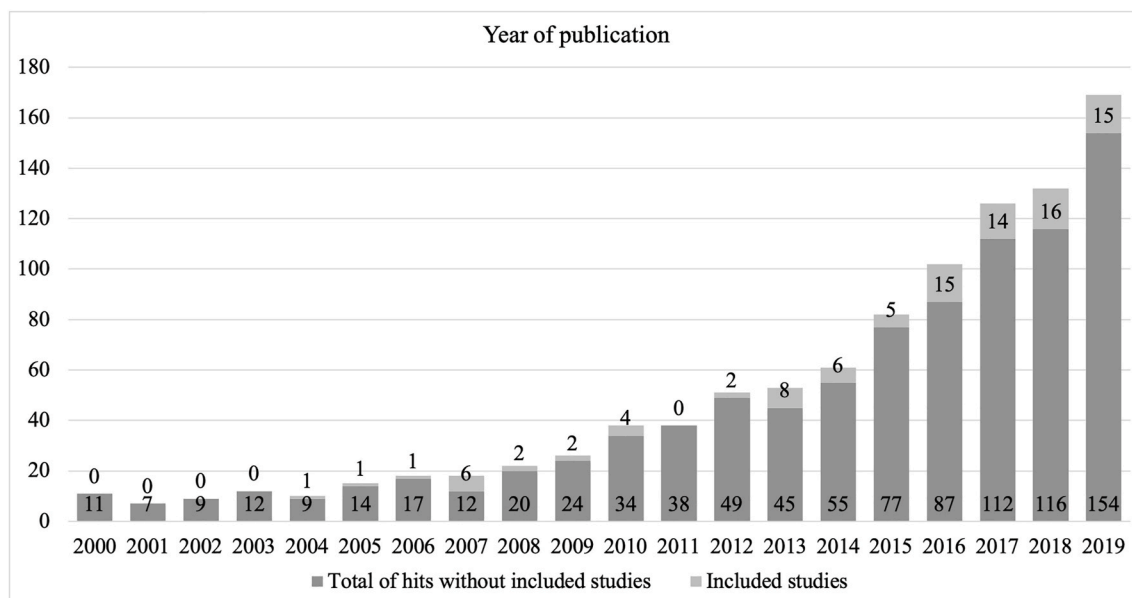


Fig. 2. Publications and hits (through December 2019).

and size, school level, country, etc. TWB theory and definition, research fields and well-being models were extracted as nominated by the authors (e.g., according to Diener's (1984) multi-component definition of general well-being) as well as design information (cross-sectional, longitudinal, intervention), research approach (quantitative, qualitative, mixed-methods, and intervention), and methods and instruments (used scales, interview questions and intervention programs) were analyzed to answer Research Question 1. Information about TWB scores and ratings in questionnaires was collected in order to answer Research Question 2. Results concerning correlates and predictors of TWB with a specific focus on effect sizes were analyzed for Research Question 3. Predictors and indicators of TWB were categorized according to the definitions given by the different studies' authors, implying, for example, that in some studies social relationships had to be coded as a component of TWB, whereas in others they had to be coded as a predictor. Programs and results of intervention studies aimed at fostering TWB were separately analyzed for Research Question 4. Effects of TWB were summarized to answer Research Question 5.

3. Results

We included 98 studies for the qualitative synthesis. All studies were published in peer-reviewed journals between January 2000 and December 2019. Fig. 2 presents an overview of the hits of publications found per year. All studies included here are original empirical studies. In accordance with the inclusion and exclusion criteria, this review focuses on papers that theoretically define TWB and explicitly investigate TWB in their empirical part. A complete list of studies and scales can be found in Table 6 (Appendix).

Of the 98 studies examined, 74 studies applied a cross-sectional design (of which four were culture-comparative), six studies investigated well-being longitudinally, three studies combined a cross-sectional with a longitudinal design, and 15 studies were intervention studies. Most studies worked with either convenience sampling ($n = 68$) or purposive sampling ($n = 10$), and only 20 examined data from a probability or representative sample. The studies were conducted in over 40 different countries and on all inhabited continents (e.g., Australia, Belgium, Canada, China, Germany, India, Israel, Norway, Russia, South Africa, Taiwan, the United Kingdom, the United States), and included teachers from different school levels and types. In grouping the studies regarding school levels and types, we found different terms, especially for secondary schools. Thus, we grouped the studies following the wording used by the study authors. About half of these studies addressed the well-being of teachers from various grades ($n = 41$). School levels predominantly comprised secondary ($n = 47$) and primary/elementary ($n = 45$) education samples or subsamples, followed by high school education ($n = 14$), middle school education ($n = 7$), vocational education ($n = 7$), multi-grade schools ($n = 7$), pre-school or early childhood education ($n = 5$), comprehensive education ($n = 2$), and special education ($n = 1$). Six studies examined school staff in general, that is, the sample included not only teachers but also non-teaching employees (e.g., Kern, Waters, Adler, & White, 2014) or school principals (e.g., Jackson, Rothmann, & Van de Vijver, 2006). In 16 of the studies, the school level of the sample was unclear.

3.1. What are the main fields of TWB research and how do their TWB definitions and operationalizations of TWB contribute to a profound understanding of TWB?

3.1.1. Definitions of TWB

In examining the theoretical background of the TWB studies included, we were able to identify five different research fields (Table 2), and hence categorized the 98 studies accordingly: (1) the first field, well-being psychology ($n = 29$), addresses the basic idea of subjective well-being as a multidimensional construct that consists of positive and negative dimensions and emotional and cognitive factors; (2) the second field, positive psychology ($n = 22$), specifically stresses the role of well-being for the development of an

Table 2
Main research fields of teacher well-being (TWB).

Research fields	Representative publications	Definition of well-being
(1) Psychology of Well-being ($n = 29^a$)	Deci and Ryan (2002) Diener et al. (1985) Ryff (1989) Ryff and Keyes (1995)	"Subjective well-being (SWB) is defined as 'a person's cognitive and affective evaluations of his or her life'" (Diener, Lucas, & Oishi, 2002, p. 63).
(2) Positive Psychology ($n = 22$)	Seligman (2002, 2012)	"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.).
(3) Psychology of Work and Organization ($n = 15$)	Bakker and Oerlemans (2011) Warr (1994)	"Positive indicators of SWB include work engagement, happiness at work, and job satisfaction. Negative indicators include workaholism and burnout" (Bakker & Oerlemans, 2011, p. 3).
(4) Teacher Well-being ($n = 17$)	Van Horn, Taris, Schaufeli, & Schreurs (2004) Renshaw et al. (2015)	"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).
(5) Health Science ($n = 8$)	WHO (1946, 1984)	"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 1946/1984).
(6) Others ($n = 7$)		Definitions are related to Individual Psychology, Sociology, or to an interdisciplinary background

^a Note: Studies declaring themselves as representing Positive Psychology but relying explicitly on models of Psychology of Well-being (e.g. Chan, 2010; Hung et al., 2016) were matched to category 1.

individual and society, and closely associates well-being with flourishing, flow, and personal growth; (3) the third field, psychology of work and organization (n = 15), is partly based on common concepts from well-being psychology, and applies this concept domain specifically to professional situations, partly based on the Job Demands-Resources Model (e.g., Bakker & Demerouti, 2007); (4) the fourth field, teacher well-being (n = 17), is similar to the third category due to its emphasis on working conditions, although it focuses specifically on well-being in the teaching profession and conceptualizes TWB as a specific construct; (5) the fifth field, health research (n = 8), relies on the WHO definition of well-being, regarding it as (a part of) mental health; and (6) “other” studies, which showed an interdisciplinary theoretical background or unique approaches from other research fields, such as individual psychology or sociology (n = 7).

From this overview, it seems that research on TWB has been predominantly based on general concepts of well-being, without addressing the specific challenges, demands, and tasks of the teaching profession. Only a minority of researchers grounded their studies in TWB in the teaching profession, or defined TWB as a specific manifestation of well-being. Moreover, the theoretical outlines provided by the researchers did not necessarily correspond to the research instruments they used. For example, in some studies a theoretical outline of a text would be related to the field of psychology of well-being, even though the questionnaire used was based on an instrument that is typically used in health science (e.g., Kaur & Singh, 2019; Veronese, Pepe, Dagdukee, & Yaghi, 2018a).

3.1.2. TWB operationalizations

3.1.2.1. Research approach. The research approaches used were differentiated into four categories: quantitative, qualitative, mixed-methods, and intervention studies. The majority of studies (n = 77) used quantitative instruments, whereas a minority applied either a

Table 3
Main categories of TWB operationalization.

Category	Examples of publications	Example of operationalization
(1) Specific scale or index (SSI) (n = 28)	Wagner, Baumann, & Hank (2016) Macintyre et al. (2019)	WHO-Five Well-being Index (WHO Regional Office for Europe, 1998) Example item: “My daily life has been filled with things that interest me” Answer format: 6-point scale (0 = not present to 5 = constantly present) PERMA Profiler (Butler & Kern, 2016), 5 dimensions: positive emotions, engagement, relationship, meaning, accomplishment Example item for positive emotion: “In general, how often do you feel positive?” Answer format: 11-point scale (e.g., 0 = never, 10 = always)
(2) Combination of different scales (CDS) (n = 29)	Chan (2009, 2010) Soykan, Gardner, & Edwards (2019)	The Satisfaction with Life Scale (Diener et al., 1985) Example item: “So far I have got the important things I want in life». Answer format: 5-point scale (1 = strongly disagree to 5 = strongly agree) The Positive and Negative Affect Schedule (PANAS, Watson et al., 1988) Example item: “excited” Answer format: 5-point scale (1 = not at all, 2 = a little, 3 = moderately, 4 = quite a bit, 5 = extremely) Job Affective Related Well-Being Scale (JAWS; van Katwyk, Fox, Spector, & Kelloway, 2000) Example item: 15 positive (e.g., ‘enthusiastic’) and 15 negative (e.g., ‘miserable’) emotions related to their job over the previous month Answer format: 5-point scale (1 = never to 5 = always) Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983) Example item: “In the last month, how often have you felt nervous or “stressed”?” Answer format: 5-point scale (1 = never to 5 = very often)
(3) Instrument validation or new instruments (NIV) (n = 12)	Renshaw et al. (2015) Kutsyuruba et al. (2019)	Teacher Subjective Well-being Questionnaire Example item: “I feel like people at this school care about me.” Answer format: 4-point scale (1 = almost never, 2 = rarely, 3 = sometimes, 4 = almost always) Online survey with 14 items on early career teachers’ well-being (3 factors: external well-being, school structure, internal well-being) Example item external well-being: “I feel respected as a colleague in this school” Answer format: 5-point scale (scores not reported)
(4) Qualitative research (QUAL) (n = 14)	Paterson, & Grantham (2016) Simmons et al. (2019)	Focus Groups Example question: “What are the factors that support and promote TWB in the school context, and how do they do that?” Symposium discussions Core question: “How do schools contribute to the wellbeing of educators?”
(5) Intervention research (INT) (n = 15)	Beshai McAlpine, Weare, & Kuyken (2016) Fernandes et al. (2019)	Warwick-Edinburgh Mental Well-being Scale (Stewart-Brown et al., 2011) Example item: “I’ve been feeling cheerful” Answer format: 5-point scale (1 = none of the time to 5 = all of the time) Support, Positive and Negative Experiences (SPANE, Diener et al., 2010) Example item: “In the last 2 or 3 weeks I felt happy”, “In the last 2 or 3 weeks I was sad” Answer format: 5-point scale (from 1 = never to 5 = very frequently) Work Meaning and Well-being (UWES, Schaufeli, Bakker, & Salanova, 2006) Example item: ““At my work, I feel bursting with energy” Answer format: 5-point scale (from 1 = strongly disagree to 5 = strongly agree)

qualitative (n = 14) or a mixed-methods design (n = 7) (for details, see [Table 6 in the Appendix](#)). Additionally, 14 studies were intervention studies using either a quantitative (n = 13) or a mixed-methods design (n = 1). In accordance with the results regarding theoretical approaches and research fields, most researchers used instruments that addressed general well-being (note that no information was available in [Liang, Peng, Zhao, & Wu, 2017](#)). Regarding quantitative research, only 17 studies used scales that were dedicated to TWB with an explicit relation of items or scales to the tasks of the teaching profession, such as instruction, interaction with students and parents, collaboration with other teachers, or cooperation with the principal (e.g., [Collie, Shapka, Perry, & Martin, 2015, 2016](#); [Cook et al., 2017](#); [Laine et al., 2018](#); [Mankin, von der Embse, Renshaw, & Ryan, 2018](#); [Sadick & Issa, 2017a](#)); these studies are marked with an asterisk in [Table 6 in the Appendix](#)). By contrast, all 14 qualitative studies and the qualitative parts of four mixed-methods studies (note that no detailed information was available in [Kaur & Singh, 2019](#), [Sadick & Issa, 2017b](#), and [Sasmoko et al., 2017](#)) showed an explicit focus on the specific demands of the teaching profession. Thus, methodological bias is possible, as the quantitative studies applied general self-reported well-being measures, which might lead to the specific demands of the teaching profession being misunderstood. As outlined by [Bakker and Demerouti \(2007\)](#), the specific characteristics of a profession are relevant to professional well-being. As regards teaching, student misbehavior ([Aloe, Shisler, Norris, Nickerson, & Rinker, 2014](#)) or trust in principals ([Berkovich, 2018](#)) is one such characteristic. Furthermore, a focus on general well-being measures may not correspond to teachers' professional well-being, which like other socio-emotional constructs such as self-concept and emotion, tends to be domain-specific (e.g., [Götz, Cronjäger, Frenzel, Lüdtke, & Hall, 2010](#); [Viac & Fraser, 2020](#)).

3.1.2.2. Categories of instruments. The operationalizations and the instruments used in the selected TWB studies were assigned to five main categories ([Table 3](#)).

1. Specific well-being scale or index (n = 28)

TWB was measured with an instrument that resulted in a single well-being score, either derived from a specific well-being scale (n = 13), or through merging different scales into an index (n = 15). Given that 19 different scales were applied, the heterogeneity within this group was high. Repeatedly used were the WHO-5 Well-being Index (n = 6; e.g., [Sisask et al., 2014](#); [Veronese et al., 2018a](#); [Wagner et al., 2016](#)), Ryff's scale of psychological well-being (n = 3; [Ilgan, Ozü-Cengiz, Ata, & Akram, 2015](#); [Liang et al., 2017](#); [Özü et al., 2017](#)) and the Mental Health Continuum developed by [Keyes et al. \(2008\)](#) (n = 3; [Capone & Petrillo, 2016, 2018](#); [Kim & Lim, 2016](#)). Other studies used new index instruments (e.g., [Collie & Martin, 2017a](#); [Collie, Shapka, Perry, & Martin, 2016](#); [Sadick & Issa, 2017a](#)).

2. Combination of several scales (n = 29)

When TWB was operationalized as a multidimensional construct, a variety of sub-constructs served as components. Differences in terms of which and how many scales were used and how positive and negative dimensions of well-being were related could be seen. Altogether, 44 different scales were applied, with only a few instruments used repeatedly in combination, such as the Positive and Negative Affect Schedule (PANAS; [Watson et al., 1988](#); n = 9, e.g., [Cenkseven-Önder & Sari, 2009](#)), the Maslach Burnout Inventory (MB; [Maslach, Jackson, Leiter, Schaufeli, & Schwab, 1986](#); n = 7, e.g., [Aldrup, Klusmann, Lüdtke, Göllner, & Trautwein, 2018](#)), the Satisfaction with Life Scale ([Diener, Emmons, Larsen, & Griffin, 1985](#), n = 6, e.g.,; [Albuquerque, de Lima, Figueiredo, & Matos, 2012](#)), and the Utrecht Work Engagement Scale (UWES; [Schaufeli, Salanova, González-Romá, & Bakker 2002](#); n = 6, e.g., [Peral & Geldenhuys, 2016](#)).

3. Instrument validation or new instruments (n = 12)

The validation of an existing questionnaire (n = 4) or the introduction of a new instrument (n = 8) also showed diversity regarding the number of dimensions (2–7) and contents. Most importantly, the development of a new instrument mainly served the intention to develop an instrument related to the teaching profession or a teacher group (n = 7; e.g., [De Pablos-Pons, Colás-Bravo, González-Ramírez, & del Rey, 2013](#); [Kutsyruba, Godden, & Bosica, 2019](#)). The significance of this research lay in the relevance given to the specific challenges and demands of the teaching profession.

4. Qualitative research (n = 21, including qualitative parts of seven mixed-methods studies)

The qualitative methods used ranged from different oral qualitative methods—specifically single interviews (n = 13), focus group interviews and group conversations (n = 8), and a world café or one-day symposium (n = 2)—to written methods, namely e-journals (n = 2), document analysis (n = 3), open questions in a survey (n = 1), concept maps/collages (n = 2), and observations with field notes or video (n = 3). Seven of the 21 studies combined several qualitative methods (e.g., [Brunzell, Stokes, & Waters, 2018](#)). Data were primarily collected from teachers and educators (n = 16), and rarely from principals (n = 1; [Owen, 2016](#)) or diverse staff groups (n = 4; e.g., [Simmons et al., 2019](#)). Along with TWB, general work-related topics such as teachers' roles (e.g., [Soini, Pyhältö, & Pietarinen, 2010](#)), the school context ([Paterson & Grantham, 2016](#)) professional development (e.g., [Hobson & Maxwell, 2017](#)) and coaching and mentoring ([Hollweck, 2019](#); [Kutsyruba et al., 2019](#)) were investigated. Studies also identified the meaning and sources of TWB (e.g., [Jones, Hadley, Waniganayake, & Johnstone, 2019](#)), specific working situations such as working in an international school ([Wigford & Higgins, 2019](#)), and specific challenges such as experiences with learners involved in drug use ([Walton, Avenant, & Van Schalkwyk, 2016](#)).

5. Intervention research (n = 15)

All intervention studies used quantitative instruments to measure the effects of the program in question on TWB. However, there was no overlap in the use of programs, and little overlap in the scales used to measure TWB. Indeed, the 21 different scales made it impossible to compare the results or even relate them to each other. Only two instruments were used three times: Diener's (1984) Satisfaction with Life Scale (Chan, 2010, 2013), and the Wellbeing at Your Work Index Questionnaire, both within studies by the same research group (Rahm & Heise, 2019; Saaranen, Tossavainen, Turunen, & Naumanen, 2007a). Two other instruments were used twice: Positive and Negative Affect Schedule (PANAS; Chan, 2010, 2013), and Scale of Positive and Negative Experience (SPANE; Fernandes, Peixoto, Gouveia, Silva, & Wosnitza, 2019; Rahm & Heise, 2019). It was evident, however, that among the other 17 instruments, general well-being instruments with limited insight into TWB tended to be used. Only Talvio and colleagues (2013) applied the "School Well-Being Profile" (Konu & Rimpelä, 2002), while Cook et al. (2017) combined the "Teacher Self-Efficacy Scale" (TSES; Schwarzer, Schmitz, & Daytner, 1999) with other general well-being scales.

3.1.2.2.1. Summary of TWB definitions and operationalizations. This review shows that theoretical approaches to and operationalizations of TWB can be characterized through a predominant general well-being approach. Studies investigating TWB with regard to the specific demands of the teaching profession are underrepresented in our sample. Even though some general instruments may cover to a certain degree the well-being of a profession—for example, reported emotions may be somewhat related to teaching experience, even if this is not explicitly considered in a questionnaire—several topics that are potentially of great relevance for TWB, such as emotions evoked in interaction with students, or satisfaction with student success, may be missed. Adaptations of general instruments to the teaching profession (Lau, Wang, & Myers, 2017) and the development of new teaching-related instruments (e.g., Kutsyuruba et al., 2019) are scarce in the sample. It is also worth noting that the great majority of studies measured TWB as a trait, while only four assessed it as a dynamic state using daily measures (Aldrup et al., 2018; Lavy & Eshet, 2018; Simbula, 2010; Tadić Vujčić, Oerlemans, & Bakker, 2017). Qualitative studies focused on the teaching profession in general, as well as on TWB with broader consideration of the teaching and workplace context. The intervention programs and instruments used differed conceptualizations of TWB, calling into question the generalizability and the reliability of the findings attained. The results indicated that measurements of TWB are diverse, which may complicate any common understanding of TWB. Thus, a deeper insight into the applied methods is needed to understand how TWB has been investigated. Studies that predominantly apply general well-being theories and approaches can contribute to a broad understanding of the term well-being, and enable comparisons between professions. Research fields that address TWB regarding the teaching profession can offer a profound understanding of domain-specific well-being, as they recognize the specific context, challenges and demands of teachers' work, and offer insights into the nature of the teaching profession.

3.2. What does empirical evidence suggest about the statement that TWB is at risk?

According to our findings, most study authors argued that TWB is generally at risk, and stressed the high burden on the teaching profession, the increasingly challenging societal demands on teachers, and the pressure that comes from political control systems. With regard to prevalence rates, however, systematic knowledge was poor. This might have owed to the fact that, with a few exceptions (e.g., Capone & Petrillo, 2018; de Klerk, Temane, & Nienaber, 2013; Kern et al., 2014; Thakur, Chandrasekaran, & Guddattu, 2018), prevalence rates were rarely explicitly evaluated and judged as high or low TWB according to a numeric definition of scores. Rather, we were able to identify the following non-grading strategies to report TWB scores in our body of 77 quantitative studies: The most prominent strategy was to report the results of TWB scales and scores in a descriptive way (e.g., Janovská, Orosová, & Janovský, 2016; Lavy & Eshet, 2018), i.e., pure information about the means or sum scores of the TWB scales is given in tables and/or the text. Some studies presented prevalence rates as a comparison between scales representing the positive and negative dimensions, such as positive and negative affect (e.g., Albuquerque et al., 2012; Aldrup, Klusmann, & Lüdtke, 2017), i.e., the findings are presented alongside a comment regarding the predominance of one of the two dimensions such as higher positive than negative affect. Another strategy was to report the scores of different facets of TWB: The results are presented as a comparison, such as student interaction well-being is higher than organizational well-being and workload well-being (Brouskeli, Kaltzi, & Loumakou, 2018; Collie et al., 2015). The well-being scores of different samples were also compared in some cases (Saaranen, Tossavainen, Ryhänen, & Turunen, 2013; Özü et al., 2017) and the findings of such studies aimed to show which groups of teachers exhibit higher or lower TWB scores relative to others. Finally, the intervention studies usually reported intra-individual or intra-group comparisons with TWB scores before and after the intervention (e.g., Chan, 2013; Cook et al., 2017). Our overview of the studies, however, shows that with a few exceptions, such as a low level of TWB (Milfont, Denny, Ameratunga, Robinson, & Merry, 2008), an increased level of stress (Heyder, 2019), or single burnout symptoms such as exhaustion (Klusmann, Kunter, Trautwein, Lüdtke, & Baumert, 2008; Van Horn et al., 2004; Wigford & Higgins, 2019), most scores on TWB scales lay above a theoretical mean, leading to the conclusion that most studies found medium to good levels of TWB reported by teachers. It has to be noted, however, that most studies used general well-being scales, whereas more profession-specific analyses might have revealed different results. Furthermore, an introduction of norms that define low, moderate and high TWB scores (Capone & Petrillo, 2018) could be helpful in advancing TWB research.

3.3. What does empirical evidence suggest about the correlates and predictors of TWB?

A high level of heterogeneity does not only characterize the definition of TWB, but also the results regarding the prevalence, predictors, and consequences of TWB. No two studies used an identical set of variables. The following section covers the results of 84 quantitative and mixed-methods studies, of which 12 tested TWB instruments and related their dimensions to various variables (e.g.,

Collie et al., 2015) in order to test for construct validity. The findings of the 14 qualitative studies are also integrated here. The specific results of the mediation models applied in 12 studies are presented separately.

According to the idea that TWB is a result of the interaction between the individual and the environment, we structured the array of variables studied first into two main categories, namely objective versus subjective factors (Tables 4a and 4b; for further details, see

Table 4a
Correlates and predictors of TWB – objective variables (sorted by frequency of studies).

Variable	N	Relation	N	Examples (most recent publication)
Objective variables – general individual				
Gender: female	20	No	10	Kaur and Singh (2019)
		Positive	4	Soykan et al. (2019)
		Negative	6	Huang and Yin (2018)
Age: increasing ^a	15	No	6	Sadick & Issa (2017a)
		Positive	5	Lau et al. (2017)
		Negative	3	Janovská et al. (2016)
		Ambivalent	1	Pretsch et al. (2012)
Marital status: married	3	No	1	Liang et al. (2017)
		Positive	2	Lau et al. (2017)
Religion: religious	2	Positive	2	Veronese et al. (2018b)
		Negative	1	Lau et al. (2017)
Ethnic background	1	No	1	Collie et al. (2015)
Living in East vs. west Turkey	1	No	1	Ilgan, Özü-Cengiz, Ata, and Akram (2015)
Personal social status	1	Positive	1	Cenkseven-Önder & Sari, 2009
Objective variables – work-related individual				
Years of teaching: increasing	14	No	6	Soykan et al. (2019)
		Positive	3	Huang and Yin (2018)
		Negative	3	Collie et al. (2015)
		Ambivalent	2	Royer and Moreau (2016)
School level: primary	7	No	1	Renshaw et al. (2015)
		Positive	3	Mankin et al. (2018)
		Negative	2	Ilgan et al. (2015)
		Ambivalent	1	Collie et al. (2016)
Tenure: increasing	6	No	3	Liang et al. (2017)
		Negative	1	Konu et al. (2010)
		Ambivalent	2	Lavy and Eshet (2018)
Employment status: fixed/permanent term	4	No	2	Yıldırım (2014)
		Positive	2	Capone and Petrillo (2018)
Teacher educational level: increasing	4	No	1	Collie et al. (2015)
		Positive	1	Yıldırım (2014)
		Ambivalent	2	Lavy and Eshet (2018)
School level: higher grades	3	No	1	Janovská et al. (2016)
		Positive	1	Collie and Martin (2017a)
		Negative	1	Huang and Yin (2018)
In-service training	2	No	1	Brouskeli et al. (2018)
		Negative	1	Burns and Machin (2013)
Position rank in school: higher	2	Positive	1	Soykan et al. (2019)
		No	1	Collie et al. (2015)
Teacher education: years of education	2	No	1	Soshani & Eldor, 2016
		Positive	1	Veronese et al. (2018b)
Classroom teacher (vs. subject teacher)	1	Positive	1	Ilgan et al. (2015)
Income/Salary	1	Positive	1	Veronese et al. (2018b)
Mentoring role	1	Positive	1	Kutsyuruba et al. (2019)
Teaching subject: MINT	1	No	1	Lau et al. (2017)
Objective variables – work-related contextual				
Urbanization: high	3	Negative	3	Brouskeli et al. (2018)
Ergonomic factors: low	3	Negative	3	Simmons et al. (2019)
Economic factors: low	2	Negative	2	Brouskeli et al. (2018)
School size: high	2	No	1	Brouskeli et al. (2018)
		Ambivalent	1	Burns & Machin, 2013
School status: private	2	Negative	2	Kaur and Singh (2019)
Classroom size: high	1	Negative	1	Veronese et al. (2018b)
Curriculum	1	Positive	1	Cenkseven-Önder & Sari, 2009
High school rating	1	Ambivalent	1	Kidger et al. (2016)
Home-based teaching	1	Positive	1	Royer & Moreau, 2016
New renovation of school	1	No	1	Sadick & Issa (2017a)
Political situation	1	Negative	1	Veronese et al. (2018b)
Rigid hierarchical structures within a school	1	Negative	1	Jones et al. (2019)
Student achievement	1	No	1	Kidger et al. (2016)
Teaching in conflict setting	1	Negative	1	Veronese et al. (2018b)

^a Note: Age and years of teaching were analyzed independently and not as interdependent.

Table 4b
Correlates and predictors of TWB – subjective variables (sorted by frequency of studies).

Variable	N	Relation	n	Examples (most recent publication)
Subjective variables – general individual				
General health and well-being/Vitality	7	Positive	6	Milfont et al., 2008
		Ambivalent	1	Simbula (2010)
Extraversion	4	No	1	MacIntyre et al. (2019)
		Positive	2	Janovská et al. (2016)
		Ambivalent	1	Burns and Machin (2013)
Neuroticism/Emotional stability (rec)	4	Negative	4	MacIntyre et al. (2019)
Positive orientation (e.g., happiness, meaning in life, life satisfaction)	4	Positive	4	De Biagi et al. (2017)
Resilience	3	Positive	3	Brouskeli et al. (2018)
Conscientiousness	2	Positive	2	MacIntyre et al. (2019)
Coping strategies	2	Positive	2	Soykan et al. (2019)
Agreeableness	1	Positive	1	MacIntyre et al. (2019)
Arrogance	1	No	1	Janovská et al. (2016)
Belief in a just world	1	Positive	1	Dzuka and Dalbert (2007)
Diverse virtues and character strengths	1	Positive	1	Kim and Lim (2016)
Dominance	1	Positive	1	Janovská et al. (2016)
Emotion regulation	1	Ambivalent	1	Yin et al. (2018)
Intellect (openness)	1	Positive	1	MacIntyre et al. (2019)
Judging vs. perceiving	1	Ambivalent	1	Wong & Zhang (2014)
Personality factors	1	Ambivalent	1	Veronese et al. (2018b)
Psychological capital	1	Positive	1	Soykan et al. (2019)
Sensing vs. intuition	1	Ambivalent	1	Wong & Zhang (2014)
Thinking vs. feeling	1	Ambivalent	1	Wong & Zhang (2014)
Subjective variables – work-related individual				
Workload, job demands, extra duties	15	No	4	Soykan et al. (2019)
		Negative	10	Hobson and Maxwell (2017)
		Ambivalent	1	Vazi et al. (2013)
Experiences of burden (e.g., stress, sickness, depression, burnout, exhaustion, fatigue)	11	No	1	Cenkseven-Önder & Sari, 2009
		Negative	9	Capone and Petrillo (2018)
		Ambivalent	1	Vazi et al. (2013)
Job satisfaction and pay level satisfaction/Dissatisfaction (rec)	11	Positive	10	Jones et al. (2019)
		Ambivalent	1	Tang et al. (2018)
Feelings of competence and (teaching) efficacy	8	Positive	6	Kutsyruba et al. (2019)
		Ambivalent	2	Collie et al. (2016)
Commitment/Identification/sense of belonging to organization	7	Positive	7	Wessels & Wood (2019)
Professional learning	6	Positive	6	Kutsyruba et al. (2019)
Motivation/Motives/Engagement	5	Positive	5	Collie and Martin (2017b)
Challenging job demands/appraisal	5	Positive	5	Soykan et al. (2019)
Positive affect/emotions	4	Positive	4	Wessels & Woods, 2019
Negative affect/emotions	2	Negative	2	Lavy and Eshet (2018)
Positive work attitude, attitude innovations	2	Positive	2	Aelterman et al. (2007)
Role conflict	2	No	1	Thakur et al. (2018)
		Ambivalent	1	Vazi et al. (2013)
Threat appraisal	2	Negative	2	Soykan et al. (2019)
Absence	1	Negative	1	Kidger et al. (2016)
Beliefs about determinants of student achievement	1	Ambivalent	1	Heyder (2019)
Classroom emotional work	1	Ambivalent	1	Taxer & Frenzel (2015)
Commitment to occupation	1	Ambivalent	1	McInerney et al. (2015)
Constructivist teaching beliefs	1	Negative	1	Yıldırım (2014)
Cooperative teacher behavior	1	Positive	1	Van Petegem et al. (2005)
Counselling	1	Positive	1	Theron (2007)
External locus of control	1	Ambivalent	1	Vazi et al. (2013)
Fulfilment of basic needs	1	Positive	1	Hobson and Maxwell (2017)
Perceived injustice	1	Negative	1	Hobson and Maxwell (2017)
Presenteeism	1	Negative	1	Kidger et al. (2016)
Reflection on savouring	1	Positive	1	Turner & Thielking
Self-care	1	Positive	1	Simmons et al. (2019)
Structural resources	1	Positive	1	Peral and Geldenhuys (2016)
Student-oriented teaching practice	1	Positive	1	Yıldırım (2014)
Work-family conflict	1	Ambivalent	1	Simbula (2010)
Subjective variables – work-related contextual				
Positive collegial relations, collegial support, collaboration	21	Positive	21	Jones et al. (2019)
Positive relationship with students	15	Positive	14	Turner & Thielking (2019)
		Ambivalent	1	Collie et al. (2016)
Support for quality teaching, supportive work environment	13	Positive	12	Wigfield & Higgins, 2019
		Ambivalent	1	Ilgan et al. (2015)
Support by principals, leadership	11	Positive	10	Simmons et al. (2019)
		Ambivalent	1	Janovská et al. (2016)

(continued on next page)

Table 4b (continued)

Variable	N	Relation	n	Examples (most recent publication)
School collective efficacy/Unity of purpose/School ethos/Shared vision and values	7	Positive	7	Jones et al. (2019)
Positive social climate/culture/school life	7	No	1	Cenkseven-Önder & Sari, 2009
		Positive	5	Liang et al. (2017)
		Ambivalent	1	Vazi et al. (2013)
Support for learning and competence development	6	Positive	6	Kutsyruba et al. (2019)
Positive relationship with parents	5	Positive	5	Wigfield & Higgins, 2019
Societal recognition, appreciation	3	Positive	3	Wigford & Higgins (2019)
Student motivation/well-being/ability	3	No	1	Shoshani & Eldor (2016)
		Positive	1	Yıldırım (2014)
		Negative	1	Van Petegem et al. (2007)
Contextual work-related school aspects	2	Positive	1	Capone and Petrillo (2016)
		Ambivalent	1	Veronese et al. (2018b)
Support to students	2	No	1	Kidger et al. (2016)
		Positive	1	Walton et al. (2016)
Classroom climate	1	Positive	1	Yıldırım (2014)
Collegial conflict	1	Negative	1	Hollweck (2019)
Community engagement	1	Ambivalent	1	Tang et al. (2018)
Contributing to teacher education	1	Positive	1	Hollweck (2019)
Organizational justice	1	Positive	1	Capone and Petrillo (2016)
Support of autonomy	1	Positive	1	Ebersold et al. (2019)
Supportive student environment	1	Positive	1	Renshaw et al. (2015)
Support to other teachers	1	No	1	Kidger et al. (2016)
Violence experiences	1	Negative	1	Dzuka and Dalbert (2007)

Note: NO = no correlation with TWB; Positive = positive correlation with TWB; Negative = negative correlation with TWB; Ambivalent = correlations differ for various dimensions of TWB.

Table 6 in the Appendix). We then categorized the variables of the two main categories into three sub-groups: general individual, work-related individual, and work-related contextual. For the *objective* variables, we defined factors such as gender and age as general individual, factors such as years of teaching and tenure as work-related individual, and factors such as urbanization and school size as work-related contextual. For the *subjective* variables, we defined factors such as personality traits and virtues as general individual, factors such as perceived job satisfaction and burden as work-related individual, and factors such as collegial support and school leadership as work-related contextual.

A challenge in understanding the quantitative findings is the lack of systematic report of effect sizes. In order to enhance understanding of the results presented, we specifically highlight correlates and predictors that were confirmed as being of at least moderate practical significance (e.g., Cohen's $d \geq 0.5$; $r \geq 0.24$; $\eta^2 \geq 0.06$; Cohen, 1988).

3.3.1. Objective variables: general individual

There are several objective factors that characterize a teacher's individual professional trajectories. General variables such as age, gender, marital status, and religion were investigated. Where correlations were found, they were predominantly small and heterogeneous. For example, no gender differences were found in 10 out of 20 studies (e.g., Aelterman, Engels, Van Petegem, & Verhaeghe, 2007; Kaur & Singh, 2019), and differences in favor of either female teachers (e.g., Milfont et al., 2008) or male teachers (Liang et al., 2017) seem to be of minor practical significance. Özü et al. (2017) showed a small negative correlation for increasing age with TWB in Turkey, but not in the United States or Pakistan.

3.3.2. Objective variables: work-related individual

Objective variables also address work-related aspects, such as years of teaching experience, school level, tenure, teacher education, and employment status. Somehow confounded with age, years of teaching did not necessarily seem relevant to TWB, as six out of 14 studies found no significant correlations (e.g., Burns & Machin, 2013; Collie & Martin, 2017a; Soykan et al., 2019). Similarly, five out of six studies found no significant or ambivalent results regarding tenure (e.g., Shoshani & Eldor, 2016). Royer and Moreau (2016), however, showed that TWB differed when comparing experience groups (i.e., 0–5, 5–10, 10–20, and more than 20 years of experience). Moreover, some results regarding school levels, comparing primary teachers to other teachers, revealed differences with a small degree of practical significance (Aelterman et al., 2007; Konu, Viitanen, & Lintonen, 2010).

3.3.3. Objective variables: work-related contextual

Few studies investigated objective contextual variables such as school size, urbanization, and environmental quality. There seemed to be a tendency for teachers from rural schools to have slightly higher TWB scores than their urban counterparts (e.g., Burns & Machin, 2013). This result, however, was based on only three studies. Whereas school size did not necessarily seem to be negatively related to TWB (Brouskeli et al., 2018), insufficient environmental conditions may be relevant to the physical dimension of TWB at least (e.g., Sadick & Issa, 2017a; 2017b).

3.3.4. Subjective variables: general individual

Subjective general variables such as general health and vitality showed predominantly positive correlations with TWB (e.g., Kern

et al., 2014). Five studies investigating personality traits (OCEAN model: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism) showed ambivalent moderate effects with TWB, whereas neuroticism was negatively related to TWB (e.g., Burns & Machin, 2013; Wong & Zhang, 2014). Correspondingly, positive traits such as theological, restraint, and interpersonal virtues, as well as character strengths such as optimism and social responsibility, were positively correlated with TWB (Kim & Lim, 2016). Moderate effects were also found for resilience (e.g., Pretsch, Flunger, & Schmitt, 2012), life satisfaction (e.g., Capone & Petrillo, 2016), emotion regulation (e.g., Yin, Huang, & Lv, 2018), appraisal and coping strategies (e.g., Soykan et al., 2019), whereas psychological capital showed high practical significance for TWB (Soykan et al., 2019). Various other general subjective factors, such as beliefs in a just world (Dzuka & Dalbert, 2007), resulted in small or equivocal effects.

3.3.5. Subjective variables: work-related individual

Teachers differ in how they perceive themselves as teachers and their working conditions. In previous studies, subjective individual work-related variables such as satisfaction, motivation, and stress sometimes served as components of well-being, and other times as predictors. When used as predictors, teacher autonomous work motivation (Hobson & Maxwell, 2017), explicit achievement and power motives (Wagner et al., 2016), and so-called success approach and seeking motivation profiles (Collie & Martin, 2017b) showed small to moderate positive correlations with TWB. Generally, the results regarding subjective individual work-related variables revealed that many factors—ranging from job satisfaction, motivation and commitment, attitudes, beliefs, and practices to experiences of burden, stress, and perceived classroom challenges—are correlated with TWB. Simply stated, positive evaluations of one's teaching situation (e.g., feeling satisfied with the working conditions, feeling competent, or feeling committed to the school) were positively related to at least some aspects of TWB, whereas negative evaluations (e.g., feeling stressed or burdened, pressured or overworked) were negatively correlated. Feelings of competence and teaching efficacy univocally showed positive correlations with TWB (e.g., Capone & Petrillo, 2018; Vazi et al., 2013), although effect sizes were rarely reported (e.g., Capone & Petrillo, 2016).

Several findings pointed to the necessity of more detailed analyses: (a) Although organizational commitment was found to be moderately correlated with TWB (Kern et al., 2014; Shoshani & Eldor, 2016), other forms of commitment (e.g., affective, continuance or normative commitment; commitment to occupation or organization) were also relevant and among them, specific high relevance of normative commitment was found (McInerney, Ganotice, King, Morin, & Marsh, 2015); (b) Negative emotions seemed to be harmful for TWB (Veronese, Pepe, Dagdukee, & Yaghi, 2018b), regardless of the teacher's emotional regulation strategies and display rules (Taxer & Frenzel, 2015); (c) The role of workload or extra duties requires closer analyses, as one study found workload to be clearly negatively related to subjective well-being (Burns & Machin, 2013), three studies found weak negative correlations with TWB (e.g., Hobson & Maxwell, 2017), while four others found no significant correlations (e.g., Lavy & Eshet, 2018). Hindering job demands were negatively related to TWB, whereas job demands perceived as challenging were in cases positively related to TWB (Peral & Geldenhuys, 2016).

3.3.6. Subjective variables: work-related contextual

The subjective interpretation of contextual school factors, such as social relationships or teacher cohesion, was a relatively frequent topic in this body of research. The results showed a substantial amount of agreement that positive relationships in school are relevant to TWB. Positive correlations between TWB and social support from colleagues and principals were consistently confirmed (e.g., Wong & Zhang, 2014). The results indicated that the support of an individual person and the existence of a supportive work environment—represented through shared visions and values, school culture, organizational justice, or support for autonomy—are of considerable importance. Studies found practically significant positive correlations between TWB and a supportive learning or school climate (e.g., Burns & Machin, 2013; De Biagi, Celeri, & Renshaw, 2017; Jones et al., 2019; Renshaw, Long, & Cook, 2015), and pointed to the importance of a professional setting that enables quality teaching and which is also based on principals' support (Janovská et al., 2016). However, the active support of teachers for their colleagues and students was not related to TWB in one study (Kidger et al., 2016). Furthermore, TWB may be correlated with the quality of a teacher's relations with parents, as shown in five studies (e.g., Aelterman et al., 2007; Soini et al., 2010; Wigford & Higgins, 2019).

In line with the quantitative studies, the vast majority of the 14 qualitative studies demonstrated that relationships with teaching colleagues, principals as well as students are crucial for TWB (e.g., Brunzell et al., 2018; Cherkowski, Hanson, & Walker, 2018; Veronese et al., 2018b). It seems that the three main social groups serve complementary functions: Principals can provide positive and supportive working environments; teachers can support each other, work together, moderate stress and the demands of professional life, and help with emotion regulation; and students can give meaning to the teaching profession and reward teachers' work. Generally, positive teacher-student relationships were found to be supportive for TWB (e.g., Aldrup et al., 2017, 2018), whereas role problems (Vazi et al., 2013), stress (Hung, Lin, & Yu, 2016), burnout related to students (Milfont et al., 2008) and violence from students proved to be harmful (Dzuka & Dalbert, 2007). Interestingly, the importance of student relationships varied with respect to teachers' career stage and profession: Younger and unexperienced teachers as well as elementary teachers were found to be especially sensitive to student relations (Collie et al., 2016). Accordingly, social support from mentors seemed to be of particular relevance for early career teachers' TWB (Kutsyuruba et al., 2019).

3.3.7. Moderators and mediators

Whereas most studies investigated direct relationships with TWB (see Tables 4a and 4b), few tested for mediated effects ($n = 12$). We also classified these moderators and mediators according to the above-mentioned categories of (direct) correlates and predictors, that is, objective versus subjective variables with the three subcategories general individual, work-related individual, and work-related contextual. Regarding *objective general individual variables*, small moderation effects were found for age, teaching experience, and

school level (Collie et al., 2016): Competence negatively predicted TWB among younger teachers, but not among older teachers. A correlation between relatedness with students and TWB was found only among younger teachers, less experienced teachers, and elementary teachers (i.e., not for middle or secondary school teachers).

With regard to *subjective general individual variables*, emotional balance turned out to (partially) mediate the relationship between social capital and personal well-being (Veronese et al., 2018a). *Subjective work-related variables* such as job satisfaction mediated between teacher learning climate and TWB (Shoshani & Eldor, 2016), with a more pronounced effect on positive TWB dimensions (life

Table 5
Intervention studies (ranked by date of publication).

Program	Effect mechanism	Scope	Target TWB variables ^a	Target persons	Control group	Manipulation Check	Effects ^b	Authors
European Network of Health Promoting Schools	indirect	work-related	Occupational well-being	staff	-	-	no	Saaranen et al. (2007a)
Gratitude	direct	general	- Satisfaction with life - Positive and negative affect	individual	-	yes	strong in subdomains	Chan (2010)
Gratitude	direct	general	- Satisfaction with life - Positive and negative affect	individual	yes	-	strong in subdomains	Chan (2013)
Gordon's teacher effectiveness training	indirect	work-related	School well-being	individual	-	yes	strong in subdomains	Talvio et al. (2013)
COMENIUS	indirect	general	Well-being at work	staff	-	-	no	Saaranen et al. (2013)
Chill and Chat: wellness & social support	direct	general	- Understanding of the term mental well-being - Values and importance that is given to the topic	staff	-	-	small	Sharrocks (2014)
Autonomy based program ASIP	direct	work-related	- Vitality - Job satisfaction - Exhaustion	individual	yes	yes	moderate/strong	Cheon et al. (2014)
Stress-coping	indirect	general	Mental well-being	individual	yes	-	moderate/strong	Beshai et al. (2016)
Yoga	direct	general	Subjective well-being	individual	-	-	moderate/strong	Tamilselvi & Thangarajathi (2016)
ACHIEVER: Resilience	direct	general	- Stress - Teacher self-efficacy - Satisfaction with work	individual	yes	-	moderate/strong	Cook et al. (2017)
Four pillars of well-being curriculum	direct and indirect	general	- Teacher subjective well-being - Psychological well-being	staff	yes	yes	no	Bradley et al. (2018)
COMENIUS	indirect	general	Well-being at work	staff	-	-	no	Laine et al. (2018)
Cognitive training	direct	general	- Depression - Occupational stress	individual	-	-	no	Taylor (2018)
Education for well-being	direct	work-related	- Flourishing - Positive and negative experiences	individual	yes	-	small	Fernandes et al. (2019)
Psychoeducation (positive psychology)	direct	general	- Work well-being Subjective well-being	individual	yes	-	small/moderate	Rahm and Heise (2019)

^a Operationalization of target variables are presented in Table 6 in the Appendix.

^b Effect sizes are presented in Table 6 in the Appendix.

satisfaction, positive emotions) than negative dimensions (negative emotions). Furthermore, daily fluctuations in subjective work engagement and exhaustion played a role concerning the relationship between colleague support or conflict and TWB (Simbula, 2010). Teachers' adaptability helped explain the role of principal support (and students' numeracy achievement) for TWB (Collie & Martin, 2017a). Autonomous work motivation mediated the relationship between hindrance demands and TWB (Tadić Vujčić et al., 2017). Professional learning community more strongly mediated the relationship between pay level satisfaction and TWB than community engagement (Tang, He, Liu, & Li, 2018). Regarding *subjective contextual variables*, not only fulfillment of the need for competence but also relatedness with students and colleagues was found to mediate between stress exposure and TWB (Aldrup et al., 2017), and it is possible that teacher-student relationships (mediation effect $P_M = .40$) can explain the role of student misbehavior in shaping TWB (Aldrup et al., 2018). Combining the three subjective categories, the fulfillment of basic needs (relatedness with colleagues and students, autonomy and competence) was shown to mediate the relationship between perceived autonomy support and different operationalizations of TWB (Aldrup et al., 2017; Collie et al., 2016; Ebersold, Rahm, & Heise, 2019).

3.3.7.1. Summary of TWB correlates, predictors, and mediator variables. This review suggests that understanding the factors that contribute to TWB is of significant research interest. The results attained by previous studies are thus relevant, as they show the broad range of variables related to TWB. Objective as well as subjective aspects play a role, with a clearer and more pronounced pattern for subjective versus objective factors. With regard to the opinion that the teaching profession is under pressure, several studies confirmed the negative correlation of aversive work conditions, such as hindrance demands (e.g., job insecurity or role conflict), with TWB. It must be mentioned, however, that conflicting patterns with significant, non-significant, and diversely significant results can be found. Similarly, a variety of primarily small effects can be found for an array of individual-related mediator/moderator variables, such as basic need satisfaction, work motivation, and emotion regulation, and it must be mentioned that the selected mediators/moderators may have different impacts on different dimensions of TWB.

Despite the strong attention given to the sources of TWB, very few longitudinal studies which could contribute to causal explanations exist ($n = 6$ quantitative studies, $n = 3$ qualitative studies). Unfortunately, these studies also have certain shortcomings regarding the time range they covered, or the number of measurement points used. For example, the four studies that applied daily diaries (Aldrup et al., 2017; Lavy & Eshet, 2018; Simbula, 2010; Tadić Vujčić et al., 2017) covered a minimum of five to a maximum of 10 working days. The applied E-journals varied between two and seven entries and repeated interviews were conducted three times (Hobson & Maxwell, 2017). Both studies that applied questionnaires (Aldrup et al., 2018; Renshaw et al., 2015) used two measurement points over one year. It may reasonably be asked whether this design can cover enough time to allow for the explanation of causal effects and the development of TWB. For a range of variables—specifically subjective variables—reciprocal effects may exist, such as an interrelationship between emotions, efficacy, perceived workload, or experiences of burden on the one hand, and TWB on the other. These effects, however, have not been tested so far.

3.4. What does empirical evidence suggest about the effectiveness of programs that aim to foster TWB?

Given the role that TWB plays in teachers' lives, it is important to investigate how it can be fostered. Regarding the enhancement of TWB, 15 studies were published during the past 20 years that explicitly investigated changes in TWB (for details, see Table 6 in the Appendix). These studies can be categorized by the expected effect mechanisms (the program's direct or indirect impacts on TWB), contents (the training curriculum), scope (general or work-related), target persons (individual teachers or staff and whole school) and target TWB aspects (e.g., perceived stress or self-fulfillment), as well as quality criteria of intervention research such as a control group design and manipulation checks (see Table 5).

These studies illustrate a variety of approaches, with four publications related to the same project (Laine et al., 2018; Saaranen et al., 2007a, 2013; Saaranen, Tossavainen, Turunen, Kiviniemi, & Vertio, 2007), and one publication reporting an extension of an earlier study (Chan, 2010, 2013). The programs for teachers varied from a minimum of a one-day training course with two additional 2-h booster sessions and home exercises (Rahm & Heise, 2019) or a four-day training course (Talvio et al., 2013), to a maximum of 10-week daily exercises (Tamilselvi & Thangarajathi, 2016), and one program was applied over an entire academic year (Bradley et al., 2018). Most interventions were given by external persons such as researchers, including yoga training (Tamilselvi & Thangarajathi, 2016). In some studies, in-school training was guided by external persons, such as the development of new skills by staff training in a learning organization (e.g., Saaranen et al., 2013). In most cases, teachers were encouraged to practice their new skills, for example by keeping a learning journal (Taylor, 2018) or completing additional exercises (Beshai, McAlpine, Weare, & Kuyken, 2016; Cook et al., 2017; Rahm & Heise, 2019; Tamilselvi & Thangarajathi, 2016; Taylor, 2018).

Eleven of the 15 programs/interventions were rather disconnected from the teachers' daily work with students, but addressed general issues related to TWB. Only the following four studies tested a teacher intervention program that was at least partially directly related to the core tasks of the teaching profession, namely classroom work such as instruction, student support, and classroom management, rendering them of specific importance for quality teaching:

- Talvio and colleagues (2013) implemented Gordon's teacher effectiveness training (TET; Gordon, 2003), addressing teachers' interactions with students by fostering the practice of active listening and the use of I-messages, as well as the idea of supporting autonomy in the classroom in order to enhance Finnish teachers' socio-emotional learning skills. Although related to classroom practice, they found only single, moderate positive effects on the TWB subdomains of self-fulfillment ($d = 0.55$) and relationship with parents ($d = -0.74$).

- Cheon, Reeve, Yu, and Jang (2014) implemented a short autonomy-supportive intervention program (ASIP, based on the self-determination theory of Ryan & Deci, 2000) with Korean physical education teachers. The impact on teachers regarding an increase in TWB over time and compared to a control group was high (between $d = 0.91$ and $d = 1.61$).
- Cook et al. (2017) implemented the ACHIEVER Resilience Curriculum (ARC) based on theoretical aspects of positive psychology, cognitive behavior therapy, and acceptance and commitment therapy for five weeks to foster American teachers' resilience as educators. After the program, the treatment group showed a significant decline in stress ($d = 0.99$) and significant increases in teacher self-efficacy ($d = 0.99$) and job satisfaction ($d = 1.24$) in comparison to a control group.
- Fernandes et al. (2019) adapted the modules of the European ENTRÉE program aimed at enhancing teachers' resilience in Europe via training modules addressing resilience, building relationships, emotional well-being, stress management, effective teaching, and classroom management. An additional module on education for well-being was presented to the Portuguese teachers. Regarding TWB, the participants showed a significant increase in positive emotions ($\eta^2_p = .216$) and well-being ($\eta^2_p = .228$) as well as a significant decrease in negative emotions ($\eta^2_p = .252$).

Regarding the question of whether and how TWB can be improved, the answers were diverse. Such diversity was not only related to the different programs applied and their heterogeneous effectiveness, but also to differences in the target variable. TWB was understood either as the absence of stress, exhaustion, or negative emotions (e.g., Chan, 2013; Cheon et al., 2014), as the presence of positive emotions, job satisfaction or efficacy (e.g., Beshai et al., 2016; Bradley et al., 2018; Cook et al., 2017), or as the presence of positive emotions, work meaning and well-being as well as the absence of negative emotions (Fernandes et al., 2019), rendering intervention goals within and across studies uneven. Furthermore, it must be noted that long-term effects have rarely been investigated (for exceptions, see Laine et al., 2018; Rahm & Heise, 2019; Saaranen et al., 2013). Also, little is known about the impact of exposure to an intervention (for the first information about the role of training time, see Fernandes et al., 2019). Thus, it remains an open question of how TWB can be sustainably fostered and whether TWB serves as a protective resource against stress and burnout.

3.5. What does empirical evidence suggest about the outcomes of TWB?

Few studies investigated the role of TWB for other variables ($n = 8$), and it must be noted that these studies predominantly applied cross-sectional designs (the exception being Renshaw et al., 2015). TWB was shown to be relevant for teacher stress (Renshaw et al., 2015; Vazi et al., 2013), teaching professional values, job satisfaction and social support (Tang et al., 2018), as well as for teacher negative affect (Vazi et al., 2013) and burnout (Renshaw et al., 2015). One qualitative study highlighted the role of TWB for meaningful work (Brunzell et al., 2018), and another for quality teaching (Turner & Thielking, 2019). TWB and basic needs were confirmed as mediators between perceived autonomy support and job satisfaction (Collie et al., 2016). However, different dimensions of TWB can be related to different outcomes. For example, the dimensions of accomplishment and meaning were positively correlated with health and life satisfaction, while the dimensions of work engagement and co-worker relations were positively related to occupational areas such as job satisfaction and organizational commitment (Kern et al., 2014). Additionally, the mediating role of TWB between stress with students (as well as colleagues and parents) and depression was confirmed (Hung et al., 2016). With regard to student well-being, the role of TWB proved to be complex: TWB was found to predict how students perceive interpersonal teacher behavior, which in turn predicted student well-being (Van Petegem, Aelterman, Rosseel, & Creemers, 2007); moreover, the role of TWB for student well-being seemed to be affected by teacher presenteeism (Harding et al., 2019).

Taken together, less is known about the outcomes of TWB. Research on the impact of TWB on subjective general individual factors such as health, work-related individual factors such as motivation and teaching quality, and work-related contextual factors such as social relations, is scarce. Also, it must be noted that the identified correlations cannot be applied to all TWB dimensions, because they are generally valid only to single dimensions (see in detail Table 6 in the Appendix).

4. Discussion: Lessons learned from existing research and the need for future research

The aim of this review has been to help clarify the construct of TWB, to systematize the factors that potentially influence it, and to add knowledge about strategies that support it, while testing empirical evidence regarding TWB at risk and TWB outcomes. Over the past 20 years, studies based on various conceptions of TWB from five different research fields used about 90 different instruments/scales and were conducted in over 40 different countries. Despite this variety and the fuzzy picture of TWB research, we seek to discuss the following questions for future research and practice:

- Based on our review of the theoretical background, the definition and operationalization of TWB, and its prevalence, *what are core elements of TWB?*
- Based on our review of the empirical evidence of correlations and predictors of TWB and the results of intervention research, *how can TWB be fostered?*

4.1. What are the core elements and characteristics of TWB?

4.1.1. Definitions of TWB

Despite our extensive review covering empirical publications on TWB over the past 20 years, we cannot report a scientific

consensus on the definition of well-being and TWB specifically. Even the selection criteria regarding the multidimensionality of TWB do not sufficiently help narrow the scope of definitions; quite the reverse, and similarly to other psychological concepts such as resilience (Beltman et al., 2011), a multidimensional approach broadens the options to define or conceptualize TWB. A deeper look into the variety of subdimensions uncovers the following discrepancies. Studies on TWB vary with regard to the number (from two to seven) and the composition of subdimensions (e.g., primarily positive or mainly emotional or mixed). Moreover, the role given to these subdimensions to mirror TWB often remains vague, as their meaning for TWB remains unclear in the papers' theoretical outlines. Having compared the included studies, it also becomes evident that the definition and the operationalization of TWB differ. Empirical studies that select subdimensions from a broader concept of TWB, such as stress or burnout and emotions or satisfaction (e.g., Vazi et al., 2013), contribute to the increase in heterogeneity, especially where they do not explain their selection criteria. Strictly speaking, the results of these studies are only valid for the investigated subdimensions and not for TWB as a multidimensional construct. Nevertheless, it seems to be a common pattern to investigate one or more subdimensions and to generalize the findings into overall TWB.

4.1.2. Future theoretical development

Against this background, we suggest advancing theoretical work on TWB by applying five key strategies. (1) First, we invite researchers and reviewers to be more restrictive in their use of the term TWB. Future research should explicitly outline which model of TWB is being applied and why. There may be good reasons to keep various definitions or to choose a specific definition, but the reasons for the selection should be clearly outlined. (2) Second, we suggest a more comprehensive understanding of the construct TWB, and strongly support the idea of a multidimensional approach that goes beyond an indefinite addition of arbitrary dimensions and various scales. A common understanding of TWB may not necessitate agreement on a single definition, because TWB—like well-being in general—may be too complex a phenomenon and consist of several forms. Different types of TWB may exist, which a single definition could undervalue. Also, a single definition may be too general if it aims to cover all facets of TWB. However, a common semantic frame and an agreement on core facets could serve the aim of preventing future studies from amplifying this lack of clarity. In doing so, an analysis of the cultural expressions of TWB could be helpful, because it may be appropriate to have different definitions of TWB if they are related to cultural differences (De Biagi et al., 2017). It is possible that it is not only the predictors of TWB that differ by country, but also the nature of the construct of TWB. (3) Third, given the broadness of the construct of well-being, we suggest defining several core elements that represent TWB. In line with earlier work by Diener (1984), Larsen and Diener (1987) and Veenhoven (1991), there is a slight tendency to define positive affect as the core element of TWB. Positive affect alone, however, does not cover the multidimensionality of TWB, and subdimensions that address cognitive aspects such as satisfaction need to be integrated into a sound definition of well-being (e.g., Diener, Lucas, & Oishi, 2018). Also, we strongly suggest integrating negative aspects such as worries and physical complaints into a definition of TWB, due to the findings of several studies included in this review showing that—as with the coexistence of positive and negative emotions (Folkman & Moskowitz, 2004; Watson et al., 1988)—positive components of well-being can coexist with negative components such as demands and stress (Burns & Machin, 2013; Collie & Martin, 2017a; Lavy & Eshet, 2018). We argue that a sole focus on positive components of well-being cannot reliably represent TWB, as the prevalence of positive affect or emotions and satisfaction does not exclude the experience of negative affect and issues. Instead, a sole focus on positive components would overestimate an individual's positive experiences and overlook how teachers may be concurrently experiencing negative emotions and complaints while reporting experiences of positive affect and satisfaction. (5) Fifth, in order to represent the positive connotation of the term well-being, we suggest defining TWB as a positive imbalance, i.e., that the experience of positive dimensions is clearly more pronounced than negative dimensions. This could also help prevent TWB from being misunderstood as the mere absence of health issues, stress and burden or burnout symptoms. We conclude that it may not be sufficient to propose a multidimensional model (e.g., Van Horn et al., 2004 for a five-dimensional model of occupational well-being), and it may be necessary to outline the relationships between the subdimensions within the model where positive dimensions outperform negative dimensions. Such a definition could contribute to an understanding and integration of different theoretical approaches, and support an interdisciplinary perspective regarding TWB, instead of the current coexistence of theories, projects, and findings. Moreover, clear differentiation between the predictors, indicators, and outcomes of TWB is needed in contrast to multidimensional models of TWB that consist of a range of profession-related subdimensions (e.g., Aelterman et al., 2007). Fourth, we suggest a definition of TWB that is profession-specific and that builds on the ideas of Warr (1987, 1994) to relate well-being to the specific working context of teachers. An understanding of TWB as the general well-being of teachers may underestimate the role of professional demands and the professional context for individual well-being. As with the case of emotions and other socio-emotional constructs (e.g., Götz et al., 2010; Hascher & Hadjar, 2018), this means explicitly addressing the question of domain specificity in TWB research and analyzing teaching's differences from other professions (Hall-Kenyon et al., 2014). Recently, Viac and Fraser (2020) introduced a four-dimensional framework consisting of cognitive well-being, subjective well-being, physical and mental well-being, and social well-being. In planning the PISA 2021 teacher questionnaire, the four dimensions were operationalized through the following subscales: ability to concentrate on one's work, and teacher self-efficacy (cognitive dimension); satisfaction with one's current job and with the teaching profession, frequency of moods and emotions with regard to job activities, purposefulness, and satisfaction with life (subjective dimension); frequency of psychosomatic symptoms, and number of school days missed due to these symptoms (physical and mental dimension); and social function of relationships with principals, colleagues and students, and feelings of trust (social dimension).

From this broad approach it becomes evident that any definition of TWB as a multidimensional construct needs a clear differentiation between TWB dimensions and TWB correlates. However, such differentiation still seems lacking in TWB research. As a viable strategy, definitions and items/questions could be related more explicitly to different areas of teachers' work, such as support of student learning, school-family partnership, collaboration with teachers and other experts, and school development.

There may be an alternative solution to our five suggestions, by promoting a holistic view of TWB that integrates any component related to TWB. This solution would implement TWB as an umbrella term that covers all theoretical considerations and research addressing any aspect of teachers' physical, social, cognitive, and emotional functioning. TWB would thus not need to be clarified and defined. One major concern with this approach, however, lies in its arbitrariness regarding the development of the research field and its practical implications. Scientific approaches to TWB could benefit from a more concise definition of the construct of TWB through a theoretical alignment with general well-being theories and clarification of its relationship with various TWB components (e.g., Diener et al., 2018). From a more practical perspective, a concise definition could support the development of substantiated interventions programs that aim to foster TWB with explicit regard to the complexity of the teaching profession.

4.2. How can TWB be fostered?

4.2.1. The array of predictors

TWB seems to be a psychological construct that is sensitive to many factors, because hardly any of the variables investigated in at least one of the studies included in this review showed no association with it. However, the correlations identified are usually weak to moderate, and there is no clear pattern in the relationships. The predominance of cross-sectional designs do not allow to test for causalities. Furthermore, intervention research has yielded heterogeneous results. One problem related to the question of TWB predictors is the substantial heterogeneity of the results with regard to the multidimensionality of TWB. It is evident that different dimensions of TWB show different relationships with other constructs, and that TWB cannot be predicted by the same set of variables. For example, in McInerney and colleagues' (2015) study, different forms of commitment correlated differently with positive TWB dimensions. Collie et al. (2015) found that teaching experience and age correlated with first-order organizational TWB, but they found no significant correlations with higher order TWB. This highlights the issue of selection strategies regarding predictor variables and intervention programs, and points to the need for more research in order to develop a greater understanding of these.

The structure we developed for the categorization of TWB predictors may serve as a first template for future analyses, as they can be differentiated in terms of their proximity as well as their relevance and controllability to the individual. Relevance and controllability have proven to be valuable for the categorization of emotions (e.g., Pekrun, 2006) and their differentiation may support future research in uncovering the role of various factors that influence TWB and in guiding TWB intervention programs. There may also be an intertwining of variables from different categories, such as the linkage between objective working conditions and subjective perceived conditions. Class composition and class size, for example, may be discussed according to a structural as well as a personal perspective. Additionally, it is important to discuss in greater depth discrepant or even contradictory results, as can be found for the effect of age on TWB. In order to understand the varying role of predictors, we further suggest connecting TWB research more closely to the specific demands of the teaching profession and teachers' individual needs, and tailoring TWB interventions to individual- and school-related needs. For example, the challenges faced by early career teachers may differ significantly from more experienced teachers, and this may affect their well-being differently as well.

The results of this thematic review suggest a more precise differentiation regarding the relevance of TWB predictors. Several reasons account for this: (a) as mentioned by Cumming (2017), the diversity of theoretical and empirical approaches and the existence of cultural differences lead to a significant degree of heterogeneity among empirical studies, and their results therefore merely coexist, instead of being interrelated; (b) teaching varies across different countries (Stromquist, 2018), and it is therefore important to take specific and societal working conditions into account, for example, the conditions under which teachers' salaries are an issue for TWB. As regards the United Kingdom context, for example, high-stakes testing and measures to control teachers contribute to the relevance of specific TWB predictors (Foreman-Peck, 2015); (c) given that teaching is a very complex task that needs to be learned throughout a teacher's life, different aspects may be valid for TWB with regard to different professional stages. For instance, pre-service teachers and those at the outset of their careers face different challenges from experienced teachers. It has been found that *subjective* professional competence is positively related to TWB (Aldrup et al., 2017; Collie et al., 2015; Wong & Zhang, 2014; Yildirim, 2014), whereas *objective* teaching experience is of limited exploratory power. This points to the function of individual self-evaluations for the development of TWB, and calls for TWB interventions that take the professional stage of teachers as well as their subjectively perceived competence into account.

4.2.2. The pronounced role of social relations

Despite the vast heterogeneity of results, one factor that has some generalizable power is the role of social relations. This is in line with the results of previous reviews focusing on TWB (Acton & Glasgow, 2015; Bricheno et al., 2009) as well as related research showing the relationships between social support and resilience (Beltman et al., 2011), student misbehavior and burnout (Aloe et al., 2014), teacher-student relationships and stress (Spilt, Koomen & Thijs, 2011), and quality relationships with principals and school climate (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). This result can be understood in the light of the social character of the teaching profession, and points to the vital role of the fulfillment of teachers' basic need for social relatedness (Ryan & Deci, 2000). Being related to and feeling understood by others has valuable significance for human motivation and well-being in general (e.g., Baumeister & Leary, 1995), and may be of particular importance for TWB. As a profession that is social in nature, teachers are constantly engaged in social interactions with students, colleagues, principals, parents and other school and community personnel (Bryk & Schneider, 2002; Zembylas, 2005), as has been revealed in this review primarily through qualitative studies. Not only the frequency but also the intensity and the importance of social interactions help characterize the teaching profession. Given their crucial role in the profession, social interactions seem to be at the heart of TWB and are crucial in fostering it. So far it is unclear whether the contribution of social interactions to TWB depends on challenges related to social interactions (e.g., Jennings & Greenberg, 2009) or

the role that social motivation plays for teachers (e.g., [Watt & Richardson, 2008](#)). There may be individual differences as, surprisingly, [Kidger et al. \(2016\)](#) found that TWB was not related to proactive support given to colleagues and students. Based on the scarce research that exists on this topic, however, this finding needs further clarification.

4.3. Limitations

Our review also bears some limitations that need to be considered. The first limitation is related to the scope of our review. We focused our analyses explicitly on TWB and did not cover similar constructs such as resilience or mental health that may also contribute to a better understanding of well-being. Findings from other fields such as research on burnout or satisfaction may be of particular significance, especially studies that have operationalized TWB using these constructs. A second limitation relates to differences in the operationalization of TWB, as well as differences among school systems in the countries of investigation. Due to the narrow focus and differences within the database, the results should be compared and interpreted with caution, as measurement differences as well as cultural influences may exist. Also, there were some bias risks as a result of the databases selected and the inclusion criteria of English as the sole publication language. This may have been accompanied by citation probability bias, as some studies are more likely to be cited in other studies and were hence more likely to be found and included in our review. Furthermore, given that we excluded gray literature from our review, we may have missed certain (especially unexplainable and non-significant) results that could also contribute to an understanding of TWB. Additionally, cultural bias may have narrowed the focus of the investigated variables. Moreover, we should interpret with caution study results showing one specific correlation to be significant. As effect sizes are not systematically reported, it is difficult to generalize the findings of the quantitative studies. It must also be noted that some publications may have their origin in joint research projects and may be based on the same samples. For example, the publications of [Collie et al. \(2015, 2016\)](#) were derived from the same research project. The samples examined in the publications of [Sadick and Issa \(2017a, 2017b\)](#) are also likely to be identical. Further overlaps of partial samples can be found in the work of [Yildirim \(2014, 2015\)](#), [Renshaw et al. \(2015\)](#), and [De Biagi et al. \(2017\)](#). [Saaranen et al. \(2007a, 2007b\)](#) and Veronese and colleagues (2018a, 2018b) may also have some overlaps of participants. Finally, it has to be stated that some studies included in our review lacked key information, like exact sample descriptions (such as school type affiliation, and description of sample strategies).

5. Conclusion and future perspectives

Given the fact that there is a broad array of research on TWB and that it continues to attract considerable scholarly attention, the following four steps could help advance TWB research. First, our review illustrates the significant heterogeneity in TWB approaches, which can be allocated to five main research fields. From a meta-theoretical perspective, we suggest that consensus needs to be found on the core elements of TWB that represent the multidimensionality of well-being. Affective and cognitive dimensions (e.g., enjoyment and satisfaction), positive and negative dimensions (e.g., satisfaction and worries), and psychological and physiological dimensions (mental and physical health) need to be integrated. We also suggest specifying TWB through more closely relating the construct to the particular demands and tasks of the teaching profession, such as the pivotal societal task of educating future generations, the social challenges involved when interacting with students, parents and colleagues, and the high daily workload (e.g., [European Commission, 2018](#)). By agreeing on the core elements and domain specificity of TWB, it would be possible to relate and compare TWB to similar concepts, such as wellness and resilience ([Hascher, Beltman, & Mansfield, 2021](#)). Regarding the multi-dimensionality of TWB, it may be helpful to inform intervention programs by research from related fields to enrich the approaches that aim at fostering TWB. Among the variety of factors that influence TWB, the crucial role of social interaction should be acknowledged. Also, factors that are specifically related to the teaching profession and which are still absent in TWB research could be illuminated. For example, the development of the Job Demands-Resources Model ([Demerouti, Bakker, Nachreiner, & Schaufeli, 2001](#); see also; [Schaufeli & Taris, 2014](#)) could serve as a starting point for these examinations. Specific demands of the teaching profession as well as teacher education standards could come into play. Added value could also be gained from a systematic meta-analysis on TWB correlates, although the correlations found in this review were low to moderate.

Second, we have found that TWB research is only marginally related to student well-being research. However, it would be interesting to investigate how TWB is connected with student well-being. Regarding the impact of social interactions in the classroom (e.g., [Hamre & Pianta, 2007](#)), it may be expected that there is a co-construction of experiences of well-being in the classroom, leading to reciprocal processes, as has been shown by [Singh, Lancioni, Winton, Karazsia, and Singh \(2013\)](#) for mindfulness training. It is possible that emotional dynamics will be identified as contributors to emotional contagion in the classroom ([Becker, Götz, Morger, & Ranellucci, 2014](#); [Mottet & Beebe, 2000](#)), and perhaps emotion response theory (e.g., [Titsworth, McKenna, Mazer, & Quinlan, 2013](#)) can play a role in TWB. Future research may also address the effects of TWB that to date are poorly investigated, but which are vitally important, because many papers argue for the relevance of TWB due to its strong impact on teacher health, teacher effectiveness, and instructional quality. In doing so, it could also be pertinent to intensify research on mediator processes among TWB, its predictors, and effects. As [Klassen and Tze \(2014\)](#) have shown, self-efficacy is related to TWB, as well as teaching performance. Similarly, teachers' goals and aims (e.g., [Cho & Shim, 2013](#)) as well as their beliefs and understanding of roles (e.g., [Tatto, 1998](#)) need to be better integrated into TWB research. The categorization of correlates, predictors and outcomes applied in this review could help facilitate a better understanding of the complex pattern of variables related to TWB as well as student well-being.

Third, our review shows that although most reviewed studies were carefully based on theoretical outlines and methodological standards, they mainly relied on the participating teachers' subjective experiences and evaluations. The samples were predominantly selective (i.e., selected through convenience and purposive sampling) and—with very few exceptions (e.g., [Aldrup et al., 2017](#))—the

findings were attained from a single source, namely teachers' perspectives. However, research in the social sciences highly recommends multi-source approaches (Ham, Duyar, & Gumus, 2015) in order to improve the validity of the findings. Hence, to improve research on TWB, more perspectives (e.g., from students, colleagues, and principals) should be considered when assessing dimensions of TWB that can also be evaluated by others, such as positive and negative emotions shown in the classroom, expressions of job satisfaction, enthusiasm, or stress, and learn more about the development of TWB and its interrelatedness to other variables. Additionally, research that includes teachers' voices about the forms, predictors, and consequences of TWB should be encouraged. In doing so, mixed-methods approaches that link quantitative and qualitative findings may be recommended, as our review has shown the added value of using such a strategy, especially when it comes to investigating person-context interaction and ensuring a multi-level perspective on TWB (from individuals at a micro level to school systems at a macro level).

Fourth, we have acknowledged the importance of intervention studies in informing our knowledge of how TWB can be fostered. There is currently a paucity of intervention research, although this is essential to developing a greater understanding of the question of what teachers do to maintain their TWB and what is needed if they do not succeed. We recommend connecting future interventions more effectively to the core role of teachers, namely teaching and instruction (Malarkey, Jarjoura, & Klatt, 2013; Viac & Fraser, 2020). Also, future interventions should more strongly capitalize on teacher empowerment through the social cohesion of the workforce, and enable transfer into everyday practice (Lomas et al., 2017). Regular fidelity checks and a thorough control for covariates, as well as short- and long-term effects, are also needed (Hwang, Bartlett, Greben, & Hand, 2017).

This systematic review indicates that TWB is an important, interesting and growing research field. However, the huge heterogeneity of approaches and diversity of studies call for a sound knowledge base on which future research and practice can capitalize. With regard to our understanding of the construct of TWB, agreeing on its core elements, including a predominance of positive experiences and associated operationalizations of TWB, as well as stronger links to the characteristics and challenges of the teaching profession, may help overcome disparities, weight correlates and predictors, and inform further research and practice to support TWB.

Author statement

Tina Hascher (corresponding author): idea, conceptualization, methodology, data screening and analysis, visualization (tables), writing – major parts of original draft preparation, writing – revision and consensus finding, writing – response letter.

Jennifer Waber (co-author): literature search, data screening and analysis of parts of the data, visualization (Figs. 1 and 2, parts of Table 6 in the Appendix), writing – minor parts of original draft preparation, feedback to revision and consensus finding, feedback to response letter.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.edurev.2021.100411>.

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Asterisk symbol denotes included and analyzed studies.

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