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From personal wellbeing to relationships: A systematic review on the impact of mindfulness interventions and practices on leaders

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ABSTRACT

This study provides a systematic review of prior empirical research on the impact of mindfulness interventions and practices on leaders. The aim is to integrate existing knowledge and identify future research needs. Mindfulness as a *leader-specific practice* is defined and discussed to provide conceptual clarity and to highlight the importance of understanding the phenomenon and its value in the context of leadership and individual leader development. A conceptual framework is presented which synthesizes findings from prior works and shows that leaders' mindfulness practices affect various developmental outcomes viewed as important for leaders and leadership. A comprehensive future research agenda for theoretical and empirical advancement is proposed that recommends looking beyond the essential wellbeing and work productivity outcomes and exploring the transformative outcomes of mindfulness interventions and practices related to leaders' relationships and inner growth that involve enhanced self-awareness and social/contextual awareness.

1. Introduction

Leaders influence employees and outcomes on multiple levels (Leroy, Segers, van Dierendonck, & den Hartog, 2018), which is why organizations invest in leader development programs to improve the critical leadership capabilities of individual leaders. Effective leadership relies on the leader's self-awareness and social awareness that influence the ability to act with a sense of responsibility in the organizational environment (Brown, Treviño, & Harrison, 2005; Day, 2000; Eisenbess, 2012; Goldman-Schuyler, Skjei, Sanzgiri, & Koskela, 2017). A positive transformation of work teams, organizations, and societies requires systematic efforts to enhance individuals' higher-level awareness of their values, motivations, and goals (Neal, 2018). Leaders worldwide have become increasingly interested in mindfulness, the value-based contemplative practice (Gethin, 2011; Purser & Milillo, 2015) commonly defined as "the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment" (Kabat-Zinn, 2003, p. 145), which has become a standard element of leader development programs. Modern organizations use mindfulness-based interventions (MBIs) and practices with their leaders to enhance individual, team, and organizational functionality. Accordingly, a stream of human resource management literature acknowledges the importance of MBIs that can be summarized as development-oriented activities built around the mindfulness concept that incorporate meditation and awareness practices, psychoeducational content, and self-reflection (Fyke & Buzzanell, 2013; Glomb, Duffy, Bono, & Yang, 2011; Good et al., 2016; Hyland, Lee, & Mills, 2015; Yu & Zellmer-Bruhn, 2018).

Advancing current research on mindfulness in the leadership context necessitates a review that thoroughly discusses the value-add

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of mindfulness training as a potentially effective method that can help leaders develop the core capabilities required to manage job responsibilities and people effectively. A prior review of the literature on the outcomes of mindfulness and meditation interventions for leaders exists (Donaldson-Feilder, Lewis, & Yarker, 2019) but is limited in terms of review material and scope. Of 19 studies reviewed, only 11 concern mindfulness. The same review also excludes several recent empirical studies that involve followers (e.g., Lange & Rowold, 2019; Nübold, Van Quaquebeke, & Hülsheger, 2019) and offer evidence of the relational outcomes of leaders' mindfulness practices on the leadership process (e.g., Rupperecht et al., 2019). Moreover, while the Donaldson-Feilder et al. review concludes that leaders' mindfulness and meditation interventions have the potential to enhance leadership capabilities, it emphasizes the occupational wellbeing perspective and overlooks the need for a more nuanced discussion on the leadership and leader development concepts that constitute the fundamental theoretical backdrop for the emergent research on leader-specific mindfulness.

While employee wellbeing and stress reduction have long been the primary driver of mindfulness education in organizations for employees in general (Eby et al., 2019), recent research reveals the discernible link between mindfulness and leader development. It does so by reaching beyond personal wellbeing and work productivity to address a variety of ways in which mindfulness interventions and practices could benefit leaders as a specific audience and improve leadership quality. A specific line of research focuses on the interpersonal influences of mindfulness and suggests that a leader's mindfulness can influence people other than the leader (e.g., Eby, Robertson, & Fecteau, 2020; Schuh, Zheng, Xin, & Fernandez, 2019). Research also indicates that leaders view mindfulness-based practices as something that supports their growth as human beings and leaders (e.g., Goldman-Schuyler et al., 2017; Lychnell, 2017). Overall, research suggests that mindfulness is seen as a method to assist in managing change and transformation (e.g., Goldman-Schuyler et al., 2017; Hunter, 2015; Kuechler & Stedham, 2018). The steady growth in research on leaders' mindfulness practices has brought a versatile approach to the phenomenon that has included various mindfulness conceptualizations, theoretical concepts around leadership, and empirically tested research designs.

Unlike any other review to date, this systematic review of 30 empirical articles examines leaders' mindfulness interventions and practices from the leader development perspective. This review significantly extends the understanding of the field by looking beyond wellbeing to leadership criteria such as ethical decision-making, leadership relationships, and adapting to change, thus extending understanding of the impact of mindfulness interventions and practices when applied to the leadership context. The intended contribution of this study to the literature on mindfulness and leadership is threefold. First, it provides conceptual clarity by positioning mindfulness firmly in the theoretical context of leadership and leader development and offering a definition of mindfulness as a leader-specific practice. Second, this review offers a conceptual framework that not only consistently synthesizes the key themes and outcomes to inform researchers and practitioners alike of the implications of mindfulness for leader development but simultaneously provides a resource to aid in designing future studies and also outlines the implications of using mindfulness in leader development programs. Third, the current review identifies the theoretical and empirical shortcomings of prior research and recommends a detailed future research agenda to highlight the importance of understanding the unique relevance of mindfulness practice in the context of leadership and advance the application of mindfulness to enhance human resource management.

2. Theoretical background

2.1. Individual leader development

Organizational leaders are "individuals who hold leadership positions" and who "are expected to facilitate the development of a direction given environmental considerations, align the effort of others in support of this direction and engage and motivate others to accomplish this direction" (Day & Dragoni, 2015, p. 134). Leadership effectiveness refers to the collective and individual capacity to set direction, align efforts, and motivate people to achieve goals (Day & Dragoni, 2015). The main concern of *leadership* development is to expand the collective capacity (i.e., leadership processes and social structures) to achieve effective leadership, while leader development aims to expand the individual leader's capacity to be effective in a leadership role (Day & Dragoni, 2015; Day, Fleenor, Atwater, Sturm, & McKee, 2014).

Expanding an individual's capacity for leadership entails fostering work-facilitation (e.g., thinking and acting strategically), self-management (e.g., self-awareness and ability to learn), and social (e.g., building relationships and work groups) capabilities (Van Velsor & MacCauley, 2004 in Day, 2011). Apart from knowledge, skills, and abilities, leaders need the ability to develop their self-view as a leader (i.e., leadership self-efficacy, self-awareness, and leader identity) that supports the cognitive, emotional, and behavioral aspects of holistic functioning and affects the development of the social and interpersonal competence at the core of leadership to enhance trust, respect, and organizational performance (Day & Dragoni, 2015; Fry & Kriger, 2009; Liu, Venkatesh, Murphy, & Riggio, 2020). Taking responsibility for other people and the environment, known as ethical leadership, is viewed as "normatively appropriate" behavior in organizations (Brown et al., 2005, p. 120) and is integrated into the individual leader's capacity to set a direction and influence others (Eisenbess, 2012).

Ideally, leader development efforts are based on understanding the individual development needs of leaders (Day et al., 2014), but determining the particular capabilities an individual needs in different phases of their career is difficult (Day & Harrison, 2007; Orvis & Ratwani, 2010) and accordingly leader development research and practice have shifted toward flexible and sustainable leader development initiatives (Boyce, Zaccaro, & Wisecarver, 2010). Instead of offering guidance on what to develop, such initiatives help leaders understand how to develop themselves (Reichard & Johnson, 2011). Effective leader (self-) development is thus an ongoing process that depends on the leader's internal motivation to actively develop themselves (DeRue, Nahrgang, Hollenbeck, & Workman, 2012; Heslin & Keating, 2017; Reichard & Johnson, 2011), stay "mentally alive" (Drucker, 2001, p. 185) and acquire "a deeper understanding of one's operating environment, and one's self [sic] as a leader" (Boyce et al., 2010, p. 161). In addition, Fry and Kriger

(2009) maintain that the development of organizations that are built on altruistic values of honesty, integrity, and kindness involves not only an individual leader's commitment to developing a greater awareness of their inner life but also a willingness to serve others. To contribute as a leader, individuals must continuously engage in self-development behaviors such as experiential on-the-job learning and active reflection on internal and external feedback that help them assess themselves, make sense of their experiences, and build self-awareness (Heslin & Keating, 2017; Reichard & Johnson, 2011).

To support individual leader development, there is a need for formalized efforts that promote self-development behaviors (Heslin & Keating, 2017; Reichard & Johnson, 2011). Proven leader development interventions are practice-based (Laccrenza, Reyes, Marlow, Joseph, & Salas, 2017), aligned with ongoing adult development (Day et al., 2014), and focused on the enhancement of holistic functioning (Day et al., 2014). In sum, "just as leaders need tools to manage external realities, they also need tools to manage the internal ones" (Hunter, 2015, p. 356) that may have transformative potential rather than merely addressing the acquisition of skills and knowledge (Day et al., 2014; Goldman-Schuyler et al., 2017; Neal, 2018).

2.2. Mindfulness as a leader-specific practice

The western medical and psychological domain has known of the mindfulness construct since the late 1970s and numerous well-known conceptualizations have been developed that operationalize mindfulness either as a mental trait, a relatively stable personality characteristic, or as a fluctuating, momentary mental state of "being attentive to and aware of what is taking place in the present" (Brown & Ryan, 2003, p. 822), or an activity of "paying attention in a particular way: on purpose, in the present moment, and non-judgmentally" (Kabat-Zinn, 2003, 2011). Research has focused mainly on the investigation of the phenomenon as an individual psychological capacity of raising awareness where attention is focused on the internal (intrapyschic) and external (environmental) phenomena within one's moment-to-moment experience, and a form of clinical or therapeutic intervention (e.g., Mindfulness-Based Stress Reduction, MBSR) to enhance mindfulness and improve health and wellbeing (Brown, Ryan, & Creswell, 2007; Kabat-Zinn, 2003, 2011; Keng, Smoski, & Robins, 2011). However, there remains no scholastic consensus on the definition of mindfulness (Choi & Leroy, 2015). The conceptualizations of mindfulness originating from Buddhism and dating back over 2000 years portray mindfulness as aspects of attention *and* awakening, which is a perspective that has largely been neglected in psychological contexts (Gethin, 2011). Reducing mindfulness to a technique of attention enhancement ignores its capacity to tap into the deep wisdom and value-based evaluation of which humans are capable (Gethin, 2011). The narrow definition has been suggested to invite ethical misconduct such as focusing attention on harmful goals, which is an issue in the application of mindfulness in the organizational context (Purser & Milillo, 2015). Therefore, mindfulness should be assessed as a developmentally oriented, value-based contemplative practice that intrinsically involves meditation (i.e., contemplation directed toward internal and external phenomena), introspection (i.e., reflexive monitoring of the mental state and actions), and ethical conduct (i.e., making purposeful choices) (Purser & Milillo, 2015).

While mindfulness has an instrumental value of bringing a multitude of benefits to individuals and organizations, such as stress reduction and improved focusing, Kabat-Zinn (2011, p. 284) notes that mindfulness is "not one more cognitive-behavioral technique to be deployed in a behavior change paradigm, but a way of being and a way of seeing that has profound implications for understanding the nature of our own minds and bodies, and for living life as if it really mattered." A way of being is a human state, available at every moment of each day, where one's thoughts and emotions shape one's action, intention, and attitude (Karssiens, Van der Linden, Wilderom, & Furtmueller, 2014). Consequently, mindfulness practice may occur not only in the context of a formal mindfulness intervention, but as an independent practice, and may be a combination of formal practice (i.e., a dedicated time for mindfulness meditation or mindful awareness) and an informal one (i.e., a mindful way of being accessible at any moment) (Brendel, Hankerson, Byun, & Cunningham, 2016) practices.

Leadership is both relational and social and it is not therefore surprising that it is the focus of recent research on mindfulness in organizations (Good et al., 2016). Existing studies on leader mindfulness training typically propose stressful work environments as its antecedent (e.g., Donaldson-Feilder et al., 2019). The different conceptualizations and emphases of mindfulness influence the available applications of mindfulness interventions and practices offered for leader audiences: Researchers distinguish between first- and second-generation mindfulness interventions (e.g., King & Badham, 2018; Shonin & Van Gordon, 2015). The former would include interventions such as the MBSR that conceptualize mindfulness as a stress-reduction and attention enhancement technique, while the latter second-generation mindfulness interventions embrace the spiritual and ethical conceptualization of mindfulness. According to current understanding, mindfulness encompasses and affects the human functional domains of physiology, cognition, emotion, behavior, spirituality, and the nature of self (e.g., Brown, Creswell, & Ryan, 2016; Good et al., 2016) through which it is reported to influence a variety of outcomes related to individual and organizational functioning, possibly including various facets of leadership such as the quality of dyadic and workgroup relationships between the leader and their followers for instance by improved attentional and emotional processes, improved listening, collaboration and respect, better conflict management and reduced emotional contagion (Good et al., 2016). In dealing with diverse people and information, developing oneself profoundly and holistically through curious and open awareness of experience—a novel concept in leader development—may help a leader achieve effectiveness and meaningfulness (Karssiens et al., 2014).

What makes the application of mindfulness particularly relevant in the leader development context is not adequately captured. To facilitate understanding of the viability of mindfulness as a method of improving the leadership capacity of leaders and to clarify which aspects make mindfulness practice particularly relevant for leaders, it is useful to look at leaders' mindfulness practice through the lens of leader self-development. A definition of *leader-specific mindfulness practice* is offered here:

Leader-specific mindfulness practice is (1) a holistic **leader self-development** approach in which (2) a leader engages in raising present-moment awareness of **their experience as a leader** (3) with the intention to improve the lives of **themselves and others**.

First, leader-specific mindfulness practice is proposed to be embedded in the continuous leader self-development process that is characterized by an individual leader's voluntary intention and motivation to actively expand their internal capacity (Reichard & Johnson, 2011) relating to an individual's self-view as a leader that is known to be a critical factor in leadership effectiveness (Day & Dragoni, 2015). Second, mindfulness practice involves an active mind that is oriented toward connecting with oneself (Purser & Milillo, 2015). Mindfulness interventions aimed at leaders emphasize systematic development of their internal qualities—the perceptual, emotional, and embodied sensing capacities (Hunter, 2015)—that can raise self-awareness and social awareness, the key leadership capabilities to be developed through leader development (e.g., Day, 2000; Day & Dragoni, 2015). It has been suggested that those trained in contemplative practices would be best equipped to reflect on and describe their own experiences (Davidson & Kazniak, 2015). Therefore, helping individuals to be aware of their behavior as a leader through mindfulness practices such as meditation and introspection may support leadership development behaviors such as reflection on leadership experiences and support a person's development to become a better leader. Third, mindfulness practice is expected to raise leaders' awareness of their own values, motivations, and direction, and increase the sense of interconnectedness, and therefore help leaders lead themselves to lead others well and make the right choices (Hunter, 2015). Interest has grown since the 2000s in ethical leadership in organizations (Brown et al., 2005). Increased awareness of oneself and one's context that can be cultivated through mindfulness interventions may foster ethical behavior among decision-makers (Ruedy & Schweitzer, 2010), helping fulfill the leader's moral responsibility to improve the lives and functioning of not just their own but others' (Ciulla & Forsyth, 2011). This study now proceeds to review prior empirical studies on mindfulness interventions and practices of leaders.

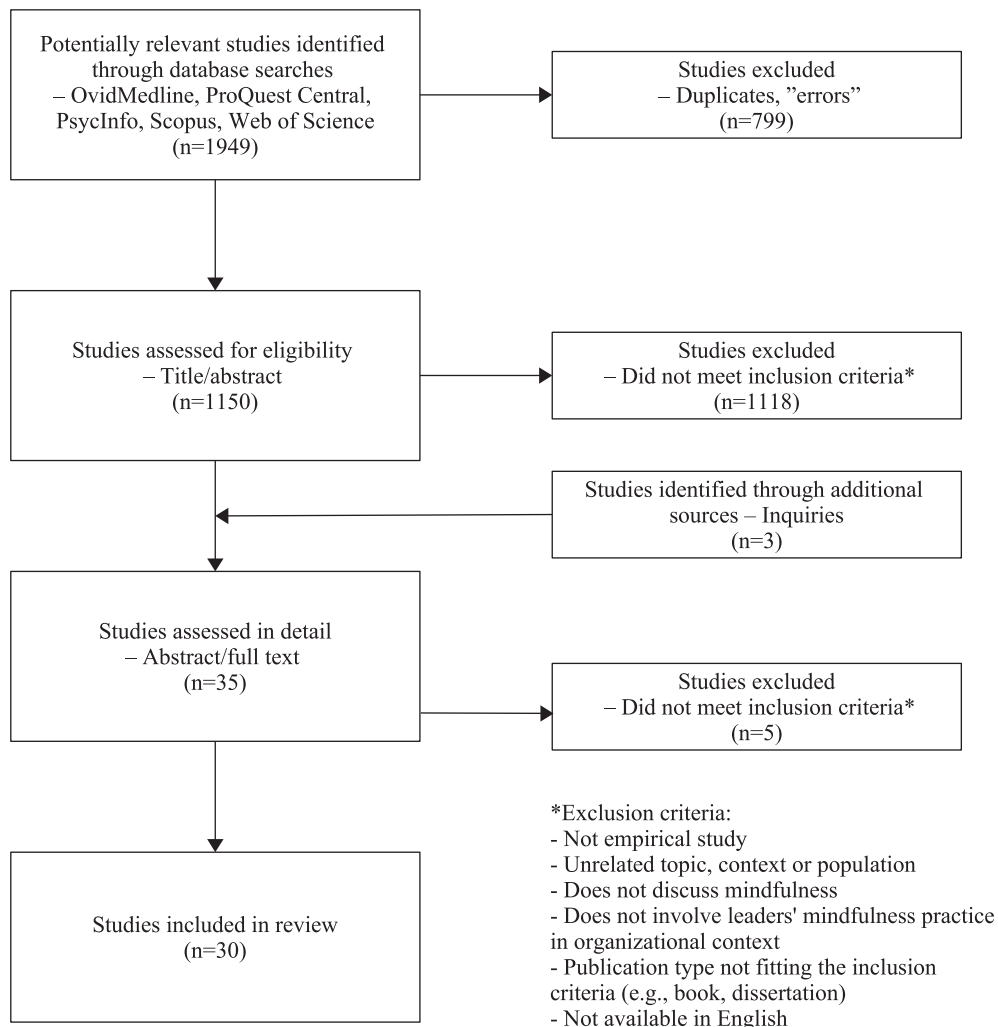


Fig. 1. Flow diagram of systematic literature search.

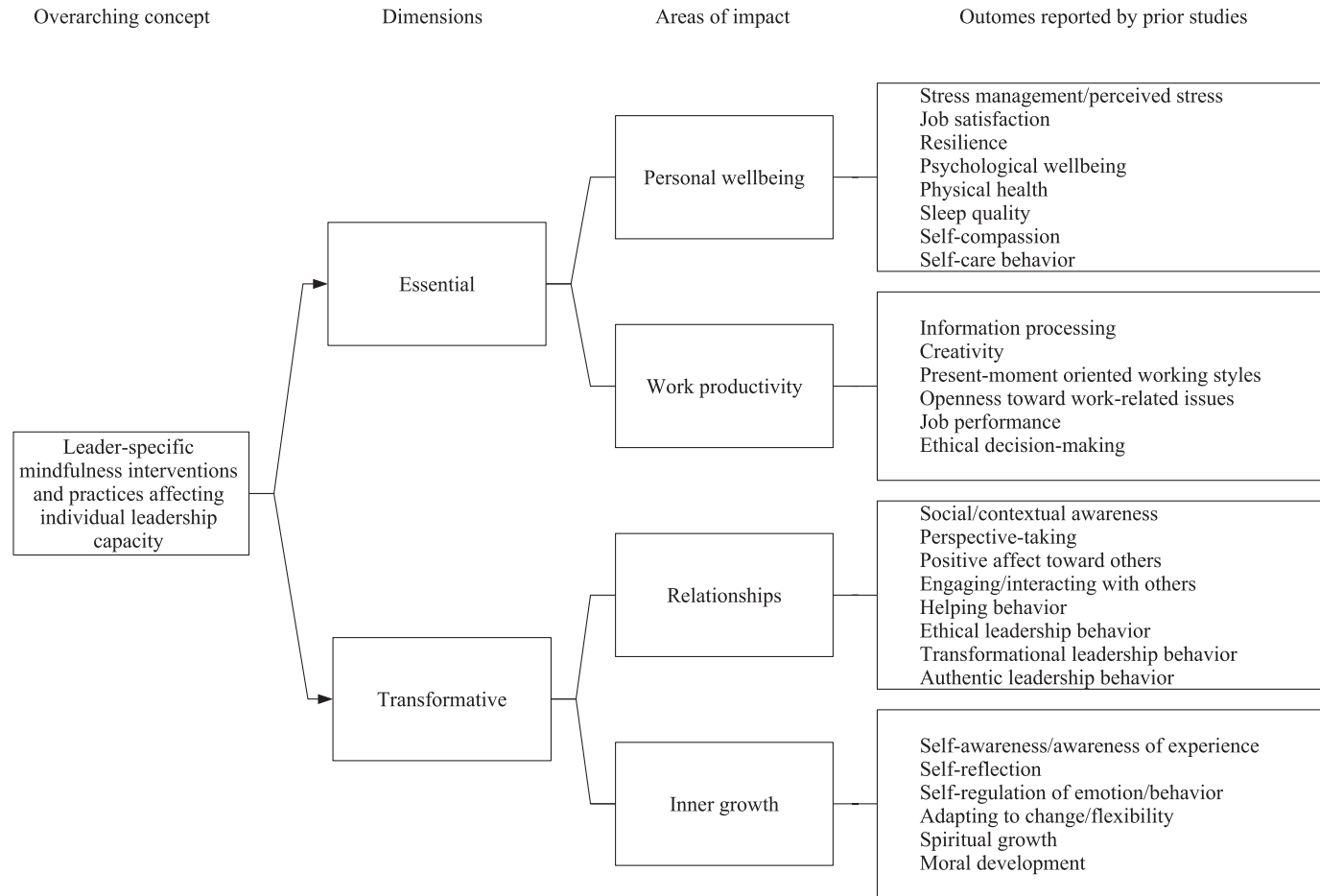


Fig. 2. Impact of mindfulness interventions and practices on leaders.

3. Review method

The research method followed the guidelines proposed by [Tranfield, Denyer, and Smart \(2003\)](#) for a systematic literature review in terms of defining the search terms and the inclusion and exclusion criteria and developing a data extraction form. The search strategy was guided by the objective of providing full, up-to-date, cross-disciplinary coverage of the available literature. Database searches (in OvidMedline, ProQuest Central, PsycInfo, Scopus, and Web of Science) were conducted using the search string: mindfulness AND (leader OR leadership OR manager OR managerial OR supervisor OR supervisory) in the abstract, title, and keywords including all subject areas and years up until March 2020.

The searches identified 1949 titles. Additionally, three potentially relevant studies were identified through personal inquiries. After the removal of duplicates, 1150 studies were assessed for eligibility based on their titles or abstracts. Of those, 35 studies were scrutinized based on the full texts. For an article to be included in this systematic literature review, it had to present an empirical study on mindfulness practice among leaders (either a formal intervention or independent practice) in the organizational context. Studies that operationalized mindfulness solely as a trait or state were excluded as a distinct line of research ([Eby et al., 2019](#)). Theoretical and review articles were excluded, as were studies that focused on unrelated topics, contexts, or populations, such as coaching instead of mindfulness, parenting instead of organizations, or patients, students, or general employees instead of leaders. The focus of the review remained on the individual leader as a mindfulness practitioner, even though some of the reviewed studies included multilevel data. Publication types that did not fit the criteria for inclusion such as commentaries, letters, editorials, book chapters, and dissertations were discarded, so too were two studies unavailable in English.

A total of 30 empirical studies (28 journal articles and two unpublished conference papers expected to be published in peer-reviewed journals) were included in the review. A flow diagram of the review method presents the different phases of the systematic search, as recommended by [Booth, Papaioannou, and Sutton \(2012\)](#) (Fig. 1.).

The analysis of the review material was guided by a data extraction form that was created at the start of the review process and developed throughout to guide the meaningful synthesis of information. Publication characteristics (author/s, year of publication, source title, impact factor), study characteristics (methodological approach, study design, informants, country), mindfulness operationalization (definition, questionnaire, type of intervention/practice), and leadership-related focus were coded for each study. The reported outcomes of leaders' mindfulness interventions and practices were organized into a thematic data structure ([Gioia, Corley, & Hamilton, 2012](#)).

4. Prior empirical research on leaders' mindfulness interventions and practices

4.1. Overview of studies

The reviewed studies were published in 2009–2020, the majority of them in management and health publications. The studies focused on assessing the effects of leaders' mindfulness practice and displayed a variety of mindfulness interventions and practices that differed in terms of length, intensity, delivery method and content. Twelve of the reviewed studies were quantitative ([Ahlvik et al., 2018](#); [Baron, Baron, Grégoire, & Cayer, 2018](#); [Brendel et al., 2016](#); [Ceravolo & Raines, 2019](#); [Crivelli, Fronda, Venturella, & Balconi, 2019](#); [Lange & Rowold, 2019](#); [Lundqvist, Ståhl, Kenttä, & Thulin, 2018](#); [Nübold et al., 2019](#); [Pipe et al., 2009](#); [Schuh et al., 2019](#); [Shonin, Van Gordon, Dunn, Singh, & Griffiths, 2014](#); [Zolnierczyk-Zreda, Sanderson, & Bedyńska, 2016](#)), 13 were qualitative ([Burmansah et al., 2020](#); [Chesley & Wylson, 2016](#); [Frizzell, Hoon, & Banner, 2016](#); [Goldman-Schuyler et al., 2017](#); [Lewis & Ebbeck, 2014](#); [Lippincott, 2018](#); [Lychnell, 2017](#); [Mahfouz, 2018](#); [Rupprecht et al., 2019](#); [Shonin & Van Gordon, 2015](#); [Sutamchai, Rowlands, & Rees, 2019](#); [Vreeling, Kersemaekers, Cillessen, Van Dierendonck, & Speckens, 2019](#); [Vu & Gill, 2018](#)) and five were mixed method studies ([Kersemaekers, 2020](#); [Kuechler & Stedham, 2018](#); [Reitz, Waller, Chaskalson, Olivier, & Rupprecht, 2020](#); [Shelton, Hein, & Phipps, 2020](#); [Wasylikiw, Holton, Azar, & Cook, 2015](#)). All of the reviewed quantitative-only studies (and four of the five mixed methods studies) involved a mindfulness-based intervention and a survey. Of the reviewed qualitative studies, half were intervention studies and half involved an independent mindfulness-based practice occurring outside a formal intervention context. Summaries of the details of the reviewed studies are available upon request to the author at the email address listed in the article.

4.2. Essential and transformative outcomes of leaders' mindfulness practices reported in the reviewed studies

The reviewed studies assessed if mindfulness interventions and practices could build individual leadership capacity, in particular, individual leadership capabilities related to leaders' personal resources (e.g., [Crivelli et al., 2019](#)), leadership effectiveness, (e.g., [Lange & Rowold, 2019](#)), leadership qualities (e.g., [Brendel et al., 2016](#)) and behaviors (e.g., [Lippincott, 2018](#)), leadership relationships (e.g., [Nübold et al., 2019](#)), and leadership ethics (e.g., [Sutamchai et al., 2019](#)). Some of the reviewed studies had a narrow focus whereas it was quite common among the studies to measure multiple outcomes.

To provide a meaningful synthesis of the findings reported by prior empirical studies, I organized the leadership outcomes of mindfulness interventions and practices into a comprehensive framework (see [Fig. 2.](#)). The thematic data structure comprises 28 developmental outcomes (e.g., stress management, self-care behavior, information processing, job performance, social/contextual awareness, authentic leadership behavior, self-awareness, adapting to change) and four thematic clusters according to areas of impact (personal wellbeing, work productivity, relationships, and inner growth) across two dimensions (essential and transformative).

The review of prior research revealed outcomes that seemed to be equally important yet critically distinct, which persuaded me to present the findings of prior studies across two dimensions: essential and transformative. On one dimension, research participants'

experience of mindfulness practice was as a helpful, essential technique for stressful and demanding work situations affecting leader wellbeing and work productivity. It is known that on a basic human functional level, depleted psychological resources caused by stress and lack of sleep can adversely affect leadership quality (Lange & Rowold, 2019). The impact of mindfulness practice on wellbeing and work productivity was thus seen in the review to have essential value for any leader, and in developing the framework the related outcomes were labeled *essential* to improving the individual's leadership capacity.

The other dimension reflects the reviewed studies presenting mindfulness practice as having a more profound role in helping leaders to reflect on their inner life and facilitating their interaction with other people. Once something is changed in a transformative way it will never go back to what it was before (Neal, 2018), thus transformation is a sustaining change. A significant developmental outcome for a leader that may improve the individual leadership capacity and pave the way to improved leadership quality over time, is a transformative shift in the leader's way of being and leading that stems from the development of self-awareness and social/contextual awareness (Goldman-Schuyler et al., 2017). The impact of mindfulness practice on leaders' relationships and inner growth was seen to have transformative value for leadership, therefore, the related developmental outcomes reported by prior studies due to mindfulness training were cataloged as *transformative*.

4.2.1. Findings on wellbeing outcomes

Roughly 40% of the reviewed studies focused primarily on evaluating the impact of mindfulness practice on leader wellbeing. Notably, research evidence shows that mindfulness practice can extend the personal resources of individuals in high-stress roles at the top and middle management levels and that mindfulness is suited for environments like healthcare (e.g., Ceravolo & Raines, 2019; Pipe et al., 2009; Wasytkiw et al., 2015) and the corporate world (e.g., Crivelli et al., 2019; Lange & Rowold, 2019). Several of the reviewed quantitative studies found improvements in self-reported stress following a mindfulness program (e.g., Crivelli et al., 2019; Lundqvist et al., 2018; Pipe et al., 2009; Shonin et al., 2014; Zolnierczyk-Zreda et al., 2016). The review also identified a multitude of other outcomes related to psychological wellbeing and health, including enhanced resilience (e.g., Reitz et al., 2020), improved physiological markers of equanimity and relaxation (Crivelli et al., 2019), increased psychological flexibility (Lundqvist et al., 2018), increased positive affect and self-esteem (Zolnierczyk-Zreda et al., 2016), reduced anxiety (e.g., Brendel et al., 2016), reduced negative affect (e.g., Zolnierczyk-Zreda et al., 2016), and reduced mental fatigue (Crivelli et al., 2019). One study (Lundqvist et al., 2018) reported mindfulness practice among leaders conferred sleep-related benefits. In addition, a few qualitative studies identified improved self-care behavior, such as making conscious lifestyle choices such as starting a new hobby or taking a rest, as a significant outcome of leaders' mindfulness practice. Improving self-care practices can help deliver a better work-life balance and support sustainable stress reduction (e.g., Mahfouz, 2018).

4.2.2. Findings on work productivity outcomes

Numerous reviewed studies assessed the impact of mindfulness practice on leaders' work productivity and performance. Mindfulness practice was reported to affect leaders' information processing and cognitive functioning in the behavioral and physiological domains (e.g., Crivelli et al., 2019; Lippincott, 2018; Wasytkiw et al., 2015). Lippincott (2018) clarified that leaders' regular, independent mindfulness practice enhanced leadership performance on the aspects of attention focus, decision-making, observation and information gathering, and managing reactions, distractions, and judgmental thinking. Crivelli et al. (2019), who quantitatively tested the cognitive abilities and neurocognitive efficiency of leaders during challenging cognitive tasks, reported that following mindfulness training, results showed a significant improvement in information-processing efficiency during cognitive tasks, in the ability to focus, and in the reactivity of the mind-brain system (Crivelli et al., 2019). Some studies reported outcomes related to experiences of creativity (Brendel et al., 2016; Goldman-Schuyler et al., 2017). Brendel et al. (2016) quantitatively examined the impact of a weekly, 45-min mindfulness meditation session on critical leadership qualities, where the participants demonstrated a significant increase in promotional regulatory focus connected to the inherent motivation to be creative and act creatively, compared to the active control group participants who attended a graduate-level leadership theory and development course. Some of the reviewed qualitative studies identified outcomes related to present-oriented working styles and personal effectiveness (Goldman-Schuyler et al., 2017; Rupperecht et al., 2019; Shonin & Van Gordon, 2015). For instance, Rupperecht et al. (2019) found mindfulness influenced leaders' mindful task management capabilities, particularly in terms of reducing multitasking, improving the ability to manage distractions, and making more conscious transitions between events during the working day.

Mindfulness practice was also found to change leaders' attitudes to work. A study by Shonin and Van Gordon (2015) reported that the intervention improved engagement and feeling a connection to the task and situation at hand, helping participants see work as an integral part of their lives, and as a deeper-level learning opportunity. As a result of the shift in attitude toward work, the participants reported that life started to become whole again; work, rest, play, and family all became equally meaningful (Shonin & Van Gordon, 2015). Sutamchai et al. (2019) confirmed that mindfulness practice was an effective aid to promoting leaders' ethical decision-making and behavior through, for instance, raising awareness of the consequences of one's actions and the sense of responsibility to the self and others.

4.2.3. Findings on relationships outcomes

The review revealed various findings related to leaders' interpersonal relationships and illustrated that changes in how leaders think, feel, and act around other people as a result of practicing mindfulness contribute to maintaining high-quality professional relationships. Several studies reported on the results of mindfulness practice on social/contextual awareness and engaging with others (e.g., Lippincott, 2018; Shonin & Van Gordon, 2015; Vu & Gill, 2018). Shonin and Van Gordon (2015) reported that leaders who had participated in interventions experienced a reduced focus on themselves in the work context, which improved the quality of

transaction and communication with their surroundings, for example, tuning into feedback. [Wasylikiw et al. \(2015\)](#) found that after a mindfulness intervention, leaders demonstrated significant increases in the extent to which they considered others' opinions and viewpoints when making important decisions. Exploring a similar line, [Rupprecht et al. \(2019\)](#) notes how leaders report an improved ability to listen more attentively and openly to what others have to say. The same study also found that leaders who participated in a mindfulness intervention reported having engaged in self-reflection which offered them insights into their own reactions and beliefs, and consequently raised their awareness of how those personal reactions and beliefs influenced other people.

The reviewed research addressing other-oriented emotional outcomes of leader mindfulness practices reported increased prosocial and positive emotions to others (e.g., [Goldman-Schuyler et al., 2017](#); [Wasylikiw et al., 2015](#)) and greater respect for other people's opinions and contributions, which [Lippincott \(2018\)](#) linked to changes in leaders' social awareness due to mindfulness practice. In

Table 1

Summary of findings: Essential and transformative outcomes of leaders' mindfulness interventions and practices.

Outcome	Area of impact	Authors
Essential outcomes		
Stress management/perceived stress	Personal wellbeing	Ahlvik et al. (2018) ; Brendel et al. (2016) ; Ceravolo and Raines (2019) ; Crivelli et al. (2019) ; Kersemakers (2020) ; Lange and Rowold (2019) ; Lundqvist et al. (2018) ; Pipe et al. (2009) ; Shelton, Hein, and Phipps (2020) ; Shonin et al. (2014) ; Shonin and Van Gordon (2015) ; Wasylikiw et al. (2015) ; Zolnierczyk-Zreda et al. (2016)
Job satisfaction	Personal wellbeing	Shonin et al. (2014)
Resilience	Personal wellbeing	Reitz et al. (2020) ; Shelton et al. (2020)
Psychological wellbeing	Personal wellbeing	Ahlvik et al. (2018) ; Ceravolo and Raines (2019) ; Crivelli et al. (2019) ; Kersemakers (2020) ; Lundqvist et al. (2018) ; Reitz et al. (2020) ; Shelton et al. (2020) ; Shonin et al. (2014) ; Shonin and Van Gordon (2015) ; Vu and Gill (2018) ; Wasylikiw et al. (2015) ; Zolnierczyk-Zreda et al. (2016)
Physical health	Personal wellbeing	Vu and Gill (2018)
Sleep quality	Personal wellbeing	Lundqvist et al. (2018)
Self-compassion	Personal wellbeing	Mahfouz (2018) ; Wasylikiw et al. (2015)
Self-care behavior	Personal wellbeing	Lychnell (2017) ; Mahfouz (2018) ; Rupprecht et al. (2019)
Information processing	Work productivity	Crivelli et al. (2019) ; Lippincott (2018) ; Wasylikiw et al. (2015)
Creativity	Work productivity	Brendel et al. (2016) ; Goldman-Schuyler et al. (2017)
Present-moment oriented working styles	Work productivity	Rupprecht et al. (2019) ; Shonin and Van Gordon (2015)
Openness toward work-related issues	Work productivity	Burmansah et al. (2020) ; Lychnell (2017) ; Shonin and Van Gordon (2015)
Job performance	Work productivity	Shonin et al. (2014) ; Shonin and Van Gordon (2015)
Ethical decision-making	Work productivity	Sutamchai et al. (2019)
Transformative outcomes		
Social/contextual awareness	Relationships	Kuechler and Stedham (2018) ; Vreeling et al. (2019)
Perspective-taking	Relationships	Chesley and Wylson (2016) ; Kuechler and Stedham (2018) ; Lewis and Ebbeck (2014) ; Shonin and Van Gordon (2015) ; Vu and Gill (2018)
Positive affect toward others	Relationships	Burmansah et al. (2020) ; Goldman-Schuyler et al. (2017) ; Sutamchai et al. (2019) ; Vreeling et al. (2019) ; Vu and Gill (2018) ; Wasylikiw et al. (2015)
Engaging/interacting with others	Relationships	Chesley and Wylson (2016) ; Frizzell et al. (2016) ; Goldman-Schuyler et al. (2017) ; Lewis and Ebbeck (2014) ; Lippincott (2018) ; Mahfouz (2018) ; Rupprecht et al. (2019)
Helping behavior/collaboration	Relationships	Reitz et al. (2020) ; Vreeling et al. (2019)
Ethical leadership behavior	Relationships	Kersemakers (2020) ; Schuh et al. (2019) ; Sutamchai et al. (2019) ; Vu and Gill (2018)
Transformational leadership behavior	Relationships	Lange and Rowold (2019)
Authentic leadership behavior	Relationships	Nübold et al. (2019)
Self-awareness/awareness of experience	Inner growth	Baron et al. (2018) ; Frizzell et al. (2016) ; Goldman-Schuyler et al. (2017) ; Lewis and Ebbeck (2014) ; Kuechler and Stedham (2018) ; Lippincott (2018) ; Mahfouz (2018) ; Vreeling et al. (2019) ; Vu and Gill (2018)
Self-reflection	Inner growth	Lewis and Ebbeck (2014) ; Mahfouz (2018) ; Rupprecht et al. (2019)
Self-regulation of emotion/behavior	Inner growth	Frizzell et al. (2016) ; Lippincott (2018) ; Mahfouz (2018) ; Vreeling et al. (2019) ; Vu and Gill (2018)
Adapting to change/flexibility	Inner growth	Chesley and Wylson (2016) ; Lychnell (2017) ; Goldman-Schuyler et al. (2017) ; Reitz et al. (2020) ; Rupprecht et al. (2019)
Spiritual growth	Inner growth	Shonin and Van Gordon (2015)
Moral development	Inner growth	Sutamchai et al. (2019)

support, Goldman-Schuyler et al. (2017) found that leaders who focused on being present exhibited empathy and heightened awareness of pain within organizations, which made their relationships with other people feel more workable and meaningful.

With regard to other-oriented behavioral changes, the review revealed outcomes relating to respectful and ethical leadership practices (Mahfouz, 2018; Schuh et al., 2019; Sutamchai et al., 2019; Vu & Gill, 2018; Wasylkiw et al., 2015), which according to Vu and Gill (2018) may be associated with heightened social and contextual awareness. According to Mahfouz (2018) who studied the impact of a mindfulness-based professional development program on school leaders, as leaders became more aware and reflective of their reactions and emotions, they were able to respond in a more constructive way during challenging interactions. In addition, recent quantitative dyad studies examined the interpersonal influences of mindfulness practice on leadership styles where leadership quality depends on a trustful interpersonal process between leader and follower and where the leader takes an interest in the needs of the follower. Lange and Rowold (2019) found that leaders who participated in a mindfulness intervention showed stronger transformational and lower destructive leadership behaviors as assessed by subordinates than the control group participants, while Nübold et al. (2019) reported that mindfulness intervention increased authentic leadership as perceived by both leaders and followers.

4.2.4. Findings on inner growth outcomes

The impact of mindfulness practice on leaders' inner growth was addressed by several of the reviewed qualitative studies. Goldman-Schuyler et al. (2017) discovered that open awareness practice enhanced leaders' awareness of their personal experience in several ways: it heightened experiences of bodily sensations, feelings, and thoughts, and brought a sense of connectedness, safety, appreciation, and gratitude. Lippincott (2018) reported that leaders linked enhanced awareness with perceived leadership effectiveness, which became evident in descriptions of emotional self-awareness and personal transformation, such as realizations about one's ineffectiveness. As for findings related to self-regulation of emotions and behavior, leaders reported improved emotional self-control (Lippincott, 2018), reductions in emotional reactivity, and a willingness to use practices that helped to regulate and neutralize difficult feelings, making difficult experiences more bearable (Mahfouz, 2018). Shonin and Van Gordon (2015) reported their respondents having an increased appreciation of their work, which brought more balance and meaning to their lives as a whole and empowered the participants to take control of their personal and spiritual development. Sutamchai et al. (2019) reported that mindfulness affected leaders' moral development, as exemplified in an increased awareness of the right things to do, of personal desires and cravings, and in the rejection of greed.

Finally, the reviewed studies reported generally positive results immediately after mindfulness intervention or practice period (post-assessment), which indicates they were effective in achieving the targeted outcomes. A few studies reported not having achieved all of the measured outcomes, indicating that a particular form of mindfulness practice was more effective for some of the targeted outcomes than some others in that particular study. For instance, Brendel et al. (2016) did not find effects for resilience or tolerance for ambiguity, and Ahlvik et al. (2018) did not find significant effects for engagement. Some of the reviewed studies that measured longitudinal effects using follow-up procedures reported varying results on how those outcomes were sustained. Wasylkiw et al. (2015) found that attendees on a weekend retreat showed significant increases in mindfulness and corresponding reductions in stress which were sustained across eight weeks post-retreat, while Ceravolo and Raines (2019) reported that at a three-month follow-up of an eight-week mindfulness intervention none of the score changes were statistically significant. Lundqvist et al. (2018) found improvements in sleep quality immediately after an eight-week intervention compared to a passive control group but could not detect the same effect in a six-week follow-up assessment. It seems that, even among studies with a similar focus, comparing the effects of mindfulness interventions of different length, intensity, and content is a significant challenge.

A summary of the reported outcomes is presented in Table 1. The implications of the review findings for future research are discussed next.

5. Discussion and agenda for future research

The review of prior research findings provided a framework looking beyond wellbeing to other leadership issues more broadly, and increased understanding of the impact of mindfulness interventions and practices when applied to the leadership context. The findings of the review have various implications for future research. Given the increasing worldwide popularity of mindfulness among leaders, the number of studies published in high-quality leadership/management journals, organizational/applied psychology journals, and educational journals can be expected to continue to rise. Advancing the relatively new and growing research on mindfulness in the context of leadership requires rigorous theoretical and empirical research efforts to gain a better understanding of the concept of mindfulness as a leader-specific practice, when and in what forms leaders' mindfulness interventions and practices may be most effective, what the essential and transformative outcomes of these practices are for leaders and their sphere of influence, and how and through which processes mindfulness can support individual and collective-level leadership development.

5.1. Opportunities for theoretical advancement

5.1.1. Mindfulness as a leader-specific practice

Revealing the complexity of the construct and the lacking consensus around its components (Choi & Leroy, 2015; Davidson & Kazniak, 2015; Gethin, 2011), there was considerable variety among the reviewed studies in how they presented and discussed the extant definitions and conceptualizations of mindfulness. The definitions of mindfulness operationalized as leader-specific provided by the studies were often not concise. In principle, definitions should be precise and concise and also facilitate the development of theory (MacKenzie, 2003). Instead of being content with diverse and often conflicting definitions (MacKenzie, 2003), it is recommended that

future studies provide a synthesized conceptualization that reflects what is being assessed in the study. In addition, future studies should inform readers of how the different operationalizations (mindfulness as a trait, state, or intervention) are understood (Eby et al., 2019) and interrelated in the study of mindfulness as a leader-specific practice. Studies on mindfulness in the context of leadership, as a method to improve the leadership process or individual leader capabilities, should expressly set out the understanding and rationale behind assessing mindfulness either as a trainable skill or practice, or a quality that can be developed as a result of either an intervention or independent practice, rather than a stable personality trait or a momentary state of mind.

Future studies on leaders' mindfulness interventions and practices should aim to provide better conceptual clarity not only on mindfulness but also on leadership. Despite contextualizing mindfulness within leadership, the extent to which the leadership context and the leadership-related concepts were discussed in the reviewed studies varied a great deal and often lacked depth and precision. In the reviewed studies, a strong theoretical positioning in leadership or leader development research was seldom evident, as could be seen in the general scarcity of references to some of the most prominent researchers within the field (e.g., Day, 2000; Day et al., 2014). Organizational leaders are formally responsible for the efforts of others (Day & Dragoni, 2015), therefore future studies are strongly encouraged to consistently define a leader as someone who holds a managerial or leadership position in an organization *and* who has followers. They should also accurately define what they mean by terms such as *leadership effectiveness*, *leadership performance*, *leadership capabilities*, and *leadership capacity*. Furthermore, as mindfulness training offered for leaders in organizational settings is primarily an effort to improve the individual leader capabilities deemed critical for effective leadership, future research should be expected to address the leader(ship) development literature, and explicate and distinguish the means of facilitating effective leadership and expanding leadership capacities through leadership development (a collective capacity) and leader development (an individual capacity) (Day, 2000) and synthesizing knowledge of what might be done for leadership to be effective.

5.1.2. Leader mindfulness interventions and practices

As the reviewed studies confirm, there are many different kinds of mindfulness interventions on offer for different leader audiences. There seems to be no one type of mindfulness intervention nor one right way to practice mindfulness. How an individual practices mindfulness may be viewed as a "personal and contextual choice" (Vu & Gill, 2018, p. 155). It is usual that mindfulness interventions are tailored according to the needs of the audience and targeted outcome measures because it is expected that the content of the intervention or practice approach will affect the expected outcome (Davidson & Kazniak, 2015). In the reviewed studies, three types of specific focus of the intervention could be identified: a wellbeing focus, a leadership focus, and a spiritual focus. The review detected the dominance of studies with a primary focus on stress management and other wellbeing outcomes that commonly used mindfulness-based stress-reduction interventions (e.g., Zolnierczyk-Zreda et al., 2016). Studies which from the outset approached mindfulness from the leadership angle commonly deployed interventions tailored specifically for leader audiences (e.g., Lange & Rowold, 2019). Some studies approached mindfulness as a spiritual practice (e.g., Vu & Gill, 2018). The richness of mindfulness programs offered for leaders offers future studies an opportunity to investigate the implications of the likely dependence of outcomes on their particular approach and content, as suggested by Shonin and Van Gordon (2015). Importantly, future research may explore how leaders perceive these differences, and on what basis selections are made by organizations.

The review also shows that mindfulness training programs offered in workplace settings — even those apparently similar in content — are heterogenous in terms of length and intensity, because they need to meet the requirements of contemporary work environments in regard limited time commitment and flexible delivery methods (Bartlett et al., 2019). While the comparison of different kinds of interventions is difficult—unless the interventions and their matched comparison conditions are the same or the intervention descriptions provide the same details, unless enough studies use the same outcome measures and report the outcomes in a transparent way, and unless the studies apply the same longitudinal assessments beyond pre-post measures (Davidson & Kazniak, 2015)—it is in the interest of human resource management professionals and researchers alike to attempt to assess the effectiveness of mindfulness interventions and practices.

In regard to determining which kinds of mindfulness interventions and practices may be the most effective, some initial conclusions can be drawn—and some additional research questions derived—based on prior research. First, the reviewed studies emphasized the important role of a sustained regular independent practice and home practice occurring outside the formal program context to deliver the goal of lasting, long-term effectiveness (e.g., Ceravolo & Raines, 2019; Reitz et al., 2020). Independent or home practice that can sustain effects that persist beyond a period of formal meditation practice is an especially important element of formal mindfulness interventions and must be assessed using rigorous longitudinal follow-up procedures; that is because the purpose of any kind of meditation practice is to transform everyday life (Davidson & Kazniak, 2015). The integration of insights into the leaders' daily lives prompted by mindfulness practice may be needed if work is to become an enabler of their inner growth rather than an obstacle to it (Lychnell, 2017). While the absence of formal program settings or instructor-led sessions may pose a challenge for assessing both the compliance and effectiveness of independent mindfulness practices, future research should expand the understanding of leaders' independent and informal mindfulness practices occurring outside the formal intervention contexts. Moreover, for the intervention to be effective, the individual has to be motivated and dedicate time for practice outside the formal intervention context, which raises the question of what would be a working strategy to motivate more leaders to practice mindfulness. Second, despite the dominance of longer, typically eight-week, interventions that are generally considered effective (Kabat-Zinn, 2003), several reviewed studies reported that shorter, "low-dose" mindfulness interventions can also bring positive results for leaders (e.g., Wasylikiw et al., 2015; Crivelli et al., 2019). The effectiveness of a shorter mindfulness intervention for working adults has been reported (Klatt, Buckworth, & Malarkey, 2009), and gaining insights into the short-term intervention designs offered for leaders would be a valuable future research area. Third, the reviewed studies displayed a trend toward self-administered, technology-supported mindfulness programs responding to the demand to provide mindfulness training for busy leaders in a cost-effective way. Such program forms have the potential to tackle

many of the constraints of traditional mindfulness training, including invested time and cost and evaluating the impact of practice (Crivelli et al., 2019; Nübold et al., 2019). Future studies should therefore investigate the effectiveness of the alternatives to the typical, eight-week instructor-led forms of intervention. Based on what is known from prior research, specific research questions and hypotheses should be explored and tested by future studies.

5.1.3. Essential and transformative outcomes of leaders' mindfulness practice

The review showed that prior research on leaders' mindfulness interventions and practices is focused on measuring outcomes seen as relevant for leaders and leadership. With regard to *what* develops through leaders' mindfulness practices, this review outlined the four main areas of impact where mindfulness can support leader development—personal wellbeing, work productivity, relationships, and inner growth—that have an essential and transformative significance for leaders.

A considerable body of existing research supports the efficacy of leaders' mindfulness practice for essential wellbeing outcomes, most commonly those related to stress management. Given the importance of renewed energy to leaders' wellbeing, productivity, and leadership quality (Byrne et al., 2014), it is surprising that only one prior study (Lundqvist et al., 2018) assessed the sleep-related outcomes of leaders' mindfulness practice. With research supporting the effectiveness of mindfulness interventions in bringing about positive sleep outcomes in general populations (Shallcross, Visvanathan, Sperber, & Duberstein, 2019), future research on the efficacy of mindfulness practice on leaders' sleep quality and leadership would make a novel contribution. Additionally, future studies could explore the role of regular mindfulness practice in leaders' sustained health behavior over a longer time period. As for the essential productivity and performance outcomes, the reviewed research implied that improved wellbeing due to mindfulness practice can translate into improved cognitive functioning and productivity (Crivelli et al., 2019; Lippincott, 2018). Future research should further investigate how the behavioral mechanisms or processes that might be induced by mindfulness practices—such as reductions in multitasking, better prioritization, and acts of self-compassion—may affect the productivity of individual leaders.

The findings of the review confirm that mindfulness-based interventions and practices can affect benefits for leaders beyond personal wellbeing and work productivity. Prior research makes it possible to state that if a leader is to be an exceptional people leader and flourish both personally and professionally, that leader will require both essential leadership capabilities (related to wellbeing and work productivity) and transformative leadership capabilities (related to relationships and inner growth). A leader may be able to cope and perform without transformative capabilities such as self-awareness and contextual awareness but may not experience the sense of meaningfulness or flourish (Karssiens et al., 2014). Thereafter, in addition to studying the impact of mindfulness practice on such essential matters as the individual leader's wellbeing and productivity, future research should further explore the transformative impact of mindfulness from the leadership perspective related to relationship matters as well as leaders' inner growth on a personal level. First, the significance of social/contextual awareness and the quality of relationships in leadership has been repeatedly discussed in the theoretical research literature on mindfulness and leaders (e.g., Eby et al., 2020; Good et al., 2016; Hunter, 2015; Karssiens et al., 2014), but empirical research remains scarce. To advance research on the interpersonal and social impact of leaders' mindfulness practices, empirical research should examine the relational impact of leader mindfulness interventions on leader interaction with team members, taking a holistic view across the cognitive/attentional, emotional, and behavioral processes involved. The review showed that mindfulness interventions can increase transformational and authentic leadership behaviors as assessed by followers, and there is evidence that trait mindfulness (i.e., mindfulness assessed as a personality trait) could be an antecedent of transformational leadership (Carleton, 2018; Lange, Bormann, & Rowold, 2018; Nübold et al., 2019) and servant leadership (Pircher Verdorfer, 2016). Therefore, to advance the theoretical integration of mindfulness interventions and leadership development, future research should further investigate whether, and how, training leaders in mindfulness could be integrated into and support the development of transformational, authentic, ethical, and servant leadership styles, which, according to Anderson and Sun (2017), form the basis of spiritual leadership encompassing many of the characteristics of mindfulness, including showing authentic care, gratitude and acceptance toward others, self-awareness, and self-regulation of behavior. Second, future research should address the potentially unique worth of mindfulness-based methods compared to traditional leadership training: its holistic view of the human being. Training specific leadership skills as part of traditional leadership education may not be the only way to influence leadership behavior (Lange & Rowold, 2019). Instead, the key to leadership development may be to develop self-awareness. As Davidson and Kazniak (2015), p. 582 put it: "A key target of contemplative practice is awareness itself." Therefore, the ultimate targeted outcome of mindfulness training has transformative value over any instrumental, directly measurable benefits. Indeed, this is an ongoing developmental process. Furthermore, as shown in the review, leaders reported their mindfulness practice had increased self-awareness, a sense of responsibility, and being present in the midst of ongoing situations and other people (e.g., Brendel et al., 2016; Goldman-Schuyler et al., 2017). The little empirical research currently available supports the argument that the development of mindfulness can have a transformative value that has the power to cause major shifts for the individual leader (Goldman-Schuyler et al., 2017). Goldman-Schuyler et al., (2017, p. 86) capture the ultimate need behind people's enduring interest in present-moment-inspired approaches such as mindfulness in stating it means "to experience the fullness of life in a richly meaningful way." Thus, future studies should explore whether training leaders in mindfulness could help them to become more effective in the leadership role *and* experience more fulfillment at work through inner growth. Again, it would be especially valuable to understand the development of the informal, internalized mindfulness practice as a *way of being* available anytime. Importantly, as personal development is not always easy or fun, and personal transformation is a life-long endeavor, it is important that research does not only concentrate on the positive outcomes of mindfulness practice but also considers the downsides of the development process as it unfolds. The literature illustrates that sustaining a regular mindfulness practice is a challenge for leaders. Furthermore, maintaining a being-based mindfulness practice in the work context may require a radical shift, or indeed feel too uncomfortable for some busy professionals (Goldman-Schuyler et al., 2017). This hypothesis may be tested by future studies; for example, by inquiring into the obstacles to attendance and practice that hinder the long-

term development process.

5.1.4. Processes of mindfulness-based leader development

Prior studies on leaders' mindfulness practices have focused on the outcomes and aimed to measure the change occurring before and after mindfulness practice. The research reviewed shows we have a relatively good understanding of the scope of outcomes across the four main areas of impact—personal wellbeing, work productivity, relationships, and inner growth—that leaders' mindfulness practice can be expected to affect. After offering suggestions for future research in each of the thematic categories in Fig. 2, the focus will now be on the arrows from that figure that represent the processes of leader-specific mindfulness practices and can illuminate entirely unexplored research avenues. When studying the impact of leaders' mindfulness practices, the focus should not be on outcomes alone, but on understanding the experiential processes induced by mindfulness through which leaders learn and develop to become better leaders. It would be worthwhile to investigate what internal and external events and experiences must occur for the reported beneficial outcomes to be realized, in the process between the start and end of a mindfulness intervention, the follow-ups, and over a longer period.

It is known from prior research that while it is challenging for leaders to practice mindfulness regularly to maintain the positive outcomes, mindfulness practice should be regularly reinforced (e.g., Ceravolo & Raines, 2019; Wasylkiw et al., 2015); a finding that indicates that development of mindfulness skills occurs over time. However, there is not enough information on the processes and processual outcomes involved in leaders' mindfulness practices that occur over time and beyond the formal intervention context. More should be known, for instance, about how mindfulness facilitates establishing beneficial leadership behaviors. Future research may reveal knowledge regarding personal transformation occurring over time, as well as leaders' independent and informal mindfulness practices that might take different shapes after the ending of formal programs. A mindfulness intervention might be only the starting point for a new, fruitful path of individual leader development. To further clarify how practicing mindfulness can support leader development, and to establish the theoretical foundations of mindfulness practice in the context of leadership, future research might seek to further explore the processual aspects of mindfulness as a leader self-development approach: the motivation and willingness to develop, experiential on-the-job learning, self-reflection of internal and external feedback, the cultivation of self-awareness and social awareness, and development of leadership ethics.

5.2. Opportunities for empirical advancement

To better understand mindfulness practice in the context of leadership will require rigorous empirical research efforts and hence, overall, stronger, novel, and creative research designs should be encouraged.

5.2.1. Samples

Small sample sizes have been an issue in prior studies. In quantitative studies, small sample size is a well-known liability to statistical conclusion validity and limits generalizability (Garavan et al., 2020). In qualitative studies, in turn, small sample size can also endanger empirical rigor. With the exception of a single case study, qualitative studies need to have a representative sample involving informants of each sub-segment of the total population and establish data saturation based on knowledge of the research context and paradigm (Boddy, 2016). In training studies, for instance, sample sizes are determined by population sizes and response rates (Garavan et al., 2020). Therefore, future mindfulness intervention studies should secure sufficiently large population sizes even in the intervention planning phase by setting up larger participant groups or multiple cohorts and maximizing response rates throughout the data collection process by engaging the intervention participants, so as to minimize the incidence of drop-out.

5.2.2. Quantitative research designs

The reviewed quantitative studies commonly utilized control groups, and in some cases also randomized the assignment of participant sub-populations into conditions and using partly blinding methods. However, not all the studies used randomization, which is not always possible in mindfulness intervention studies where participants are self-selecting (Choi & Leroy, 2015). As a weakness of the existing studies, use of a waitlist condition as a comparison treatment was often the practice, even though is likely to lead to demand bias (i.e., participants knowing which group they belong to and expecting certain outcomes) (Davidson & Kazniak, 2015). Future quantitative intervention studies should deploy active comparison treatments and ideally blind participants and investigators to a specific research condition (Davidson & Kazniak, 2015). Furthermore, because in intervention studies the entire intervention (including length, delivery, teacher, sessions, materials, and group) determines its effectiveness, the control and comparison conditions used should match the research condition for the non-specific features to be able to assess the effects of mindfulness meditation or awareness practices alone (Davidson & Kazniak, 2015).

Among the reviewed studies, the interventions were not described in the same way, and not all studies provided the same details when reporting results (e.g., effect sizes). Given the wide variety of different mindfulness interventions for leaders offered, not describing the interventions accurately enough may hinder comparison of interventions to determine their effectiveness. Accordingly, future studies on leaders' mindfulness interventions and practices with rigorous research designs should detail the type of practice being studied. As soon as there is sufficient data, a meta-analysis on leader-specific mindfulness practice should be conducted.

5.2.3. Qualitative research designs

More than half of the reviewed studies used qualitative research methods, which is considered a strength, as qualitative data collection and analysis methods such as phenomenological first-person investigation (e.g., Shonin & Van Gordon, 2015) can provide a

more comprehensive understanding of the perceived leadership outcomes than a cross-sectional point in time assessment with pre-defined measures. Inquiries into the patterns of mental and behavioral processes, and insights arising from them are closely related to human developmental processes of mindfulness and leader development and require an in-depth qualitative approach alongside the consistent measurement of outcomes (e.g., [Goldman-Schuyler et al., 2017](#)). Based on the review of the heterogeneous qualitative research, the recommendation for the future entails consistent qualitative rigor in terms of more detailed and better-argued descriptions of the chosen data collection and analysis processes. Other recommendations in regard qualitative methods will be discussed in the following sections.

5.2.4. Longitudinal research designs

Longitudinal approaches and follow-up procedures enable the assessment of longitudinal effects of interventions ([Davidson & Kazniak, 2015](#)), which is a relevant consideration for all quantitative and qualitative research designs. The use of longitudinal approaches and follow-up procedures deployed in some of the reviewed quantitative and qualitative studies can be considered a strength. However, as the review showed, none of the follow-up assessments among the reviewed quantitative studies was conducted later than six months post-intervention, which demonstrates a lack of a longitudinal view across quantitative studies. None of the reviewed qualitative studies offered a view longer than one-year post-intervention on the effects of leaders' mindfulness practice. The current review revealed that a longer, several-year-long follow-up on the impact of mindfulness interventions and practices for leaders is completely absent from the field. Owing to the ongoing nature of individual leader development ([Day et al., 2014](#)), understanding the long-term impact is essential. At the same time, the expectations for the longitudinal effects should mirror the length and intensity of the intervention or practice period. [Davidson and Kazniak \(2015\)](#) point out that a longer intervention is usually designed for longer practice periods including continuous independent practice, while a short induction may be designed to have only short-term effects. Nevertheless, rigorous longitudinal research designs are needed in both quantitative and qualitative research to gain an understanding of the long-term impact of leaders' mindfulness practice ([Choi & Leroy, 2015](#)). Systematic follow-up procedures should be integrated into the study designs, as they can provide valuable knowledge about how the beneficial impact of mindfulness can be most effectively sustained in the long-term. For example, the role of continuous technological support integrated into mindfulness programs as a reinforcement of regular practice should be clarified. Longitudinal research designs that follow leaders over a longer period (e.g., 1–5 years) would help understand the unfolding individual leader development process. Such longitudinal approaches are strongly recommended as they can provide information on leaders' informal mindfulness practices over time and undertaken outside the formal intervention context, which there is not yet good understanding on, and reveal knowledge regarding personal transformation happening over time.

5.2.5. Mixed methods research designs

Quantitative and qualitative research designs were equally utilized in studies on leaders' mindfulness practices, but mixed methods designs were not as common. In fact, the review indicated a lack of well-designed, innovative mixed methods research designs that would illuminate leader-specific mindfulness interventions and practices. The use of more mixed methods mindfulness intervention study designs is therefore encouraged, especially when exploring questions relating to its influences on leadership such as interpersonal workplace relationships (e.g., leader-follower relationships and team functioning), and individual leader development, which is a continuous human development process happening throughout the career and lifetime. These processes are often perceived as taking various shapes and forms that may not be captured by statistical survey methods alone ([Choi & Leroy, 2015](#)). In sum, qualitative and quantitative designs can complement each other in a mixed methods research setting and well-conceived research designs that combine multiple methods (e.g., survey, interview, narratives, written reflection, journaling, observation, and biometrics) and perspectives (first-, second-, and third-person) should be deployed more often where statistical survey methods alone cannot provide a comprehensive understanding of mindfulness practice in the leadership context.

5.2.6. Multi-perspective and multilevel approaches

The adoption of multi-perspective and multilevel approaches when studying mindfulness practices within the leadership context is encouraged. Today, there is a shortage of such studies. Combining first-, second-, and third-person perspectives in mindfulness intervention and practice studies ([Davidson & Kazniak, 2015](#)) could prove particularly informative, for example, first-person participant experiences (e.g., journal entries) and third-person measurements of behavioral activity (e.g., periods of sleep or being active). In terms of wellbeing, assessing the effects of mindfulness practice, for example, on individual leaders' health behavior, perceptions, and sleep quality through the combination of a subjective, first-person method (such as journaling) and an objective third-person method (such as biometric measurement with wearables) would provide multiple perspectives and thus richer knowledge on the influence of mindfulness practice on leaders' personal resources. In terms of the leadership process, as leadership and leader development happen in a dynamic interaction between leaders, followers, peers, partners, customers, HR professionals, and the situational context ([Day et al., 2014](#)), leader development research should seek a multilevel view of the individual (within- and between-person), the dyadic (relationship between followers, peers, and subordinates), and the team/organization ([Day, 2011](#)). Future research might therefore seek to understand the collective effects of leaders' mindfulness practice by exploring the perspectives of other relevant stakeholders. For example, combining first- and second-person research designs is especially important when exploring questions relating to the influence of mindfulness practice on interpersonal leadership relationships (e.g., dyadic leader-follower relationships and team functioning), as seen, for instance, in those reviewed studies that provided the follower's perspective for measures on transformational leadership behaviors ([Lange & Rowold, 2019](#)) and authentic leadership behavior ([Nübold et al., 2019](#)). However, in the future, more rigorous multi-level designs, especially ones that integrate the perspectives (for instance, pairing a

leader's *and* a follower's perspective) on leadership-related outcome measures and provide sufficient information on complex samples, are recommended to gain understanding on the effects of leaders' mindfulness practice on the mutual leadership relationship.

In sum, novel and creative future research efforts are strongly recommended to complement the backbone of well-designed and well-executed quantitative and qualitative intervention research on leaders' mindfulness practices. As reported above, some recently published studies include empirical research that utilizes multiple levels of units, longitudinal approaches, and qualitative/mixed methods designs that may be particularly suited to studying leadership and leader development which are developmental, processual, experiential, dynamic, and interactional (Day & Dragoni, 2015). Suggestions to guide future research efforts in the field are summarized in Table 2.

6. Conclusions

6.1. Theoretical contributions

In recognition of more leaders around the world becoming familiar with mindfulness as a way to enhance individual, team, and organizational functioning, the present study set out to explore the impact of a leader-specific mindfulness practice. This is the first systematic literature review with primary focus on leaders' mindfulness interventions and practices from the leader development perspective. It makes several contributions to the literature on both mindfulness and leader development. First, this review sets the phenomenon in the practical and theoretical context of leadership and leader development and provides conceptual clarity on the key concepts. The current review discussed the developmental nature of mindfulness practice (e.g., Kabat-Zinn, 2003; Purser & Milillo, 2015), and the dependence of effective leadership on the subjects possessing an awareness of themselves and others (e.g., Day &

Table 2

Future research suggestions.

Suggestion for future research	Area of contribution
Theoretical advancement	
How to define, operationalize, and measure "mindfulness" in the context of organizations and leadership?	Operationalization of mindfulness as a leader-specific practice
How to define and measure leadership-related concepts in studies of mindfulness and leadership?	Operationalization of mindfulness as a leader-specific practice
How to position research on leaders' mindfulness interventions and practices within leadership and leader development research?	Operationalization of mindfulness as a leader-specific practice
How do organizations select mindfulness interventions based on their content, length, intensity and deliver format?	Leaders' mindfulness interventions and practices
How do the outcomes of different types of mindfulness interventions depend on their approach/content?	Leaders' mindfulness interventions and practices
What kind of informal and/or independent mindfulness practices do leaders have, and what affects their motivation (antecedents)?	Leaders' mindfulness interventions and practices
How effective are 'alternative' types of mindfulness interventions (i.e., short-term, remotely delivered, self-administered, technology-supported)?	Leaders' mindfulness interventions and practices
What are the long-term impacts of leaders' mindfulness practice, and what can most effectively support (and hinder) reinforcement of a regular mindfulness practice?	Leaders' mindfulness interventions and practices
What is the impact of mindfulness practice on leaders' sleep and leadership performance?	Outcomes of leader-specific mindfulness practice
What is the role of regular mindfulness practice for leaders' sustained health behaviors?	Outcomes of leader-specific mindfulness practice
Which behavioral mechanisms/processes induced by mindfulness practice affect productivity of individual leaders?	Outcomes of leader-specific mindfulness practice
What are the relational impacts of leader mindfulness interventions on the cognitive/attentional, emotional, and behavioral processes involved in leader interaction with followers/team members?	Outcomes of leader-specific mindfulness practice
How can training leaders in mindfulness support development of leadership styles/behaviors (e.g., servant), and compared to traditional leadership training?	Outcomes of leader-specific mindfulness practice
What is the unique worth of mindfulness-based development efforts compared to other/traditional leadership/leader development interventions?	Outcomes of leader-specific mindfulness practice
What type of personal/inner growth do leaders experience over time as a result of attending a mindfulness intervention/practicing mindfulness independently?	Outcomes of leader-specific mindfulness practice
What are the downsides/obstacles of leader-specific mindfulness practice?	Outcomes of leader-specific mindfulness practice
What are the collective/multi-level impacts of leaders' mindfulness practice (individual/team/organization)?	Outcomes of leader-specific mindfulness practice
What experiential processes/internal and external events are involved/needed to have happened for the reported outcomes to realize, in the process between start and end of a mindfulness intervention, and between the end of the intervention and the follow-up(s)?	Processes of mindfulness-based leader development
Empirical advancement	
What is a sufficient sample size in quantitative/qualitative studies, and in individual/dyad/team studies of mindfulness and leadership, and how to avoid participant leakage throughout the data collection phases?	Empirical rigor
What kind of research designs could be integrated into viable longitudinal, mixed method, multi-level and multi-perspective designs?	Empirical rigor

Dragoni, 2015; Reichard & Johnson, 2011). A definition of mindfulness as a leader-specific practice was offered that captures its essence as a leader self-development approach that relies on leaders' motivation to develop through raising awareness of their experience to support not only themselves but other people. Second, the review identified various leadership-related developmental outcomes of leaders' mindfulness interventions and practices across the areas of personal wellbeing, work productivity, relationships, and inner growth, including self-care behavior, creativity, self-awareness, social/contextual awareness, ethical behavior, and adapting to change. Importantly, a conceptual framework based on prior findings was developed that not only synthesizes the key themes and outcomes in a consistent way to inform researchers and practitioners alike on the potential implications of mindfulness for leader development but also provides a resource for designing future studies and deriving implications for the application of mindfulness in leader development programs. Third, this review makes an important contribution by recommending a detailed future research agenda to advance theoretical and empirical knowledge of the growing, multidisciplinary field that highlights the importance of understanding the unique relevance of mindfulness practice in the context of leadership. Strengths and limitations of prior research were reviewed. Recommendations for future research include that it looks beyond the essential wellbeing and work productivity outcomes and explores the transformative outcomes of mindfulness practices related to leaders' relationships and inner growth that involve enhanced self-awareness and social/contextual awareness and investigates the processual nature of a leader-specific mindfulness practice. Suggestions were made in regards empirical advancement of the research field, encouraging the use of creative mixed methods designs and adoption of longitudinal, multi-perspective and multilevel approaches. Overall, this review offers a thorough and future-oriented view of the current state of research.

6.2. Practical implications

This review has practical implications for those in human resource management, human resource development, and leadership positions. A key finding is the importance of mindfulness practice not only for the often-targeted essential benefits of personal wellbeing and work productivity but also for the desired development of transformative leadership capabilities such as self-awareness, social/contextual awareness, and ethical leadership behavior that can support leaders' relationships and their inner growth. Leader development programs with a strong mindfulness component can effectively develop the transformative capabilities of individual leaders because those programs encourage self-reflection of leadership experiences (Reichard & Johnson, 2011), are practice-based (Laccrenza et al., 2017), are intertwined in the continuous processes of human development and individual leader development (Day & Dragoni, 2015), and encourage an accumulation of self-awareness over time (e.g., Reichard & Johnson, 2011). As a voluntary personal practice embedded in the continuous leader self-development process, mindfulness can be helpful for leaders who are interested in mindfulness and motivated to develop themselves and their teams. Hopefully, future studies will shed light on the implications of mindfulness for the functioning of teams through leader-follower interactions, and how to encourage leaders to practice mindfulness.

7. Conclusion

This systematic review integrated current knowledge on leaders' mindfulness interventions and practices. The focus on the emerging field of research limited the number of studies that could be included in the review. There are many areas of interest to leaders that remain underexplored. This review encourages the continuing development of individual leaders through mindfulness training tailored for leader audiences.

Finally, the review found support for the effectiveness of mindfulness interventions and practices in building capabilities that leaders need to succeed when dealing with challenges, people, and change. The review confirmed that practicing mindfulness can beneficially influence leaders across many areas relevant to them including personal wellbeing, work productivity, relationships, and inner growth. To conclude, mindfulness is a leader self-development approach that has the potential to effectively improve an individual's capacity for leadership.

CRedit authorship contribution statement

Laura Ilona Urrila: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing - original draft, Writing - review & editing.

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