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The person-oriented approach to burnout: A systematic review

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ABSTRACT

The variable-oriented approach has dominated empirical burnout research, but during the last 10 years a person-oriented approach to burnout has also become common. The aim of this systematic literature review was to identify, categorize and evaluate the empirical research to date that has adopted a person-oriented approach to burnout. The results of these studies were then compared with those generated by variable-oriented burnout research. An electronic search of seven databases was conducted in spring 2015. Initially 470 publications were identified, 24 of which met the selection criteria. The reviewed articles were categorized into three groups based on their research target(s): (1) intra-individual patterns of burnout symptoms (i.e., types of burnout) (42%), (2) intra-individual development of burnout over time (i.e., burnout trajectories) (33%), and (3) patterns of well-being indicators within individuals (i.e., well-being types) (33%). The typical burnout types and trajectories identified by person-oriented research were largely parallel with the information produced by variable-oriented research, but also brought out the heterogeneity of the burnout experience by revealing atypical burnout and well-being types and individual developmental trajectories. The advantages, along with the challenges, of taking a person-oriented approach are discussed. Based on the study designs, methodologies, and main findings of the reviewed studies, five avenues for future person-oriented burnout studies are proposed.

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1. Introduction

The serious stress syndrome of burnout, which represents a work-related state of ill-being characterized by the symptoms of exhaustion, cynicism, and reduced professional efficacy (Maslach, Jackson, & Leiter, 1996), has been intensively studied since it was first presented in the psychological literature in the mid-1970s (see Leiter, Bakker, & Maslach, 2014; Schaufeli, Leiter, & Maslach, 2009). Most of the empirical work on burnout has been variable-oriented, i.e., burnout symptoms have been taken as the unit of the analysis. Typical research questions representative of this approach include how strongly burnout symptoms correlate with each other (for reviews, see Kim & Ji, 2009; Worley, Vassar, Wheeler, & Barnes, 2008) and whether burnout is stable over time either across the whole study population or in certain predefined subgroups (for reviews, see Schaufeli & Enzmann, 1998; Taris, Le Blanc, Schaufeli, & Schreurs, 2005).

However, during the early twenty-first century, burnout has also been investigated from a person-oriented (also termed person-centered) perspective in which the individual is taken as the unit of analysis (Bergman & Lundh, 2015; Bergman, Magnusson, & El-Khouri, 2003). In the context of burnout, this approach is able to reveal intra-individual heterogeneity in the burnout syndrome and its development over time. More specifically, this means identifying potential types or patterns of burnout symptoms within individuals and individual developmental trajectories. This approach also makes it possible to explore the distinction between burnout and other (job-related) well-being variables at the within-person level.

This systematic review was undertaken with the aim of identifying, categorizing and evaluating the burnout studies conducted to date that have applied a person-oriented approach. Their results are then compared with those generated by variable-oriented research. The review is organized and presented in four parts. First, the theoretical and methodological facets of both the person- and variable-oriented approaches are introduced. Second, for comparison purposes, a brief overview of the existing knowledge on the multidimensionality of burnout, its long-term development, and relationship with other (job-related) well-being constructs based on variable-oriented approach is provided. Third, the available person-oriented burnout studies are reviewed and evaluated, and compared with the existing variable-oriented findings. Finally, the advantages, along with the challenges, of taking a person-oriented approach are discussed, and directions for future person-oriented burnout research suggested.

1.1. Person versus variable-oriented approach to burnout

The modern person-oriented approach was introduced by Block (1971) in the context of personality psychology, and further elaborated in the milieu of Swedish developmental psychology (Bergman et al., 2003; Magnusson, 1988). The person- and variable-oriented approaches differ fundamentally both theoretically and methodologically (Bergman & Lundh, 2015). Theoretically, the person-oriented approach is based on a holistic-interactionistic perspective on human development (Magnusson, 1988; Magnusson & Törestad, 1993), where the individual is seen as an organized whole, that is, as the sum of interactive components operating together (Bergman & Lundh, 2015). Accordingly, the person-oriented approach aims to discover the configurations of factors that characterize a specific individual's functioning (Magnusson, 1988). Rooted in philosophical positivism, a variable-oriented approach pursues the search for generalizable laws in line with the ideal of the natural sciences and regards the variable as a central conceptual and analytical unit (see Bergman & Lundh, 2015).

On the methodological level, both these approaches use quantitative data. The basic difference is that person-oriented methods aim at investigating how variables group within individuals, whereas the main focus of interest in variable-oriented methods is the relations between variables (Bergman et al., 2003; Laursen & Hoff, 2006). Variable-oriented methods of analysis focus on inter-individual variation and typically capture the (linear) associations between variables. Correlation- and regression-based methods of analysis as well as mean level comparisons via analysis of variance are prototypically used in this approach. The basic assumption of these statistical methods is that a population is homogeneous with respect to the studied phenomena, for example, a correlation pattern or development over time is assumed to be similar across the whole study population (Laursen & Hoff, 2006).

However, person-oriented analytic methods, prototypically class and cluster analysis, are predicated on the assumption that the population is heterogeneous in terms of the mean levels of and changes in the studied phenomenon (Laursen & Hoff, 2006). Common to the statistical methods used in a person-oriented approach is that the number of classes is unknown and that different class solutions are formed and compared based on statistical and theoretical considerations (Bergman et al., 2003). Thus, classes are not formed on the basis of predefined values (e.g., cut-off values or group means). Person-oriented analyses are typically used for two purposes, that is, to identify types of individuals and individual trajectories (Laursen & Hoff, 2006). In both cases, typical and atypical types and trajectories can be identified. Therefore, the purpose is not that every person forms his/her own type or trajectory; instead the interest is in how individuals are similar and how they are different from others and in what respects (Bergman et al., 2003).

In burnout research, a person-oriented approach as described above has the potential to provide answers to, or at least complement the existing knowledge on, three key questions: the multidimensionality of burnout (Schaufeli & Taris, 2005), long-term development of burnout (Schaufeli, Maassen, Bakker, & Sixma, 2011) and its relationship with other (job-related) well-being constructs (Maslach, 2011; Schaufeli & Enzmann, 1998). Next, these three facets are briefly discussed on the basis of variable-oriented burnout research.

1.2. Multidimensionality of burnout

Several conceptual and operational definitions, with varying symptomology, have been presented for job burnout. Nevertheless, the definition by Maslach et al. (1996) is most often used and widely accepted in the psychological literature. According to this three-dimensional definition, burnout is a persistent syndrome characterized by exhaustion, cynicism, and reduced professional

efficacy. Exhaustion refers to the draining of emotional resources, feelings of tiredness, and chronic fatigue resulting from work overload. Cynicism refers to distancing oneself from one's work and to the development of negative attitudes towards work. Reduced professional efficacy is described by loss of competence and productivity, and the tendency to evaluate one's past and present accomplishments at work negatively. Although general agreement exists on these three symptoms, their independency vs. dependency has been debated (see Maslach, Schaufeli, & Leiter, 2001; Shirom, Melamed, Toker, Berliner, & Shapira, 2005).

Variable-oriented studies have indicated that exhaustion and cynicism are more strongly associated with each other than with reduced professional efficacy (for reviews, see Kim & Ji, 2009; Worley et al., 2008). This weaker association of reduced professional efficacy with the other two symptoms has even led to questioning whether reduced professional efficacy is in fact a central symptom of burnout. For the same reason, exhaustion and cynicism are often seen as core symptoms of job burnout. Schaufeli and Salanova (2007) have suggested that this may be an effect of differences in the wording of the scale items, i.e., exhaustion and cynicism are worded negatively and reduced professional efficacy positively. Nevertheless, Mäkikangas, Hätinen, Kinnunen, and Pekkonen (2011) have demonstrated that reduced professional efficacy correlates more strongly with the other two symptoms among burned-out than non-burned-out individuals.

Hence, the differing associations between the three symptoms of burnout may reflect their different developmental order (see Taris et al., 2005). That is, the burnout process is assumed to follow specific stages starting from exhaustion and ending in reduced professional efficacy (Leiter & Maslach, 1988). In light of this view, it may be that reduced professional efficacy has not been manifested as part of the burnout syndrome simply because the majority of the previous research samples have consisted of relatively healthy workers (see Kim & Ji, 2009; Worley et al., 2008). However, alternative developmental orders for burnout symptoms have been also proposed (e.g., Golembiewski, Munzenrider, & Stevenson, 1986). For example, in the model of Golembiewski et al. (1986) the development of exhaustion is the final phase.

The relationship between the three burnout symptoms can be partially clarified by using a person-oriented methodology, which reveals how the symptoms combine together at the intra-individual level by forming different burnout types or patterns. Such burnout types have the potential to reveal more about the relationship between the burnout symptoms than mere correlation coefficients. For example, although burnout symptoms, especially exhaustion and cynicism, correlate highly, it is possible that some individuals only suffer from some of these symptoms. In addition, even in the case of severe burnout, the mean levels of the symptoms may still vary across individuals, thereby revealing individualized experiences.

1.3. Longitudinal development of burnout

Despite decades of burnout research, the temporal and developmental aspects of burnout remain controversial (see Schaufeli et al., 2011). Originally, burnout was theorized as a dynamic ongoing process involving employees' psychological responses to untreated long-lasting work stress (Maslach, 1982). Nowadays, based on variable-oriented studies, it tends to be conceived as an enduring and chronic state. The rank-order stabilities of burnout have been studied over differing time ranges, typically at six-month or one-year intervals over two to three years (for a review, see Taris et al., 2005), but studies with up to three- to five-year intervals over 10-year follow-ups have also been reported (Schaufeli et al., 2011). These studies, regardless of the interval between measurements, have nevertheless found rather similar rank-order stabilities: the average rank-order estimate for burnout was .56 over six months and .57 over one year (for a review, see Mäkikangas, Kinnunen, Feldt, & Schaufeli, in press). When longer time periods were used, for example five (Schaufeli et al., 2011) or eight years (Toppinen-Tanner, Kalimo, & Mutanen, 2002), the stability coefficients were found to be roughly 60.

These findings indicate that from a rank-order stability perspective (i.e., the extent to which the order of individuals remains similar over time) burnout seems to be a relatively continuous state. However, on the basis of the stabilities obtained, it is clear that the initial measurement of burnout explained under half of the variance of the subsequent measurement. Therefore, there is room for change over time. In addition, it should be noted that rank-order stability estimates do not reveal what happens at the mean level; that is, despite high rank-order stability, the mean level may nevertheless increase or decrease over time (see Mäkikangas et al., in press).

In order to obtain a detailed understanding of the development of burnout over time, absolute stability (i.e., the extent to which burnout scores change over time) and ipsative stability (i.e., the degree of continuity in burnout patterns) also need to be investigated along with rank-order stability (see Caspi & Roberts, 1999). Person-oriented methods of analysis, by revealing both absolute and ipsative stabilities, enable individual developmental trajectories and the trajectories of stability and change for different burnout types to be brought to light.

1.4. Relationship with the other well-being constructs

The relationship between burnout and other (job-related) well-being constructs has been a topic of research from the beginning of the academic conceptualization of burnout. The first – still debated issue – is the relation between burnout and depression (Leiter & Durup, 1994; Schaufeli & Enzmann, 1998) due to their similar symptomology and high co-occurrence (Ahola & Hakanen, 2014; Bianchi, Boffy, Hingray, Truchot, & Laurent, 2013). Cross-sectional studies have confirmed a relatively high correlation (i.e., typically above .60) between depressive symptoms and burnout (for reviews, see Bianchi, Schonfeld, & Laurent, 2015a; Glass & McKnight, 1996). In addition, longitudinal studies have shown both a reciprocal relation between depression and burnout (Ahola & Hakanen, 2007) and a predictive relation from burnout to depression (Hakanen & Schaufeli, 2012). However, there are also studies that have failed to find this predictive relation (Bianchi, Schonfeld, & Laurent, 2015c). Although burnout and depression have been differentiated at the statistical and contextual levels, the distinction between burnout and depression is fragile as severe burnout differs only slightly from clinical depression (see Bianchi et al., 2015a). Therefore, agreement on whether burnout and depression are distinct constructs has not yet been reached.

During recent decades, burnout researchers have paid increasing attention to the relation between burnout and its opposite, namely work engagement (Maslach & Leiter, 1997; Schaufeli, Salanova, González-Romá, & Bakker, 2002). Work engagement is composed of the dimensions of energy (vigor), involvement (dedication) and efficacy, which are seen as the opposites of the three symptoms of burnout (Maslach & Leiter, 1997). However, in European research, the third dimension of work engagement is not efficacy but absorption (Schaufeli et al., 2002). This view of burnout as the erosion of engagement (Maslach & Leiter, 1997; Schaufeli et al., 2009) has gained support from variable-oriented studies: in two meta-analyses (see Cole, Walter, Bedeian, & O'Boyle, 2012; Crawford, LePine, & Rich, 2010), burnout and work engagement showed a negative correlation ($r = -.55$ and $-.48$). However, corre-

lations have also varied widely, from −.20 to −.90 (see Mäkikangas, Feldt, Kinnunen, & Tolvanen, 2012). These variations between studies challenge the idea that burnout and work engagement are opposite ends of the same continuum and instead suggest that burnout and work engagement can occur simultaneously, at least among some employees.

Furthermore, recent research proposes that two bipolar dimensions underlie both job burnout and engagement: energy, comprising the exhaustion-vigor continuum, and identification, comprising the cynicism-involvement continuum (Demerouti, Moster, & Bakker, 2010; González-Romá, Schaufeli, Bakker, & Lloret, 2006). The identification continuum has received more support than the energy continuum (Demerouti et al., 2010), which further confuses understanding of the relationship between engagement and burnout and whether their co-occurrence is possible.

To conclude, the mixed results and varying correlation patterns presented above can be attributed to the existence of several burnout—(job-related) well-being subgroups, which variable-oriented studies tend to ignore. The relationship between burnout and other (job-related) well-being indicators can be clarified by taking into consideration the existence of well-being subtypes by identifying intra-individual patterns of well-being variables. In addition to depression and work engagement, two other employee well-being states have been associated with burnout, and may therefore co-exist with it, namely workaholism (Schaufeli, Taris, & van Rhenen, 2008) and job dissatisfaction (Maslach & Schaufeli, 1993). These are also taken into account in this review. Burnout, work engagement, job satisfaction and workaholism comprise the four quadrants of the circumplex model of emotions applied in the work context (Bakker & Oerlemans, 2011). Thus, at the individual level, the relation between burnout and the other three job-related well-being states is theoretically meaningful.

1.5. Present review

The aim of the present review was to find, evaluate and synthesize the evidence on quantitative job burnout yielded by adopting a person-oriented methodology. This review is both qualitative and systematic. A qualitative review of research is especially beneficial in reviewing a body of relatively scarce, but growing literature on a specific topic (Suri & Clarke, 2009). A systematic qualitative review furthermore permits the inclusion of different kinds of studies, unlike for example, a meta-analysis which only allows the inclusion of similar studies (Grant & Booth, 2009). Therefore, the present systematic qualitative review enables examination of the diverse array of person-oriented studies and their contribution to the burnout literature.

The research questions posed in the review were: (1) for what specific research purposes has a person-oriented approach been applied in burnout research? (2) What are the main findings of person-oriented burnout research? (3) How does burnout knowledge produced by person-oriented research combine with that produced by variable-oriented research? To answer these questions, the person-oriented studies are first categorized, after which their findings are synthetized and evaluated, and, finally, compared with those of the variable-oriented studies.

2. Method

2.1. Study selection: inclusion and exclusion criteria

Study selection and reporting was conducted in accordance with the PRISMA guidelines (Moher, Liberati, Tetzlaff, & Altman, 2009). A systematic electronic search was conducted to find all the articles taking a person-oriented approach to burnout. The electronic search was conducted in seven different databases in April–May 2015. An alert for new articles meeting the search criteria was set to run until the end of May 2015. The searched databases comprised three discipline-specific (PsycInfo, Medline, ABI Inform) and four multidisciplinary databases (Academic Search Elite EBSCO, ProQuest, Science Direct and Google Scholar). The comprehensive search strategies included search terms pertaining to both burnout (burnout, exhaustion, cynicism, reduced personal efficacy) and person-oriented research and its methodology (e.g., person-oriented, person-centered, cluster analysis, profile analysis). The search terms could be found in keywords, titles, abstracts or subject headings. The command lines of the searches used in the different databases are presented in the Appendix A.

Articles were selected in three phases. First, potential studies yielded by the search were chosen on the basis of their title and abstract, using the inclusion criteria. Second, the whole texts were retrieved and read using the exclusion criteria. Third, a manual search was conducted by checking reference lists and consulting experts to reach all the potential articles. These phases, following the PRISMA flow diagram guidelines, are demonstrated in Fig. 1 (Moher et al., 2009).

In the first phase, the initial electronic search yielded a total of 589 articles. After removal of duplicates, the total article count was 470. The articles were required to meet four inclusion criteria. First, the chosen studies were quantitative empirical articles written in English. Second, the study employed a person-oriented method of analysis. Third, the study participants were grouped according to burnout or one of its symptoms. Fourth, studies that grouped participants by using burnout (or one its symptoms), along with either depression or other job-related affective well-being constructs based on the circumplex model (i.e., work engagement, job satisfaction, and workaholism) (Bakker & Oerlemans, 2011), were included. No restrictions were set on the publication date, sample or burnout measure used, as the aim of the review was to obtain an extensive and diverse view of the person-oriented approach to burnout research. The titles and abstracts of these 470 articles were screened against the inclusion criteria above, yielding altogether 75 articles.

In the second phase, the full texts of these 75 articles were reviewed by two independent reviewers (the first author and a research assistant). In this phase, the following exclusion criteria were used. First, studies where burnout groups were formed on the basis of predefined criteria were excluded (i.e., high/low groups of burnout based on medians, mean burnout scores or other cut-off values). Second, studies that utilized predetermined groups based on another variable(s) than burnout were also eliminated. Third, studies where burnout was one grouping variable among variables that were other than (job-related) well-being indicators covered by the circumplex model were excluded. Fourth, studies where the burnout items were expressed as a sum score together with other well-being items were excluded, since it was not possible in these studies to evaluate the unique impact of burnout as a grouping factor and its relation with other constructs. Application of these four exclusion criteria on the remaining 75 articles further reduced the article count to 21. The consensus rate between the reviewers was 98.6%. Disparities in judgment were resolved by discussion, resulting in full consensus on the inclusion and exclusion of 21 studies.

In the third phase, a manual search was conducted in order to check whether the search process had found all the relevant articles. The reference lists of the articles were also crosschecked and experts contacted to ensure that all the relevant articles had been found. These additional searches yielded three further articles, making a grand total of 24 reviewable articles.

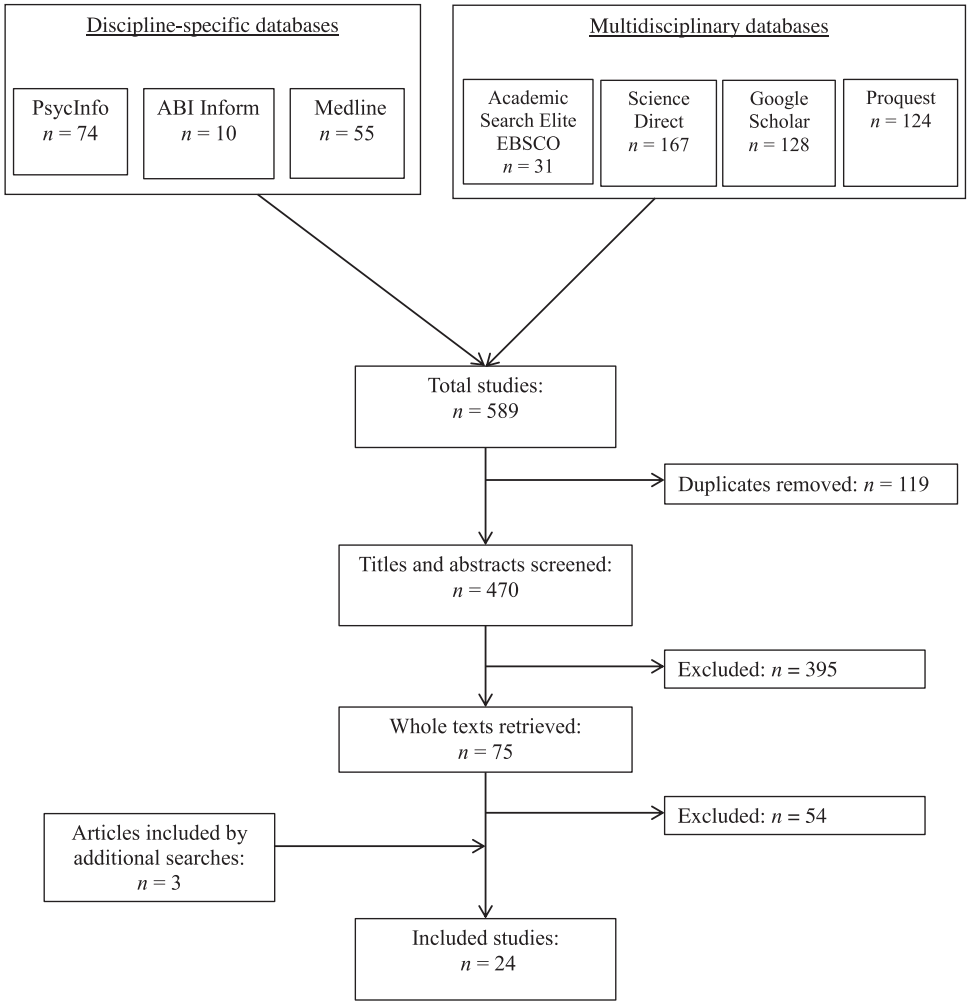

Fig. 1. Stages of study selection.

2.2. Analysis

The reviewed person-oriented burnout articles were categorized based on their research purposes into three categories: (1) intra-individual patterns of burnout symptoms, (2) intra-individual development of burnout over time, and (3) patterns of well-being indicators within individuals. The first category, "intra-individual patterns of burnout symptoms", investigates the different ways the burnout symptoms of exhaustion, cynicism and reduced professional efficacy are combined in individuals to form different types of burnout. The second category, "intra-individual development over time", examines stability and/or change in burnout or some of its symptoms and maps out possible trajectories in the development of burnout. The third category, "patterns of well-being indicators", studies the different types of well-being measured by burnout (or one of its symptoms), depression and three other job-related well-being indicator(s): work engagement, job satisfaction and workaholism. Thus this category examines the possible co-occurrence or overlap between burnout and these four other well-being states.

Table 1 shows the categorization of each study. The Table also summarizes the reviewed studies, providing information on (1) the description of the data (participants, sample size used either in analysis or at baseline, age, gender distribution), (2) the burnout scale used, and (3) the person-oriented method of analysis applied. The results section summarizes and evaluates the main results of each category in the above order of presentation.

3. Results

3.1. Descriptive information on the reviewed studies

The reviewed studies (marked with * in the references) had appeared in 20 journals and were published during the period 2004–2015 (Table 1). Job burnout was investigated in 19 and school burnout in four studies, and one study focused on athlete burnout (Isoard-Gautheur, Guillet-Descas, & Duda, 2013). The majority of the studies (10 out of 24, 42%) investigated burnout types based on intra-individual patterns of burnout symptoms, and one-third focused on either burnout trajectories (8 out of 24) or on the relation between burnout and other well-being constructs by investigating different types of well-being states (8 out of 24). In two studies, two of these categories were simultaneously in focus (see Table 1) (Boersma & Lindblom, 2009; Mäkikangas et al., 2012).

Over half of the studies (58%) used samples collected in one of two Nordic countries, namely Finland and Sweden, and only five studies had been conducted outside Europe. Of the analyzed job burnout articles, the majority (12 out of 24) used occupation- or organization-specific samples, whereas heterogeneous samples comprising employees from various occupations were used in four studies. In three studies, intervention data were utilized.

Half of the studies used some version of the Maslach Burnout Inventory (MBI) (i.e., either GS, ES, HS) (see Maslach et al., 1996). An occupation-tailored burnout scale was used in two studies (Demerouti, Verbeke, & Bakker, 2005; Lee, Cho, Kissinger, & Ogle,

Table 1
Summary of the person-oriented burnout studies used in the literature review in alphabetical order ($N = 24$).

Authors	Description of data	Burnout scale	Person-oriented method of analysis	Categorization of the studies[b]
Ahola et al. (2014)	Finnish dentists ($n = 1964$), mean age 44.4 (SD = 7.9), 76% women	MBI human service survey; total burnout[a]	Latent class analysis Growth mixture modeling	3
Bianchi et al. (2015b)	French school teachers ($n = 627$), mean age 41 (SD = 9), 73% women	MBI general survey; emotional exhaustion, depersonalization; total score	Cluster analysis	3
Boersma and Lindblom (2009)	Heterogeneous sample of Swedish employees ($n = 1118$), mean age 43 (SD = 10.8), 52% women	MBI general survey; exhaustion, cynicism, professional efficacy	Cluster analysis	1, 2
Brudnik (2004)	Polish teachers and students of physical training ($n = 256$), mean age 36.9 (range = 23–57), 56% women	MBI educators survey; emotional exhaustion, depersonalization, personal accomplishment	Cluster analysis	1
Demerouti et al. (2005)	Three subsamples of Dutch account managers ($n = 616$), mean age 35.7–37.4 (SD = 9.0–10.4), 78.4–96% men	Facet burnout scale (Singh, Goolsby, & Rhoads, 1994) based on MBI; emotional exhaustion, depersonalization, personal accomplishment	Cluster analysis	1
Evolahti et al. (2013)	Swedish middle-aged women employees ($n = 116$), age range 49–53[c]	SMBQ (Shirom-Melamed Burnout Questionnaire); total burnout[a]	Cluster analysis	2
Hultell et al. (2013)	Swedish teachers ($n = 816$), mean age 34.95 (SD = 7.87), 85% women	SWEBO (Scale of Work Engagement and Burnout); total burnout[a]	Cluster analysis	2
Hätinen et al. (2009)	Finnish rehabilitation clients ($n = 85$), age[c], gender[d]	MBI general survey; exhaustion, cynicism, reduced professional efficacy	Growth mixture modeling	2
Hätinen et al. (2004)	Finnish rehabilitation clients ($n = 135$), mean age 51.2 (SD = 5.5), 60% women	MBI general survey; exhaustion, cynicism, reduced professional efficacy	Cluster analysis	1
Hätinen et al. (2013)	Finnish rehabilitation clients ($n = 85$), mean age 49.34 (SD = 6.61), 75.3% women	MBI general survey, exhaustion, cynicism, professional efficacy	Latent profile analysis	2
Innanen et al. (2014)	Heterogeneous sample of Finnish employees ($n = 161$), age range 32–39[c], 75% women	MBI general survey; exhaustion, cynicism, professional efficacy	Latent profile analysis	3
Isoard-Gautheur et al. (2013)	French handball players ($n = 309$)[e], mean age 15.4 (SD = 0.9), 50.8% women	ABQ (Athele Burnout Questionnaire); physical and emotional exhaustion, sport devaluation, reduced sense of accomplishment	Cluster analysis	1
Lee et al. (2010)	American counselors ($n = 132$), mean age 46.2 (SD = 11.37), 83.3% women	CBI (Counselor Burnout Inventory); exhaustion, incompetence, negative work environment, devaluing client, deterioration in personal life	Cluster analysis	1
Lee et al. (2010)	Korean middle and high school students ($n = 338$), age[c], 52.7% women	MBI student survey; emotional exhaustion, cynicism, academic efficacy	Cluster analysis	1
Loo (2004)	Canadian male police managers ($n = 135$), age[c]	MBI human services survey; emotional exhaustion, depersonalization, personal accomplishment	Cluster analysis	1
Mäkikangas et al. (2012)	Finnish managers ($n = 433$), mean age 31 (range 24–36), 83% men	BBI-15 (Bergen Burnout Indicator); exhaustion, cynicism	Growth mixture modeling	2, 3
Mäkikangas et al. (2014)	Finnish health and social care, and service workers ($n = 256$), mean age 42.91 (SD = 10.8), 90% women	MBI general survey; exhaustion	Growth mixture modeling	3
Mäkikangas et al. (2015)	Finnish 50-year-old employees ($n = 183$), 50.8% men	MBI general survey; exhaustion	Latent profile analysis	3
Rudman and Gustavsson (2011)	Swedish nurses ($n = 997$), mean age 30.5 (range = 21–52), 89% women	OLBI (Oldenburg burnout inventory); total burnout[a]	Cluster analysis	2
Salmela-Aro and Upadyaya (2014)	Two samples of Finnish adolescents ($n = 614/575$)[e], mean ages 15–17.05 (SD = 0.34–0.27), 52.9% men/gender[d]	SBI (School Burnout Inventory), total burnout[a]	Growth mixture modeling	2

Table 1 (*Continued*)

Authors	Description of data	Burnout scale	Person-oriented method of analysis	Categorization of the studies[b]
Timms et al. (2012)	Australian school employees (n = 953), mean age 45–49[c], 73.5% women	OLBI (Oldenburg Burnout Inventory); exhaustion, disengagement	Cluster analysis	3
Tuominen-Soini and Salmela-Aro (2014)	Finnish high school students and young adults (n = 979)[e], mean age 18.14 (SD = 1.11), 60% women	SBI (School Burnout Inventory); exhaustion, cynicism, inadequacy	Latent profile analysis	3
Zhang et al. (2013)	Chinese middle and secondary school students (n = 730), age[c], 44% women	MBI student survey; exhaustion, cynicism, efficacy	Cluster analysis	1
Önder and Basim (2008)	Turkish nurses (n = 248), mean age 31.18 (range = 19–50), gender[d]	MBI human services survey; emotional exhaustion, depersonalization, personal accomplishment	Cluster analysis	1

[a] Total burnout indicates sum squared of all burnout dimensions.
[b] Categories: 1 = Intra-individual patterns of burnout dimensions; 2 = Intra-individual development of burnout over time; 3 = Cross-sectional or longitudinal patterns of well-being indicators.
[c] Mean age or its standard deviation not provided.
[d] Gender distribution not provided.
[e] Baseline sample size.

2010), while the rest used various measures, such as the OLBI (Oldenburg Burnout Inventory) or BBI-15 (Bergen Burnout Indicator). The majority of the studies used cluster analysis (15 out of 24, 62.5%), and the remainder more advanced finite mixture models such as latent profile analysis or growth mixture modeling.

3.2. Burnout types

Individual patterns of burnout formed by its symptoms (i.e., burnout types) were investigated in ten studies (see Table 1). In a non-work context, types of burnout were explored in two studies among Asian students (Lee, Puig, Kim, Shin, Lee, & Lee, 2010; Zhang, Klassen, & Wang, 2013) and adolescent-age athletes (Isoard-Gautheur et al., 2013). Job burnout types were identified in six studies (Boersma & Lindblom, 2009; Brudnik, 2004; Demerouti et al., 2005; Lee, Cho et al., 2010; Loo, 2004; Önder & Basim, 2008), and in one study types were explored among rehabilitation clients (Hätinen, Kinnunen, Pekkonen, & Aro, 2004).

The reviewed ten studies identified a varying number – three to six – of burnout types. However, of these, three (n = 3) and four (n = 4) burnout-type solutions were the most typically reported. The most typically found types were characterized by either low (n = 10) or high levels (n = 7) of all the burnout symptoms, that is, low or high levels of exhaustion, cynicism and reduced professional efficacy. In addition, one commonly identified burnout type scored high on exhaustion and cynicism, but simultaneously low on reduced professional efficacy (n = 7). Another commonly reported burnout type showed the opposite pattern: high scores on reduced professional efficacy and low scores on exhaustion and cynicism (n = 6). Half of the studies (n = 5) identified the exhaustion-dominated type. In addition to these, single types representing, for example, high levels of depersonalization alone (Demerouti et al., 2005) or simultaneously high levels of reduced professional efficacy and cynicism (Isoard-Gautheur et al., 2013), were reported.

Although the reviewed studies used different samples (i.e., students, athletes, healthy and burned-out employees) and burnout scales, the typical burnout types found showed synchrony between the burnout symptoms, i.e., all the symptoms were simultaneously high or low, or de-synchrony, where the type was characterized by either high levels of exhaustion and cynicism or reduced professional efficacy or solely high exhaustion levels.

3.3. Burnout trajectories

The longitudinal development of burnout was investigated in eight studies (see Table 1): trajectories of school burnout during adolescence were investigated in one study (Salmela-Aro & Upadyaya, 2014), burnout development during a rehabilitation intervention was examined in two studies (Hätinen et al., 2009; Hätinen, Mäkikangas, Kinnunen, & Pekkonen, 2013) and the rest (n = 5) focused on job burnout among employees. Here we focus more closely on the five studies conducted among working employees, as their results can be compared to variable-oriented results.

Of these five studies, four investigated burnout trajectories over time (Evolahti, Hultell, & Collins, 2013; Hultell, Melin, & Gustavsson, 2013; Mäkikangas et al., 2012; Rudman & Gustavsson, 2011) and one focused on stability and change patterns between burnout types over time (Boersma & Lindblom, 2009). All these studies were based on either two (n = 2) or three measurements (n = 3), and the length of the time-lag between measurements was typically one or two years. Three out of four trajectory studies focused on early career stages, i.e., newly graduated nurses (Rudman & Gustavsson, 2011), teachers (Hultell et al., 2013) and managers (Mäkikangas et al., 2012) were followed during their first years of employment.

All the four trajectory studies reported considerable heterogeneity in burnout development over time. Typically trajectories indicating low, moderate or high stable levels of burnout syndrome or its single symptoms were found, but linear (increasing or decreasing) and curvilinear (i.e., U-shaped or reverse U-shaped) trajectories were also reported. The number of trajectories identified was related to the number of measurements. This is expected as the greater the number of measurements, the greater the possibilities for uncovering different trajectories. For example, Mäkikangas et al. (2012) found four trajectories for both exhaustion and cynicism using two-wave data (i.e., stable low, stable moderate, decreasing and increasing), whereas in three-wave data six (Evolahti et al., 2013), seven (Hultell et al., 2013) or even eight (Rudman & Gustavsson, 2011) trajectories for burnout syndrome (based on total burnout score) were found.

The trajectories found in the three-wave data varied widely across studies. Evolahti et al. (2013) reported two trajectories with initially high burnout levels followed by recovery, two trajectories describing increasing burnout levels, one trajectory with increasing and diminishing levels, and one trajectory with low stable levels. In turn, Hultell et al. (2013) reported three stable trajectories (i.e., low,

moderate, high), two linearly changing trajectories (i.e., increasing and decreasing), and two curvilinear trajectories (U-shaped or reverse U-shaped). Rudman and Gustavsson (2011) found one trajectory with stable low levels, two linearly changing trajectories (i.e., increasing and decreasing), four curvilinear trajectories and two changing, but stabilizing trajectories.

To conclude, the findings of these person-oriented studies question the stability of burnout reported in variable-oriented studies. In fact, they highlight the multifaceted developmental paths of burnout. At the same time, these studies also reveal that trajectories representing stable levels of burnout or maintenance of the same type of burnout over time were consistently predominant compared to the proportion of change trajectories or transitions between the burnout types. Thus, these findings suggest that, burnout typically develops along a stable path, whereas changes, i.e., whether increasing, decreasing or curvilinear, are atypical long-term development paths.

3.4. Patterns of burnout and other well-being constructs

The relationship between burnout and other well-being constructs were investigated in eight studies (see Table 1). Of these, two focused on burnout and depression (Ahola, Hakanen, Perhoniemi, & Mutanen, 2014; Bianchi, Schonfeld, & Laurent, 2015b) and four on the relation between burnout and work engagement (Mäkikangas et al., 2012, 2014; Timms, Brough, & Graham, 2012; Tuominen-Soini & Salmela-Aro, 2014). Two studies examined employee well-being types more broadly by simultaneously analyzing three (i.e., burnout, work engagement, workaholism; Innanen, Tolvanen, & Salmela-Aro, 2014) or four (i.e., burnout, work engagement, workaholism and job satisfaction; Mäkikangas, Rantanen et al., 2015) job-related well-being constructs.

In both the burnout-depression studies (Ahola et al., 2014; Bianchi et al., 2015b), similar findings were obtained: groups were formed by the similar levels of burnout and depression (i.e., low, average, high) and their long-term development also occurred in tandem, i.e., either remaining stable or changing in synchrony. Thus, on the individual level, the level and changes of burnout and depression showed high congruence over time.

Several burnout-work engagement types (varying from three to five) were identified across the four reviewed studies. The co-existence or divergence of burnout and work engagement experiences within individuals was determined by mean levels; high levels of burnout seemed to prohibit experiences of work engagement, as their co-occurrence was observed only at average levels in every study (Mäkikangas et al., 2012, 2014; Timms et al., 2012; Tuominen-Soini & Salmela-Aro, 2014). Inspection of continua revealed that at the intra-individual level, cynicism and dedication were typically mutually exclusive experiences, whereas to some extent the co-occurrence of exhaustion and vigor was possible (Mäkikangas et al., 2012). However, a situation where the levels and changes in exhaustion and vigor were in opposite directions represented a typical employee type to which 63% of the studied employees belonged at the trait level (Mäkikangas et al., 2012), and 71% at the state (i.e., day) level (Mäkikangas et al., 2014).

Innanen et al. (2014) and Mäkikangas, Rantanen et al. (2015) also showed similar results for the burnout-work engagement continuum: high levels of burnout and work engagement were mutually exclusive at the within-person level. In these two studies, the well-being types were additionally based on workaholism (Innanen et al., 2014) as well as on job satisfaction (Mäkikangas, Rantanen et al., 2015). Interestingly, the average levels of workaholism appeared among the well-being type reporting high levels of burnout as well as among the type with high levels of work engagement (Innanen et al., 2014). Low levels of job satisfaction appeared with high levels of exhaustion (Mäkikangas, Rantanen et al., 2015). Inclusion of job satisfaction also produced a new well-being type, namely Bored-out, with relatively high levels of exhaustion, low levels of work engagement and extremely low levels of job satisfaction, which differentiated this type from the pure Burned-out type (Mäkikangas, Rantanen et al., 2015).

To sum up, it seems that at the intra-individual level, symptoms of burnout and depression are inseparable and that they also develop conjointly. Further, cynicism and dedication are mutually exclusive experiences, and thus represent the opposite ends of the same continuum, that is, employees do not simultaneously question the meaning of their work and feel a strong sense of involvement in and enthusiasm for it. However, the simultaneous presence of exhaustion and vigor was observed among one-third of the employees but only at average levels. Along with depression and work engagement, other well-being constructs, such as workaholism and job dissatisfaction, were intertwined with the burnout experience at the within-person level, thus pointing to the need for more research attention.

4. Discussion

The aim of this systematic review was to summarize, categorize and evaluate the research findings of burnout studies conducted with a person-oriented approach, and to compare these findings with those obtained with the more commonly used variable-oriented approach. The categorization of the person-oriented burnout studies ($n = 24$) showed that the research interest thus far has been in types of burnout (42%) and, more broadly, in types of well-being (33%) and in long-term trajectories (33%). The information produced by these three categories of research will now be compared with those generated by variable-oriented burnout research.

4.1. Comparison of person- and variable-oriented burnout results

Based on the reviewed articles, it is clear that burnout symptoms do not manifest or develop in the same way in all individuals. However, despite this inter-individual heterogeneity, certain typical burnout types and trajectories were identified. First, the results of studies investigating types of burnout revealed that, most typically, in line with the syndrome view of burnout (Maslach et al., 2001), all three burnout symptoms co-occurred at the intra-individual level (at either low or high levels). In some cases, each symptom either manifested on its own or in symptom dyads, a possibility which has also been acknowledged in the burnout literature (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Parallel with the correlative information produced by the variable-oriented burnout studies (for reviews, see Kim & Ji, 2009; Worley et al., 2008), individuals typically experienced exhaustion and cynicism at the same time, whereas reduced professional efficacy manifested largely as a symptom on its own. However, atypical burnout types were also identified, e.g., depersonalization (i.e., cynicism) either standing alone (Demerouti et al., 2005) or together with reduced professional efficacy (Isoard-Gautheur et al., 2013). Despite the great diversity in the reviewed studies on types of burnout, e.g., in the study context and the burnout scale used, burnout types typically manifested as rather constant.

Second, multifaceted developmental trajectories of burnout, i.e., stable, linearly increasing or decreasing, or curvilinear, were reported across the studies. This is a finding that questions the findings of the variable-oriented studies that burnout is stable, but which is in line with the theoretical view that describes burnout development as a dynamic ongoing process (Maslach, 1982). Nevertheless, the typical developmental trajectories showed high absolute stability, as the mean levels remained either low

or average over time, thus paralleling the stable trend found in the variable-oriented studies (for a review, see Taris et al., 2005). The proportions were consistently higher in the stable trajectories than in those indicating change; that is, individuals tended to maintain the same level of burnout over time. Between one-third (Evolahti et al., 2013) and three-quarters of the individuals studied (Mäkikangas et al., 2012) belonged to these stable trajectories. A similar observation was made with regard to ipsative stability: Employees typically belonged to the same burnout type over time (Boersma & Lindblom, 2009).

Third, the relation between burnout and the other (job-related) well-being indicators at the individual level was more complicated than the correlations suggested. Person-oriented research results based on the energy and identification continua were mostly in line with those of the variable-oriented studies (Demerouti et al., 2010; González-Romá et al., 2006), but specified them further. That is, at the individual level cynicism and dedication were typically not experienced at the same time, whereas co-occurrence of exhaustion and vigor was possible, but only at the average levels (Mäkikangas et al., 2012, 2014). These atypical types with co-occurring average levels of exhaustion and vigor were found among approximately one-third of the employees. Thus, in line with variable-oriented studies (Demerouti et al., 2010; González-Romá et al., 2006), these findings suggest that vigor and exhaustion represent two somewhat separate constructs, while dedication and cynicism represent opposites. Hence, these continua differences should be taken into account in future studies.

The well-being types became more multifarious when several well-being concepts were investigated simultaneously (Innanen et al., 2014; Mäkikangas, Rantanen et al., 2015). Typically, low and high well-being types were found regardless of the number of constructs included. Nevertheless, at the same time, the number of small, atypical well-being types increased. Overall, it seemed that burnout was distinctive from the other well-being constructs in the job context, meaning that burnout had a unique impact on the grouping of the well-being types, thus differing from the other job-related well-being constructs of the circumplex model (Bakker & Oerlemans, 2011). However, the symptoms of burnout and depression seemed to be inseparable at the intra-individual level, as their levels and changes manifested in tandem (Ahola et al., 2014; Bianchi et al., 2015b). Thus, for the individual, the symptoms of burnout and depression were alike. However, on the basis of these two studies, it would be premature to conclude that burnout and depression are identical, as in both studies the employees investigated were relative healthy (i.e., the mean values of both burnout and depression were low) and dimensionality of burnout was not taken into account.

To sum up, although the person-oriented burnout studies revealed individual burnout types as well as trajectories, the results were largely in line with those produced by the variable-oriented studies. Yet because the person-oriented perspective reveals typical as well as atypical patterns of individual experiences, it offers an important, if not essential, complement to the variable-oriented studies that currently dominate burnout research. The advantages and challenges of the person-oriented approach will be discussed next.

4.2. Advantages and challenges of a person-oriented approach

The person-oriented approach to burnout has at least three major advantages: (1) it enables a comprehensive understanding of the burnout syndrome, with its three symptoms, at the individual level; (2) it facilitates the applicability of the research findings in practice; and (3) it yields an accurate analysis of types and trajectories based on novel analytical methods. First, the central aspect of a person-oriented approach is emphasis it places on understanding the individual as a functioning whole, rather than emphasizing individual variables per se (Bergman et al., 2003). Therefore, a person-oriented approach investigates burnout symptoms and their development holistically within a person, not in isolation from each other as is the case in variable-oriented approach. Consequently multi-faceted and detailed information on the phenomena of interest can be produced that is needed at both the theoretical and practical level.

Second, as the types and trajectories produced by the person-oriented approach pack information efficiently, they are easy to understand and also intuitively appealing (see Robins & Tracy, 2003). From the practical point of view, the person-oriented approach to burnout helps to identify those who suffer from severe burnout or are in risk for developing burnout. As different domains of the work environment are known to be differently associated with the symptoms of burnout (see Maslach & Leiter, 2008; Maslach et al., 2001), identifying burnout types can be used as a tool for developing interventions tailored to individual needs. Moreover, via knowledge produced by person-oriented burnout research, practitioners working in the field of occupational health psychology may be better placed to deal with the burnout phenomenon in a cost-effective manner and treat different types of burnout more efficiently. Furthermore, a person-oriented methodology offers important practical tools for investigating and further developing burnout interventions, e.g., to investigate for whom and in what way interventions are beneficial (cf. Hätinen et al., 2009; Hätinen et al., 2013).

Third, the novel person-oriented methodology has several advantages. Finite mixture models accurately capture the naturally existing burnout types and trajectories. For example, growth mixture modelling estimates individual trajectories by simultaneously taking into account both level and change over time (Jung & Wickrama, 2008). In addition, classification uncertainty can be estimated based on the posterior probability of individuals belonging to a specific type or trajectory (Wang & Zhou, 2013). Furthermore, the different type and trajectory solutions found can be compared to each other with rigorous tests (e.g., bootstrapped likelihood ratio test) (Lubke & Muthén, 2005). Therefore, nowadays, modern person-oriented methods can be used in a theory-driven confirmatory way in order to avoid dustbowl empiricism (see Wang & Zhou, 2013).

In view of the obvious advantages of the person-oriented approach, why it is still rarely used in burnout studies or, more broadly, in the context of occupational health psychology per se (see Mäkikangas et al., in press)? There might be several explanations. One is that this approach is not well-known outside the field of personality and developmental psychology. Another is the possibility of (semantic) misunderstandings of the person-oriented approach (Laursen, 2015; Laursen & Hoff, 2006), that is, this approach is sometimes confused with the study of personality or qualitative study of single persons. Some analytical methods, such as growth curve modelling, which estimate individual variation, may also incorrectly be seen as person-oriented methods. However, we believe – in line with Laursen (2015) – that the main reason for the aversion to the person-oriented approach is the claim that it is only exploratory and descriptive, lacks a theoretical basis, and is not predictive.

In the positivistic paradigm of quantitative psychological research, causality, i.e., which antecedents predict outcomes, is eagerly pursued. However, in the theoretical propositions guiding person-oriented research, the question of causality is given less weight than it is in variable-oriented studies (Bergman & Lundh, 2015). This is because development is seen as a complex process that is partly individual-specific: "*It is often not possible to even conceive how one component could be manipulated without at the same time affecting other components*" (Bergman & Lundh, 2015,

p. 5). Instead, the emphasis is on finding robust types and meaningful connections between them (Bergman & Lundh, 2015). The person-oriented research is expected to be theory-driven, i.e., specific theories and sophisticated beliefs lead to predictions, but these should not be blinders preventing "*researchers from seeing what is to be seen*" (Bergman et al., 2003, p. 193). Preferably, meta knowledge based on multiple theories and earlier empirical findings are needed along with familiarity with both the data and methodology used. Following this procedure, it is possible to avoid patchwork quilt knowledge and spurious types and trajectories.

To close, it is worth noticing that the variable- and person-oriented approaches answer different research questions, and thus they should not be seen as competing approaches (Laursen & Hoff, 2006). Instead, variable- and person-oriented approaches should be used as complementary, not alternative, approaches, thereby enriching the body of psychological theoretical knowledge about burnout. The typical types and developmental trajectories found in person-oriented burnout studies, along with the findings of variable-oriented research, give insight into the generalized expectations for burnout phenomenon and its development. Next, several avenues for person-oriented burnout research are presented.

4.3. Directions for future person-oriented burnout research

As noticed above, although empirical burnout research has been dominated by the variable-oriented approach, there is room for person-oriented studies. Naturally, the approach selected depends on the nature of the research question. If the aim is to study, e.g., whether job characteristics predict burnout over time or whether a particular burnout intervention is beneficial at the average level, a variable-oriented approach, with its analytical methods, is the most appropriate choice. However, when heterogeneity can plausibly be expected in the level or change of burnout, a person-oriented approach is worthwhile. Our suggestions for future research avenues, based on the three categories of person-oriented research, i.e., burnout and well-being types and trajectories, are presented next. We conclude this section by deliberating what a holistic-interactionistic theoretical view of burnout could be.

First of all, more longitudinal studies covering longer follow-ups are needed. As the majority of the burnout-type studies were cross-sectional, they offered only a sketch of burnout symptoms on the individual level. The different types found were typically interpreted according to the developmental process of burnout (Golembiewski et al., 1986; Leiter & Maslach, 1988). However, in order to properly investigate the development process of burnout via types, longitudinal studies with several measurements are needed. In addition, research on the long-term development of burnout has focused mainly on the early career stage, which is a period characterized by instability in levels of job-related well-being (Mäkikangas et al., in press). Therefore developmental paths of burnout need to be investigated throughout the career, using longer follow-ups, in order to gain a more complete picture of typical burnout trajectories.

Second, more comprehensive investigation of employee well-being is needed. Usually burnout was studied along with one other well-being construct, but person-oriented studies enable the investigation of several constructs and variables simultaneously. It is also worth noticing that the burnout and well-being types reported in the reviewed studies were identified in healthy employees with relatively low levels of burnout. Therefore, to avoid the so called healthy worker effect, datasets with a wider range of burnout levels (including severe burnout) should be used.

Third, studies should be more theory-driven with a focus on replication. The existing person-oriented studies can be regarded as rather exploratory, that is, the selection of a certain number of burnout types or trajectories was seldom theoretically justified. Thus, we suggest that in future studies the results should also be interpreted theoretically. In addition, the focus of the person-oriented approach is to find typical subtypes and trajectories. It would, therefore, be beneficial to replicate the obtained results, in order to see what emerge as the "universal" burnout types and trajectories, and which findings are sample-specific. Thus multi-sample studies are needed. In order to increase the comparability of research findings between studies, the scoring and labeling of the level of burnout needs to be more uniform. Among the reviewed studies, "high" and "low" levels were generally based on standardized average scores of the sample, thus complicating the comparison of results between studies and ignoring the level based on the actual response scale. If available, clinically validated cut-off points, or at least frequency-based boundaries on the burnout scale should be utilized in labeling and analyzing the content of burnout types and trajectories.

Fourth, the use of advanced methods of analysis is recommended. The majority of the reviewed studies used traditional cluster analysis, even in the case of longitudinal data. The selection of analytical method is naturally linked with the research question, but if the interest is in long-term development, methods that simultaneously capture the level of and change in burnout are preferable, such as latent profile analysis and growth mixture modelling. If the research question concerns changes between burnout types over time, methods such as latent transition analysis are recommended (Mäkikangas, Schaufeli et al., 2015).

Fifth, the theoretical origins of the person-oriented approach need to be taken into account in burnout research. A holistic theoretical view of individual functioning, in which a person is seen as the center of a dynamic developmental process, is at the core of the person-oriented approach (Bergman et al., 2003). In the burnout context, research has predominantly looked for different types and trajectories, i.e., the interest has been in person-oriented methods of analysis. Therefore, we suggest that understanding and explaining burnout and its development (or recovery from it) should be approached more comprehensively. The task for future empirical research, then, is to identify typical burnout types based simultaneously on burnout symptoms and the "antecedents" of burnout, i.e., work- and individual-related aspects which are known to be linked with burnout (for meta-analyses, see Alarcon, 2011; Alarcon, Eschleman, & Bowling, 2009). Thus, a more holistic view might cast light on the experience and development of burnout during the whole career path.

4.4. Limitations and contributions

We are aware that this review has certain limitations. In selecting the articles that were relevant to our review target, we tried to be very systematic. However, we were not able to find all the relevant studies if the search terms employed were not mentioned in the title, abstract or keywords of the articles. In addition, the circumplex model (Bakker & Oerlemans, 2011) was used as a conceptual framework to identify studies investigating patterns of well-being. Restricting studies on employee well-being constructs was necessary in order to focus the review, but at the same time it limited our investigation. Furthermore, we only selected studies that used a pure person-oriented methodology in which the different class solutions were empirically tested and compared (see Bergman et al., 2003). However, plenty of empirical research exists in which burnout types have been formed based on means or cut-off values of the MBI (e.g., Maslach & Leiter, 2008). These studies also represent a person-centered type of analysis, although based on predefined groups. Further, owing to the small number of person-oriented burnout studies, the comparisons with the

results of the variable-oriented studies and the conclusions drawn must, of course, be treated cautiously. Finally, over half of all the studies and all the burnout trajectory studies were conducted in Nordic countries, which while understandable given the origin of the person-oriented approach, but at the same time limits the generalizability of the results.

In this review, the existing person-oriented burnout studies were comprehensively identified and evaluated for the first time. We are convinced of the value of this review in directing future empirical research and in encouraging the use of advanced methods and theory building, so that intra-individual experiences are also brought into the spotlight. In conclusion, the person-oriented perspective on burnout provides an important and necessary complement to the variable-oriented studies that currently dominate burnout research.

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Appendix A.

Command lines of the searches used in the different databases

Discipline-specific databases

Psycinfo. ((SU.EXACT("Burnout") OR SU.EXACT("Occupational stress")) AND ti,ab("burnout" OR "exhaustion" OR "cynicism" OR "depersonalization" OR "depersonalization" OR "reduced professional efficacy" OR "reduced personal accomplishment") AND ti,ab("person-oriented" OR "person-centered" OR "person-oriented approach" OR "person-centered approach" OR "cluster analysis" OR "profile analysis" OR "trajectory analysis" OR "growth mixture modelling" OR "intra-individual" OR "profile" OR "trajectory")).

Restrictions: scholarly journals & English.

ABI inform. ((SU.EXACT("Burnout") OR SU.EXACT("Occupational stress")) AND ti,ab("burnout" OR "exhaustion" OR "cynicism" OR "depersonalization" OR "depersonalization" OR "reduced professional efficacy" OR "reduced personal accomplishment") AND ti,ab("person-oriented" OR "person-centered" OR "person-oriented approach" OR "person-centered approach" OR "cluster analysis" OR "profile analysis" OR "trajectory analysis" OR "growth mixture modelling" OR "intra-individual" OR "profile" OR "trajectory")).

Restrictions: scholarly journals & English.

MedLine. "burnout" or "exhaustion" AND "person-oriented" or "person-centered" or "cluster analysis" or "profile analysis" or "trajectory analysis".

Multidisciplinary databases

EBSCO. SU burnout AND AB (person-oriented or person-centered or trajectory or "profile analysis" or "cluster analysis" or "growth mixture modelling" or intra-individual).

Science direct. KEYWORDS(burnout) AND TITLE-ABSTR-KEY(person-oriented or person-centered or intra-individual or trajectory).

Google scholar. Burnout and (person-centered or person-oriented).

Proquest. ((SU.EXACT("Burnout") OR SU.EXACT("Occupational stress")) AND ti,ab("burnout" OR "exhaustion" OR "cynicism" OR "depersonalization" OR "depersonalization" OR "reduced professional efficacy" OR "reduced personal accomplishment") AND ti,ab("person-oriented" OR "person-centered" OR "person-oriented approach" OR "person-centered approach" OR "cluster analysis" OR "profile analysis" OR "trajectory analysis" OR "growth mixture modelling" OR "intra-individual" OR "profile" OR "trajectory")).

Restrictions: scholarly journals & English.

*Articles included in the analysis

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