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Born and Bred to Burn out: A Life-Course View and Reflections on Job Burnout

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Burnout is a response to prolonged stressors at work, and is defined as a chronic syndrome including exhaustion, cynicism, and reduced professional efficacy. The 40 years of research on burnout have yielded thousands of studies on its measurement, antecedents, correlates, and consequences. However, most of these studies have used a cross-sectional design, and only very few have addressed burnout from a life-course perspective. In the first part of this article, we reflect on the ideas that inspired our multidisciplinary "A 35-Year Follow-Up Study on Burnout Among Finnish Employees," and the challenges that we encountered when conducting and publishing the study. In the second part, we focus on another understudied topic in burnout research, namely negative life events and their role in burnout. In the third part of the article, we more broadly discuss 6 important developments in burnout research over the past decade, and propose 6 key topics for future studies on this topic.

Keywords: burnout, JD-R theory, life-course perspective, negative life events, work engagement

Our award-winning paper "A 35-Year Follow-Up Study on Burnout Among Finnish Employees" (Hakanen, Bakker, & Jokisaari, 2011) reports on one of the few studies in the field that aims to understand the origins of burnout from a wider, life-course perspective. An enormous volume of research on the predictors of burnout has focused on work characteristics (Bakker, Demerouti, & Sanz-Vergel, 2014; Halbesleben & Buckley, 2004; Maslach, Schaufeli, & Leiter, 2001), and there is quite an extensive literature on individual characteristics as possible antecedents of burnout (Alarcon, Eschleman, & Bowling, 2009). Burnout has mainly been investigated in the field of occupational health psychology, and predominantly used cross-sectional research designs. Thus, broader societal, cultural, and individual life-history issues have received very limited attention in attempts to understand burnout and its potential root causes. Are we born and bred to burn out at work?

In this paper, we first reflect on how our longitudinal and multidisciplinary study began, and discuss the main challenges that we faced when conducting the study and publishing the manuscript. Our study was interdisciplinary in the sense that we integrated a psychological approach to burnout with an epidemiological approach to social inequalities in health. The latter flourishing research field is seldom integrated with work and organizational psychology, and therefore rarely discussed in psychological journals. Next, as we already emphasized in the original paper, because burnout research should also be concerned with investigating factors beyond immediate working conditions, we focus on another understudied topic in this area. We conducted interviews with employees from the original cohort sample, and we provide some research findings concerning how negative private life events may relate to burnout. After this, we more broadly discuss six recent developments in burnout research over the past decade. Finally we propose six important topics for future studies on burnout.

Reflections on the Original Study and Related Research

Bridging the Gap Between Burnout and Life-Course Epidemiological Research

Our paper was originally part of a research project called "Some People Will Burn Out," which was funded by the Academy of Finland as part of the "Health and Other Welfare Differences Between Population Groups" research program. It is noteworthy that this program acknowledged burnout as something worth in-

vestigating in the field of epidemiology—a field that typically uses "hard" register-based data when investigating social inequalities in mortality and morbidity. We were particularly fascinated by the idea of a multidisciplinary approach. We wanted to integrate two research traditions in our study: Psychological research on burnout, and sociological and epidemiological research on social inequalities in health.

There was an obvious need for this integration in both research fields. In burnout research, it is striking that so little effort has been put into understanding this psychological phenomenon from a broader perspective. Some early reviews on burnout (e.g., Maslach & Schaufeli, 1993; Schaufeli & Enzmann, 1998) discuss why the burnout syndrome started to attract public attention in the mid-1970s. The authors refer to many of the economic, social, and historical factors that led to the birth of—still booming—burnout research. For example, gradually, work started to replace traditional communities as a source of personal fulfillment and gratification (Farber, 1983). Another change that took place was the tendency toward individualization in modern society, which led to the growing need for professionals to take care of services earlier offered by informal close communities (Cherniss, 1980). Later, however, Schaufeli and Enzmann (1998) suggested that at the individual level, burnout might also be a symptom of broader social concerns that reach beyond the particular organizational environment. In addition, in their review, Starrin, Larsson, and Styrborn (1990) criticized burnout research for ignoring the societal and social conditions that produce the phenomenon. Still later papers on burnout, whether reviews or original studies, have ignored and failed to attract attention to broader factors such as life-course developments, which may potentially influence the burnout syndrome.

Two developments in epidemiological research at the turn of the millennium inspired our study. First, a variety of register-based indicators of morbidity and mortality provided ample evidence of social inequalities in health, but the more subjective dimensions of well-being, including employee well-being received, much less focus. Marmot and his colleagues suggested that the inequality gap in health, health promotive mechanisms, and the quality of life may be much more profound and persistent than assumed on the basis of mere mortality studies (Marmot, Ryff, Bumpass, Shipley, & Marks, 1997). This notion supported our idea to approach the challenge of social inequalities in health by investigating burnout.

The other major source of inspiration for our study was that in the 1990s and 2000s, life-course epidemiology became more common. Life-course epidemiology has been defined as the study of how "socially patterned exposures during childhood, adolescence, and early adult life influence adults' disease risk and socioeconomic position and hence may account for social inequalities in adult health and mortality" (Kuh, Ben-Shlomo, Lynch, Hallqvist, & Power, 2003, p. 778). Interestingly, the idea that childhood is an important factor for adult health was the prevailing model in public health in the first half of the 20th century, but at that time, childhood factors were mainly considered as independently contributing to adult health. However, the second half of the last century was dominated for a long time by research that considered adult lifestyle and adult socioeconomic status to be determinants of health/ill-health in adulthood (Ben-Shlomo & Kuh, 2002; Poulton et al., 2002). Gradually, the interest in early life factors was revived by natural history studies of adult risk factors (e.g., smok-

ing) in cohorts of children (Ben-Shlomo & Kuh, 2002), and interest in life-course epidemiological studies on health grew (Lundberg, 1993; Rahkonen, Lahelma, & Huuhka, 1997).

In the 2006 special issue of *Science* (Butz & Torrey, 2006), longitudinal life-course studies were considered to be among the most progressive and innovative research areas of all social sciences. This new interest in childhood factors also meant that these factors were no longer seen as independently affecting adult health. Instead, mediated studies focusing on the mechanisms that may explain how childhood living conditions may impact later adulthood health (disparities) through early adulthood became widespread (Mayer, 2009). Research started to focus on "chains of risks" (Ben-Shlomo & Kuh, 2002), and tested whether the "unfavourable life career" hypothesis (Lundberg, 1993) could explain how one "bad" thing may lead to another and so forth. This interest in the cumulative effects of poor individual and social conditions on health can also be labeled in a way that is more familiar to most readers of the JOHP, that is, as "resource loss cycles" (Hobfoll, 1998, pp. 80–83).

Challenges in Publishing the Paper

These gaps in knowledge regarding burnout and life-course epidemiology, together with the unique dataset, guided the planning of our research. Publishing this study was not a quick process, but luckily did not take as long as the follow-up period of the study design. Originally, we thought that building bridges between two streams of literature was a great endeavor and would be warmly hailed by most journals, but knew that it would be easier to get such a paper accepted by an epidemiological rather than a psychological journal, as studies using life-course epidemiology were rarer in psychological journals than papers on burnout in epidemiological journals. However, the original version of the paper was rejected by two epidemiological journals: One made a desk rejection and the editor indicated that they do not publish on burnout, whereas the other rejected our manuscript without really telling us why. One of the colleagues of the first author, who worked in the epidemiological field, assured us that the reason for rejection was the ongoing debate at the time on the importance of adult versus childhood factors for health.

Our study tested a model in which life conditions, that is, parents' socioeconomic status, and personal resources such as cognitive ability in adolescence (in 1961–63), would be related to basic and vocational education in early adulthood (in 1985), which, in turn, would be associated with the working conditions (job demands and skill variety) of the participants in 1985. Finally, we assumed that working conditions in 1985 would be associated with job burnout 13 years later (in 1998) when the participants were middle-aged, after controlling for the impact of stress symptoms in 1985 and working conditions in 1998.

Later, when our paper was under review at JOHP, one of the reviewers commented that the added value of our study was not clear, and doubted its novelty. This surprised us, as we truly considered our study model and dataset unique. The lesson we learned was not to build our hypotheses step by step: For example, we had hypothesized separately that childhood socioeconomic status and cognitive ability would predict educational level, and that working conditions would predict future burnout.

Evidently, each single relationship had been investigated in many previous cross-sectional and/or longitudinal studies. But a theory-based life-course model and the indirect effects of childhood factors on burnout occurring 35 years later had never been tested before. We therefore formulated our hypotheses to cover the whole 35-year period of "unfavourable life careers". A further lesson was that one cannot overestimate the importance of being able to theorize and discuss one's study so that all its potential is explicated and presented in a truly clear manner.

When we submitted our paper to JOHP in 2009, we used the title "Born for Burnout?" following the idea of tracing the roots of burnout to childhood. However, the editor proposed that we rephrase the title, as it suggested that burnout had some type of genetic component. A few months after this, we learned about a paper in the *Journal of Vocational Behavior* with a similar title (Swider & Zimmerman, 2010), which is now one of the journal's most cited papers. In our first submission, we still used the conservation of resources theory (COR theory, Hobfoll, 1998) together with the unfavorable life career model. These two approaches seemed to fit together well, despite coming from rather different research fields. However, one reviewer commented that The Finnish Healthy Child study (1961–63), which provided the baseline data for our study, was obviously not designed with COR theory in mind. This led us to make better use of the Job Demands-Resources (JD-R) model (Bakker & Demerouti, 2014) as the theoretical framework for explaining the part of our research model related to work characteristics and burnout. Our theorizing on the whole model was based on the epidemiological "unfavourable life career" hypothesis (Lundberg, 1993).

The paper was accepted for publication in JOHP after two revisions. In addition to clarifying our study's contributions to the research and practical fields, and modifying the theory and hypotheses, other major challenges concerned the sample and variables. It was difficult to find out how the sampling had originally been conducted, and how representative the sample was. It also required a great deal of effort to gain a better understanding of the measures used in the 1960s, and how adequately they reflected the socioeconomic status of the time 50 years ago. We were lucky to have three indicators of socioeconomic status: Parents' income, education, and the level of housing. In addition, the individual cognitive ability measure, Raven's standard cognitive matrices, had been used and applied as part of other psychological intelligence tests, and was thus a robust measure for our study purposes. We could not use the health status at the beginning of the 1960s, as too many values were missing. The data of the first wave in the 1960s also included some other psychological measures (e.g., fears), but it was not possible to study their validity, and the measures did not suit our study purposes.

We also learned from one reviewer that our study was not strictly speaking longitudinal, and would require a minimum of three measurements of at least one of the substantive constructs of interest (Ployhart & Vandenberg, 2010). We were not able to make causal conclusions, and this is a good reminder to many researchers who, even in cross-sectional studies on occupational health psychology, use words referring to causality, for example, "predict," "impact," or "influence." As regards the original Healthy Child Study, it is worth mentioning that it was initiated by a world-famous Finnish pediatrician, Arvo Ylppö, who significantly reduced Finnish infant mortality during the 20th century. He is credited as the father of Finland's public child welfare clinic system. It seems he himself did not suffer from burnout and was truly engaged in his work, as he died in 1992 at the age of 104!

The Status of Research on Burnout and Social Inequalities in Health

Our study was published in 2011 and we must admit that it has not been widely cited thus far. Despite all the evidence found by life-course epidemiology on the cumulative effects of life-course social and individual factors on mortality and health in the past two decades, to our knowledge, our study remains an exception as regards the accumulative impacts of life-course factors on burnout (or other states of employee well-being) in later life. According to a review by Mayer (2009), one of the shortages in life-course epidemiology has been that the follow-up periods have often only extended to early adulthood.

It is promising that today, more truly longitudinal study designs that cover more than one life domain (childhood, work, family) are also becoming more common in the field of occupational health psychology. For example, in two longitudinal papers with 17- and 18-year follow-up periods, Salmela-Aro and her colleagues (Salmela-Aro, Tolvanen, & Nurmi, 2009, 2011) investigated how social and achievement strategies during university studies predicted early career burnout and work engagement. They found that the higher the initial level of social optimism and the more it increased during university studies, the lower was the level of burnout. Similarly, the lower the initial levels of social withdrawal and social handicaps, and the more they decreased, the lower was the level of later burnout (Salmela-Aro et al., 2011).

The relation between burnout and socioeconomic status has similarly gained very little research attention in past years. When examined, the designs seem to be cross-sectional. Earlier reviews considered burnout to be slightly more common among educated employees, but the evidence was inconclusive (e.g., Maslach et al., 2001). In contrast, a Finnish study on the prevalence of burnout, which used a representative sample of the Finnish working population, (Ahola et al., 2006) found that education had a weak relation with burnout, albeit only among women. Those who had not completed basic education had higher burnout scores than others. It also found that socioeconomic status was related to burnout, but again, only among women. Moreover, blue-collar female workers scored somewhat higher in burnout than other working women. Unfortunately, these results do not inform us of the mechanisms behind the differences between certain groups. One assumption is that they relate to the combination of high job demands and lacking job resources (Bakker, Demerouti, & Euwema, 2005).

Large national burnout samples are rare, so it is also worth mentioning a study on the prevalence of burnout in Sweden among 7,056 employees (Hallsten, 2005). In this study, burned out and worn out were differentiated on the basis of the level of burnout and performance-based self-esteem: High scores in burnout and performance-based self-esteem were categorized as burnout,

whereas high scores in burnout but low scores on performance-based self-esteem characterized worn out employees. Using these categorizations, it was not surprising that burnout tended to increase along with socioeconomic status, whereas becoming worn out demonstrated an opposite trend. Research on burnout and on employee well-being that takes a more generally wider social and life-history perspective is sparse, but with increasing numbers of longitudinal life-course data sets, this shortage may be overcome in the future.

Life-Course Factors and Burnout: Negative Life Events as an Example

As an example of understudied topics in burnout research that looks beyond immediate working conditions, we next highlight some research findings on the relationships among job demands, negative non-work-related life events, and burnout using the same sample and the third phase of the original study (Hakanen, 2005). It is interesting that the concept and measurement of burnout has been extended to cover, for example, couple burnout (Pines, 2013) and school burnout (Salmela-Aro, Kiuru, Leskinen, & Nurmi, 2009), but very little research investigates how stressors and events outside the work domain may be directly related to job burnout. Indirectly, the interface between the work and home domain as a potential antecedent of burnout has been extensively studied under the framework of "spillover." These studies have convincingly shown that the work/family conflict in particular is positively associated with burnout (Allen, Herst, Bruck, & Sutton, 2000). The problem with the spillover approach has been that although the variables measuring spillover already include the respondent's evaluation of one domain impacting the other, they do not capture the characteristics of the work/home domain as such. In a review on work and family research, Eby, Casper, Lockwood, Bordeaux, and Brinley (2005) concluded that work domain variables are overemphasized in comparison to family/nonwork domain variables. In another review, Geurts and Demerouti (2003) similarly called for more attention to the home situation.

The ignorance regarding nonwork factors in burnout research is surprising, because in addition to being an important theoretical question, it is also plays a part in determining what kind of ill-being and suffering are measured by burnout instruments such as the Maslach Burnout Inventory (MBI): Mainly work-related or also domain-free "life burnout"? Investigating the role of stressors other than those that are work related is also practically relevant. For example, in Finland, especially at the turn of the millennium, it was quite common to doubt that what we call job burnout could actually originate from private life problems.

Whereas perceived home demands have occasionally been investigated (Peeters, Montgomery, Bakker, & Schaufeli, 2005), we were only able to find a few studies addressing the relations between life events and burnout. Already 35 years ago, Justice, Gold, and Klein (1981) used a 21-item self-developed scale to measure burnout, and a total life change score comprising 11 positive and 12 negative life events. Only negative life events correlated with burnout, $r = .36$, $p < .01$. The authors concluded that "it does not appear that burnout is strictly related to what happens on the job but that it is related to other factors as well" (p. 226).

Later, Burisch (2002) used the MBI and a self-developed tedium scale (e.g., feeling hopeless) and an inventory of 32 life events. He found that life events correlated with tedium, $r = .27$, $p < .05$ but not with the burnout dimensions included in the MBI. As tedium correlated highly with exhaustion, he similarly concluded from the abovementioned study that "private life events may matter if they occur" (p. 12). However, it is noteworthy that this particular study actually did not support the association between burnout and life events.

The third example comes from a study among medical students (Dyrbye et al., 2006). These scholars operationalized burnout as scoring high in either exhaustion or in depersonalization according to the MBI-test manual (Maslach & Jackson, 1986). They measured life events using four negative and two positive events. They found that the number of negative, but not positive, life events were positively associated with burnout (exact r not reported, but $p < .05$).

A more recent two-sample study among healthy participants and depressed patients (Plieger, Melchers, Montag, Meermann, & Reuter, 2015) indicated that exhaustion correlated weakly with life events in both groups ($r = .16$, $p < .001$ and $r = .10$, $p < .05$), whereas cynicism was unrelated and professional efficacy was related to life events in only the patient group, $r = -.10$, $p < .05$. After controlling for depressive symptoms, life events were only associated with burnout in the healthy group ($\beta = .08$, p not reported). Overall, it is difficult to draw any conclusions from the few existing studies (small number due to measurement issues), except perhaps that positive life events, such as marriage or giving birth, do not seem to associate with job burnout, whereas negative events may do so. In addition, these studies did not investigate the joint effects of high job demands and negative life events.

In our dataset of the original study at Time 3 ($N = 532$; age range varied from 44 to 57 years), we measured 14 different negative life events (e.g., death or serious illness of a close family member; serious interpersonal conflict, such as divorce; and serious illness, accident, or violent incidence). As in many previous studies, we formed a total score of the frequency of such events. Men had serious interpersonal conflicts more often than women (70% vs. 63%), but there were no gender differences in the other life events. We also included job demands that previous studies did not, and life satisfaction (Pavot & Diener, 1993), which is a domain-free indicator of well-being in the model, in order to better understand the role of negative life events in burnout.

Figure 1 illustrates our findings and shows that among both women and men, negative life events are significantly, but weakly, positively related to burnout and, as expected, more strongly negatively related to life satisfaction, especially among men. In addition, compared to job demands, life events played a minor role in burnout (test of difference for the path estimates, $\Delta\chi^2 (1) = 90.62$, $p < .001$), but they were slightly more strongly associated with life satisfaction than were job demands ($\Delta\chi^2 (1) = 8.04$, $p < .01$). In addition, we found that job demands and negative life events had a significant joint effect on both exhaustion and cynicism, although only among women (Figures 2 and 3). Women are often considered to be influenced to a greater extent by the double burden of work and home demands than men (Väänänen et al., 2004). It may be that this double burden also concerns the combination of work and negative life events, so that when the person's family faces a severe event, involving for example their
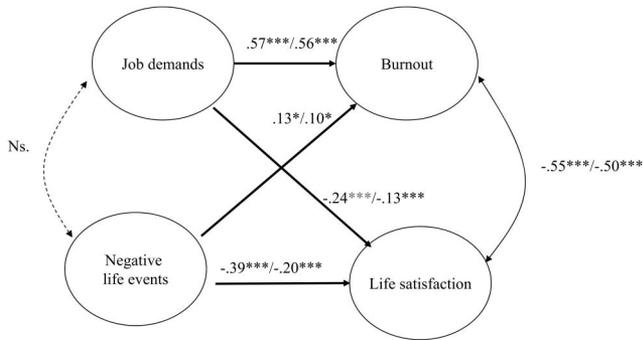
Figure 1. Negative life events, job demands, burnout, and life satisfaction (χ^2 (62) = 282.50; CFI = .94; NFI = .90; IF I = .94; RMSEA = .051) among men (betas on the left) and women (betas on the right).

children, this means additional resource-draining responsibilities and demands, especially for women.

The first author and his colleagues (Hakanen, 2005) also interviewed 22 of the most burned out people in the sample. These interviews indicated that when burned out, one is typically likely to have problems both at work and at home. Out of 22 interviewees, 17 reported chronic and/or acute resource losses in both life domains. For many of these people, it was also easier to attribute the reasons for feeling exhausted and burned out at work to private life crises than to work-related adversities that had often accumulated slowly over a long time span. This is because for a long time it seems possible to adapt to high job demands by investing more and more resources into work, but usually at the expense of one's private life (e.g., at the expense of recovery, family needs, and time with friends). This increased investment of resources in work to compensate for energy depletion may also explain why the association of burnout and job performance has been surprisingly weak (Taris, 2006).

As a consequence of this increased investment, the first visible signs of burnout may actually emerge in one's private life, because of the lack of energy to respond to the needs of close ones and lack of recovery during nonworking time. In a similar vein, a longitudinal study by Hakanen, Schaufeli, and Ahola (2008) found that burnout actually predicted more home demands across time (β = .07, p = .006). Therefore for employees themselves, as well as for health care professionals, identifying the effects of chronic, slowly
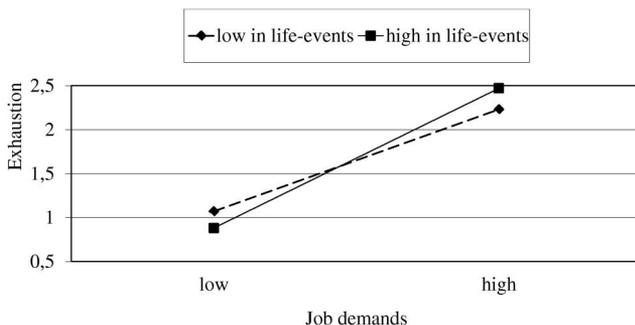

Figure 2. Joint effects of job demands and negative life events on women's exhaustion.
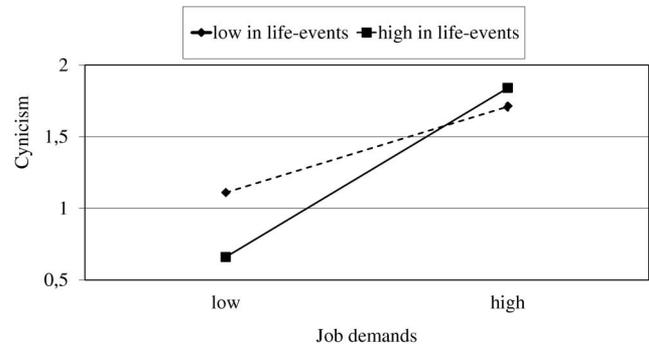

Figure 3. Joint effects of job demands and negative life events on women's cynicism.

increasing job demands may be more difficult than identifying problems that arise due to a lack of energy and time at home.

All in all, there is ample research linking stress and negative private life events to both physical health outcomes and even mortality (Lantz, House, Mero, & Williams, 2005) and mental disorders such as depression (Bush, 1999). Not so much is known about the private life events and other nonwork stressors that may influence burnout and other types of employee well-being. Our research example suggests that it might be worthwhile taking a deeper look at the interface between life events and occupational stressors as well as resources that may mitigate the joint negative effects of stressors at work and those in one's private life. From a practical point of view, when burned out employees consult (occupational) health professionals, the symptoms may have already lasted for so long that not only work but also the home domain is suffering, and it may be difficult to detect the causes of ill health.

Recent Developments in Burnout Research

Although there is still scanty research on burnout from the life-course perspective, research on burnout has seen several developments that are worth mentioning. We discuss here six trends in the literature, namely (a) diary studies on burnout; (b) self-undermining as a possible explanatory factor; (c) a multilevel approach to burnout; (d) interventions; (e) the link between burnout and health; and (f) a move toward work engagement.

Diary Studies on Burnout

Traditionally, burnout has been conceived as an enduring and static phenomenon that has detrimental effects on employee health and behavior (e.g., poor job performance and high levels of sickness absenteeism; Schaufeli, 2006). Consequently, most research focuses on factors that explain employee-based differences in burnout, as well as on the related outcomes. Although this research tradition has increased our understanding of the burnout phenomenon, it largely neglects the possibility that burnout symptoms (at least in the early phases of burnout) may fluctuate from day to day.

In a recent qualitative review, Xanthopoulou and Meier (2014) argued and showed that feelings of exhaustion, cynicism, and reduced professional efficacy may vary from day to day according to daily work events and daily recovery opportunities. They used the affective events theory (Weiss & Cropanzano, 1996) to illus-

trate that teachers may experience high levels of fatigue on the days they have a conflict with the school principal or when confronted with pupil misbehavior. In contrast, teachers may feel proud on the days pupils perform well on a complex math test, or happy when colleagues offer help and show appreciation. Gross and his colleagues (2011) found evidence of such effects. The authors conducted a diary study among employees in a Swiss government agency to investigate the impact of daily work events on end-of-day fatigue. Participants were asked to fill in the diary as soon as a negative or positive event took place during working hours, and to report on the nature and valence of the event. Negative events such as interpersonal conflicts with colleagues and situational constraints, including delays, were important predictors of daily fatigue.

Xanthopoulou and Meier (2014) also showed that if employees do not recover from work-related effort in the evening during off-work hours, they fail to replenish their energetic resources and accumulate daily burnout experiences. According to the authors, such a daily strain process may facilitate the occurrence of chronic burnout. Daily recovery is important, because when people relax in the evening and detach themselves from their work, they prevent chronic fatigue and may gain new psychological resources (e.g., through mastery experiences) that can be used during the next working day (Ten Brummelhuis & Bakker, 2012). Future studies should investigate how everyday burnout symptoms develop over time and are related to chronic job burnout.

Multilevel Approach to Burnout

One possibility is that the experience of chronic levels of job burnout exacerbates the daily experience of burnout symptoms. Bakker and Costa (2014) proposed such a multilevel model of burnout. They argue that when employees are chronically fatigued and have become cynical about their work, they encounter more problems in dealing with their daily job demands. Moreover, those with high levels of chronic burnout may be less able to mobilize and profit from their daily job resources, such as social support, opportunities for growth, and feedback. One problem is that when people are highly negative and cynical about their work, they are less attractive as social company. Another problem is that when employees experience increased levels of burnout, they are less open to new information (e.g., feedback), and less willing to learn new things—because they lack the energy and personal initiative needed for active learning (Simmering, Colquitt, Noe, & Porter, 2003). Thus, chronically burned out employees are less likely to profit from the gain cycle of daily job resources, daily work engagement, and daily job crafting put forward by the JD–R theory (Bakker & Demerouti, 2014). This is problematic, because daily job resources are needed to cope with daily job demands. In addition, given that job resources have motivational potential (Hackman & Oldham, 1980), not being able to profit from daily job resources means low levels of work engagement on a daily basis. Taken together, these arguments and findings suggest a multilevel problem: Chronic burnout may facilitate the development and accumulation of daily burnout symptoms.

Self-Undermining

A growing literature suggests that employees at risk of burnout may create more job demands over time. When employees have

become exhausted and develop a strong aversion to their job, they are less likely to put effort into their work and more likely to make mistakes. Reduced effort and increased mistakes diminish work performance, which may lead to an accumulation of job demands. For example, Demerouti, Bakker, and Bulters (2004) found that the employees of an employment agency who faced higher job demands were more likely to let their work interfere with their private lives, and to experience emotional exhaustion. In addition, those who experienced the highest levels of exhaustion were most likely to be faced with new job demands. Later studies have also suggested that employees may end up in a vicious circle of job demands and burnout (Schaufeli, Bakker, & Van Rhenen, 2009).

Bakker and Costa (2014) have coined the term "self-undermining" to refer to the dysfunctional and self-defeating behaviors employees may engage in when they experience high job stress. Self-undermining refers to "behavior that creates obstacles that may undermine performance" (p. 115). Consistent with their theoretical analysis, Bakker and Wang (2016) showed that self-undermining behaviors such as making mistakes, creating stress, and causing conflicts were positively related to job demands and burnout in Romania and in the U.S. In addition, using two samples of Chinese employees, they showed that self-reports of self-undermining were positively related to supervisor ratings of self-undermining. Moreover, as predicted, self-undermining was negatively related to (supervisor ratings of) job performance, through burnout. Self-underminers were also slightly less likely to be proactive, craft their jobs, or be engaged in their work. These preliminary findings indicate that self-undermining is a serious problem for employees who experience high levels of burnout. On the basis of the JD-R theory, one may argue that when employees burn out through their work, they are no longer capable of dealing with high job stress. These employees therefore need external help or resources in order to prevent further deterioration of their well-being. New longitudinal research is needed to investigate the importance of self-undermining for prospective burnout.

Interventions

Following the latest version of the JD-R theory (Bakker & Demerouti, 2014), burnout interventions seem most likely to be effective when employees encounter challenging job demands, but not too many hindrance job demands; have access to sufficient job resources; and have sufficient personal resources. The JD-R theory proposes two possible routes to preventing burnout and fostering work engagement (Bakker, in press). The first route is top-down, when management uses strategic HRM measures to optimize the work environment, or facilitates leaders to use transformational leadership and provide sufficient job resources for subordinates. The second route is bottom-up, in which employees optimize their work environment themselves.

Through job crafting, employees may proactively search for job challenges and job resources (e.g., start a new project, ask for support and feedback) and reduce their hindrance job demands (e.g., remove role ambiguity), in this way satisfying their psychological needs and preventing burnout. Although there is some evidence of the effectiveness of top-down interventions (Leiter & Maslach, 2014), it is limited, and future research may profit from closer collaboration between academic researchers and practitioners. It is still unclear whether organizations can really reap

benefits from large-scale interventions and in this way prevent employee burnout. However, recent research has indicated that job crafting may be an interesting and promising alternative. For example, van Wingerden, Bakker, and Derks (2016) showed that teachers who followed job crafting training optimized their work environment, increased their personal resources, avoided burnout symptoms, and improved their job performance. In addition, Gordon et al. (2016) reported the results of two interventions among nurses and doctors, and found that relatively short job crafting interventions optimized work and resulted in work engagement and better job performance. Van den Heuvel, Demerouti, and Peeters (2015) reported similar findings: Although the authors did not include burnout as a dependent variable in their study, they found that the intervention had significant effects on negative affect and other outcomes.

These findings suggest that interventions that are tailored to the preferences and abilities of employees may hold promise for the prevention of burnout, because through job crafting, employees optimize their job demands and job resources, and increase their personal resources. However, it is still unclear whether employees who are at risk of burnout are able to engage in job crafting. According to Bakker and Costa (2014), employees who are in the later stages of burnout need external resources in order to deal with their job demands. If such resources are not provided, burned out individuals will probably not be able to escape the loss cycle of high job demands, exhaustion, and self-undermining behaviors. Future research should address the question as to whether job crafting is an option for those experiencing high levels of burnout, and should test whether large-scale interventions combined with bottom-up job crafting attempts can be successful.

Burnout and Health

Before the 2000s there was very little research on the consequences of the burnout syndrome compared to studies on its potential causes. For example, in their review, Schaufeli and Enzmann (1998) could refer to only one study that had investigated objectively diagnosed health indicators in relation to burnout, and longitudinal research was sparse. During the 2000s, significant progress has been achieved in understanding how burnout may relate to different health indicators, also longitudinally.

The health indicator most often investigated in burnout research has been depressive symptoms. However, even the increase in longitudinal studies and combining self-reported with more objectives measures have not been able to fully solve the relation between burnout and health: For example, burnout has predicted depressive symptoms but not vice versa when using a variable-centered approach (Hakanen et al., 2008), but burnout and depressive symptoms have developed in tandem when using a person-centered approach (Ahola, Hakanen, Perhoniemi, & Mutanen, 2014). In addition, according to a nationally representative study by Ahola and colleagues (Ahola et al., 2005) only half of those with severe burnout had some depressive disorder based on DSM–IV criteria. Because of conceptual and measurement challenges, inconclusive evidence, and, for example, lack of consideration of the heterogeneity of depressive disorders, a recent comprehensive review concluded that the evidence on the singularity of the burnout phenomenon is inconsistent (Bianchi, Schonfeld, & Laurent, 2015).

By now many studies have also indicated that burnout is related to different independently assessed mental and physical health outcomes, such as anxiety disorders, musculoskeletal diseases, and cardiovascular disorders, and that it predicts sickness absenteeism, new cases of coronary heart disease, and the onset of Type 2 diabetes (see for a review, Ahola & Hakanen, 2014). Research on the burnout–health relationship has advanced considerably and is one of the most flourishing topics in burnout research. This can also be seen in the journals that have published on burnout during the 2000s, as a Scopus search on papers including burnout in the title yields twice as many studies published in medical compared to psychological journals (2,259 vs. 1,122). Future research should pay more attention to the mechanisms explaining the relationship between burnout and different health indicators. Another important question is whether burnout and ill health (other than depressive symptoms) reciprocally influence each other, leading to vicious circles in the long term (Ahola & Hakanen, 2014).

Move Toward Work Engagement

For a long time, a proper construct to illustrate the positive antipode of burnout was lacking. An enormous boost in engagement research took place after the conceptualization of the opposite of burnout, that is, work engagement as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption." (Schaufeli, Salanova, González-Roma, & Bakker, 2002, p. 74), and the introduction of an instrument to measure it (the Utrecht Work Engagement Scale). Numerous studies using the JD-R model have indicated that burnout is mainly associated with high job demands (e.g., workload, role conflicts, emotional dissonance) and to a lesser extent with job resources, whereas work engagement is related to job resources (e.g., skill discretion, social support, appreciation). As regards outcomes, burnout has been particularly associated with health-related outcomes, and work engagement with performance measures (e.g., Rich, Lepine, & Crawford, 2010) and work-related attitudes such as organizational commitment (Hakanen et al., 2008).

Work engagement in particular has been found to relate quite strongly with job performance. For example, Xanthopoulou and her colleagues (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009) found that day-level work engagement of workers of a fast-food company positively predicted objective daily financial returns. In addition, after controlling for working hours and several other possible confounders, work engagement was positively associated with the clinical productivity and pay level of Finnish public sector dentists (Hakanen & Koivumäki, 2014). Although not directly hypothesized in the JD-R theory, work engagement has also predicted health, such as better subjective work ability (Airila et al., 2014), less depressive symptoms, and more life satisfaction over and above the impacts of burnout (Hakanen & Schaufeli, 2012). Future research on work engagement could for instance investigate in more detail the health enhancing properties of work engagement and how work engagement and job performance are related to each other over time.

Six Suggestions for Future Research on Burnout

Above we discussed the recent developments in burnout research and briefly mentioned some interesting further research

questions related to them. Now we suggest six topics for future research on burnout. Burnout research is flourishing, and the list can only be a suggestion. We believe that these topics are important and hope that they will inspire researchers.

1. Development and fluctuation of burnout over the working career and life course. Instead of piecemeal research on burnout, it would be valuable to aim at more comprehensive longitudinal research designs with repeated measures to understand the process of burning out (and recovering from burnout) from the working career, life events, and life-course perspective (see Figure 4). It has also been argued that life events as a broad category may be too undifferentiated as units of analysis and focusing more closely on resource losses (and gains) related to life events could lead to stronger evidence on their influences on well-being (Hobfoll, Tracy, & Galea, 2006). Many acute and chronic conditions at work and in life in general may imply different levels of resource losses and gains depending on age, generation, and life stage. For example, De Lange and her colleagues found differences in the types of demands and resources predicting future emotional exhaustion in different age groups (De Lange et al., 2006). Thus, research designs could be planned that better take into account age, which generation one belongs to, and present life stage and not only control for the impact of age as it is conventionally done.

Another promising method to better capture the process of burning out and recovering from symptoms is the multilevel approach described above. In addition, measuring home demands and resources, and negative and positive life events, would shed more light on well-being at work and at home.

2. Burnout in the era of information explosion. Most people today are increasingly exposed to information both at work and during leisure time. The new generation, the digital natives, have grown up with games. Although many of them are likely to be highly competent in digital technology, we expect that employees will be constantly exposed to cognitive demands in the future, which means that they will not recover during free time. Traditional risk factors for burnout such as emotional demands and workload may be accompanied with a new cause of burnout, that is, cognitive overload. With growing cognitive demands, a promising new research avenue concerns fatigue/burnout and cognitive functioning (Hopstaken, Van der Linden, Bakker, & Kompier, 2015; Sokka et al., 2016). Research should focus on this growing risk factor and how to manage it.

3. Burnout in new work contexts and in changing work life. Burnout is usually investigated in traditional work settings and traditional jobs. More research is needed to understand the changing nature of work. For instance, more people are working in virtual and global teams. Many people need to have multiple part-time jobs to earn their living. Numerous start-up companies have emerged, and whereas some of them are growing fast, others will not succeed. Because of globalization, digitalization and robotization, many old jobs are under threat and will disappear while new ones will emerge. Even traditional jobs are undergoing many changes, requiring workers to achieve more with less resources. Thus, in many areas the nature and combination of job demands and resources and the risk of burnout are still unknown, and more research is needed.

4. Relationship between burnout and job performance. The evidence on the associations between burnout and job performance is still quite meager (Taris, 2006). One reason for the weak association is that which we mentioned earlier, namely that employees who are at risk of burnout increasingly invest their resources (breaks, leisure time) in their work in order to maintain their performance level. More research focusing on the dynamics between resource investments at work and at home could provide new insights into job performance. A related issue is that the samples often consist of employees with fairly low levels of burnout. Investigating burnout and performance among those with both low and high levels of burnout could result in more variance and stronger evidence of the deteriorating impact of burnout on performance. Moreover, it would be important to study this relationship longitudinally: Are burnout and performance reciprocally related? One more promising avenue would be to investigate the moderators that either buffer or alternatively enhance the effects of burnout on performance (e.g., Demerouti, Bakker, & Leiter, 2014).

5. Recovery from severe burnout. Thus far, very little is known regarding whether and how severely burned out employees recover, and about what happens in their lives after recovery. In her qualitative interview study among Canadian burned out employees, Bernier (1998) identified a recovery process of six stages: Admitting the problem, distancing oneself from work, restoring health, questioning values and building new values, exploring work possibilities, and finally, making a break or making a change. However, more research is needed among those who are not working and are at home because of sick leave, as well as among those who have dropped out of the labor market altogether because of loss of work ability or some other reason. In addition, it is still unknown whether people can fully recover from severe burnout and what factors enable full recovery. We have met several burned out employees who have told us that after returning to their jobs they have become sensitive to the signs of job stress feelings and working conditions that remind of them of burnout. It is remarkable that of the 20 people Bernier (19998) interviewed, only one returned to the very same job. Thus, research should not only focus
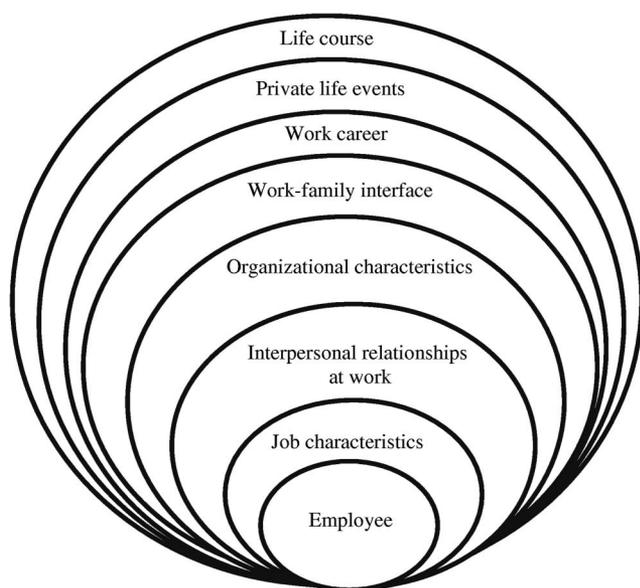

Figure 4. Multiple perspectives to the study of burnout.

(Figure labels, from outer to inner: Life course; Private life events; Work career; Work-family interface; Organizational characteristics; Interpersonal relationships at work; Job characteristics; Employee)

on the risk factors and outcomes of burnout, but also on how to recover from it once it has occurred.

6. Is being "on fire" a risk factor for burnout? One of the most cited and taken-for-granted statements of burnout research has posited that "in order to burn out a person needs to have been on fire at one time" (Pines, Aronson, & Kafry, 1981, p. 4) suggesting that work engagement could lead to burnout. Although burnout and work engagement are nowadays often included in the same statistical models, they are used as parallel variables (mediators) and not even longitudinal studies examine their temporal relationship. On the basis of what is known of the resource caravans associated with engaged employees (job and personal resources, better well-being and health), one could also hypothesize that engagement actually protects from burnout. Indeed, the first author of this paper and his colleagues (Hakanen, Peeters, & Schaufeli, 2016) found that work engagement actually predicted less burnout, and not vice versa, over a 4-year study period.

More generally, research on employee well-being would benefit from more often including several states and types of well-being (e.g., burnout, work engagement, job boredom, job satisfaction) in the same study to gain a better understanding of the unique contributions of each construct. A study of the unique contributions of different indicators of employee well-being (burnout, work engagement, job satisfaction, and workaholism) to the different types of job crafting behaviors found (Hakanen et al., 2016), for example, that whereas work engagement predicted crafting more resources and challenges and less hindering demands, job satisfaction was not related to any of the job crafting types over time.

Conclusions

Almost 40 years since the start of burnout research and after thousands of publications, burnout research is still flourishing. In this article, we reflected on the ideas, research gaps, and challenges in publishing our multidisciplinary paper (Hakanen et al., 2011). We also presented some findings concerning another life-course related and understudied topic in burnout research, namely negative life events and their role in burnout. In addition, we named and discussed six areas in which burnout research has advanced considerably in recent years and suggested six key topics for future research in this area. For example, more research from the life-course perspective, investigating burnout in new work settings and jobs, and studying recovery from severe burnout are important future directions for burnout research. By conducting theory-driven research, focusing on an individual's wider life context and work career, and using both diary, "shortitudinal" (Dormann & Griffin, 2015), and longitudinal study designs, it is possible to gain a deeper and more comprehensive understanding of burnout and thus have better means to prevent this major well-being disturbance at work.

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