



Leadership behavior and employee well-being: An integrated review and a future research agenda^{☆,☆☆}

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A B S T R A C T

Leadership behavior has a significant impact on employee behavior, performance and well-being. Extant theory and research on leadership behavior, however, has predominantly focused on employee performance, treating employee well-being (typically measured as job satisfaction) as a secondary outcome variable related to performance, rather than as an important outcome in and of itself. This qualitative state of the science review examines the process by which leadership behavior (i.e., change, relational, task, passive) affects employee well-being. We identify five mediator groupings (social-cognitive, motivational, affective, relational, identification), extend the criterion space for conceptualizing employee well-being (i.e., psychological: hedonic, eudaimonic, negative; and physical), examine the limited evidence for differential processes that underlie the leader behavior-employee well-being relationship and discuss theoretical and methodological problems inherent to the literature. We conclude by proposing a theoretical framework to guide a future research agenda on how, why and when leadership behavior impacts employee well-being.

Introduction

Management research needs to strive for higher impact (George, 2016). Specific attention has been drawn to tackling Grand Challenges such as those formulated in the Sustainable Development Goals (SDGs) of the United Nations (UN), with SDG #3 focusing on “good health and well-being” (George, Howard-Grenville, Joshi, & Tihanyi, 2016), which is becoming increasingly important for policy-making, research and practice globally (e.g., Grant, Christianson, & Price, 2007). Leaders play a pivotal role in organizations and their behavior has a significant impact on the work behavior, performance and well-being of their employees (e.g., Avolio, Walumbwa, & Weber, 2009; Kuoppala, Lamminpää, Liira, & Vainio, 2008). The leadership literature, however, has largely neglected research on employee health and well-being in favor of employee performance (Grant et al., 2007), even though the relationship between well-being (conceptualized as job satisfaction) and performance is modest at best (e.g., Judge, Bono, Thoresen, & Patton, 2001). Moreover, when included in leadership research, employee well-being has either been treated as a secondary outcome or as a mediator that helps explain the leadership-performance relationship (e.g., Montano, Reeske, Franke, & Hüffmeier, 2017). That is, employee

well-being has generally not been considered as an important outcome in and of itself.

Leadership researchers have typically equated well-being with job satisfaction (e.g., Kuoppala et al., 2008). From a criterion perspective, however, this narrow focus on job satisfaction does not fully capture the concept of employee well-being, which is multi-dimensional (e.g., Grant et al., 2007) and can be measured at broad (e.g., general health) as well as at narrow levels (e.g., specific affects: Warr, 2013). Moreover, other important well-being and health outcome variables linked to psychological and physical health (e.g., thriving, sleep quality) are ignored. While the association of leadership with employee job satisfaction is relatively well-established, we cannot infer that relationships between leadership and other well-being outcomes are similar. The same leadership behavior can result in trade-offs between different dimensions of well-being, where actions that may improve, for example, psychological well-being can be detrimental to physical well-being (Grant et al., 2007).

The upshot of this discussion is that the majority of leadership researchers have failed to take employee well-being seriously enough. Thus, our understanding of the impact of a leader's behavior on employee well-being is underdeveloped and narrowly-focused. Studies

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that have examined the influence of leadership behavior on follower well-being, beyond that of job satisfaction, focus on narrow aspects of well-being and apply theories and approaches that were principally designed for improving employee performance, rather than well-being (e.g., see Skakon, Nielsen, Borg, & Guzman, 2010, for a review on leadership and employee affective well-being; Montano et al., 2017, for a review on leadership and employee mental health). Moreover, prior reviews have focused on specific leadership styles and outcomes without systematically examining the processes that underlie the relationship between leadership behavior and well-being (e.g., Arnold, 2017; Harms, Credé, Tynan, Leon, & Jeung, 2017; Montano et al., 2017; Skakon et al., 2010). To fill this lacuna, the overarching objective of our paper is to conduct a state of the science review of leadership research that examines the processes by which leadership behavior impacts employee well-being. Our qualitative review seeks to answer the following questions: What kinds of mediational processes have been examined that clarify the relationships between specific leadership behaviors and different forms of well-being? Can we identify differential relationships between specific leadership behaviors and specific forms of employee well-being? What is the state of science of theory and methodology applied in empirical studies that have investigated leadership behavior, mediational processes and employee well-being?

To address these questions, our review has three primary research goals: First, to get a better understanding of the mediational processes through which leadership behavior affects employee well-being. Second, to extend the criterion space for conceptualizing employee well-being in leadership research, which we argue is essential for identifying differential processes in the leadership behavior-employee well-being relationship. Third, to understand theoretical and methodological issues inherent in the literature to guide a future research agenda on how, why and when leadership behavior impacts employee well-being.

Our review contributes to the leadership and well-being literature in the following four ways. First, it identifies five theory-driven mediator groupings in the leadership-well-being relationship. One of the key findings from our review is that the most frequently measured mediators were social-cognitive (e.g., follower self-efficacy and empowerment) and relational (e.g. trust) in nature and little research has focused on affective pathways (e.g., follower and leader affect) and identification processes (e.g., follower identification with the leader). By delineating the mechanisms through which leadership unfolds, it not only helps develop explanatory theories of leadership but also has practical implications for how to improve employee well-being (Wegge, Shemla, & Haslam, 2014).

Second, our paper expands the well-being criterion space beyond job satisfaction and other positive forms of psychological well-being, in particular hedonic well-being. The narrow focus on job satisfaction in the leadership literature is lagging behind the growing interest in eudaimonic forms of well-being (such as thriving; Spreitzer, Sutcliffe, Dutton, Sonenshein, & Grant, 2005) in the wider organizational behavior and psychological literatures (Gallagher, Lopez, & Preacher, 2009; Warr, 2013). Our review distinguishes between negative and positive forms of psychological well-being and within positive well-being between hedonic and eudaimonic types. In addition, we also review physical well-being. Such a distinction is not only important for examining differential relationships between leadership behavior and employee well-being, but also for investigating potential trade-off effects between well-being criteria. Results of our review demonstrate, however, that few studies measured negative well-being¹ (e.g., burnout) and hardly any studies considered physical well-being.

¹ We decided to use the term “negative well-being” in this paper as it appears to be the most commonly used term in the clinical, health and organizational psychology literature (e.g., Huppert & Whittington, 2003; Linley & Joseph, 2007) and it is also consistent with the philosophical origins of well-being as a construct (e.g., Plato).

Third, we review differential relationships between leadership behavior and employee well-being. Differential processes can take many forms: for example, an array of leadership behaviors may influence a particular kind of well-being through different mediational pathways, and the same leadership behavior may have differential effects on a variety of well-being via alternative mediational processes. We conclude that the literature to date has had a disproportionate focus on change-related forms of leadership (especially transformational leadership) and that this area of research is very much emergent. Our review points to some limited evidence of social-cognitive (self-efficacy) and relational (e.g., trust) mediator pathways between transformational leadership and hedonic forms of well-being (typically job satisfaction). However, the current state of the literature does not allow us to draw firm conclusions about the differential processes.

Finally, our review shows that theories and methods are underdeveloped. For example, the choice of mediational and well-being variables is often not strongly theory-driven, but appears to be based on leadership approaches. Our review also demonstrates that very few studies consider the relationship between leadership behavior and well-being to be a process – both theory and research design are usually based on the implicit assumption that this relationship and the constructs involved are static, as reflected in the predominantly cross-sectional research designs. Of concern is also the observation that research designs are overwhelmingly common-source (using follower-rated measures), which constitutes a serious methodological problem. To address these theoretical and methodological issues, we develop a future research agenda on leadership behavior and employee well-being by integrating two well-established theories of well-being: the conservation of resources (COR) theory by Hobfoll (1989) and Diener's modified adaptation theory (Diener, Lucas, & Scollon, 2006). In doing so, we develop a pathway for a future research agenda that is grounded in a differentiated view of employee well-being and a process and resource-based perspective of the leadership behavior-well-being relationship. The integration of these established well-being theories for application in leadership research is not only of theoretical relevance, but also of methodological significance as it can help inform choice of constructs and research design. In short, we propose a theoretical framework to guide a future research agenda on how, why and when leadership behavior impacts employee well-being.

The review is structured around four main sections. First, we outline our theoretical approach to the review. Next, we describe the methodology that we applied to search and code papers. We then discuss the results of our review, organized by our three research goals. Finally, we discuss implications for research on leadership and employee well-being and based on those, develop a theoretical framework to guide a future research agenda.

Theoretical approach to review

As the literature on leadership behavior and employee well-being, which also takes into account mediation processes, is still emergent, it was best suited to a selective, qualitative review. This enabled us to examine theoretical and methodological issues, which served as a starting point for our objective to advance a more comprehensive theoretically-guided future research agenda. Our review focuses on leadership behaviors, as these are more proximal to the well-being of followers than leader characteristics such as personality traits, and the recent literature has provided comprehensive reviews of the link between leader characteristics and leader behaviors (e.g., DeRue, Nahrgang, Wellman, & Humphrey, 2011). To organize the literature, we applied a taxonomy that distinguishes between types of leadership behaviors. Yukl proposed a hierarchical taxonomy based on three major types of leadership behavior: task, relations and change-oriented (Yukl, 2013; Yukl, Gordon, & Taber, 2002). Extending Yukl's approach, DeRue et al. (2011) also categorized leader behaviors into Task-oriented, Relational-oriented and Change-oriented and added Passive Leadership

(Laissez-faire). DeRue et al. (2011) classified leadership behaviors associated with transactional leadership (Bass & Bass, 2008) such as contingent reward and management-by-exception active, initiating structure, boundary spanning and directive styles as task-oriented. The relational-oriented category includes leadership behaviors such as participative leadership (e.g., Kahai, Sosik, & Avolio, 1997) and empowerment leadership (e.g., Amundsen & Martinsen, 2014). We also classified leadership behaviors described as supportive as (e.g., House, 1981) relational-oriented as they generally tap into the core of relationship-oriented leadership². Change-oriented leadership behaviors comprise transformational, charismatic and inspirational, while passive styles are characterized by management by exception-passive and Laissez-faire (DeRue et al., 2011). Previous meta-analyses have shown that these categories of leadership behaviors have differential validities in predicting not only specific follower behaviors such as performance, but also job satisfaction (e.g., DeRue et al., 2011; Piccolo et al., 2012).

In addition, we distinguish between specific dimensions of well-being to examine relationships between leadership behaviors and employee well-being. Austin and Villanova (1992) raised the issue of operationalizing and measuring criteria in relation to job-role behaviors. In line with recommendations to align predictors and criteria better in research and practice (Austin & Crespino, 2006), performance taxonomies have been developed that differentiate between, for example, task and contextual performance (e.g., Borman & Motowidlo, 1993). The same argument can be applied to the criterion space of work-related well-being, and this points to differential relationships between specific job features and forms of job related well-being (e.g., Crawford, LePine, & Rich, 2010).

Our review centers on the relationship between leadership behaviors and the processes that impact psychological and physical well-being in the employee at the individual level. Psychological well-being is broadly defined in terms of “subjective experience and functioning”, while physical well-being encompasses “bodily health and functioning” (Grant et al., 2007, p. 53). Physical well-being is receiving increasing attention in management research and is an important well-being outcome in the experience of work-related stress (e.g., Ganster & Rosen, 2013). Past reviews have emphasized psychological well-being in relation to leadership (e.g., Skakon et al., 2010), with the exception coming from the medically-oriented literature (e.g., Kuoppala et al., 2008).

Psychological well-being can be operationalized in terms of affective (i.e., feeling, e.g., Warr, 2013) and cognitive processes (i.e., thinking). Both form part of well-being composites or cognitive-affective syndromes which “embody interlinked ideas, recollections, perspectives and mental networks as well as merely affect” (Warr, 2013, p. 80). These include, for example, job engagement, job satisfaction and burnout. We distinguish between positive and negative forms of psychological well-being as leadership behaviors can have differential relationships with these constructs. Within positive forms of well-being, we further differentiate between hedonic well-being, which emphasizes the subjective experience of pleasure, and eudaimonic forms of well-being, which stress subjective vitality (Gallagher et al., 2009; Warr, 2013). Examples of hedonic well-being are contentment, comfort, satisfaction, and serenity (Warr, 2013), while eudaimonic well-being involves “the positive feeling of aliveness” and energy (Warr, 2007, p. 41, citing Ryan & Frederick, 1997) and includes personal growth, learning and vitality as captured in the concept of thriving (e.g., Spreitzer et al., 2005).

In our approach to reviewing the literature, we extend DeRue et al.'s (2011) model of leadership behaviors. In doing so, we distinguish

between different kinds of follower outcomes, focusing on psychological and physical employee well-being. Leadership is inherently a process, and in adopting a similar process approach to Fischer, Dietz, and Antonakis (2017) we examine mediators to understand the psychological processes through which leadership behaviors affect follower well-being. From a theoretical perspective, we consider that one of the primary ways in which leader behavior can influence employee well-being, is through the resources that leaders can provide to their followers via their behaviors. COR theory (Hobfoll, 1989) – which posits that individuals are motivated to acquire and reinvest resources, to grow these further, and protect them in order to avoid losses – is one lens through which to understand these processes. This theory has been widely applied to understand processes leading to well-being, in particular stress, burnout and exhaustion (e.g., Baer et al., 2015; Halbesleben, 2006). More specifically, leaders can enable resources that affect well-being by shaping the work environment through opportunities for rewards, autonomy, skill discretion and being a source of social support themselves (see Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014, for an overview). Through the social interaction with leaders, followers form beliefs about themselves and their work environment (see social information processing theory: Salancik & Pfeffer, 1978) and their ability to acquire and build resources (Halbesleben et al., 2014).

Method: Coding procedures and selective, qualitative review

Literature search

We searched relevant online databases (Business Source Complete, Medline, PsycINFO, and Psychology and Behavioural Sciences Collection via the EBSCOhost research databases) for articles that were published until February 2017. Search terms included: (1) *leader**, *manager**, *supervisor**; (2) *employee**, *subordinate**; and (3) *job satisfaction*, *well-being*, *wellbeing*, *health*. These search terms had to be stated within the article's abstract. Search results were then limited to articles published in English and peer-reviewed academic journals. Consequently, the literature search identified 5301 potentially relevant articles. In the next step, duplicate articles were removed and the articles' title and abstract were screened applying the following inclusion criteria: article covers an empirical study which (1) investigates an association between leadership and employee well-being (i.e., psychological and physical); (2) includes a measure of leadership style or specific leader's behavior, as well as a measure of employees' psychological or physical well-being; (3) does *not* measure destructive or abusive leadership styles or leaders' traits/personality; and (4) the respective journal's impact factor is equal to or higher than 1.0 (based on the Journal Citation Reports 2015). We chose this impact factor as an inclusion criterion to ensure that our review drew on studies that are generally representative of research in the field and met standardized criteria for research quality. We only included studies that empirically examined mediation as our review focused on processes in the leadership behavior-employee well-being relationship.

This screening process resulted in 384 articles of which 381 full-texts were retrievable. Next, the full-texts were screened by the author team and two research assistants to confirm the relevance of the article based on the listed inclusion criteria and to assess whether the discussed study examined a mediation process. The final sample of articles that examined leadership behaviors, employee well-being and deployed a mediation model was 71, which were then coded in depth.

Coding of primary studies

Data were extracted and coded by the author team and one research assistant using a standardized format. The articles were coded for research design, sample size, type of sample, context, theoretical approaches underlying the studies, leadership behavior, well-being

² We reviewed items of leadership behavior scales that did not clearly fit into the DeRue et al. (2011) categories. If these were defined as a distinct leadership behavior of their own (e.g., ethical leadership) we classified these as ‘other’ and considered these leadership behaviors separately in the review.

constructs, mediators and moderators and results were briefly summarized. Leadership behaviors were classified according to the DeRue et al. (2011) framework and employee well-being constructs were categorized as psychological or physical. If the well-being constructs were psychological, they were further coded as either positive (hedonic or eudaimonic), or negative. After agreeing on coding criteria, definitions for categories to be coded were provided and four authors and one research assistant coded 15 articles. Fleiss kappa was computed, a well-established measure of agreement for more than two raters (Fleiss, 1971), indicating high agreement for coding leadership behaviors (Fleiss kappa = 0.74) and perfect agreement for coding well-being constructs as dependent variables (Fleiss kappa = 1.0). Following that, all articles were coded by four authors and the research assistant. As an additional check, all coding was reviewed by one author and the research assistant, with identified inconsistencies (e.g., categorization of leadership behaviors) subsequently being discussed until consensus was reached. The Appendix Table provides an overview of all reviewed papers, organized by leadership behavior and well-being criteria.

Results

1. Mediator pathways by which leadership behavior affects employee well-being

As our literature search revealed, most studies on leadership behavior and employee well-being did not examine mediators, clearly reflecting that the mechanisms through which leadership behavior affects employee well-being have not been comprehensively studied in the extant literature. Of the 71 studies that we identified, 48% examined one mediator, 35% examined two mediators and 17% more than two. Based on the resource-based perspective of COR theory (Hobfoll, 1989) and our reading of the literature, we organized mediators in the leadership-employee well-being relationship into five theory-driven groupings, which we applied in our review to categorize mediators. These mediator groupings and their theoretical basis are summarized below (see Table 1 for an overview with example constructs and the Appendix Table for mediator constructs examined in all reviewed papers):

(a) Social-cognitive, based on social learning theory (Bandura, 1977, 1982), and social information processing (Salancik & Pfeffer, 1978), encompassing mediators such as self-efficacy, confidence related constructs (e.g., Stajkovic, 2006) and justice perceptions (e.g., Colquitt, 2001). Leaders play an important role in framing the experience, being part of and shaping the social environment of their employees. Salancik and Pfeffer (1978) emphasize that the immediate social context is an important source of information for constructing meaning “through guides to socially acceptable

beliefs, attitudes and needs, and acceptable reasons for action” (p. 227), and makes specific information more salient and shapes expectations concerning behavior. Embedded in a social context, a person's self-efficacy increases through enactive attainment, mastery experiences (e.g. of new challenging tasks), vicarious experiences, which involve observing the performance of others (e.g. Bandura, 1982), and verbal persuasion – all processes that leaders can influence.

The social-cognitive category also includes attributions about the organization (e.g., corporate social responsibility induced attributions; Ellen, Webb, & Mohr, 2006), vision integration (Kohles, Bligh, & Carsten, 2012) and fit with work culture alignment and strategy (Biggs, Brough, & Barbour, 2014). Psychological empowerment (Conger & Kanungo, 1988; Spreitzer, 1996) was also assigned here – a mediator that partially overlaps with the motivational category below as it also involves aspects related to meaningfulness.

(b) Motivational through job design (Hackman & Oldham, 1976), including, for example, job autonomy and task variety. The motivational path also encompasses behavior regulation and need fulfillment as posited by self-determination theory (e.g., Deci & Ryan, 2000). Work provides the opportunity for individuals to meet needs for competence, affiliation and autonomy (Deci & Ryan, 2000) and numerous studies have shown that job characteristics are linked to employee well-being (e.g., Crawford et al., 2010; Fried & Ferris, 1987). The leader shapes the followers' work environment and access to resources (e.g. autonomy, allocation of interesting tasks) and thus their motivation.

(c) Affective based on Affective Events Theory (Weiss & Cropanzano, 1996) and the emotion as information model (van Kleef et al., 2009; see also Gooty, Connelly, Griffith, & Gupta, 2010, for an overview), comprising direct measures of a leader's affect, mood and emotions. Leadership behavior influences follower affect through the direct display of their own emotions (e.g. van Kleef et al., 2009) as well as through events that trigger follower emotions (e.g. a positive or negative appraisal). We included in the grouping of affective mediators also follower affect and well-being, containing affective elements such as thriving and work engagement, as several studies tested such mediators, proposing these as resources (e.g. Hildenbrand, Sacramento, & Binnewies, 2016). This pathway emphasizes the followers' affect that is triggered by leadership behaviors such as communicating an inspiring vision, a key component of transformational leadership (Bass, 1985), which is suggested to energize followers (Hildenbrand et al., 2016).

(d) Relational, rooted in social exchange theories (Blau, 1964), leader-member exchange (LMX; Graen & Uhl-Bien, 1995) and perceptions of interpersonal justice (Colquitt, 2001). The followers' perceptions of the interaction and relationship with the leader can be a form of

Table 1
Overview of mediator groupings.

Mediator grouping	Theoretical grounding	Example constructs
(a) Social-cognitive	Social learning theory (Bandura, 1977), psychological empowerment (Conger & Kanungo, 1988), social signaling theory (Salancik & Pfeffer, 1978), confidence related (e.g., Stajkovic, 2006), procedural and distributive justice perceptions (Colquitt, 2001)	Self-efficacy, followers' perceived knowledge, skills and abilities, vision integration, fit with culture and strategy of organization, psychological empowerment
(b) Motivational	Job design (Hackman & Oldham, 1976), self-determination theory and behavior regulation (Deci & Ryan, 2000), goal-setting (Locke & Latham, 2002)	Job control, meaningful work, role overload, role conflict, role ambiguity, task variability, fulfilment of basic psychological needs
(c) Affective	Affective Events Theory (Weiss & Cropanzano, 1996), mood as information model (George & Zhou, 2007, van Kleef et al., 2009), affect and well-being as resources (COR theory; Hobfoll, 1989)	Leaders' affect, followers' affect (e.g., employee amplification of pleasant emotions), followers' well-being (e.g., work engagement, thriving, emotional exhaustion)
(d) Relational	Social exchange and related theories (Blau, 1964; Graen & Uhl-Bien, 1995), perceptions of interpersonal justice (Colquitt, 2001)	Trust, LMX, interactional justice perceptions, followers' attachment styles, psychological climate, cohesion, supervisor social support, workplace bullying
(e) Identification	Social identity theory (Tajfel & Turner, 1986); job identity (Kanungo, 1982)	Organizational identification, personal identification with the leader, group identification, job involvement

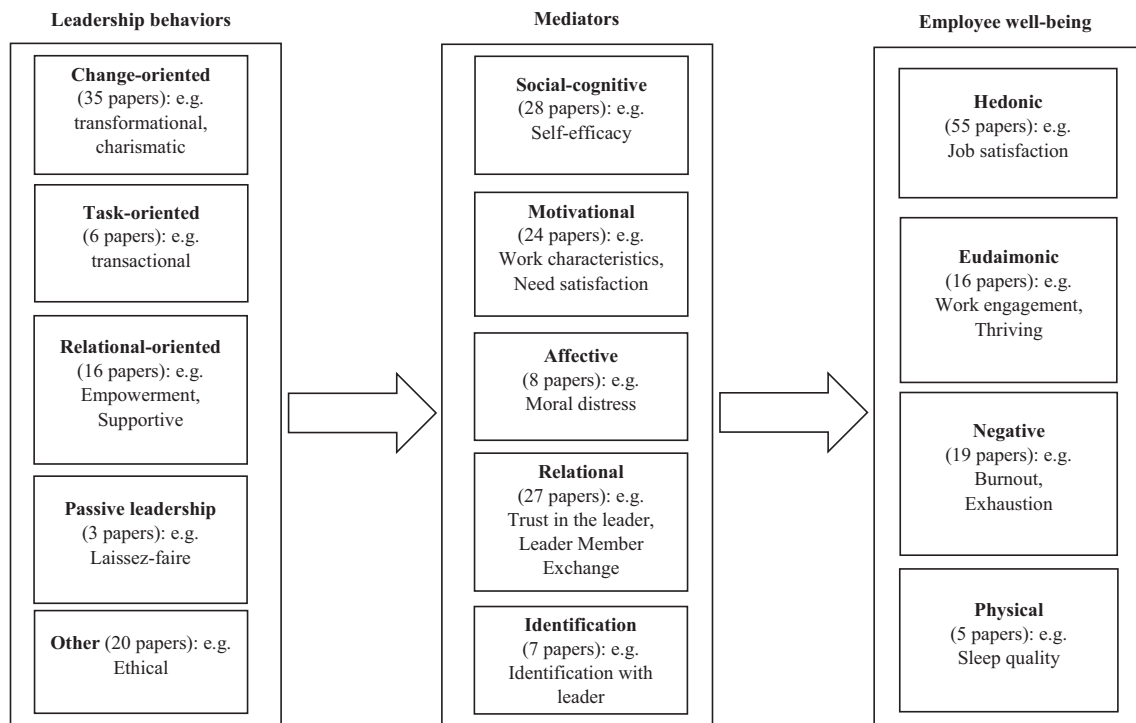


Fig. 1. Conceptual model and overview of examined leadership behaviors, mediators and forms of employee well-being in the reviewed papers.

support, a resource for followers, affecting their well-being (Halbesleben et al., 2014). Trust in the leader, for example, reflects the followers' "perceptions of being able to communicate openly with the supervisor on job-related problems without fear of negative repercussions" (Fulk, Brief, & Barr, 1985, p. 302) and has been linked to well-being (e.g. Braun, Peus, Weisweiler, & Frey, 2013).

- (e) Identification-related mediators, theoretically grounded in social identity theory (Tajfel & Turner, 1986) and job identity (Kanungo, 1982), which have been linked to well-being (e.g., Greenaway et al., 2015). Leaders shape their followers' self-concept through enabling the formation of a collective identity that followers integrate as part of their own identity (Lord & Brown, 2001). The followers' identification with the leader has been recognized as a "conduit through which leadership has many of its effects" (Ashforth, Schinoff, & Rogers, 2016, p. 28). Leadership behavior can also impact the followers' identification with the organization, team and their job (Ashforth et al., 2016), which in turn is likely to enhance employee well-being (Steffens, Haslam, Schuh, Jetten, & Van Dick, 2017).

As can be seen in Fig. 1, most papers focused on social-cognitive mediational paths (often: self-efficacy, psychological empowerment) and relational mediators (in particular trust and leader-member exchange), followed by motivation-related mediators rooted in job design (e.g. measuring task variety, autonomy and meaningfulness), job demands and self-determination theory (satisfied needs). Few papers focused on the affective and identification pathways and we did not identify a single study that conceptualized the leaders' affect (rather than the followers') as a mediator. The under-used affective and identification mediational pathways were surprising, given that the leadership process has a strong affective component (e.g., Gooty et al., 2010) and that the identification with the leader is an important aspect in the leadership process (e.g., DeRue et al., 2011; van Knippenberg & Sitkin, 2013). Another notable observation is that with the exception of a few studies that examined group level mediators (e.g., group identification), most mediators were measured through the followers' perspective – a point that we also discuss under methodological issues.

None of the reviewed studies considered the leader's perspective. The leader's view, however, would be a valuable additional perspective to help disentangle leader and follower actions, thoughts and cognitions in mediational processes.

Although well-executed studies provided some theoretical arguments for examining these mediators, often drawn from leadership theory (e.g., Braun et al., 2013), many studies cited separate theoretical approaches for specific mediators or previous empirical research and an overall rationale for choosing specific mediators in relation to a particular leadership behavior or several mediators was often lacking. None of the studies we reviewed explicitly addressed potential endogeneity issues (Fischer et al., 2017). Even when (non-hypothesized) differential relationships between leadership behaviors and different types of well-being criteria were observed, discussions typically did not raise the question of whether the chosen mediators were the most appropriate ones. In sum, our five theory-driven mediator groupings point to a lack of studies examining affective and identification-related mediators. Most frequently assessed mediators were of social-cognitive and relational kind, followed by motivational ones.

2. Differential relationships between leadership behaviors and employee well-being

The most frequently examined leadership behaviors were change-oriented with the majority of studies measuring transformational leadership (e.g., Braun et al., 2013; Nemanich & Keller, 2007; Vlachos, Panagopoulos, & Rapp, 2013). This was followed by forms of relational-oriented leadership behaviors such as empowerment leadership (e.g., Amundsen & Martinsen, 2015). Few studies included task-oriented leadership, and in all papers this was as an additional leadership behavior measured alongside change-oriented leadership (e.g., Ertureten, Cemalcilar, & Aycan, 2013). Only three studies examined a form of passive leadership (e.g., Barling & Frone, 2017). Leadership behaviors not captured by the DeRue et al. (2011) classification included ethical leadership (e.g., measure developed by Brown, Treviño, & Harrison, 2005) and authentic leadership (e.g., measure developed by Neider & Schriesheim, 2011).

Most studies assessed positive forms of well-being rather than negative ones. Within positive well-being, studies predominantly focused on hedonic forms, often as the only dependent well-being variable (typically job satisfaction: e.g., Hobman, Jackson, Jimmieson, & Martin, 2011; Zhu & Akhtar, 2014). Overall eudaimonic forms of well-being were under-represented but the increased interest in eudaimonic well-being was reflected in the growing number of recent studies that did measure forms of this construct, usually coming from the well-being rather than the leadership and organizational behavior literature (e.g., Hentrich et al., 2017; Nielsen & Munir, 2009). We only identified five studies that examined physical forms of well-being (e.g., sleep quality; Munir & Nielsen, 2009), all measured through self-report (e.g., using the General Health Questionnaire by Goldberg & Hillier, 1979).

As the literature on leadership behavior and employee well-being that also considers mediational processes is still emergent (Arnold, 2017), the evidence for differential mediational processes was limited. Many studies measured transformational leadership and job satisfaction and the strongest evidence (in terms of number of studies and consistency) points to positive mediation effects for change-oriented leadership and positive, hedonic well-being through relational (trust: e.g., Braun et al., 2013, Gilstrap & Collins, 2012; climate: Nemanich & Keller, 2007) and social cognitive pathways (e.g., empowerment: Barroso Castro, Villegas Perinan, & Casillas Bueno, 2008; Choi, Goh, Adam, & Tan, 2016; collective efficacy: Walumbwa, Wang, Lawler, & Kan, 2004). Results were not entirely consistent for relational mediators, possibly depending on the cognitive or affective emphasis of the relational aspect. For example, Pillai, Schriesheim, and Williams (1999) examined the effects of transformational and transactional leadership on job satisfaction via serial mediation through distributive and procedural justice perceptions (social cognitive mediators), then trust, but the path from trust to job satisfaction (and hence the mediation) was not statistically significant. Measuring trust as mediator, Zhu and Akhtar (2014) applied McAllister's (1995) distinction between cognitive and affective trust in leaders, concluding that affective but not cognition-based trust mediated the positive relationship between transformational leadership and job satisfaction.

Few studies examined the identification and affective pathways. Among those that did explore these pathways, Lian, Brown, Tanzer, and Che (2011) found identification with the leader mediated the positive relationship between change-related leadership and hedonic well-being (Lian et al., 2011) in two samples, while identification with the organization was only found to be a statistically significant mediator in one sample. Similarly, Cicero and Pierro (2007) reported a statistically significant effect for identification as a mediator, but the study by Hobman et al. (2011) did not (both studies measured group identification at the individual level). Hildenbrand et al. (2016) conceptualized thriving as a mediator (affective pathway), and found that it mediated the relationship between transformational leadership and burnout, with transformational leadership being positively related to thriving, which in turn was negatively related to burnout.

As mentioned earlier, only a small number of studies examined task-oriented leadership behaviors. Studies that measured both change-oriented and task-oriented leadership behavior suggest that these behaviors are differentially related to well-being outcomes, with transformational leadership being positively related to well-being through motivational constructs with intrinsic focus, while this was not the case for transactional leadership (e.g., Sung Min & Rainey, 2008). Ertureten et al. (2013) found workplace bullying to be a mediator between several leadership behaviors and hedonic well-being, but the magnitude of relationships was higher for transactional and authoritarian leadership compared to transformational and paternalistic leadership. Transformational, transactional and paternalistic leadership were negatively related to workplace bullying, while authoritarian leadership was positively related to it. Workplace bullying in turn was negatively related to job satisfaction.

The very few studies that examined passive leadership behavior

report a negative link with employee hedonic well-being through identification related (psychological ownership of the organization in small business: Bernhard & O'Driscoll, 2011), motivational (role overload, role conflict, role ambiguity: Barling & Frone, 2017) and relational (trust: Kelloway, Turner, Barling, & Loughlin, 2012) mediators.

It is difficult to draw conclusions about how leadership behavior affects eudaimonic forms of well-being due to the paucity of studies and inconsistent results. Most studies that examined eudaimonic well-being focused on change-oriented leadership and often examined motivational pathways such as job design or job demands, showing positive mediation effects (e.g., Arnold, Turner, Barling, Kelloway, & McKee, 2007; Hetland et al., 2015; Nielsen & Daniels, 2012). Several studies also found positive effects for relational leadership through relational and social-cognitive mediators (e.g., Biggs et al., 2014; Choi, Tran, & Kang, 2016) and motivational ones (e.g., Tuckey, Bakker, & Dollard, 2012). A few papers which assessed hedonic and eudaimonic well-being simultaneously provide some selective insight into differential processes. For example, Nielsen, Yarker, Brenner, Randall, and Borg (2008) found that transformational leadership was positively related to eudaimonic well-being through motivational mediators but via an identification-related mediator for hedonic well-being. Nielsen, Yarker, Randall, and Munir (2009) found that self-efficacy (social cognitive mediator) mediated the positive relationship between transformational leadership and eudaimonic well-being, but not with hedonic well-being, while team efficacy (also a social-cognitive mediator) mediated the positive relationship for both outcomes.

Based on the limited number of studies that measured negative well-being, it appears there are differential relationships between leadership behaviors and/or mediators to positive well-being and negative well-being. For example, Liu, Siu, and Shi (2010) found that change oriented leadership was positively related to job satisfaction and negatively related to perceived job stress through relational and social-cognitive mediators. They found that the effects were larger for the social-cognitive than the relational pathway predicting negative well-being, while they were similar for hedonic well-being. Holstad, Korek, Rigotti, and Mohr (2014) found that the relational mediator of supervisory social support only mediated the negative relationship between transformational leadership and irritation when the employees' professional ambition was moderate to high.

Taken together, several key observations address our second and third research goals. The literature has predominantly focused on the relationships between change-oriented leadership behaviors and hedonic types of well-being, which appear to be primarily mediated (based on limited evidence) through social-cognitive (e.g. self-efficacy, empowerment) and relational (e.g., trust) mediators. Expanding the well-being criterion space enabled us to point to gaps in the literature and to inconsistencies in research findings in those few studies that have examined eudaimonic and negative forms of well-being. These inconsistencies are likely to derive from theoretical and methodological issues which we discuss in the following section.

3. Theoretical issues

We argued that theoretical approaches are strongly grounded in leadership approaches, originally developed with performance and organizational effectiveness criteria in mind. Reviewing the literature confirmed this assertion. Generally, studies did not provide a strong theoretical basis for the mechanisms that explain the relationship between specific leadership behaviors and employee well-being. For example, most studies measured change-oriented leadership behaviors, usually as transformational leadership, which has been criticized for conceptual shortcomings (van Knippenberg & Sitkin, 2013), reflecting a lack of research investigating a comprehensive range of leadership behaviors in relation to well-being. In many of these studies, theory development relied on the conceptualization of transformational leadership (e.g., Bass, 1985) and past research that showed links between

transformational leadership and performance (van Knippenberg & Sitkin, 2013).

Similarly, no coherent theoretical overall framework was evident in the choice of mediators. For example, when trust was proposed as a mediator (relational), trust-based theories (e.g., Mayer, Davis, & Schoorman, 1995) were commonly cited and several studies measuring motivational mediators tended to focus on job design (e.g., Hackman & Oldham, 1976) or self-determination theory (Deci & Ryan, 2000). COR theory (Hobfoll, 1989, 2001) and other resource-based approaches (e.g., job demands-resources theory: Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), were more likely to be applied in studies that did not focus on job satisfaction as the (sole) well-being outcome variable (e.g., Braun & Peus, 2016; Hildenbrand et al., 2016; Tuckey et al., 2012). Very few studies provided well-developed theoretical justifications for why the chosen well-being construct(s) were examined in relation to one or several leadership behaviors. Linked to this point, very few studies attempted to conceptually align leadership behavior predictors and well-being criteria, let alone mediators. For an example of where the predictor, mediator and well-being criteria were conceptually concordant, see Koch and Binnewies (2015) who examined the effect of supervisors' work-home segmentation behavior on the employees' well-being (exhaustion and disengagement) – a process suggested to be mediated by the employee's job involvement, employee perceptions of their supervisor's work-life friendly role modelling and emotional work-life support.

As expected, hedonic well-being in the form of job satisfaction was the most commonly used well-being variable. Many studies viewed job satisfaction as part of organizational or employee performance outcomes, without considering differential relationships with the other outcomes investigated (e.g., Liao, Wayne, Liden, & Meuser, 2016). A recurrent justification for choosing job satisfaction as a dependent variable is that it is a frequently studied variable in organizational research and an antecedent of organizational outcome variables such as performance and turnover. Accordingly, conceptual models underlying hypotheses, were often not specifically developed with regard to well-being, but rather to predict a whole range of outcomes (e.g., job satisfaction alongside in-role performance and helping, Liao et al., 2016). When empirical results showed discrepant mediation effects for leadership behaviors and well-being and performance-related variables, possible differential processes were typically not discussed in depth. As part of the theory building process, approaches such as COR theory (Hobfoll, 1985) were applied, but the mechanisms linking leadership behaviors and employee well-being were often not sufficiently explained. Exceptions are studies such as Hildenbrand et al. (2016) that developed a model to understand why, for example, transformational leadership should have an impact on burnout via other well-being resources. Hildenbrand et al. (2016) used COR theory as the theoretical starting point to predict employee burnout, applying a taxonomy by ten Brummelhuis and Bakker (2012) to distinguish between specific types of resources (e.g. contextual vs. personal). Their model proposed leadership to be a contextual resource that affects personal resources (here: thriving), which in turn were suggested to be negatively related to burnout. Boundary conditions were also considered in the form of the personality trait openness to experience, which the authors conceptually linked to the leadership construct, mediator and well-being outcome.

Considering a resource-based perspective, it is surprising to find that negative relationships of positive leadership behaviors on employee well-being and underlying processes were – with very few exceptions – neglected, both theoretically and empirically. Hartline and Ferrell (1996) concluded that empowering leadership can have positive and negative effects on followers (p. 62): while “empowered employees gain confidence in their abilities, they also experience increased frustration (conflict) in their attempt to fulfill multiple roles at the organization's boundary”. They observed that empowered employees took on added job responsibilities which increased self-efficacy but also role ambiguity

and indirectly reduced job satisfaction. Baer et al. (2015) explicitly addressed the question of whether there can be “too much of a good thing”, finding that over time feeling trusted by the leader can result in higher perceived workload and emotional exhaustion.

4. Methodological and measurement issues

Although mediational models imply a temporal process (e.g., Fischer et al., 2017) most studies were cross-sectional. Fifteen studies were longitudinal or incorporated a longitudinal study in addition to a cross-sectional study. When the research design was time lagged or longitudinal, little justification was provided for why the given time lag was chosen. Only one study (Hetland et al., 2015) investigated fluctuations over shorter periods of time by employing a diary study design (in combination with a cross-sectional study). There was a lack of experimental studies or semi-experimental field studies – we only identified two (Biggs et al., 2014; Braun & Peus, 2016).

Results revealed inconsistencies between cross-sectional and longitudinally collected data. For example, when examining change-related leadership and eudaimonic well-being, Gillet, Fouquereau, Bonnaud-Antignac, Mokoukolo, and Colombat (2013) reported positive mediation effects in a cross-sectional study, proposing sequential motivational and social-cognitive mediators, while Nielsen and Munir (2009), examining a social-cognitive mediator, together with Nielsen, Randall, Yarker, and Brenner (2008), using motivational pathways, only found a direct effect in their longitudinal study, but no mediation effect. Tafvelin, Armelius, and Westerberg (2011) found only an indirect effect of transformational leadership on hedonic well-being through a relational pathway when measured longitudinally. The results of these studies illustrate the complexity of examining process models and based on the existing findings, we cannot isolate effects of different mediational constructs from research design issues. Differential processes can work in many ways, considering the number of leadership behaviors, mediation pathways and employee well-being constructs, however the extant literature does not provide sufficient answers on how these processes work. Two types of processes are worth highlighting as they have clear implications for leadership development. For example, (1) leadership behaviors may influence a particular kind of well-being through different mediational pathways; (2) the same leadership behavior may have differential effects on multiple forms of well-being via different mediational processes. As discussed earlier, our review points to some limited evidence that change-oriented leadership has a positive effect on hedonic well-being through social-cognitive (e.g. self-efficacy) and relational pathways (e.g. trust). Not enough studies are available to provide insight into how other leadership behaviors may influence hedonic well-being and through which mediational pathways.

Mediational pathways can also work differently depending on whether mediators are group or individual level constructs. For example, Nielsen and Daniels (2012) examined the relationship of transformational leadership (measured at group level and as individual differentiated perceptions from the group level) and job satisfaction (hedonic), vitality (eudaimonic), burnout (negative) and sleep quality (physical). Three mediators were proposed: meaningful work and role conflict (motivational) and cohesion (relational). At the group level, significant mediators were perceptions of meaningful work and role conflict for vitality, plus cohesion for job satisfaction. At the individual level, relationships between differentiated transformational leadership were mediated by social support, cohesion, role conflict and meaningful work (motivational mediators) for job satisfaction, while only meaningful work was a mediator for vitality and sleep quality. Nielsen and Daniels (2012, p. 392) conclude that “these group-level perceptions of working conditions appear to be related to individual-level well-being to a lesser extent than differentiated perceptions”.

Most studies measured all constructs (i.e., leadership behaviors, mediators, well-being variables) through the employees' (followers') perspective. Forty studies (56%) included remedies to deal with

potential issues resulting from using same source, same method data (Podsakoff, MacKenzie, Jeong-Yeon, & Podsakoff, 2003). These included temporally separating data collection, assuring respondents' anonymity and use of the Harman's single factor test (Harman, 1967). The majority of the remedies either involved survey design or a statistical approach. Exceptions were studies that assessed leadership behaviors from the leader's perspective, treating it as a group-level variable (empowerment leadership assessed by the leader of a work group: Tuckey et al., 2012) or mediators measured through group-level perspectives (work group identification as a mediator: Hobman et al., 2011; group-level justice perceptions as a mediator: Kiersch & Byrne, 2015). Only five studies considered physical well-being measures such as sleep quality (Munir & Nielsen, 2009; Nielsen & Daniels, 2012) and stress symptoms (Liu et al., 2010), which were also measured through self-report, and none of the studies that we identified used physiological measures.

In sum, theoretical, conceptual and methodological approaches are under-developed in research examining mediation processes in the leadership behavior-employee well-being relationship. To address these issues, we discuss implications for a future research agenda next.

Implications for research on leadership and employee well-being

In this section we summarize the key outcomes of our review and discuss implications for future research, focusing on theoretical and then methodological considerations. A limitation of our review is that it is selective: while our literature search did include papers from several disciplines and a wide range of search terms, our inclusion criteria restricted the number of studies we reviewed. We believe, however, that the 71 papers that we reviewed enabled us to identify several theoretical and methodological key issues in the literature.

Theoretical considerations

Based on our selective review there is no coherently organized theoretical approach in the literature that is being applied to examine the relationships between leadership behavior and different aspects of employee well-being. Theoretical approaches that can help us to develop the research agenda further include resource-focused approaches (e.g., Hobfoll, 1989) and a more process-oriented perspective (Fischer et al., 2017).

As our review has shown, hedonic forms of employee well-being, usually measured in the form of job satisfaction, were overrepresented, while eudaimonic forms of well-being (e.g., work engagement, thriving) were underrepresented. Furthermore, most of the studies in our review focused on positive forms of well-being, but with increasing interest in leadership research on negative forms of follower well-being such as stress (Harms et al., 2017), burnout (e.g., Montano et al., 2017) and irritation (Mohr, Rigotti, & Müller, 2009), more research is needed that also considers mediational processes for these well-being constructs. Physical measures of well-being (e.g., sleep quality) were also under-researched and warrant inclusion in future research.

A systematic comparison across leadership behaviors, mediational processes and more wide-ranging forms of employee well-being (covering hedonic and eudaimonic forms of positive well-being, negative well-being physical well-being) was not possible. Although the few studies that investigated several forms of employee well-being (e.g., Nielsen et al., 2008; Nielsen et al., 2009) suggested differential relationships in relation to positive, hedonic and eudaimonic forms of well-being. More research is required, but findings point to differential paths through which leadership behaviors work, for example self-efficacy (social-cognitive) being more central for energized forms of well-being (Nielsen et al., 2009), while relational (e.g., cohesion) and motivational, supportive mediators (e.g., social support) appeared to be more important for hedonic well-being such as job satisfaction. When mediators were measured at the group level (e.g., leader vs. group

identification, self-efficacy vs. team efficacy) different relationships with well-being outcome variables were also observed (e.g., Nielsen & Daniels, 2012). Future research needs to address the question of the relative importance of specific leadership behaviors and mediators in predicting different forms of well-being. Linked to our next point, such an investigation needs to be theory-driven. Piccolo et al. (2012), for example, provided evidence for the relative impact of complementary leader behaviors in relation to performance and job satisfaction.

From a theoretical perspective, mediational pathways and their underlying proposed mechanisms need to be better understood. Guest (2017) commented on research conducted in Human Resource Management: "while progress in the field is acknowledged, it is claimed that the search for a link between HRM and performance has been pursued at the expense of a concern for employee well-being (p. 22)". The same observation holds for research on leadership and employee well-being. As discussed earlier, many papers overly relied on leadership and performance-related theories or past empirical research and fell short on developing an overarching theoretical approach for the proposed conceptual models. For example, if several mediators were examined, there was no clear overarching rationale for examining the chosen mediators together although theoretical arguments were provided for each of the mediators separately. Exceptions included theorizing based on self-determination theory, where mediational pathways were tested derived from specific propositions from the theory (e.g., specific types of behavioral regulation: Güntert, 2015). Furthermore, only some studies controlled for the simultaneous effects of several mediators on the proposed well-being outcome variable(s). Approaches that did consider well-being as the focal construct included COR theory (Hobfoll, 1989), other resource-based approaches (e.g., ten Brummelhuis & Bakker, 2012) and recovery theories (Meijman & Mulder, 1998).

Methodological considerations

Mediation models by implication involve changes over time whereby the predictor variable has an effect on an outcome variable through a mediational process (e.g., Fischer et al., 2017). Furthermore, employee well-being can be conceptualized as state or trait well-being (e.g., Warr, 2013), and wellbeing outcomes can be short-term (e.g., daily stress) or long-term (e.g., burnout). As Warr (2013, p. 77) points out: "Whatever the specific form of measurement to be used, it is essential to review in advance alternative target durations to ensure that a chosen duration matches that of the construct and question being investigated." Most studies reviewed here relied on cross-sectional designs and when longitudinal designs were employed little justification was given for the chosen time lags. We only identified one diary study that measured leadership behaviors, mediators and employee-well-being. Overall, little theoretical justification was provided in the reviewed papers on the choice of construct and measurement of the well-being outcome variables.

Furthermore, construct and measurement validity issues have been raised for frequently examined leadership behavior constructs such as transformational leadership (e.g., van Knippenberg & Sitkin, 2013), which might affect relationships with mediators and well-being outcome variables. Moreover, most studies (with the exception of a very small number of studies using group level assessments) relied on follower perceptions of leadership behaviors, mediators and their own well-being. We will expand on these issues when discussing directions for a future research agenda.

Research on leadership and employee well-being – towards a future research agenda

Advancing theory in research on leadership and employee well-being

We propose to further develop the application of COR theory (Hobfoll, 1989, 2001) in research on leadership and employee well-

being by applying ideas from the revised form of adaptation theory of well-being by Diener et al. (2006). Adaptation theory (Brickman & Campbell, 1971) posits that after positive or negative events take place, “people quickly adapt back to hedonic neutrality” (Diener et al., 2006, p. 305), suggesting an “automatic habituation model in which psychological systems react to deviations from one’s current adaptation level (Helson, 1948, 1964)” (Diener et al., 2006, p. 305). Central tenets of the modified version by Diener et al. (2006) are that levels of well-being can change (e.g., through external influences) and that there are differences between and within people in the way that we adapt to events and over time - we have different so-called hedonic set points. We apply some of the central ideas of the modified version of adaptation theory below to broaden the well-being criterion space and view the leadership process from a resource perspective.

Expanding the well-being criterion space and examining mediators

Future research needs to be based on a more conscious, theory-driven choice of leadership behaviors and well-being criteria by taking into the multi-faceted effects of leadership and investigation of “underexplored, conceptually relevant criteria” (Hiller, DeChurch, Murase, & Doty, 2011, p. 1171). As suggested by Diener et al. (2006), people have different set points and “a single person may have multiple well-being set points: Different components of well-being such as pleasant emotions, unpleasant emotions, and life satisfaction can move in different directions” (p. 306).

That means that different types of well-being might not “work” in the same way – leadership behaviors might affect them differently and through different (mediational) processes. Furthermore, different forms of well-being can co-exist (e.g., Warr, 2013): e.g., feeling job engaged (eudaimonic) and exhausted (negative) working on a challenging project. Different effects of leadership behavior on employee well-being can be partly attributed to a lack of conceptual alignment of leadership behaviors, mediators and well-being criteria. A more differentiated choice of employee well-being outcomes is needed, especially in relation to specific mediational pathways. While performance taxonomies have been established for the performance criterion space (e.g., Bartram, 2005; Borman & Motowidlo, 1997) and are increasingly being applied in leadership research, there is a lack of conceptual clarity for choosing and measuring well-being criteria. We differentiate between specific forms of well-being (i.e., psychological: hedonic, eudaimonic and negative; physical) and suggest adopting this structure for developing hypotheses to predict differential relationships between leadership behaviors, mediators and well-being outcomes.

As adaptation theory underscores, there might be distinct trajectories in the way that different types of well-being develop. To better understand trade-off effects among well-being criteria (e.g., Grant et al., 2007), future research also needs to include more forms of employee well-being, covering hedonic and eudaimonic forms of well-being, as well as links/trade-offs with specific forms of negative well-being. For example, change-oriented leadership behavior involves by its very definition, change and energy investment from the follower. It is associated with higher levels of employee well-being (e.g., Skakon et al., 2010) but the high energy investment may lead to well-being trade-off effects as “transformational leaders motivate their followers to transcend their own self-interests for the sake of the group” (Bass, 1985; as cited in Walumbwa et al., 2004, p. 516). An example of a well-being trade-off effect would be if employees are highly work engaged, working long hours, leading to burnout or exhaustion in the longer term. Nielsen and Daniels (2016) examined transformational leadership and follower sickness absence and concluded: “Our results suggest a complex picture of the relationship between transformational leadership and sickness absenteeism; transformational leaders may promote self-sacrifice of vulnerable followers by leading them to go to work while ill, leading to increased risks of sickness absence in the long term (p. 193).”

Moreover, leaders can have more than one behavior towards

followers such as affiliation and dominance (e.g., Solomon, 1981). The extent to which so called paradoxical behaviors can be reconciled is likely to affect employee well-being. Zhang, Waldman, Han, and Li (2015) found that leaders who can reconcile paradoxical behaviors through, for example, holistic thinking have followers who are more adaptive and proactive.

As one of its key principles, COR theory (Hobfoll, 1985) posits “the idea that it is psychologically more harmful for individuals to lose resources than it is helpful for them to gain the resources that they lost” (Halbesleben et al., 2014, p. 2). Hardly any of the reviewed studies addressed this point by examining the offset of resource losses against resource gains through different mediation pathways – one exception being the study by Baer et al. (2015) which examined the extent to which perceived workload, pride and reputation maintenance simultaneously mediated the relationship between feeling trusted by one’s supervisor and emotional exhaustion. The complex mechanisms that underlie the relationships between leadership behaviors and employee well-being outcomes might be better understood by viewing mediation mechanisms in terms of resource losses as well as gains in relation to several forms of well-being. Such an approach would also help to understand and predict trade-off effects between well-being and performance. For example, Baer et al. (2015) show that feeling trusted was linked to lower performance through the different mediator pathways leading to higher levels of exhaustion. Another key principle of COR theory postulated by Hobfoll (2001) is that even the threat of resource loss can negatively impact well-being. Very few studies addressed this process through a mediational path – exceptions are studies that found helplessness (Sparr & Sonnentag, 2008b) and reputation maintenance (Baer et al., 2015) concerns to mediate (social-cognitive mediators) the relationship between leadership behaviors and well-being. Resource threat should be investigated in future research through negative mediational paths such as the loss of self-efficacy.

Our mediator groupings suggest differential mechanisms based on specific theoretical approaches for future research. Our groupings also point to several specific pathways that are under-researched (e.g., leader affect, identification with the leader and the work group). As differential mediator effects were found for group-level constructs (e.g., group efficacy), future research needs to also conceptualize specific mechanisms at different levels of analysis, also including social support mechanisms through social networks of the leader and follower which have been linked to employee well-being (Cullen-Lester, Gerbasi, & White, 2016).

Boundary conditions and context factors

As postulated by Diener et al. (2006), people have different set points and also differ in the way they adapt and respond to events which is partly due to influences of individual differences such as personality (e.g., Diener, Suh, Lucas, & Smith, 1999). For example, optimistic individuals are more likely to adopt more effective (i.e., problem-focused) coping mechanisms compared to pessimistic ones (e.g., Scheier, Weintraub, & Carver, 1986). The adaptation theory of well-being can therefore guide the choice of moderators to improve the development of explanatory mechanisms underlying the relationship between leadership behaviors, mediators and employee well-being. As Hobfoll (1989) defines resources “as those objects, personal characteristics, conditions, or energies that are valued by the individual” (p. 516), individual differences (but also states) are likely to influence the extent to which we value resources. Implications for specific mediational pathways are that employees might respond differently to specific pathways, while others might be more generally applicable. Only few studies examined moderators in addition to mediators. These included employee attributes such as openness to experience (Hildenbrand et al., 2016), negative affectivity (Chuang, Judge, & Liaw, 2012), pride (Baer et al., 2015) and professional ambition (Holstad et al., 2014) and context factors such as group collectivism (Li, Xu, Tu, & Lu, 2014) and LMX differentiation (Liao et al., 2016). Baer et al.

(2015), for example, showed that the relationship between reputation maintenance (a social cognitive mediator) and exhaustion was moderated by pride (also acting as a co-mediator – affective). Halbesleben et al. (2014) observed that there can be too much of a good thing in terms of resources and how these interplay with individual differences. They found that high levels of engagement (well-being as a resource) were related to work-life conflict, which in turn had a negative impact on well-being. This relationship was, however, moderated by conscientiousness as well-organized individuals still manage to counterbalance their high workload.

Furthermore, Diener et al. (2006) draw attention to the observation that well-being is influenced by context and can change. Very few studies controlled for context or situational variables. The context or situational variables might also influence how people respond to specific mediators such as leader affect, group cohesion and work characteristics. Future research should not only take the wider context into account, but also consider the choice of moderator variables against the context in which leaders and followers operate (e.g., organizational change, a supportive organizational climate).

Long-term effects and curvilinear relationships

Another important principle of adaptation theory is that “individuals differ in their adaptation to events, with some individuals changing their set point and others not changing in reaction to some external event” (Diener et al., 2006, p. 306). This not only suggests individual differences in how we react to leaders, events and contexts, but also that we differ in the way that we react over time.

Leadership research needs to address the temporal nature of how leadership behavior affects employee well-being, a point raised regarding leadership and performance processes (e.g., Fischer et al., 2017), team processes (e.g., Roe, Gockel, & Meyer, 2012) and motivation and well-being (e.g., Roe & Inceoglu, 2016). Employee well-being is malleable and leadership behaviors can change too (e.g., Day, Fleenor, Atwater, Sturm, & McKee, 2014) – a point that is particularly central to leadership development. Fischer et al. (2017) emphasize the role of time effects in the leadership – effectiveness process and we need to develop a theoretical view on time effects that is specific to leadership behavior and employee well-being (see methodological points further below). The need for better inclusion of time is further magnified by the conceptualization of employee well-being, which can be measured as state or trait well-being (e.g., Warr, 2013) – a point that is often not explicitly addressed in studies. Measured as a state, we would expect employee well-being to be more changeable than leadership behaviors, resulting in potentially different levels of variation across time (Fischer et al., 2017) which may affect relationships between leadership behavior and employee well-being. Furthermore, there might be curvilinear effects of leadership behaviors on employee well-being which could explain trade-off effects. For example, change-oriented leadership behavior is linked to higher employee well-being (e.g., Skakon et al., 2010) but in the longer term continuous demands on the follower might negatively affect well-being.

The same considerations apply to mediation paths which involve constructs that can vary: for example, the leader's emotional display (affective mediator) is likely to be more variable than the level of autonomy or degree of task variety that the follower is given (i.e.: job design, motivational mediator). Our inductively and theoretically derived mediational groupings are a starting point for systematically thinking through levels of variability across time in relation to leadership behaviors and forms of well-being. A time-focused theoretical perspective will also need to take into account reciprocal effects of employee well-being on leadership behavior and feedback loops (cf. “predictor-outcome performance spirals”, Fischer et al., 2017, p. 1737).

Advancing methodology in research on leadership and employee well-being

Future research needs to improve research design and

measurement. As Diener et al. (2006, p. 311) point out in their form of adaptation theory: “recent findings do place limits on the types of psychological processes that can account for the adaptation that does occur”, calling for more sophisticated research approaches: “Instead, more flexible processes are likely involved, and these processes may vary across events and individuals or even within the same individual over time” (p. 311).

Thus, more longitudinal research is needed with theory-based research designs that provide a good rationale for times of measurement and time lags (e.g., Dormann & Griffin, 2015). Modelling time effects also requires research designs that adequately capture fluctuations in employee well-being such as diary studies. We only identified one study (i.e., Hetland et al., 2015) that applied a diary study design and examined mediation in the relationship between leadership behavior and employee well-being. Diary study designs are increasingly being applied in well-being research and recent studies also include leadership as a focal construct (e.g., leader performance expectations as a moderator: Syrek & Antoni, 2014). Consideration also needs to be given to measures that can assess constructs in a time-sensitive manner (e.g., Roe & Inceoglu, 2016) by adapting time frames and response formats (e.g., Watson, Clark, & Tellegen, 1988). Options include cross-lagged designs (Hakanen, Schaufeli, & Ahola, 2008; Selig & Little, 2012), which would allow for more rigorous testing of theoretically motivated mechanisms, with appropriate time lags built into the model.

While incorporating more longitudinal research methods would certainly increase the methodological rigor of this field of research, other design elements would also aid in reducing endogeneity and clarifying causal mechanisms. In our paper we have posited that leadership behavior can impact employee well-being via multiple processes simultaneously. Thus, an important methodological challenge for researchers is to disentangle the causal effects of multiple mediators, and ensure that each of the mediators are substantive and not spurious. Fischer et al. (2017) recommend two ways of dealing with this issue of endogeneity. First, model multiple mediation paths in a single study and show that each mediator has unique explanatory power (independent of the other mediators). Second, use sequential randomized experiments to establish the underlying causal process (i.e., separate experiments to show the effect of the independent variable on the mediator and the effect of the mediator on the dependent variable). Although the latter is an ideal method for establishing causation (for a more detailed discussion see Antonakis, Bendahan, Jacquart, & Laline, 2014), it is often not viable for a variety of reasons (see Cook, Shadish, & Wong, 2008; Rubin, 2008). In such cases, researchers can incorporate more quasi-experimental research designs to disentangle causal effects (Stone-Romero, 2008), supplementing organizational data to better understand the causal processes and mechanisms. Further, including multi-source data can reduce common-method bias and endogeneity concerns (Podsakoff et al., 2003; Podsakoff, MacKenzie, & Podsakoff, 2012).

In addition to the inclusion of more rigorous designs, there is also a need for the development of more/better measurements of well-being. For example, the rapid development of portable physiological measures such as wearable technology provides opportunity to incorporate more physical well-being measures in research on leadership and employee well-being. Construct validation concerns are an issue to be tackled in the use of physiological measures (e.g., Chaffin et al., 2017). The inclusion of theory-driven physiological indicators of well-being allows for a more differentiated approach to well-being and an opportunity to start linking specific types of employee well-being measured through self-perceptions with physiological measures. The employees' perspective of their own well-being is still crucial as this reflects their appraisal of a context or situation and impacts their own well-being directly (e.g., Lazarus, 1991). Such an approach would, for example, allow us to explore the extent to which eudaimonic forms of well-being (e.g., job engagement, thriving) are related to high energy indicators of physiological well-being such as heart rate variability, which has been linked

to rumination (Cropley et al., 2017). Physiological measures using wearable technology also allow for continuous measurement over specific time periods which should also be driven by theoretical considerations (e.g., Roe & Inceoglu, 2016), for example, how quickly do we expect change to be observed in the mediator and well-being variables? How stable are these effects likely to be?

The incorporation of more rigorous research designs (including longitudinal studies and experimental methods) and the addition of more robust measurement of well-being (including physiological measures) would also help tackle issues of common methods bias (e.g., Podsakoff et al., 2003; Podsakoff et al., 2012). In much of the current research affectively biased perspectives of the follower (e.g., sentiment override: Fincham, Garnier, Gano-Phillips, & Osborne, 1995) and assessments of leadership behavior that are biased by the followers' implicit leadership theories (Brown, Inceoglu, & Lin, 2017), obscure the true relationship between leader behavior and well-being. When several mediators are measured, the simultaneous effect of these on the well-being variable(s) needs to be modelled adequately. In addition, it is vital to understand how much variance is accounted for in the well-being construct(s) through each mediational pathway and when temporally we expect a mediational construct to have an effect on well-being. For example, leader affect can be changed quickly, but changes to work design will take longer. Both types of mediators also have different long-term consequences. A more cognizant, time-based and theory-driven choice of mediators will also help address issues of endogeneity (Fischer et al., 2017) in the relationship between leadership behaviors and employee well-being.

Conclusions

Our selective, qualitative review distinguished between specific

Appendix A. Appendix

Appendix Table

Leadership behaviors, mediators and employee well-being constructs (dependent variables) and summary of results in the reviewed studies.

Leadership behavior(s)	Research approach	Theoretical focus	Mediator(s)	Employee well-being construct(s)	Results
Change-oriented			One well-being DV		
Barroso Castro et al. (2008)	Survey (cross-sectional)	Transformational leadership	Social-cognitive (psychological empowerment)	Hedonic (job satisfaction)	Psychological empowerment mediated the positive relationship between transformational leadership and job satisfaction.
Braun et al. (2013)	Survey (cross-sectional)	Transformational leadership	Relational (trust in supervisor), relational (trust in team)	Hedonic (job satisfaction)	Trust in the supervisor (individual level) and trust in the team (group level) mediated the positive relationships between transformational leadership (individual and group level) and job satisfaction (individual level).
Choi et al. (2016)	Survey (cross-sectional)	Transformational leadership and empowerment	Social-cognitive (empowerment)	Hedonic (job satisfaction)	Empowerment mediated the positive relationship between transformational leadership and job satisfaction.

dimensions of psychological employee well-being, by differentiating between hedonic, eudaimonic and negative forms and including physical well-being. We reviewed relationships between leadership behavior and specific types of employee well-being by considering mediational processes, arriving at the conclusion that the current literature in this area has a default perspective coming from leadership effectiveness and employee performance models. Furthermore, research on employee well-being does not sufficiently consider the inherently dynamic nature of the processes underlying leadership behaviors and employee well-being from theoretical and methodological perspectives. To address these issues, we have integrated COR theory (Hobfoll, 1989) and the adaption theory of well-being (Diener et al., 2006) to develop a theory-driven research approach that considers the process and role of time in the leadership behavior employee well-being relationship. We applied this integrative model to map out an agenda for future research that can advance our understanding of how, why and when leadership impacts well-being.

As a starting point for future research, leadership researchers will need to take employee well-being more seriously as a criterion in and of itself – as an end goal rather than merely as a means to higher performance (e.g., Grant et al., 2007; Guest, 2017). Employee well-being has been shown to be related to higher performance (e.g., Montano et al., 2017) but a shift in our thinking will enable us to be more cognizant about well-being performance trade-offs (e.g., Grant et al., 2007) and to aim for what Judge et al. (2001) characterized as the holy grail of organizational behavior – sustainable levels of employee performance and well-being.

Chuang et al. (2012)	Survey (cross-sectional)	Transformational leadership Emotional regulation Social interaction model of affectivity	Affective (employee amplification of pleasant emotions)	Hedonic (job satisfaction)	For employees high in negative affectivity (moderator) transformational leadership was related to employees' amplification of pleasant emotions which in turn was linked to job satisfaction.
Cicero and Pierro (2007)	Survey (cross-sectional)	Charismatic leadership Social identity	Identification (follower's identification with work group, individual level variable)	Hedonic (job satisfaction)	Followers' identification with the work-group mediated the positive relationship between charismatic leadership and job satisfaction.
Gillet et al. (2013)	Survey (cross-sectional)	Transformational leadership	Relational (interactional justice), social-cognitive (distributive justice), motivational (quality of work life)	Eudaimonic (work engagement)	Both interactional justice and distributive justice mediated the positive relationships between transformational leadership and quality of work life; quality of work-life mediated the positive relationships between interactional justice/distributive justice and work engagement.
Gilstrap and Collins (2012)	Survey (cross-sectional)	Trust development process	Relational (trust)	Hedonic (job satisfaction)	Trust mediated the positive relationship between transformational leadership and job satisfaction.
Hentrich et al. (2017)	Survey (cross-sectional)	Transformational leadership Job demands-resources	Motivational (job demands), social-cognitive (occupational self-efficacy)	Negative (irritation)	Job demands and occupational self-efficacy mediated the negative relationship between transformational leadership and irritation.
Hildenbrand et al. (2016)	Survey (longitudinal)	Conservation of resources	Affective (thriving)	Negative (burnout)	Thriving at work mediated the negative relationship between transformational leadership and burnout. The indirect effect of transformational leadership on burnout via thriving was observed only for employees high on openness to experience (moderator) compared to those low on openness to experience.
Hobman et al. (2011)	Survey (cross-sectional)	Identification	Identification (leader identification), identification (group identification)	Hedonic (job satisfaction)	Leader identification mediated the positive relationships between supportive leadership/intellectual stimulation/personal recognition and job satisfaction.
Holstad et al. (2014)	Survey (cross-sectional)	Transformational leadership Job demands-resources	Relational (supervisor social support)	Negative (emotional irritation)	When employee ambition (moderator) was high, supervisor social support mediated the negative relationship between transformational leadership and emotion irritation. The mediation effect on its own was not significant.

Kovjanic, Schuh, Jonas, Van Quaquebeke, and Van Dick (2012)	Survey (longitudinal)	Transformational leadership	Motivational (need for autonomy satisfaction), motivational (need for competence satisfaction), motivational (need for relatedness satisfaction)	Hedonic (job satisfaction)	Need for autonomy satisfaction (study 1), need for competence satisfaction (study 1 & 2) and need for relatedness satisfaction (study 1 & 2) mediated the positive relationship between transformational leadership and job satisfaction.
Lian et al. (2011)	Survey (cross-sectional)	Charismatic leadership	Identification (organizational identification), identification (leader identification)	Hedonic (job satisfaction)	Both leader and organizational identification mediated the positive relationship between charismatic leadership and job satisfaction.
Munir and Nielsen (2009)	Survey (longitudinal)	Transformational leadership, Self-efficacy	Social-cognitive (self-efficacy)	Physical (sleep quality)	No significant results for mediational model: self-efficacy did not mediate the relationship between transformational leadership and sleep quality.
Nemanich and Keller (2007)	Survey (cross-sectional)	Transformational leadership	Relational (goal clarity climate), relational (support for creative thinking climate)	Hedonic (job satisfaction)	Goal clarity and support for creative thinking (climate facets) mediated the positive relationship between transformational leadership and job satisfaction.
Nielsen and Munir (2009)	Survey (longitudinal)	Transformational leadership, Self-efficacy	Social-cognitive (self-efficacy)	Eudaimonic (well-being)	Followers' self-efficacy mediated the positive relationship between transformational leadership and positive affective well-being (cross-sectionally at time 2, but not at time 1 or longitudinally).
Nielsen et al. (2008)	Survey (longitudinal)	Transformational leadership	Motivational (role clarity), motivational (meaningful work), motivational (opportunities for development)	Eudaimonic (well-being)	Work characteristics mediated the positive relationship between transformational leadership and psychological well-being (cross-sectionally at times 1 & 2, but not longitudinally)
Tafvelin et al. (2011)	Survey (longitudinal)	Transformational leadership	Relational (positive climate for innovation)	Eudaimonic (affective well-being)	Climate for innovation mediated the positive relationship between transformational leadership and well-being (cross-sectionally at times 1 & 2). Longitudinally, the positive relationship between transformational leadership and well-being was sequentially mediated in turn by climate for innovation (time 1) and climate for innovation (time 2).
Vlachos et al. (2013)	Survey (cross-sectional)	Corporate social responsibility (CSR), Attribution theory	Social-cognitive (csr-induced extrinsic attributions), social-cognitive (csr-induced intrinsic attributions)	Hedonic (job satisfaction)	Charismatic leadership was positively related to employees' attributing the organization's motives for engaging in CSR activities to intrinsic values which was in turn positively linked to job satisfaction.
Walumbwa et al. (2004)	Survey (cross-sectional)	Transformational leadership	Social-cognitive (collective self-efficacy)	Hedonic (job satisfaction)	Collective efficacy mediated the relationship between transformational leadership and job satisfaction.

Zhu and Akhtar (2014)	Survey (cross-sectional)	Social exchange	Relational (cognition-based trust), relational (affect-based trust)	Hedonic (job satisfaction)	Affect-based trust mediated the positive relationship between transformational leadership and job satisfaction.
Change-oriented				More than one well-being DV	
Arnold et al. (2007)	Survey (cross-sectional)	Transformational leadership	Motivational (meaningful work) (measured in two studies)	Eudaimonic (positive affective well-being), hedonic (psychological well-being)	Meaningful work mediated the positive relationship between transformational leadership and positive affective well-being (study 1)/ psychological well-being (study 2).
Hansen, Byrne, and Kiersch (2014)	Survey (cross-sectional)	Kahn's engagement concept	Identification (organizational identification), affective (employee engagement)	Eudaimonic (employee engagement), negative (job tension)	Organizational identification, and in turn employee engagement, mediated the negative relationship between interpersonal leadership (transformational leadership combined with informational and interpersonal justice) and job tension.
Hetland et al. (2015)	Diary	Transformational leadership	Motivational (need fulfilment (composite score of competence, autonomy, relatedness) in two studies)	Hedonic (job satisfaction), eudaimonic (daily dedication - facet of job engagement)	Need fulfilment mediated the relationship between transformational leadership and job satisfaction (study 1, cross-sectional) and job dedication (facet of job engagement; constructs in study 2 measured on daily basis).
Liu et al. (2010)	Survey (cross-sectional)	Transformational leadership	Relational (trust), social-cognitive (self-efficacy)	Hedonic (job satisfaction), negative (work stress), physical (stress symptoms)	Trust and self-efficacy mediated the relationships between transformational leadership and perceived job stress, stress symptoms and job satisfaction.
Munir, Nielsen, Garde, Albertsen, and Carneiro (2012)	Survey (longitudinal)	Self-efficacy Supportive climate for growth	Motivational (work-life conflict)	Hedonic (job satisfaction), eudaimonic (psychological well-being)	Work-life conflict mediated the negative relationship between transformational leadership and psychological well-being.
Nielsen and Daniels (2012)	Survey (cross-sectional)	Transformational leadership	Motivational (meaningful work), relational (social support)	Hedonic (job satisfaction), negative (burnout), eudaimonic (vitality), physical (sleep quality)	Meaningful work mediated the relationships between differentiated transformational leadership and job satisfaction (+ve)/sleep quality (-ve)/vitality (+ve); social support mediated the relationships between the differentiated transformational leadership and job satisfaction (+ve)/burnout (-ve)/sleep quality (-ve); cohesion mediated the positive relationship between the differentiated transformational leadership and job satisfaction; role conflict mediated the relationships between the differentiated transformational leadership and job satisfaction (+ve)/burnout (-ve)/vitality (+ve).

Nielsen et al. (2008)	Survey (longitudinal)	Transformational leadership	Motivational (influence), identification (involvement), motivational (meaningful work)	Hedonic (job satisfaction), eudaimonic (well-being)	Meaningful work mediated the positive relationships between transformational leadership and well-being; involvement mediated the positive relationships between transformational leadership and job satisfaction.
Nielsen et al. (2009)	Survey (cross-sectional)	Transformational leadership	Social-cognitive (self-efficacy), social-cognitive (team efficacy)	Hedonic (job satisfaction), eudaimonic (well-being)	Both self-efficacy and team efficacy mediated the positive relationship between transformational leadership and well-being. Team efficacy mediated the positive relationship between transformational leadership and job satisfaction.

Relational-oriented

One well-being DV

Amundsen and Martinsen (2015)	Survey (cross-sectional)	Empowerment leadership Psychological empowerment	Social-cognitive (self-leadership), social-cognitive (psychological empowerment)	Hedonic (job satisfaction)	Self-leadership mediated the positive relationship between empowerment leadership and psychological empowerment (study 1 & 2); psychological empowerment mediated the positive relationships between empowerment leadership and job satisfaction (study 1 & 2)
Baer et al. (2015)	Survey (longitudinal)	Trust	Motivational (perceived workload), social-cognitive (pride), social-cognitive (reputation maintenance concerns)	Negative (emotional exhaustion)	Perceived workload and reputation maintenance concerns mediated the positive relationship between supervisor felt trust and emotional exhaustion. Pride mediated the negative relationship between supervisor felt trust and emotional exhaustion.
Chan, Huang, and Ng (2008)	Survey (cross-sectional)	Conflict management styles (CMS)	Relational (trust in supervisor)	Hedonic (job satisfaction)	Trust in supervisor mediated the positive relationship between integrating CMS and subordinate job satisfaction.
Chiang and Jang (2008)	Survey (cross-sectional)	Psychological empowerment	Motivational (self-determination), relational (trust), relational (empowering organizational culture)	Hedonic (job satisfaction)	The positive relationship between empowering leadership and job satisfaction was sequentially mediated by initially both trust and empowering organizational culture, and then in turn self-determination.
Choi et al. (2016)	Survey (cross-sectional)	Inclusive leadership	Social-cognitive (person-job fit)	Eudaimonic (psychological well-being)	Person-job fit mediated the positive relationship between inclusive leadership and employee well-being.
Güntert (2015)	Survey (cross-sectional)	Self-determination theory	Motivational (intrinsic motivation)	Hedonic (job satisfaction)	Intrinsic motivation mediated the positive relationship between autonomy-supportive leadership and job satisfaction.

Hartline and Ferrell (1996)	Survey (cross-sectional)	Empowerment	Motivational (role conflict), motivational (role ambiguity)	Hedonic (job satisfaction)	Empowerment leadership had an indirect negative effect on job satisfaction. It was related to higher role conflict, which was linked to high role ambiguity. Both role conflict and role ambiguity were negatively related to job satisfaction.
Konczak, Stelly, and Trusty (2000)	Survey (cross-sectional)	Empowerment	Social-cognitive (psychological empowerment)	Hedonic (job satisfaction)	Psychological empowerment mediated the positive relationships between each LEBQ (Leadership Empowerment Behavior Questionnaire) dimension and job satisfaction.
Kong (2013)	Survey (cross-sectional)	Work-life balance	Social-cognitive (career competencies)	Hedonic (job satisfaction)	Career competencies mediated the positive relationship between work-family supportive supervisor and job satisfaction.
Milner et al. (2015)	Survey (cross-sectional)	Social exchange	Relational (provision of workplace health promotion policies and programs), motivational (perceptions of company commitment to health promotion)	Hedonic (employee wellbeing)	Provision of workplace health promotion policies and programs mediated the positive relationship between leadership support and perceptions of company commitment to health promotion; perceptions of company commitment to health promotion mediated the positive relationship between provision of workplace health promotion policies and programs and employee wellbeing.
Mulki, Jaramillo, and Locander (2006)	Survey (cross-sectional)	Conservation of resources	Affective (emotional exhaustion)	Hedonic (job satisfaction)	Emotional exhaustion mediated the positive relationship between participative leadership and job satisfaction.
Namasivayam, Guchait, and Lei (2014)	Survey (cross-sectional)	Leader empowering behavior	Social-cognitive (psychological empowerment)	Hedonic (job satisfaction)	Psychological Empowerment mediated the relationship between empowering leadership and employee job satisfaction.
Tuckey et al. (2012)	Survey (cross-sectional)	Job demands-resources	Motivational (cognitive demands and resources)	Eudaimonic (work engagement)	Both cognitive demands and cognitive resources mediated the positive relationship between group-level empowering leadership and work engagement.
Relational-oriented				More than one well-being DV	
Biggs et al. (2014)	Quasi-experimental	Job demands-resources	Motivational (job demands), social-cognitive (strategic alignment), relational (work culture support), relational (organizational leadership)	Hedonic (job satisfaction), eudaimonic (job engagement), negative (job strain)	Work culture support and strategic alignment mediated the positive relationships between leadership development intervention and job satisfaction and job engagement (four separate mediation analyses).

Moyle (1998)	Survey (longitudinal)	Social support	Motivational (role ambiguity), motivational (control)	Physical (mental and physical: strain, somatic symptoms), hedonic (job satisfaction)	Role ambiguity mediated the negative relationship between support and job satisfaction; control mediated the positive relationship between support and job satisfaction. For mental health, no mediation was tested.
Prottas (2013) ^a	Survey (cross-sectional)	Behavioral integrity	Affective (moral distress)	Hedonic (job satisfaction), negative (stress & strain), eudaimonic (job engagement)	Moral distress mediated the positive relationship between leader behavioral integrity and job satisfaction and the negative relationship with stress & strain and health (reverse coded). No significant effect for job engagement.

Passive

Barling and Frone (2017)	Survey (cross-sectional)	Conservation of resources	Motivational (role overload), motivational (role conflict), motivational (role ambiguity), affective (psychological fatigue)	Hedonic (mental health), hedonic (job satisfaction)	Passive leadership was negatively and indirectly related to both mental health and job satisfaction via the sequential paths involving the role stressors and psychological work fatigue.
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Other (leadership behavior in brackets)

One well-being DV

Anseel and Lievens (2007) (Feedback environment)	Survey (longitudinal)	Feedback environment	Relational (quality of LMX)	Hedonic (job satisfaction)	LMX mediated the positive relationship between the supervisor feedback environment and job satisfaction.
Braun and Peus (2016) (Authentic leadership)	Survey (cross-sectional) (study 1), experimental (study 2)	Conservation of resources	Motivational (leaders' work-life balance), motivational (followers' work-life balance)	Hedonic (followers' job satisfaction)	Leaders' work-life balance and followers' work-life balance mediated the positive relationship between authentic leadership and followers' job satisfaction (study 1 and 2). Leaders' work-life balance mediated the positive relationship between authentic leadership and followers' work-life balance (study 1 and 2).
Kampa, Rigotti, and Otto (2017) (Authentic leadership)	Survey (longitudinal)	Authentic leadership Procedural justice	Social-cognitive (procedural justice)	Negative (emotional exhaustion)	Procedural justice mediated the negative relationship between authentic leadership and emotional exhaustion.
Kiersch and Byrne (2015) (Authentic leadership)	Survey (cross-sectional)	Group value theory Social information processing theory	Social-cognitive (distributive justice), social-cognitive (procedural justice), social-cognitive (informational justice), social-cognitive (interpersonal justice (individual and group constructs: individual justice perceptions and organizational justice climate perceptions)	Negative (stress)	Individual-level organizational justice perceptions did not mediate the relationship between individual-level authentic leadership and employee stress. Group-level organizational justice climate perceptions did not mediate the relationship between group-level perceptions of authentic leadership and individual level stress (direct effect was not significant).

Kohles et al. (2012) (Vision communication)	Survey (cross-sectional)	Organizational vision	Social-cognitive (vision integration)	Hedonic (job satisfaction)	Vision integration mediated the positive relationship between vision communication and job satisfaction.
Li et al. (2014) (Ethical leadership)	Survey (cross-sectional)	Social exchange	Social-cognitive (procedural justice), relational (interpersonal justice)	Hedonic (occupational well-being)	Both procedural and interpersonal justice mediated the positive relationship between ethical leadership and occupational well-being.
Liao et al. (2016) (Supervisory procedural justice and idiosyncratic deals)	Survey (cross-sectional)	Idiosyncratic deals Procedural justice Social exchange	Social-cognitive (supervisory procedural justice), relational (LMX)	Hedonic (job satisfaction)	Supervisory procedural justice and LMX sequentially mediated the relationship between i-deals and job satisfaction. The indirect relationship of i-deals with job satisfaction was stronger in groups with greater LMX differentiation than in contexts where managers maintained similar relationships with followers (cross-level moderation).
Mozumder (2016) (Ethical leadership)	Survey (cross-sectional)	Social learning and social exchange	Relational (trust in top management/middle management/supervisor)	Hedonic (job satisfaction)	Trust (at different levels) mediated the positive relationships between ethical leadership and job satisfaction.
Paterson, Luthans, and Jeung (2014) (Supervisor support climate)	Survey (cross-sectional)	Psychological capital	Social-cognitive (task focus), relational (heedful relating)	Eudaimonic (thriving)	Both heedful relating and task focus mediated the positive relationship between supervisor support climate and thriving.
Sluss and Thompson (2012) (Supervisory socialization tactics)	Survey (longitudinal)	Social exchange	Relational (newcomer perceptions of LMX)	Hedonic (job satisfaction)	Newcomer's perceptions of LMX did not mediate the relationship between supervisory socialization tactics and job satisfaction. However, the direct relationship of supervisory socialization tactics with job satisfaction was significant.
Vermeeren, Kuipers, and Steijn (2014) (Stimulating and correcting leadership)	Survey (cross-sectional)	Stimulating and correcting leadership	Motivational (HRM practices)	Hedonic (job satisfaction)	HRM mediated the positive relationship between stimulating leadership and job satisfaction.
Other (leadership behavior in brackets)				More than one well-being DV	
Avey, Wernsing, & Palanski (2012) (Ethical leadership)	Survey (longitudinal)	Social norms Social exchange Social justice	Identification (psychological ownership), social-cognitive (employee voice)	Hedonic (job satisfaction), hedonic (psychological well-being)	Psychological ownership mediated the positive relationship between ethical leadership and job satisfaction. Employee voice mediated the positive relationship between ethical leadership and psychological well-being.

Gurt, Schwennen, and Elke (2011) (General leadership)	Survey (cross-sectional)	Conservation of resources	Social-cognitive (role ambiguity), relational (psychological climate for health), affective (job satisfaction)	Negative (irritation), hedonic (job satisfaction)	The negative relationships between two types of leadership (general leadership, consisting of task & relational leadership combined, and health-specific leadership) and irritation were sequentially mediated by initially the psychological climate for health, and then in turn both role ambiguity and job satisfaction. The positive relationships between two types of leadership (general leadership, and health-specific leadership) and job satisfaction was sequentially mediated by initially the psychological climate for health, and then in turn role ambiguity. In addition, health-specific leadership was positively related to role ambiguity, which in turn was positively related to irritation. Supervisors' segmentation behavior to separate work and home was positively related to employees' perceptions of their supervisors being work-life-friendly role models. These perceptions were in turn negatively related to employee exhaustion and disengagement.
Koch and Binnewies (2015) (Supervisors' work-home segmentation behavior)	Survey (cross-sectional)	Social learning and recovery	Social-cognitive (work-life friendly role modeling)	Negative (exhaustion), negative (disengagement)	Workplace bullying, and in turn emotional exhaustion mediated the positive relationship between authentic leadership and job satisfaction. Attachment insecurity mediated the positive relationship between authentic leadership and job satisfaction, and the negative relationship between authentic leadership and perceived stress and stress symptoms.
Laschinger, Wong, & Grau (2012) (Authentic leadership)	Survey (cross-sectional)	Empowerment	Relational (workplace bullying), affective (emotional exhaustion)	Negative (emotional exhaustion), hedonic (job satisfaction)	Attachment insecurity mediated the positive relationship between authentic leadership and job satisfaction, and the negative relationship between authentic leadership and perceived stress and stress symptoms.
Rahimnia and Sharifirad (2015) (Authentic leadership)	Survey (cross-sectional)	Authentic Leadership	Relational (employee attachment insecurity)	Hedonic (job satisfaction), negative (perceived work stress), physical (stress symptoms)	Job autonomy and perceived manager sentiment mediated the positive relationship between supportive managerial behaviors and job satisfaction, and the negative relationship between unsupportive managerial behaviors and job satisfaction. Job autonomy mediated the negative relationship between supportive managerial behaviors and job strain, and the positive relationship between unsupportive managerial behaviors and job strain. Self-efficacy was not a significant mediator.
Rooney, Gottlieb, and Newby-Clark (2009) (Supportive & unsupportive behaviors)	Survey (cross-sectional)	Self-determination theory	Motivational (job autonomy), social-cognitive (self-efficacy), relational (perceived manager sentiment)	Negative (job strain), hedonic (job satisfaction)	

Sparr and Sonnentag (2008a) (Fairness of supervisory feedback)	Survey (longitudinal)	Justice and LMX	Relational (LMX quality)	Negative (job anxiety), hedonic (job satisfaction), negative (job depression)	LMX mediated the positive relationships between overall fairness perceptions of feedback and job satisfaction; LMX mediated the negative relationships between overall fairness perceptions of feedback and job depression.
Sparr and Sonnentag (2008b) (Supervisor-employee feedback environment)	Survey (cross-sectional)	LMX	Motivational (personal control over information), motivational (personal control over decisions)	Hedonic (job satisfaction), negative (job depression)	Personal control mediated the positive relationship between feedback environment and job satisfaction as well as the negative relationship between feedback environment and job depression. Helplessness mediated the negative relationship between feedback environment and job depression, and the positive relationship between feedback environment and job satisfaction.

Several leadership behaviors measured simultaneously	Research Approach	Theoretical Focus	Mediator(s)	Wellbeing DV (s)	Results
Change- & task-oriented					
Kara, Uysal, Sirgy, and Lee (2013)	Survey (cross-sectional)	Transformational and transactional leadership	Motivational (quality of working life)	Negative (employee burnout), hedonic (life satisfaction)	Quality of working life mediated the negative relationship between transformational leadership and employee burnout which was in turn negatively related to life satisfaction. Transactional leadership was not related to quality of working life.
Pillai et al. (1999)	Survey (cross-sectional)	Transformational leadership	Social-cognitive (distributive justice), social-cognitive (procedural justice), relational (trust)	Hedonic (job satisfaction)	Relationships between distributive justice and trust and between trust and job satisfaction were not significant. Transformational leadership was positively related to procedural justice which was positively linked to job satisfaction in sample 2 (2-sample study).
Sung Min and Rainey (2008)	Survey (cross-sectional)	Social determination theory	Motivational (goal clarity), social cognitive (employee empowerment)	Hedonic (job satisfaction)	The positive relationship between transformational leadership and job satisfaction was sequentially mediated in turn by goal clarity, employee empowerment and then public service oriented motivation.
Change-, task-oriented & passive					
Kelloway et al. (2012)	Survey (cross-sectional)	Transformational leadership	Relational (trust in leadership)	Hedonic (psychological well-being)	Trust in the leader mediated the positive relationship between transformational leadership and psychological well-being (across studies 1 & 2). Trust in the leader mediated the negative relationship between both active management by exception and passive leadership and psychological well-being (study 2).
Bernhard and O'Driscoll (2011)		Psychological ownership	Identification (employees' psychological ownership of)	Hedonic (job satisfaction)	Psychological ownership of the organization and psychological

	Survey (cross-sectional)		organization), identification (employees' psychological ownership of job)		ownership of the job both mediated the positive relationships between transformational leadership and job satisfaction, and between transactional leadership and job satisfaction. Nonsignificant mediation effects were found for passive leadership. Note: The study considered the nestedness of employees within the organization.
Change-, task-oriented & others					
Ertureten et al. (2013) (other leadership behaviors: paternalistic, authoritarian)	Survey (cross-sectional)	Workplace bullying	Relational (mobbing)	Hedonic (job satisfaction)	Transformational, transactional and paternalistic leadership were negatively related, and authoritarian leadership was positively related to workplace bullying (mobbing). Workplace bullying in turn was negatively related to job satisfaction.

Note: Under "Results" we focused on statistically significant mediation effects based on the hypotheses and conceptual models of the respective paper that were relevant to explaining employee well-being. In some cases we also mention non-significant results, where, for example, discrepant results were observed for cross-sectional and longitudinal studies, or results yielded only non-significant effects.

^a This study included life satisfaction as a dependent variable in the study design but as no information on its measurement was provided in the method section, we did not code it.

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