



Swedish Agency for Work
Environment Expertise

Leadership for health and well-being – a systematic review

LEADERSHIP FOR HEALTH AND WELL-BEING – A SYSTEMATIC REVIEW
Government mandate to compile knowledge about factors that create healthy, thriving
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Leadership for health and well-being – a systematic review

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Foreword

In June 2018, the Swedish government commissioned the Swedish Agency for Work Environment Expertise to compile knowledge about factors that engender healthy and well-functioning workplaces (A2018/01349/ARM). The mandate involved focusing in particular on the organizational and social work environments.

In order to carry out the government mandate, the agency tasked a number of researchers from various universities and colleges with carrying out literature reviews in four areas: physical work environment, leadership, organization of the work and psychosocial work environment.

This report presents the literature review in the area of leadership. This review was produced by Associate Professor Andreas Wallo and PhD Daniel Lundqvist at Linköping University and the HELIX Competence Centre. At the behest of the agency, Associate Professor Susanne Tafvelin at Umeå University has assessed the literature review for quality, and librarian Malin Almstedt Jansson at the University of Gävle, and Maivor Hallén, library manager at Lund University's Faculty of Engineering, have assisted our external experts in identifying and developing a scientific basis for this literature review.

The literature review on leadership for health and well-being demonstrates associations between leadership behaviours and the health and well-being of individuals at a workplace. In particular, transformational leadership, i.e. a visionary and inspirational form of leadership that gives consideration to employees' needs, has been highlighted as especially beneficial to employee well-being. The synthesis also demonstrates associations between so-called supportive leadership and job satisfaction, meaningful work, well-being and quality of life. Furthermore, factors that contribute to health and well-being at the workplace are pointed out, such as meaningful work, social support, collaboration, (lack of) role conflict, self-efficacy and team efficacy, the innovation climate of the workplace and (lack of) conflict between work and private life. At the same time, an emphasis is placed on the fact that health-promoting relationships between managers and employees may differ depending on the situation.

The authors of the literature review have chosen the theoretical and methodological starting points themselves and are responsible for the results and conclusions presented in the literature review.

I wish to thank our external researchers and quality reviewers as well as employees at the agency who have contributed to producing this valuable literature review.

The literature review is published on the agency's website and in the Literature review series.

Gävle, February 2020



Nader Ahmadi
Director-General

Our process model for systematic reviews

To support the researchers in their preparation of this literature review, the Swedish Agency for Work Environment Expertise developed a system for the systematic creation of literature compilations in its area of responsibility. It contains systems of preparation, literature search, relevance assessment, quality assurance and the presentation of studies and results. It also includes the Agency's process management and university library support, as well as external quality assurance.

The responsible process manager for developing the literature review at the agency was Nadja Grees, first, followed by Annette Nylund.

Susanne Lind administered the process and a team of communications officers comprising Pernilla Bjärne, Sverre Lundqvist,

Liv Nilsson, Joakim Silfverberg and Camilla Wengelin were responsible for managing the text, layout and accessibility as well as for planning webinars and podcasts.

Summary

This report presents a literature review of research on the importance of leadership for employee health and well-being. The literature review was written within the framework of a government mandate to the Swedish Agency for Work Environment Expertise with the purpose of compiling information on factors that create healthy, thriving workplaces (ref. no A2018/01349/ ARM). The purpose of the study is to compile research-based information about which leadership behaviours can contribute to health and well-being at the workplace. This purpose has been broken down into three questions: What theoretical starting points with regard to leadership and/or management are present in empirical articles about leadership that promotes health and well-being? How has this leadership been studied methodologically, and in what contexts? What direct and indirect leadership behaviours that promote health can be identified in previous research?

Systematic work on the literature review followed what is known as the SAWEE model. First, the content, focus and limitations of the review were clarified on the basis of the study purpose and questions. Next, criteria were formulated for which studies to include and exclude during the search and review processes. The inclusion criteria were: the studies should focus on working life and workplace contexts; they should be carried out in a Nordic context; they should explore leadership in terms of styles, behaviours, roles and similar concepts or synonyms; and they should focus on the relationship between leadership and employee health and well-being at the workplace. The studies were also required to be scientific articles in international, peer-reviewed (academic) journals; published between 2009 and 2019; written in English; and contain empirical material. Studies that met the following criteria for exclusion were omitted: studies that a) focused solely on

contexts other than working life, for example school and education (such as studies of relationships between teachers and students); b) were carried out in a non-Nordic context; c) focused only on indirect leadership, d) focused only on destructive leadership, e) focused only on illness. Studies were also excluded if they f) were not based on empirical material (such as literature reviews, meta-analyses, conceptual articles or the equivalent); g) were not published in scientific, academic journals (such as reports, books and book chapters); h) were written in a language other than English.

The searches were carried out primarily in the Scopus database. The Web of Science database was used as a supplementary source. Scopus generated 2,463 hits and Web of Science 1,499 hits. After eliminating duplicates, 2,859 unique studies remained, which were then screened based on title and abstract. In total, full texts were needed for 491 studies in order to determine whether they met the inclusion criteria. After the full texts were collected, a review of relevance was carried out based on the study's inclusion criteria. A total of 37 studies met all assessment criteria for relevance. These studies underwent a quality assessment based on recognized protocols for quantitative and qualitative studies. Of a total of 31 quantitative studies reviewed for quality, 28 were assessed as high or medium-high quality. Of a total of six qualitative studies reviewed for quality, five were assessed as high or medium-high quality. Thus, a total of 33 studies were included in the review. The included quantitative studies were analysed based on the so-called narrative synthesis method and the qualitative studies were analysed based on a conventional content analysis.

In summary, the studies included in the literature review show that leadership is related to employee health and well-being. Almost all of the quantitative studies show

a link between leadership and health-related outcomes if no other factors are considered. As many different kinds of outcomes are used in the studies, it is difficult to provide a clear and uniform picture, but primarily, so-called transformational leadership and supportive leadership are connected to employee health and well-being, especially in relation to work-related health outcomes, such as job satisfaction and work engagement. The qualitative studies mainly emphasize relationship-oriented and democratic leadership, which is characterized by a leader who motivates and inspires employees, is available and listens to employees, and who simultaneously trusts employees' abilities and gives them responsibility, space and codetermination. The behaviours pointed out as important in the qualitative studies also appear frequently in leadership theories and the leadership scales used in the research field. Together, these methods provide a clearer picture of what kind of leadership behaviours promote health.

The studies also point out that indirect leadership influences employee health and well-being. Taken together, the studies indicate several different kinds of factors through which leadership has an impact. One factor involves the actual tasks and the conditions for completing them. Another factor involves the social climate and environment at the workplace or organization. A third factor is the individual and his or her attitude towards the work, while the fourth factor is health-promoting activities and initiatives. Here, it is difficult to say that any particular leadership style in relation to a given health outcome is "better" or "worse". Transformational leadership is the most studied form of leadership; it is also the form of leadership

that most studies find to be active through other factors in the work environment.

A number of knowledge gaps have been identified based on work with the synthesis. The field is dominated by quantitative studies based on abstract leadership theories developed in a North American context. These studies conclude that there are connections between leadership and health, but provide little information about how leadership is carried out in practice, in what ways leadership affects health and how the prevalent conditions in the Nordic labour market regime influence the practice of leadership. Furthermore, there is insufficient knowledge of the significance of the organizational context for leadership and what roles employees themselves play when leadership is practised.

Overall, a need exists for theoretical and methodologically versatile, longitudinal studies that compare different contexts and collect data on how leadership is carried out, for example through observations.

Based on the literature review, some general guidance is also presented for those who work to promote employee health and well-being in organizations. It is pointed out that leadership is a situational phenomenon and no leadership form will work everywhere. This means that the leadership behaviours identified in the research that promote health and well-being, such as being available, visionary, inspiring and inclusive, should be considered good sources of inspiration, but must be adapted to the prevalent conditions of the specific context. In addition to the leader's behaviour in relation to employees, the research also shows that indirect leadership is significant for building a culture and environment that promotes health.

Table of Contents

1. Introduction	1
Background	1
Report purpose and questions	1
Method and limitations	1
Report outline	2
2. Theories and theoretical concepts	3
Definitions of leadership	3
Theories of leadership styles	4
Health and well-being	7
Leadership for health and well-being in working life	8
3. Results	11
Comprehensive information about the included studies	11
In-depth description of the included quantitative studies	13
Transformational leadership	13
In-depth description of the included qualitative studies	23
4. Discussion	29
Summary of the main findings	29
Evaluating the material	29
Some methodological challenges of the literature review	32
Knowledge gaps	33
General guidance	34
5. Conclusions	35
References	37
Appendix – Method	43
Selection of studies	43
Search strategy	44
Screening of titles and abstracts	44
Relevance assessment of full texts	45
Quality assessment	46
Processing and analysis	47

1. Introduction

This report presents a literature review focused on empirical research on the importance of leadership for employee health and well-being. The literature review was written within the framework of a government mandate to the Swedish Agency for Work Environment Expertise with the purpose of compiling information on factors that create healthy, thriving workplaces (Government decision, A2018/01349/ARM).

Background

In an economy characterized by globalization, rapid organizational changes and increased competition between companies and organizations, the labour market is moving towards greater flexibility and limited predictability. For individuals, this shift causes uncertainty, instability and the deterioration of psychosocial working conditions. There are several reasons to believe that worsened working conditions are one of the leading contributing factors to widespread ill health in Sweden and other European countries (Swedish Work Environment Authority, 2016, 2018; Nieuwenhuijsen et al., 2010; Vingård, 2015). This is problematic not only for individual health and well-being, but also for the long-term competitiveness and earnings of organizations. It also risks severe consequences for society.

According to the Swedish government, it is crucial to increase scientific knowledge and understanding of the often-complex links between the work environment and health to achieve positive development in the area and low levels of sickness absence. The information obtained through research is important for the early identification of opportunities and risks in the work environment and for strengthening the ability to take appropriate action. The government has therefore tasked

the Swedish Agency for Work Environment Expertise with compiling information about factors that produce healthy and thriving workplaces (Government decision, A2018/01349/ARM).

The starting point for this literature review is that managerial leadership can be related to employee health and well-being (Inceoglu et al., 2018; Kuoppala et al., 2008; Skakon et al., 2010). This literature review focuses in particular on constructive leadership in terms of leaders' styles and behaviour, and how this form of leadership has a positive impact on the health and well-being of employees. The synthesis is based on research from a Nordic working life context (Visser, 2009).

Report purpose and questions

Based on the background presented above, the purpose of this report is to compile research-based information about what leadership behaviours can contribute to health and well-being in the workplace. This purpose has been broken down into the following questions:

- What theoretical starting points with regard to leadership and/or management are present in empirical studies about leadership for health and well-being?
- How has leadership for health and well-being been studied methodologically, and in what contexts?
- What direct and indirect leadership behaviours that promote health can be identified in previous research?

Method and limitations

The systematic work on the literature review followed what is known as the SAWEE model (Appendix 1 contains a complete pre-

sentation of the method). First, the content, focus and limitations of the review were clarified in accordance with the study purpose and questions. Next, criteria were formulated for which studies to include and exclude during the search and review processes. The inclusion criteria were: the studies should focus on working life and workplace contexts; they should be carried out in a Nordic context; they should explore leadership in terms of styles, behaviours, roles and similar concepts or synonyms; and they should focus on the relationship between leadership and employee health and well-being at the workplace (health factors). The studies were also required to be scientific articles in international, peer-reviewed (academic) journals; published between 2009 and 2019; written in English; and contain empirical material. Studies that met the following criteria for exclusion were omitted: studies that a) focused solely on contexts other than working life, for example school and education (such as studies of relationships between teachers and students); b) were carried out in a non-Nordic context; c) focused only on indirect leadership; d) focused only on destructive leadership; e) focused only on ill health. Studies were also excluded if they f) were not based on empirical material (such as literature reviews, meta-analyses, conceptual articles, “viewpoints” or the equivalent); g) were not published in scientific, academic journals (such as reports, books and book chapters); and h) were written in a language other than English.

The searches were conducted in the Scopus and Web of Science databases and produced 2,859 unique studies. The studies were screened based on title and abstract, after which 491 were selected for a review of relevance based on the inclusion criteria for the literature review. Thirty-seven studies met all as-

essment criteria for relevance. These studies underwent a quality assessment based on recognized protocols for quantitative and qualitative studies. Of a total of 31 quantitative studies reviewed for quality, 28 were assessed as high or medium-high quality. Of a total of six qualitative studies reviewed for quality, five were assessed as high or medium-high quality. Thus, a total of 33 studies are included in the review. The included quantitative studies were analysed based on the so-called narrative synthesis method and the qualitative studies were analysed based on a conventional content analysis.

Report outline

The report consists of five chapters. Chapter 1 presents the background of the mandate forming the basis of the report, as well as the report’s purpose and questions. Chapter 2 presents a description of the theories and theoretical concepts that frequently occur in modern research on leadership and health. In particular, the theories used in the studies reviewed in the report are described here. Chapter 3 presents the results of the literature review. This includes the characteristics of the reviewed studies

in terms of the theoretical bases and methods. Further, the results of the reviewed studies are presented and analysed. Chapter 4 discusses and evaluates the results. This discussion culminates

in a number of identified knowledge gaps and general guidance. Chapter 5 presents the conclusions of the report. The method used to write the literature review is presented in Appendix 1. This includes the search protocol, relevance and quality assessments, as well as analysis of the studies that were included.

2. Theories and theoretical concepts

This section presents overarching descriptions of concepts and theories pertaining to leadership and health, as well as leadership for health and well-being. It includes a summary of the current state of knowledge and central concepts that appear in the report. The theories and concepts found in the articles in the literature review are also presented. This background is important for understanding the results chapter, which does not go into detail on the theories in the reviewed studies. Space is dedicated in particular to the theory on transformational and transactional leadership, because it is used in most of the studies that were reviewed.

Definitions of leadership

Leadership is a phenomenon that has been studied frequently over the years, and as a result of this growing body of knowledge, views on what leadership entails have also changed. Early research on leadership involved efforts to identify what personal characteristics determine whether someone is suited to being a leader, but over the years the focus has shifted to understanding what leaders do, for example in terms of their leadership styles and roles, as well as studying how leadership is shaped by different situations and contexts (House & Aditya, 1997; Yukl, 2013). Because views of leadership have changed, the concept is sometimes considered difficult to understand (Alvesson & Sveningsson, 2003), but this may also be because leadership itself is a complex phenomenon that cannot easily be explained with general theories. However, there are a few themes that appear frequently in definitions of leadership. One such theme is that leadership involves influence towards the achievement of a particular goal. This can be viewed as central to most definitions of leadership, but they may differ depending on

who is exerting influence, what the purpose of the influence is, how influence is exerted and what its result will be (Yukl, 2013). Another recurring theme in the definitions is that leadership depends upon and should be adapted to the surrounding contexts and situations (Hersey & Blanchard, 1969), because even if a leader is able to choose his or her leadership style, these choices are situated within the framework of a number of limitations and demands (Stewart, 1982).

Moreover, management and leadership are commonly used interchangeably. This is considered natural because these concepts are significantly interwoven and difficult to discern in practice (Alvesson et al., 2015). At the same time, it may be conceptually valuable to differentiate between management and leadership. This report views managers and leaders as having different yet complementary roles or functions (Mintzberg, 2009). According to Mintzberg, being a manager means being responsible for an entire organization, or a part of an organization. Management is performed in several different roles or functions, one of which is leadership, in addition to several other roles (however, leadership is always included with the other roles). Distinctive to the leadership role is the task of creating conditions that enable the employees to do their work well, which involves inspiring, encouraging and providing support for competence development (Mintzberg, 2009). It is entirely possible for a manager to work more with tasks typically associated with management, while only consciously exerting leadership to a limited extent. Conversely, one might have significant interest in leadership tasks and simultaneously downplay management. Naturally, it is also possible to be a leader without holding a formal managerial position.

Yet another distinction is that leadership can be both direct and indirect (G. Larsson et al., 2017). Direct leadership refers to the le-

adership styles, behaviours and roles that managers use when interacting with those who are being led. Indirect leadership, on the other hand, involves leading by building structures and cultures that influence employees, for example by creating formal programmes, control systems, and structural forms that influence employees' attitudes, skills, behaviours and performance (Yukl & Lepsinger, 2004). Direct and indirect forms of leadership are not mutually exclusive. On the contrary, each one reinforces the effects of the other when combined appropriately (Yukl, 2013).

Theories of leadership styles

Fundamentally, research on leadership is about which leadership styles are most effective and what makes a successful leader. There are many theories proposing different kinds of characteristics of effective leadership. In this section, we will present an overview of some of the theories that have had a significant impact on the research, and which also appear in the articles included in the literature review. For anyone interested in reading more about these and other theories, we recommend textbooks by Yukl (2013) and Northouse (2015).

Interest in studying the behaviour and styles of leaders is based on a failure to identify which personality traits lead to good leadership (House & Aditya, 1997). It was simply impossible to prove scientifically that there could be a set of personality traits that make some people born leaders (Stogdill, 1948, 1974). Personality traits can certainly influence an individual's potential to become a leader (Judge et al., 2002), but this does not mean that some individuals are destined to be leaders (Fiedler, 1996; Yukl & Lepsinger, 2004). Therefore, from the 1950s onwards, researchers began to study what leaders do – instead of who they are. An early theory that still appears regularly in research studies is that leadership behaviours can be split into two main types, depending on whether the

leader is focused on the task or relationships with employees (House & Aditya, 1997).

These styles are known as task-oriented leadership and relationship-oriented leadership. The task-oriented leader is interested in the technical aspects of production, while the relationship-oriented leader concentrates on the needs and wishes of employees (Nilsson et al., 2018). The theory has evolved from its original presentation as an issue of either/or and now the two dimensions are considered complementary. For example, Blake and Mouton (1964) developed a two-dimensional grid model in which it was possible to obtain high points in both dimensions. However, early behavioural research has been criticized because meta-analyses of studies found only weak associations between effective leadership and meta-categories such as task orientation and relationship orientation (Yukl, 2013).

The division between task- and relationship-oriented leadership persisted into the early 1990s, when another category was added: change-oriented leadership (Ekvall & Arvonen, 1991; Yukl et al., 2002). This was a response to growing pressure to change in the late twentieth century, and the notion that it is a leader's responsibility to handle these changes and lead various forms of development processes. The Full Range of Leadership Model (FRLM), developed by Bass in the mid-1980s (Bass, 1985), is the best-known theory that adopted the dimension of change; it is now by far the most frequently referenced leadership theory in research studies. The theory consists of three kinds of leadership styles: transformational leadership, transactional leadership and laissez-faire leadership. The premise of Bass' theory is that it is insufficient for leadership to be based solely on different kinds of exchanges (transactions) between leaders and employees – such as pay – to meet requirements for change and development. Instead, visionary leadership that creates meaning with changes (transformations) and that encourages employees to share the organization's values and perform at a higher level than they believe to be possible

is required (Bass, 1985; Bass & Riggio, 2006). Transformational leadership consists of four leadership behaviours: 1) idealized influence, charisma – which means the leader should be a visionary and use charisma to win employees' trust and inspire them to want to emulate the leader; 2) inspirational motivation – which means the leader should inspire employees to perform at a level higher than they believe to be possible; 3) intellectual stimulation – in other words, the leader should stimulate employees' intellect and creative abilities; 4) individualized consideration – which means the leader should see and coach every individual (Bass & Riggio, 2006). Transactional leadership consists of three leadership behaviours: 1) contingent reward – which means the leader should reward employees in order to get them to perform; 2) active management-by-exception – in other words, the leader should actively supervise and directly take corrective actions; and 3) passive management-by-exception – which means the leader should handle mistakes and problems after they have occurred. In Bass' version of FRLM, transformational leadership is the most active and is also held up as the most effective in most contexts and situations (Bass & Riggio, 2006). Transactional leadership is emphasized as a way to satisfy employees' short-term needs for different kinds of exchanges and instructions; this form of leadership is commonly viewed as less active and effective. The theory also includes a form of non-leadership known as *laissez-faire* (let go) leadership, which is viewed as inevitable, but not desirable. *Laissez-faire* leadership is characterized by insufficient engagement and a reluctance to take decisions (Bass & Riggio, 2006). Together, the theory and its accompanying instrument for measuring leadership, the Multifactor Leadership Questionnaire (Avolio et al., 1999), have become widespread in the research. Therefore, it is rather unsurprising that the theory has been extensively criticized.

Methodologically, the overlap of various factors has been criticized, and other researchers have had trouble replicating the distribu-

tion into nine factors (Knippenberg & Sitkin, 2013; Tafvelin, 2013; Yukl, 1999). Critics also raise the fact that transformational leaders are portrayed heroes who personally solve all problems, and the importance of employees and context is unclear in the theory (Yukl, 1999). Finally, the fact that transactional leadership is not considered as important as transformational leadership in certain studies has also been criticized. For instance, Vera and Crossan (2004) point out that in certain situations and contexts, transformational leadership may be advantageous, while in others, transactional leadership may be preferable, and Breevaart et al. (2014) show that certain transactional leadership behaviours can stimulate engagement in work.

In recent years a new direction in leadership research has had a significant impact on the field. This direction also focuses on identifying the best form of leadership for today's changing conditions for society and organizations, but not primarily based on issues of efficiency and profitability. Instead, this direction revolves around ethics, morals and good values. More specifically, this direction consists of several different theories, but the most prominent is likely the theory called authentic leadership (Gardner et al., 2011), which is itself a further development of FRLM and the classifications developed by Bass for authentic transformational leadership and pseudo-transformational leadership (Bass & Steidlmeier, 1999). Today, there are several variations of authentic leadership, which differ depending on whether authenticity is viewed as a personality trait of the leader, or as an interactional process that also involves employees (Northouse, 2015). The variation closest to the further development of transformational leadership described above was developed primarily by Bass's colleague Avolio (see for example Avolio & Gardner, 2005).

In this version, authentic leadership is defined as a pattern of transparent and ethical leadership behaviours which encourage openness, the sharing of information and employee involvement (Avolio et al., 2009).

Although there are several different varieties of authentic leadership, some aspects appear to be similar. According to Avolio et al. (2009), the definitions contain four recurring components: 1) balanced processing – the leader objectively analyses relevant facts before taking a decision; 2) internalized moral perspective – the leader’s behaviour is self-regulated through internal moral norms; 3) relational transparency – the leader presents him or herself authentically by openly sharing information and (as appropriate for the situation) emotions; and 4) self-awareness – the leader demonstrates an understanding of his or her strengths and weaknesses. Authentic leadership is still a relatively new focus area and requires more research to become established in the field. Northouse (2015) also points out that several of its components are not adequately developed and that it is unclear whether and how authentic leadership contributes to positive effects at the organizational level.

Another ethics-based theory is called servant leadership. The term was coined by Greenleaf in an essay from 1970 (Spears, 1995). Greenleaf argued that the primary responsibility of the leader is to serve employees by nurturing them, defending them, and giving them autonomy (Yukl, 2013). Central goals for servant leaders are to create healthy organizations that promote individual growth, that strengthen the organization’s performance, and lastly, that have a positive impact on society. According to Spears (1995), Greenleaf’s texts comprise ten behaviours that are key to the development of the concept. For example, a leader should listen to employees’ opinions, show empathy for their situation, demonstrate the ability to help them become whole and show dedication to their spiritual growth. However, Spears did not develop these categories into a theoretical model, but rather viewed them as a heuristic framework. Only in the early 2000s did other researchers begin to develop loosely connected concepts and categories into a more cohesive theory (van Dierendonck, 2011).

The different forms of ethics and morals-based leadership, such as authentic leadership and servant leadership, have also been criticized. For example, Alvesson (2019) points out that the focus on leaders’ moral views often has strongly religious overtones. Ford and Harding (2011) conclude that there is no space in these theories for self-reflection that could reveal aspects that are not positive. In other words, leaders are not permitted to have a dark side. Furthermore, today, criticism is increasingly aimed at the fact that these theories, along with FRLM, tend to be overly focused on leaders and do not sufficiently include employees’ importance to leadership. This criticism has led to a growing interest in more relation-oriented studies (Denis et al., 2012) which start from the notion that co-workership is necessary for leadership to function (Tengblad, 2003). The relationship-based theory that has had the greatest impact is called the Leader–Member Exchange Theory (LMX). It was introduced by Dansereau, Graen and Haga (1975) as well as Graen and Cashman (1975) and has been developed by Graen and Uhl-Bien (Graen & Uhl-Bien, 1995). In LMX, leadership is understood as a process of exchange between leaders and employees in what is typically called a dyadic relationship.

The premise of the theory is that the quality of the relationship has an impact at the individual, group and organizational levels. The exchange between leaders and employees are described as a number of relationships that can be divided into two main groups: the in-group and the out-group. In the in-group, the relationships between the leader and employees are close and employees receive abundant information and consideration, as well as plenty of opportunities to have an influence. In the out-group, the relationships are largely based on the formal job description; employees in this group interact with the leader less and are not as active in decision-making processes. As studies have shown that members of the in-group perform well, have low rates of absence and demonstrate more engagement relative to members of the

out-group, it has been concluded that leaders should work to involve as many employees in the in-group as possible (Northouse, 2015). Graen and Uhl-Bien (1995) describe movement from the out-group to the in-group as a three-phase process: the stranger phase, the acquaintance phase and the partnership phase. In the stranger phase, the relationship is being formed and the employee tries to find their role in relation to the leader. In the acquaintance phase, the roles become more established and exchanges with the leader are more frequent and of higher quality. The last phase finds employees and leaders in a mature partnership with high-quality, mutual exchanges. LMX theory can be used as an analytical tool to help leaders understand their relationships with different employees. However, when it comes to the more normative features of the theory, criticism has been raised that encouragement of in- and out-groups risks creating unequal and unfair conditions at the workplace (Northouse, 2015). The theory has also been criticized for not explaining how exchange relationships develop over time and how they influence one another (Yukl, 2013); for the fact that the connection between LMX and organizational outcomes is unclear (Avolio et al., 2009); and because the theory does not consider broader social contexts (Hogg et al., 2005).

Health and well-being

Just as the concept of leadership is complex and difficult to define, the concepts of health and well-being are also complex. There is a commonplace understanding of the concepts, in which health and well-being are understood to mean “healthiness” or that “you feel good”. Sometimes well-being is also used as a more overarching term. But there are also more academic and theoretical understandings of the concepts that incorporate different content depending on the theoretical perspective. A distinction must be made here between what health and well-being are on the one

hand, and how health and well-being are measured, or how information is obtained about them, on the other.

When it comes to the meaning of the concepts, in general we can discuss two different perspectives: a biomedical perspective and a humanistic perspective (Medin & Alexanderson, 2000).

Both perspectives consist of several different theories, but put simply, from the biomedical perspective, an individual’s health is defined by their diseases. If someone has a diagnosable disease, that person does not have health, i.e. health is the absence of sickness. This has been criticized by the humanistic perspective for oversimplifying and focusing on physical manifestations of disease without giving sufficient consideration to the individual’s surroundings. In the humanistic perspective, the concepts of health and disease are separate and viewed not as polar opposites, but as different things. Thus, from this perspective, individuals can have health even with sickness, if they can still achieve their goals in life or experience well-being.

The concepts of health and well-being are sometimes treated as the same thing, while others differentiate between the two. Often, reference is made to the World Health Organization’s classic description that health is a state of physical, mental and social well-being (WHO, 1948). Others assert that health contributes to well-being (Medin & Alexanderson, 2000). Sometimes well-being is described as a general sense of “feeling good” while others assert that well-being consists of several different aspects. What these aspects are can vary, but many emphasize satisfaction with work and life (Cotton & Hart, 2003; Danna & Griffin, 1999; Horn et al., 2004), a sense of energy, happiness and joy (Cotton & Hart, 2003; Horn et al., 2004; Van De Voorde et al., 2012) and health or absence of illness and stress (Cotton & Hart, 2003; Danna & Griffin, 1999; Horn et al., 2004; Van De Voorde et al., 2012).

The theoretical complexity surrounding health and well-being makes it difficult to

operationalize and measure these concepts. Health at the workplace has been researched for over 100 years, although this research only intensified after World War II (Aronsson, 1988). Naturally, this is also associated with societal trends and new organizational principles. Several instruments have been developed to measure everything from the general experience of health or well-being to the presence of specific symptoms. These instruments may focus on, for example, the individual's experience of their general state, stress, problems, ailments, disabilities, well-being, happiness and emotions, social interaction and so forth. Thus, research on health and well-being typically focuses on measuring dimensions of, conditions for, indicators of, or symptoms of health or well-being (Brülde & Tengland, 2003; McDowell, 2006). Nevertheless, it is unusual for research to clearly specify which theoretical perspective on health is in use. Instead, in the best case it may be spotted in the argument and choice of instruments for measuring health.

When it comes to operationalization and measuring health and well-being, a distinction can be made between whether the focus is on problems, stress and afflictions, or instead on positive manifestations (Antonovsky, 1996; Schaufeli, 2004). With a basis in Western medical thought, research on health in working life has traditionally focused on pathogens and disease, i.e. risks and causes in working life that may cause people to fare poorly or feel unwell. This traditional focus on what causes problems and afflictions in working life, thereby increasing the risk of illness, has been and continues to be the dominant perspective. But in recent decades, the pathogenic focus has been challenged or perhaps complemented by a focus on salutogenesis and health, i.e. factors and causes that promote health.

Inspired by Antonovsky, the basic premise is that it is insufficient to only search for and prevent risks of illness; rather, factors that can promote health must also be provided and reinforced. One way to measure health is therefore to study the presence of problems

and ailments (a pathogenic focus), but measuring health with a focus on positive aspects (salutogenic focus) is not as easy.

The studies included in this literature review used several different kinds of measurements of health and well-being, but they all attempt to capture these positive, salutogenic aspects of health, rather than the presence of illness. Some studies incorporate a theoretical connection and attempt to capture health and well-being as a whole, while others have only a few central aspects as indicators of health and well-being, such as job satisfaction. Some focus on work-related indicators, such as job satisfaction, but work engagement is also used as a measurement of work-related well-being, as it is connected to high activity levels and job satisfaction and is suggested as the polar opposite of burnout (González-Romá et al., 2006). Others focus on health and well-being more generally, such as quality of life, as well as sense of coherence (SOC), a concept that describes an individual's attitude towards and resources for handling life events and maintaining health (Antonovsky, 1996).

Because of the complexity surrounding the concepts of health and well-being and the relationship between them, and because the studies included in the synthesis measure different indicators of these concepts, we have chosen to refer to these as health-related outcomes. By that, we mean that the topics of study include and capture relevant aspects of health and well-being, but rarely the concepts in their entirety (which is thus not the same thing as health and well-being). We also use the concept of health and well-being as a more overarching term for the research area.

Leadership for health and well-being in working life

Leadership that promotes employee health and well-being may take different forms. Leaders may promote health and well-being among employees through their behaviour and leadership style. Leaders may also

coordinate and encourage different kinds of health-promoting activities (for example, participation in wellness activities). In addition, leaders may create health-promoting workplace environments (for example, through the way in which work is organized). In addition, it could be leaders who create health-promoting workplace environments (for example, through the way in which work is organized). This distinction is consistent with what was described in the previous section as direct and indirect leadership, where the first is more direct, while the other two are more indirect.

Studies of leadership for health in working life with a focus on the first approach to leadership for health and well-being tend to be described as a relatively new research field (Nyberg, 2008, 2009). The importance of leadership has been studied for several decades, but usually in relation to earnings, efficiency and productivity. Outcomes such as job satisfaction have occasionally been studied as well (see for example Gerstener and Day's [1997] literature review of the significance of LMX, in which the health perspective is only represented by job satisfaction). However, the clearer connection to and framing of health and a health perspective is newer and emerged around the turn of the millennium (Nyberg, 2008, 2009).

Three literature reviews were published in English in 2005, 2008 and 2010 and it was mainly a few years later that the number of studies in the field began to grow. The first literature review (Nyberg et al., 2005) concludes that the field has an abundance of different leadership theories and different perspectives on health, but it shows that there is a relationship between leadership and health, even if it is relatively weak and leadership likely has greater significance indirectly through other working conditions. The second review (Kuoppala et al., 2008) took a broader approach, studying leadership relative to well-being, performance, health and work ability – a total of 109 reviewed articles, while the later review (Skakon et al., 2010) took a more limited approach, covering just stress

and well-being – a total of 49 reviewed articles. Altogether, they have reviewed literature from 1970 to July 2009. All show that the majority of studies are cross-sectional studies, often published after 2000, and that there is a connection between leadership styles and various health-related outcomes, and all call attention to the need for more high-quality longitudinal studies. Skakon also addresses the need for more qualitative studies, the use of standardized instruments and an improved understanding of the process between leadership and health (i.e., not only a focus on how strong the relationship is, but also why or how leadership is significant).

In recent years, more literature reviews and meta-analyses have been published that review the relationship between leaders' behaviour or styles and employee health and well-being. In one literature review, Arnold (2017) reviews transformational leadership relative to employees' positive or negative well-being. The literature spans from January 1980 to December 2015 and a total of 40 articles were reviewed. The conclusion is that transformational leadership is connected to employee well-being, either directly or indirectly through other factors. One meta-analysis (Harms et al., 2017) reviewed transformational leadership, LMX and abusive leadership (a form of destructive leadership) in relation to employee stress and burnout. The results showed that transformational leadership and LMX reduced stress and burnout among employees, while abusive leadership increased them. The basis for the analysis spanned from 1982 to 2016 and encompassed 162 articles in total. In another meta-analysis, Montano et al. (2017) review leadership in relation to employees' mental health. The literature spans from January 2000 to August 2014 and encompasses a total of 144 reviewed articles. The result shows that transformational leadership, high rates of task and relationship-oriented leadership, as well as high-quality interactions between leaders and employees, are connected to employees' mental health, while destructive leadership is

connected to ill health. The latest literature review (Inceoglu et al., 2018) explored positive leadership behaviour and leadership styles relative to employee well-being, but contained only empirical studies that also explored the indirect significance of leadership through other factors, in other words, studies including mediators. The reviewed literature was published through February 2017 and comprised 71 reviewed articles.

Their review demonstrates that it is often positive manifestations of well-being that are studied, with a particular focus on mental or emotional well-being, and less on physical well-being.

In the literature review, they divide the mediators into five different categories and show that social cognitive (such as perceived competence), motivational (such as space for decision-making) and relational (such as social support) mediators were the most studied, while emotional (such as satisfaction) and identification mediators (such as identification with the organization) are studied to a lesser extent. They find a rather mixed picture in the material, but show that primarily change-oriented leadership (such as transformational leadership) is studied in relation to employee well-being (such as job satisfaction)

and that this relationship is mediated by social cognitive or relational mediators.

What earlier literature reviews and meta-analyses have in common is a demand for more high-quality longitudinal studies, with data from several different sources, and that more research is needed on the process of how leadership has an effect (mediators) and on the role of context (such as moderators) in the relationship between leadership and well-being. Arnold (2017), Harms et al. (2017) and Inceoglu et al. (2018) also address the fact that health and well-being are multidimensional concepts and studies must clarify that the measurements used do not capture every dimension – just because leadership is connected to a given measurement does not mean it is connected to the entire phenomenon and that different behaviours may be connected to different dimensions of health or well-being.

Arnold (2017), who specifically reviewed transformational leadership, asserts that the four transformational leadership behaviours require further study. Arnold (2017) and Inceoglu et al. (2018) also point out that more complex models are necessary to understand the relationship between leadership and employee health in both the short and long term.

3. Results

This chapter describes the studies included in this literature review and the results they present. First, overarching information about the studies will be provided, followed by a deeper description of their

findings. Studies with a quantitative approach will be presented first, followed by those with a qualitative approach. The more detailed descriptions of the quantitative studies are structured based on the leadership theory or leadership perspective used in the studies. The more detailed descriptions of the qualitative studies are structured based on inductively generated categories. The method used to collect and analyse the material is described in detail in Appendix 1.

Comprehensive information about the included studies

This literature review includes 33 studies that met the established inclusion criteria, i.e. peer-reviewed articles containing empirical material from a Nordic context. The studies were all published between 2009 and 2019 (see Figure 1), and most were published in 2018. In general, the Swedish publications follow the overall trend, except in 2016.

Table 1 presents the journals in which the studies in this literature review were published.

It can be seen here that the studies were published in 24 different journals. Only three journals contain as many as three publications.

Figure 1: Number of published studies per year (total and number of Swedish studies)

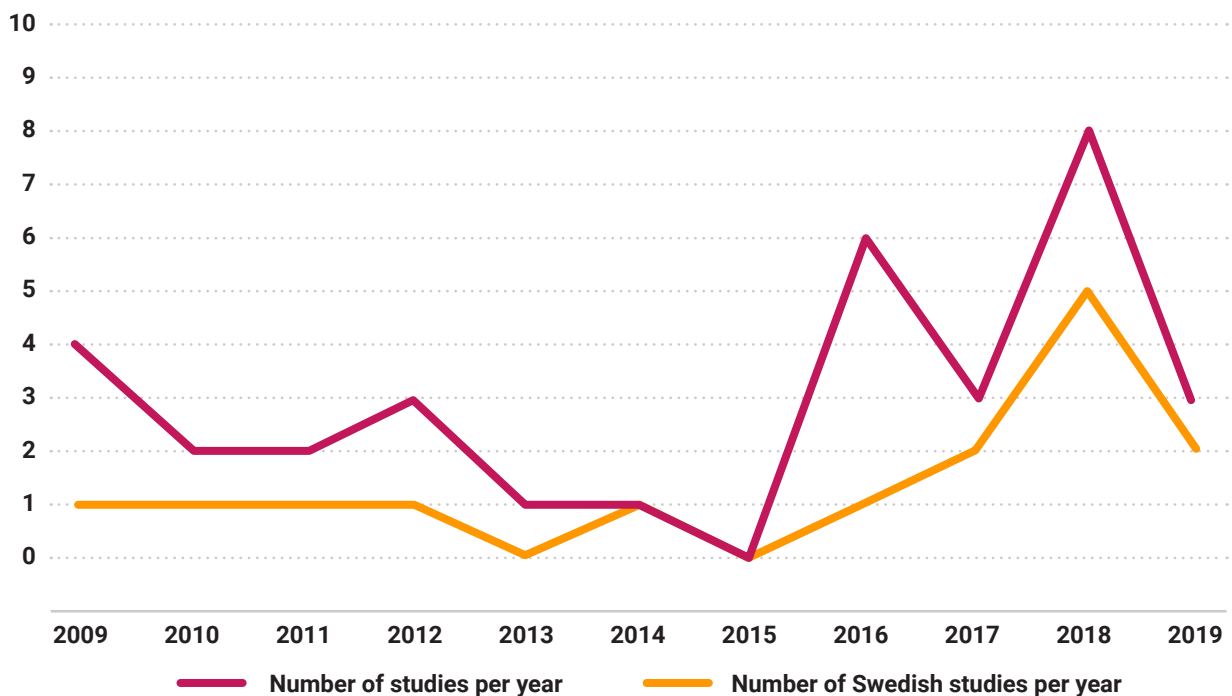


Table 1: Number of publications per journal

Publication	Number
Applied Psychology-Health and Well Being	1
Burnout Research	1
European Journal of Work and Organizational Psychology	1
Health Promotion International	1
International Journal of Disability Management	1
International Journal of Nursing Studies	1
International Journal of Workplace Health Management	3
International maritime health	1
Journal of Advanced Nursing	1
Journal of Leadership & Organizational Studies	2
Journal of Management and Organization	1
Journal of Managerial Psychology	1
Journal of Nursing Management	1
Journal of Occupational and Environmental Medicine	1
Journal of Occupational and Organizational Psychology	1
Leadership & Organization Development Journal	1
Leadership Quarterly	1
PLoS ONE	2
Safety Science	1
Scandinavian Journal of Public Health	1
Society Health & Vulnerability	1
Stress and Health	2
Work	3
Work and Stress	3
Total	33

Table 2: Number of publications per country and implemented design

Approach	Design	Sweden	Denmark	Finland	Norway	Total
Quantitative	Longitudinal	5	6	1	1	13
	Cross-sectional	7	3	4	1	15
Qualitative	Cross-sectional	3	1	0	1	5
Total		15	10	5	3	33

This can be considered an indication of distribution within the field. However, it should be noted that this only pertains to studies included in this literature review, i.e., studies of high or medium-high quality that explore constructive or positive leadership and how it is related to positive health and well-being in employees in a Nordic context. Most of these journals may very well have published studies that are not included in this synthesis, for example if the focus is on illness and stress.

The geographical restriction of this literature review was that the data were collected within a Nordic context. As Table 2 shows, most studies were carried out in Sweden and none were carried out in Iceland. However, it should be clarified that four studies were carried out in multiple countries. Two of the studies labelled as Swedish also include data from Norway; one study from Denmark also includes material from the UK; and one of the studies from Finland includes material from several European countries. Table 2 therefore provides only an approximation of the distribution among the countries.

In-depth description of the included quantitative studies

The quantitative studies included in the literature review are presented below based on the leadership perspective that was employed and investigated in each study. Several different leadership theories and leadership perspectives have been studied; these are sorted into eight different headings. Similarly, several different types of health-related outcomes

have been studied; the most frequently used measure general states of health, well-being or job satisfaction. First, the section discusses which leadership theories are associated with which health outcomes, followed by an overarching summary of what the quantitative studies demonstrate overall. Studies investigating multiple leadership theories are presented under multiple headings.

Transformational leadership

Transformational leadership is one of the behaviour styles of the so-called Full Range of Leadership Model, together with transactional and laissez-faire leadership (Bass & Riggio, 2006). According to the theory, transformational leadership consists of four leadership styles, for example with a focus on vision and inspiration, or showing consideration for employee needs (see Chapter 2). Eleven studies in the literature review have a transformational leadership perspective. Of these, three are from Sweden, five are from Denmark, two are from Finland, and one is an international study with data from Finland and Norway, among others (see Table 3). Six of the studies are longitudinal while five are cross-sectional. None of the studies use the complete theory, but instead measure only transformational leadership. Nor do any of the studies explore the various leadership behaviours – only transformational leadership as a composite variable. These studies show associations between transformational leadership and employees' self-perceived well-being (Holten et al., 2018; K. Nielsen & Daniels, 2012;

Table 3: Transformational leadership and health-related outcomes

Reference	Country	Design	Association bivariate	Association final model	Association final model	Population
Holten et al. (2018)	Denmark	Longitudinal	Yes	Yes	Not studied	2,947 employees in 35 municipalities. 92% women.
Lundmark et al. (2017)	Sweden	Cross-sectional	Yes, partly	No	Yes	180 white-collar workers in an organization. 59% women.
Mauno et al. (2016)	Finland	Cross-sectional	Yes	Yes	Not studied	3,466 nurses in Finland. 89% women.
Munir et al. (2012)	Denmark	Longitudinal	Yes	Yes, partly	Yes	188 employees in public elderly care. 93% women.
K. Nielsen & Daniels (2012)	Denmark	Cross-sectional	Yes	Yes, partly	Yes	425 employees in public elderly care and a private accounting firm. 72% women.
K. Nielsen & Munir (2009)	Denmark	Longitudinal	Yes	Yes, partly	Yes	188 employees in public elderly care. 93% women.
K. Nielsen et al. (2009)	Denmark	Cross-sectional	Yes	Yes, partly	Yes	274 employees in public elderly care. 91% women.
Perko et al. (2016)	Finland	Longitudinal	Yes	Yes	Not studied	262 employees in the public sector. 88% women.
Tafvelin, Hasson, et al. (2019)	Sweden	Longitudinal	Not reported	Yes	Not studied	211 employees in forestry. 18% women.
Tafvelin et al. (2011)	Sweden	Longitudinal	Yes	No	Yes	158 randomly selected employees in municipal social services. 79% women.
van Dick et al. (2018)	FI/NO/EU	Cross-sectional	Yes	Yes	Not studied	5,290 employees in 20 countries. 53% women.

Perko et al., 2016), job satisfaction (Holten et al., 2018; Munir et al., 2012; K. Nielsen et al., 2009; Tafvelin, Hasson, et al., 2019; van Dick et al., 2018) and work engagement (Mauno et al., 2016). Six studies found no statistically significant associations between transformational leadership and health (Holten et al., 2018; Lundmark et al., 2017), well-being (Munir et al., 2012; K. Nielsen et al., 2009; Tafvelin et al., 2011), job satisfaction (K. Nielsen & Daniels, 2012) and work ability (Lundmark et al., 2017).

The studies were carried out primarily in the public sector, particularly within elderly care, with mainly female subjects. One study

was conducted in a male-dominated organization (the forestry industry), one in a public organization with equal gender distribution, and one study was carried out in several countries with even gender distribution. Most of the studies included about 200 participants, but three studies included several thousand participants.

Several of the studies also investigated whether other factors mediate the relationship between leadership and health outcomes – in other words, whether leadership also has indirect significance. These studies show that factors such as innovation climate (Tafvelin

et al., 2011), intervention leadership (Lundmark et al., 2017), conflict between work and private life (Munir et al., 2012), meaningful work (K. Nielsen & Daniels, 2012), social support (K. Nielsen & Daniels, 2012), collaboration (K. Nielsen & Daniels, 2012), role conflict (K. Nielsen & Daniels, 2012), self-efficacy (K. Nielsen et al., 2009; K. Nielsen & Munir, 2009) and team efficacy (K. Nielsen et al., 2009) mediate the relationship. One study also finds that the relationship between transformational leadership and well-being is mediated at one point in time, but not at another (K. Nielsen & Munir, 2009). In other words, these studies show that transformational leadership has no direct significance for employee well-being, but rather that leadership has significance for other factors in the work environment which are in turn significant to employee health and well-being.

Ethics and morals-based leadership

Authentic and servant leadership are two leadership theories revolving around the importance of ethics and morals-based leadership (Avolio & Gardner, 2005; Northouse, 2015; Spears, 1995). Three studies in the literature review employ authentic leadership theory, one of which is from Finland, one from Norway, and one international, with data

from Finland and Norway, among others (see Table 4). Of these, one is longitudinal and two are cross-sectional. One study from Finland uses the theory of servant leadership. It is a longitudinal study, but the relationship between leadership and health is only tested cross-sectionally. Both authentic leadership and servant leadership consist of subdimensions, but none of the studies use these subdimensions. Together, the studies show that there is an association between authentic leadership and well-being (Perko et al., 2016) and job satisfaction (van Dick et al., 2018). One study shows no association for the entire group studied, but it does find an association between authentic leadership and job satisfaction for one subgroup (M. B. Nielsen et al., 2013). The study on servant leadership shows an association between this leadership theory and work engagement as well as life satisfaction (Upadyaya et al., 2016).

The studies were carried out in different contexts; one study is from the female-dominated public sector; one study is from the male-dominated maritime industry (M. B. Nielsen et al., 2013) and one study was carried out in multiple countries with even gender distribution. The study on servant leadership was carried out in three organizations with even gender distribution. The studies have a

Table 4: Ethics and morals-based leadership and health-related outcomes

Reference	Country	Design	Association bivariate	Association final model	Association final model	Population
Authentic						
M. B. Nielsen et al. (2013)	Norway	Cross-sectional	Yes	Yes, partly	Not studied	464 seafarers. 1% women.
Perko et al. (2016)	Finland	Longitudinal	Yes, partly	Yes	Not studied	262 employees in the public sector. 88% women.
van Dick et al. (2018)	FI/NO/EU	Cross-sectional	Yes	Yes	Not studied	5,290 employees in 20 countries. 53% women.
Servant						
Upadyaya et al. (2016)	Finland	Cross-section (Longitudinal)	Yes	Yes	Not studied	1,415 employees in three organizations. 59% women.

considerable number of participants; only one had fewer than 400. All studies examine only the direct relationship between leadership and well-being; indirect outcomes (so-called mediators) of leadership are not investigated.

Task-oriented and relationship-oriented leadership as well as LMX Task-oriented and relationship-oriented leadership comprise a theory that emerged in the 1950s and focused on two different styles: degree of focus on the task and the structure for goal attainment, or focus on the people and the group that will complete the task (Blake & Mouton, 1964; House & Aditya, 1997). Every leader can therefore be classified into different combinations of these two behaviour styles.

LMX is a theory that emerged in the 1970s in an effort to focus less on the leader's behaviour and more on the relationship between leaders and followers and the exchange that takes place within this relationship (Graen & Uhl-Bien, 1995).

In this literature review, one study uses task-oriented and relationship-oriented leadership theory and one study uses LMX (see Table 5). The study on task-oriented and relationship-oriented leadership explores combinations of leadership styles (high-high, high-low, low-high and low-low) with well-being in terms of SOC and finds no statistically significant associations (Svensson et al., 2018). The study had a cross-sectional design and was carried out at an agency with even gender distribution among the study participants. The study that uses LMX theory is an international

study with data from Finland and Norway, among other places, and it was carried out with approximately 5,300 participants with even gender distribution (van Dick et al., 2018). The study has a cross-sectional design and shows an association between LMX and job satisfaction. None of the studies explore any mediating factors, only the direct relationship between leadership and health-related outcomes.

Supportive leadership

Seven studies in this literature review used or were based on two broad survey instruments that measure several different psychosocial work environment factors: QPS Nordic (Lindström & Nordic Council of Ministers, 2000) and COPSOQ (Berthelsen, 2014). The leadership that these instruments measure is not an outright leadership theory; rather, these are empirically developed questions with relevance for employee health and well-being. Among other things, they measure aspects such as fairness, attention and support. Of the seven studies, four are from Sweden, two are from Denmark and one is from Norway (see Table 6). Four of the studies are longitudinal and three are cross-sectional. One study differentiates between supportive and development-oriented leadership (Ljungblad et al., 2014); the other studies use a composite leadership variable. These studies show an association between supportive leadership and job satisfaction (Berthelsen et al., 2018), meaning at work (Clausen & Borg, 2011),

Table 5: Task-oriented and relationship-oriented leadership, LMX and health-related outcomes

Reference	Country	Design	Association bivariate	Association final model	Association final model	Population
Task/relationship						
Svensson et al. (2018)	Sweden	Cross-sectional	Not reported	NO	Not studied	502 employees at an agency. 39% women.
LMX						
van Dick et al. (2018)	FI/NO/EU	Cross-sectional	Yes	Yes	Not studied	5,290 employees in 20 countries. 53% women.

Table 6: Supportive leadership and health-related outcomes

Reference	Country	Design	Association bivariate	Association final model	Association final model	Population
Berthelsen et al. (2018)	Sweden	Cross-sectional	Yes	Yes, partly	Yes, partly	1,345 employees in dental care in four regions. 90% women.
Burr et al. (2010)	Denmark	Longitudinal	Not reported	No	Not studied	3,552 randomly selected employees from the population. Gender distribution not specified.
Clausen & Borg (2011)	Denmark	Longitudinal	Yes	No	Not studied	6,299 employees in public elderly care in 35 municipalities. 96% women.
Finne et al. (2016)	Norge	Longitudinal	Yes	No	Not studied	4,158 employees in 63 organizations. 60% women.
Hagqvist et al. (2018)	Sweden	Cross-sectional	Yes	No	Not studied	379 employees in municipalities and county councils. 82% women.
Ljungblad et al. (2014)	Sweden	Cross-sectional	Yes (to 1 of 4 questions)	No	Yes	Employees in 60 randomly chosen municipalities. 93% women.
Lohela m.fl. (2009)	Sweden	Longitudinal	Not reported	Yes	Not studied	1,212 employees in four organizations. 14% women.

Reference	Country	Design	Difference t1-t2	Difference relative to control group	
Hansen et al. (2016)	SV/NO	Quasi-experimental	In leadership among Norwegian participants, not among Swedish and not in health	No	179 employees in 34 small businesses. Gender distribution not specified.

well-being (Finne et al., 2016) and quality of life (Lohela et al., 2009). Three studies did not find statistically significant associations between supportive leadership and mental health (Burr et al., 2010), vitality (Burr et al., 2010), self-reported health (Hagqvist et al., 2018; Ljungblad et al., 2014) or well-being (Hagqvist et al., 2018).

One study is unclear about the association between supportive leadership and work

ability (Berthelsen et al., 2018). Four of the studies were carried out in healthcare organizations with an overrepresentation of women, one study was carried out in four organizations with an overrepresentation of men, one was carried out in 63 organizations with even gender distribution and one study gives no information about context or the gender distribution of the respondents. The studies have a considerable number of participants;

only one had fewer than 1,000 participants. Two studies also examine whether there is an indirect relationship between leadership and health outcomes. One study shows that leadership is mediated by a supportive climate and health-promoting activities (Ljungblad et al., 2014), while another shows that job satisfaction is mediated by interpersonal (for example, social support) and task-related (for example, influence) resources, and that the relationship between leadership and work ability is mediated by job satisfaction, interpersonal and task-related resources (Berthelsen et al., 2018).

One study also reports the findings of a quasi-experimental leadership intervention carried out in Sweden and Norway with 179 participants from 34 different small companies (Hansen et al., 2016). The intervention was based on enhancing leaders' knowledge of health-promoting leadership. Among other things, the study measured leadership and health before and after the intervention and the results showed that leadership was rated statistically significantly higher after the intervention for the group in Norway, but not in Sweden. The results also showed no statistically significant difference in health before and after the intervention. There were no statistically significant differences between the intervention group and the control group.

Intervention leadership

Four of the studies in the literature review investigate a leadership style called intervention leadership (see Table 7). This is not a developed theory of leadership, but rather involves how leaders act and provide support during an ongoing intervention. One study (K. Nielsen & Randall, 2009) has a developed scale with several questions on this topic, and it is also used in another study (Lundmark et al., 2017). The third study is based on transformational leadership, but the questions are focused on the specific intervention (Lundmark et al., 2018), and the fourth study asks about the extent to which the leader encourages the intervention (Tafvelin, von Thiele Schwarz, et al., 2019).

Of the studies, three are from Sweden and one is from Denmark, and three are longitudinal while one is cross-sectional. One study found that leadership has a statistically significant relationship to health and work ability (Lundmark et al., 2017), while the others found no statistically significant relationships. The studies also examine the indirect relationship and two studies found that the association is mediated by other factors, such as participation (Tafvelin, von Thiele Schwarz, et al., 2019) and meaningful work, role clarity and social support (K. Nielsen & Randall, 2009). Two studies found that intervention

Table 7: Intervention leadership and health-related outcomes

Reference	Country	Design	Association bivariate	Association final model	Mediation	Population
Lundmark et al. (2017)	Sweden	Longitudinal	Yes	Yes	No	180 tjänstemän i en organisation. 59 % kvinnor.
Lundmark et al. (2018)	Sweden	Cross-sectional	Yes	No	No	90 anställda i en industriorganisation. 24 % kvinnor.
K. Nielsen & Randall (2009)	Denmark	Longitudinal	Yes	No	Yes	188 anställda inom äldreomsorg i två organisationer. 93 % kvinnor.
Tafvelin, von Thiele Schwarz, et al. (2019)	Sweden	Longitudinal	Yes	No	Yes	159 anställda vid sjukhus. 94 % kvinnor.

leadership has no relationship to job satisfaction (Lundmark et al., 2018) or work ability (Tafvelin, von Thiele Schwarz, et al., 2019) either directly or indirectly. One study also explores reciprocal associations, i.e. whether employee job satisfaction or work ability are associated with subsequently performed intervention leadership, and shows that there is no such association (Tafvelin, von Thiele Schwarz, et al., 2019).

Two of the studies were conducted in social services contexts, with an overrepresentation of women, one was conducted in industry with an overrepresentation of men, one was carried out in a public organization with even gender distribution, and the studies all had fewer than 200 participants.

Other leadership behaviours

Four studies in the literature review have used leadership perspectives that do not clearly fit under the other headings (see Table 8). One study from Sweden (with data from Finland and Germany as well) investigated what the authors call attentive leadership and involves the general atmosphere, idea development, appreciation and fairness (Westerlund et al., 2010). One study from Denmark (which also has data from the United Kingdom) investigated leadership that promotes health and safety, i.e. leadership pertaining to health and safety issues (K. Nielsen et al., 2019).

One study from Finland investigated benevolent leadership, which involves how the leader demonstrates care and goodwill towards employees (Nie & Lämsä, 2018).

An international study with data from countries including Finland and Norway investigated identity leadership, which involves how leaders shape affinity and identity (van Dick et al., 2018). All studies show a statistically significant association between leadership and self-reported health (K. Nielsen et al., 2019; Westerlund et al., 2010) and job satisfaction (Nie & Lämsä, 2018; van Dick et al., 2018). Three of the studies involved participants from different organizations, one of which has an overrepresentation of men, and two of which have even gender distribution. One study was carried out in a forestry company with varying gender distribution depending on the position (male-dominated among union contract employees and even gender distribution among white-collar employees). All studies had a cross-sectional design. One study investigates and shows that leadership is also indirectly related to self-reported health, i.e. leadership has a direct connection to and significance for employee health by reducing the experience of being isolated/alone (K. Nielsen et al., 2019).

Table 8: Other leadership behaviours and health-related outcomes

Reference	Country	Design	Association bivariate	Association final model	Mediation	Population
Nie & Lämsä (2018)	Finland	Cross-sectional	Yes	Yes	Not studied	117 employees. 41% women.
K. Nielsen et al. (2019)	DK/UK	Cross-sectional	Yes	Yes	Yes, partly	734 employees in 11 organizations. 4% women.
van Dick et al. (2018)	FI/NO/EU	Cross-sectional	Yes	Yes	Not studied	5,290 employees in 20 countries. 53% women.
Westerlund et al. (2010)	Sweden	Cross-sectional	Yes	Yes	Not studied	12,622 (of which 10,384 were in Sweden and Finland) employees in a forestry company. Approx. 14% women among union contract employees, 40–50% women among white-collar employees.

Summary of included quantitative studies

In summary, among the quantitative studies included in the literature review, the most used and studied leadership measurement is transformational leadership, followed by supportive leadership. The older model that explores task-oriented and relationship-oriented leadership is only investigated in one study.

Theories such as servant leadership or authentic leadership were used to a lesser extent. Seven of eleven studies find associations between transformational leadership and health-related outcomes, and five of these studies are longitudinal. Four of seven studies find associations between supportive leadership and health-related outcomes, three of which are longitudinal. Even if fewer studies investigate authentic leadership, servant leadership or LMX, they do find statistically significant associations. The most investigated health-related outcome measures are job satisfaction, followed by well-being. Seven out of eleven studies find an association between leadership and job satisfaction, of which four are longitudinal, and six out of nine studies find associations with well-being, of which three are longitudinal. While fewer studies investigated work engagement, quality of life or meaningfulness, all studies that investigated one of these measures found statistically significant associations.

Tables 9 and 10 present all associations between leadership and health-related outcomes for each article. Table 10 also presents the mediators used. Because transformational and supportive leadership were used in several studies, several different outcome measures have been used. Meanwhile, it is also clear that even if the same leadership perspective is used, the health-related outcomes are numerous. For example, supportive leadership has been used in relation to several different kinds of health-related outcomes, such as meaning at work, well-being, quality of life and job satisfaction. The tables also show that regardless of leadership perspective, job satisfaction is the outcome with which most studies have

found associations. Similar results emerge for work engagement, quality of life and meaningfulness, where all studies that used the outcome measure find statistically significant associations, even if they are very few in number.

If we think about health and well-being as multidimensional phenomena, where the different scales capture different aspects or dimensions of the phenomenon, it is clear that leadership seems to have an “impact” on work-related aspects and, to a lesser extent, on general aspects.

However, note that this literature review only investigates constructive leadership relative to positive health and well-being. Whether a leader has significance for an individual feeling bad, stressed and similar is beyond the framework of the focus area of the literature review and thus cannot be answered by the reviewed studies.

Table 9 presents the 15 studies that only explore the direct relationship as well as the study that evaluated the result of an intervention. Table 10 presents the 12 studies in which mediating factors were explicitly investigated. Of the 19 investigated associations in which mediating factors were included, 16 associations show mediation, one shows no mediation and two do not show associations between leadership and health outcomes or mediators. One study is also unclear about whether mediating factors were investigated (relative to the specific relationship between leadership and health-related outcomes). The mediators used vary, but are often different kinds of social working conditions (such as a supportive climate), task-related working conditions (such as influence), the individual’s attitude and mindset (such as job satisfaction, meaningfulness and self-confidence) as well as health-promoting activities and initiatives (such as health check-ups). Note that job satisfaction and meaningfulness were considered aspects of well-being by others, i.e. the relationship between leadership and health-related outcomes is mediated by other aspects of health-related outcomes (which applies to five studied associations).

Table 9: Comprehensive description of investigated associations without mediating factors

Reference	Leadership	Health	Association bivariate	Association adjusted	Mediator
Association studies					
Burr et al. (2010)	Supportive	Mental health	Not reported	No	-
Burr et al. (2010)	Supportive	Vitality	Not reported	No	-
Clausen & Borg (2011)	Supportive	Meaning at work	Yes	Ja	-
Finne et al. (2016)	Supportive	Well-being	Yes	Ja	-
Hagqvist et al. (2018)	Supportive	Health	Yes	No	-
Hagqvist et al. (2018)	Supportive	Well-being	Yes	No	-
Holten et al. (2018)	Transformativt	Well-being	Yes	Yes, for one subgroup	-
Holten et al. (2018)	Transformativt	Health	Yes	No	-
Holten et al. (2018)	Transformativt	Job satisfaction	Yes	Yes, for one subgroup	-
Lohela et al. (2009)	Supportive	Quality of life	Not reported	Yes	-
Mauno et al. (2016)	Transformational	Work engagement	Yes	Yes	-
Nie & Lämsä (2018)	Benevolent	Job satisfaction	Yes	Yes	-
M. B. Nielsen, Bergheim, & Eid (2013)	Autentiskt	Job satisfaction	Yes	Yes, for one subgroup	-
Perko et al. (2016)	Transformational	Job satisfaction	Yes	Yes	-
Perko et al. (2016)	Authentic	Job satisfaction	Yes	Yes	-
Svensson et al. (2018)	Task/relationship	KASAM	Not reported	No	-
Tafvelin, Hasson, et al. (2019)	Transformational	Job satisfaction	Not reported	Yes	-
Upadyaya et al. (2016)	Servant	Work engagement	Yes	Yes	-
Upadyaya et al. (2016)	Servant	Life satisfaction	Yes	Yes	-
van Dick et al. (2018)	Transformational	Job satisfaction	Yes	Yes	-
van Dick et al. (2018)	LMX	Job satisfaction	Yes	Yes	-
van Dick et al. (2018)	Authentic	Job satisfaction	Yes	Yes	-
van Dick et al. (2018)	Other (Identity)	Job satisfaction	Yes	Yes	-
Westerlund et al. (2010)	Other (Attention)	Health	Yes	Yes	-
Intervention study					
Hansen et al. (2016)	Supportive	Health	Not reported	-	-

Table 10: Comprehensive description of investigated associations with mediating factors

Reference	Leadership	Health	Association bivariate	Association adjusted	Mediator
Berthelsen et al. (2018)	Supportive	Work ability	Yes	Unclear	Mediated by: Interpersonal resources. Task resources. Job satisfaction.
Berthelsen et al. (2018)	Supportive	Job satisfaction	Yes	Yes	Mediated by: Interpersonal resources. Task resources.
Ljungblad et al. (2014)	Supportive	Health	Yes (to 1 of 4 questions)	No	Mediated by: Social climate. Health-promoting activities.
Lundmark et al. (2017)	Transformational	Health	Yes	No	Mediated by: Intervention leadership.
Lundmark et al. (2017)	Transformational	Work ability	No	No	Mediated by: Intervention leadership.
Lundmark et al. (2017)	Interventions	Health	Yes	Yes	Unclear
Lundmark et al. (2017)	Interventions	Work ability	Yes	Yes	Unclear
Lundmark et al. (2018)	Interventions	Work engagement	Yes	Nej	No mediation
Munir et al. (2012)	Transformational	Well-being	Yes	No	Mediated by: Conflicts between work and private life.
Munir et al. (2012)	Transformational	Job satisfaction	Yes	Yes	No mediation
K. Nielsen et al. (2019)	Other (Health and safety)	Health	Yes	Yes	Mediated (strengthened) by: Lack of isolation/loneliness
K. Nielsen & Daniels (2012)	Transformational	Well-being	Yes	Yes	Mediated by: Meaningful work. Role conflict.
K. Nielsen & Daniels (2012)	Transformational	Job satisfaction	Yes	No	Mediated by: Meaningful work. Social support. Cooperation. Role conflict.
K. Nielsen & Munir (2009)	Transformational	Well-being	Yes	Yes, cross-sectional	Mediated at one point in time by: Self-efficacy.
K. Nielsen et al. (2009)	Transformational	Well-being	Yes	No	Mediated by: Self-efficacy. Team efficacy.
K. Nielsen et al. (2009)	Transformational	Job satisfaction	Yes	Yes	Mediated by: Team efficacy.
K. Nielsen & Randall (2009)	Interventions	Well-being	Yes	No	Mediated by: Working conditions (meaningfulness, role clarity, social support).
K. Nielsen & Randall (2009)	Interventions	Job satisfaction	Yes	No	Mediated by: Working conditions (meaningfulness, role clarity, social support).
Tafvelin et al. (2011)	Transformational	Well-being	Yes	No	Mediated by: Innovation climate.
Tafvelin, von Thiele Schwarz, et al. (2019)	Interventions	Job satisfaction	Yes	No	Mediated by: Participation.
Tafvelin, von Thiele Schwarz, et al. (2019)	Interventions	Work ability	Yes	No	No mediation

In-depth description of the included qualitative studies

This section presents the qualitative studies included in the literature review. Only five studies met the inclusion criteria and passed the quality assessment. The foci of these studies vary significantly, and their purposes are not always to primarily make assertions about the relationship between leadership on the one hand and health and well-being on the other. Rather, in some of the articles, this is an aspect of the results (such as Lundqvist et al., 2012; Schön Persson et al., 2018).

When it comes to the potential scope of qualitative studies, it is important to remember that the aim here is not statistical generalization as for the quantitative studies, but so-called analytical generalization, i.e. expanding and generalizing theories (Yin, 2014) or generalizing via context similarity (S. Larsson, 2009). Thus, the qualitative studies in this literature review should not only be understood as a complement to the quantitative studies, but can also stand independently. The studies are presented in the form of an overview ta-

ble (Table 11), a summary of each study and a comparative analysis of patterns in the results.

Summary of the qualitative studies

The first included study (Landstad et al., 2017) investigated how managers at companies with fewer than 20 employees view health-promoting leadership. A total of 18 companies were studied in rural Sweden and Norway through interviews with managers (10 Swedish and 8 Norwegian). The study was not based on an explicit leadership theory, but transformational leadership was referenced as supportive of health. Instead, the study used the concept of “Workplace Health Management”, which is defined in part as a set of leadership behaviours that continually interact with the work environment to shape a setting that improves employee health, and in part as an intentional integration of all company processes in order to maintain and promote employee health and well-being.

The results show that the respondents highlight the importance of the psychosocial work environment for promoting employee health and well-being. Important components

Table 11: Overview of qualitative studies

Author and year	Country and jurisdiction	Focus	Method and selection
Landstad et al. (2017)	Sweden and Norway, small companies in rural areas	Study how managers in small companies view health-promoting leadership.	Interviews with managers at 18 companies
Lundqvist et al. (2012)	Sweden, manufacturing industry	Investigate the relationship between managers' leadership and their health.	Interviews with managers at different levels
Poulsen & Ibsen (2017)	Denmark, data/IT, engineering consultant, management consultant, manufacturing industry	Investigate how managers ensure employee well-being and organizational performance across geographic distance and in terms of time.	Case studies based on interviews with managers and employees in four industries.
Schön Persson et al. (2018)	Sweden, municipal healthcare practice	Obtain improved understanding of positive relationships between employees and managers in municipal health care.	Interviews with managers and employees
Skarholt et al. (2016)	Norway, oil and gas, construction, cleaning, health care	Study what leaders do at the workplace to promote health	Interviews with managers and employees as well as meeting observations

in the work environment include loyalty, humour, trust, safety and leeway. When it comes to managers' leadership, this is categorized as relationship-oriented with a focus on participation and communication. The interviewed managers also emphasize the importance of employees themselves taking responsibility for their health and well-being, for example by making ergonomic modifications to their workplaces. The managers also try to meet requests for physical activity during or outside of work and sometimes pay for employees' wellness services. Because the study is based only on interviews with managers and there is no measurement for health-related outcomes, it is not possible, based on this study, to say anything about the actual relationship between leadership and employee health and well-being. The authors emphasize the fact that the generalizability of the results is limited by the fact that the study was carried out in a special geographic context in Sweden and Norway. The results may be transferable to managers in similar contexts.

The purpose of the study by Lundqvist et al. (2012) was to investigate the health of managers. The primary focus is therefore not what managers do to promote employee health and well-being; rather, this is an aspect that emerges in the results. The study is based on semi-structured interviews with 42 managers in a large industrial company in Sweden (15 women and 27 men). The study did not use a leadership theory as a starting point. Nor was there an explicit theory on health and/or well-being. What the results show, and what the authors also point out in their conclusions, is that managers' leadership is significantly impacted by their own health. It is also particularly relevant to this report that when managers experience good health themselves, they perceive themselves as better at supporting and taking interest in their employees' health and well-being. However, it cannot be seen from this study whether this experience is shared by all study respondents, or only by a few individuals. Because the study focuses on the health of managers, there is no

outcome measurement for employee health. The result and conclusion should therefore be understood in light of the respondents' experiences of the relationship between leadership and well-being, and not as an association. Regarding other limitations of the study, the authors note that the generalizability of the results is limited by the fact that the data were collected from only one organization.

Poulsen and Ipsen's (2017) study investigates the health and well-being of employees who work remotely. The study is based on managers' practices to ensure employee health and well-being as well as organizational performance. The study is based on case studies of four Danish organizations in which 17 semi-structured interviews were conducted with managers and employees. There is no explicit leadership theory guiding the analysis in the study, but in the review of previous research, transformational leadership is raised as a positive form of leadership. The study employs a definition of well-being that includes both the physical and mental work environments.

The results show that contact between managers and employees is important for well-being. The interviewed employees emphasize that regular visits from the manager at the employee's workplace is especially important in relationship to remote work. This allows managers to see with their own eyes how employees are doing. The interviewed managers pointed out that they use regular surveys, so-called "pulse checks", to ensure employee well-being. Moreover, the results show that a leadership style based on trust, delegation and opportunities for autonomy has significance for well-being. However, the respondents also point out that different people need different leadership styles. Regarding the applicability of the study's results, it should be emphasized that the study applies to employees and managers who work at a distance from one another.

Thus the result cannot necessarily be generalized to all kinds of work relationships. The authors themselves emphasize the methodological limitations of the study in that it is

based on case studies with few respondents and all of the organizations are in Denmark. Furthermore, it is difficult at times to discern how the activities and abilities highlighted as important to managers are connected to the outcome measure of employee health and organizational success, as these are not clearly differentiated in the results and discussion.

The study by Schön Persson et al. (2018) focuses on the importance of the relationship between managers and employees for employee health and well-being. The study was carried out in Swedish municipal health care and included 27 interviews with employees as well as managers at an elderly care home (25 women and two men).

The study did not use a specific leadership theory. With regard to health, the authors work based on a salutogenic perspective. The focus of the results is on how the relationship between manager and employee should be in order for the employee to do a good job; this is thought to lead to health and well-being, but there is no clear outcome measure here, so the authors cannot know whether this is the case. The manager behaviours identified by the authors as important for promoting health include validating employees and involving them in decisions. According to Schön Persson et al., this also brings satisfaction to managers and encourages their own work situation. Furthermore, the authors point out that a health-promoting relationship between managers and employees may differ depending on the situation. In some cases, it may be beneficial to have an asymmetrical relationship, where the manager is outside of the group; in other cases, it may be beneficial to have a symmetrical relationship, where the manager is part of the group. According to the authors, it is important to achieve a balance between asymmetrical and symmetrical relationships and both managers and employees should be clear about their expectations of the relationship. Regarding the limitations of the study, the authors emphasize that the choice not to focus on the significance for relationships of structural and organizatio-

nal aspects is a weakness. However, they still point out that the study results can probably be generalized to contexts other than a Swedish healthcare organization, as relationships are central regardless of professional category and culture.

The purpose of the fifth and final included study (Skarholt et al., 2016) is to study health-promoting leadership, i.e. what leaders do that promotes health at the workplace. The study is based on 65 interviews collected in four case studies from different sectors in Norway.

In the oil and gas industry, 14 interviews were conducted (9 employees and 5 leaders). In the construction industry, 21 interviews were conducted (14 employees and 7 leaders). In the health sector, 16 interviews were conducted (8 nurses and 2 doctors at a university hospital, as well as 3 nurses and 3 leaders in social services in a municipality).

In the cleaning industry, 12 interviews were conducted (9 cleaners and 3 leaders) in a large international cleaning company. In addition to the interviews, observations were conducted at different meetings at the various workplaces. Theoretically, the study is based on transformational leadership and health-promoting leadership, as well as a salutogenic perspective of health. It emerges in the results that health-promoting leadership styles are not identical in the four case studies, due to differences in contextual factors such as structure, culture and the nature of the work. However, the authors identified several recurring characteristics which they see as generic to health-promoting leadership. Health-promoting leadership is characterized by being “hands-on”, available, supportive, inclusive and democratic. The authors argue that health-promoting leaders prioritize leading and spending time with their employees, rather than working through systems and procedures. They write that this leadership style is transformational because it involves leading through values that inspire and motivate employees. The authors also assert that the results of this kind of leadership include

increased productivity and a win-win situation for leaders as well as employers, but because the study did not investigate any health-related outcomes, this cannot be supported by the findings. The authors do not point out any limitations of the study themselves, but they do note that they studied Norwegian workplaces and that leadership there is influenced by Scandinavian leadership practices. The health-promoting leadership characteristics identified in the study may therefore be easier to develop in Scandinavian countries, which are influenced by democratic work processes.

Overarching patterns in the qualitative studies

Several common patterns emerge upon reviewing the included qualitative studies. To begin with, a common starting point for all of the studies is clearly that leadership is believed to have a positive effect on employee health and well-being.

This itself is not surprising, but what is striking is that only one of the studies asked employees about how they experience their health (Poulsen & Ipsen, 2017). In other words, it is impossible for the authors of the other studies to express whether the identified leadership behaviours actually impact the health and well-being of employees. Moreover, none of the studies are based on a specific leadership theory. Although transformational leadership is mentioned in three of the studies (Landstad et al., 2017; Poulsen & Ipsen, 2017; Skarholt et al., 2016), it was not used in the data collection or analysis.

Regarding patterns in respondents' views of leadership that promotes health and well-being, four overarching categories can be discerned in the results of the included studies: 1) direct leadership, 2) indirect leadership, 3) mutual influence and 4) leadership adapted to the situation (see Table 12).

The first category is about a more direct leadership in terms of how the leader/manager behaves in relation to the employees. Relationship-oriented and communicative leadership are common terms for this kind

of leadership, but it is also possible to discern four subcategories. First, several authors note that leadership should be founded on availability and proximity, i.e., leaders should be “hands-on” and spend time with employees, instead of working through systems and procedures (Lundqvist et al., 2012; Poulsen &

Ipsen, 2017; Skarholt et al., 2016). Second, it is important for leaders to show trust in employees by delegating tasks and areas of responsibility and by giving them autonomy (Landstad et al., 2017; Lundqvist et al., 2012; Poulsen & Ipsen, 2017). Third is an emphasis on participation, in the sense that leaders involve employees in decision-making and problem-solving processes; that they act democratically and inclusively; and that they validate employees (Landstad et al., 2017; Lundqvist et al., 2012; Schön Persson et al., 2018; Skarholt et al., 2016). Fourth, leaders should inspire and motivate employees, for example by leading through values (Lundqvist et al., 2012; Skarholt et al., 2016).

The second category involves how leaders influence employee health and well-being through indirect leadership. In this area, there are two primary foci. One is to work to achieve a good, safe physical and psychosocial work environment characterized by loyalty, confidence, trust and happiness (Landstad et al., 2017; Skarholt et al., 2016). The second is to facilitate initiatives that can foster employee health and well-being, such as covering the cost of wellness activities, ensuring variation in work tasks to reduce physical load, implementing ergonomic modifications at work, and collecting data on employee health via surveys (Landstad et al., 2017; Poulsen & Ipsen, 2017; Skarholt et al., 2016).

The third category is about mutual influence, which refers to the fact that leadership that promotes employee health and well-being also has a positive impact on managers. According to Schön Persson et al. (2018), managers can foster employee health by validating them and involving them in decision-making, which in turn gives managers greater satisfaction and thus improves their own work situation. On

the same theme, Lundqvist et al. (2012) demonstrate in their study that a manager who experiences good health is more interested in employee health and well-being. Furthermore, Landstad et al. (2017) conclude that managers must be role models and practise what they preach.

The fourth category is about the apparent lack of any uniform responses to the question of what leadership for health and well-being entails, because it depends largely on the situation and context in which it is performed. The study by Skarholt et al. (2016) discusses the fact that health-promoting leadership does not look the same in the case studies because of the different contextual factors, such as

structure, culture and nature of the work.

According to Schön Persson et al. (2018), what can be characterized as a health-promoting relationship between managers and employees differs depending on the situation: the manager may need to be outside the group in some cases and more involved and part of the group in others. The study by Poulsen and Ipsen (2017) also points out that different people need different leadership styles. In other words, it is important to remember that leadership is not a one-way process; as concluded by Landstad et al. (2017), it is also important for employees to take personal responsibility for their health and well-being.

Table 12: Summary of qualitative studies

Category	Description	Example	Reference
Direct leadership	<ul style="list-style-type: none"> • Be available and nearby • Create trust and autonomy, delegate • Involve, include • Inspire, motivate 	“Hands-on”, visit employees regularly, let employees make decisions, include, lead through values to inspire and motivate.	Landstad et al. (2017) Lundqvist et al. (2012) Poulsen & Ipsen (2017) Schön Persson et al. (2018) Skarholt et al. (2016)
Indirect leadership	Create a good and safe physical and psychosocial work environment and facilitate initiatives that can promote health	Loyalty, confidence, trust, and happiness. Wellness activities, variation in work tasks, ergonomic modifications at work.	Landstad et al. (2017) Poulsen & Ipsen (2017) Skarholt et al. (2016)
Mutual influence	Leadership that promotes employee health also has a positive impact on the manager	Promoting health brings satisfaction to managers and a manager who experiences good health is more interested in employee health.	Landstad et al. (2017) Lundqvist et al. (2012) Schön Persson et al. (2018)
Leadership adapted to the situation	Leadership for health and well-being is context- and situation-dependent	Leadership is adapted to contextual factors and the various needs of individuals.	Landstad et al. (2017) Poulsen & Ipsen (2017) Schön Persson et al. (2018) Skarholt et al. (2016)

4. Discussion

This chapter discusses the information generated through the review of previous research studies. First, the main findings will be summarized. This will be followed by an evaluation and discussion of the problems in the studies and in the literature review. The chapter concludes with identified knowledge gaps and general guidance for the reader.

Summary of the main findings

In summary, the studies included in this literature review show that leadership is related to employee health and well-being. Almost all of the quantitative studies show a link between leadership and health-related outcomes if no other factors are considered. Because the studies use many different kinds of outcomes, it is difficult to provide a clear and uniform picture, but primarily, so-called transformational leadership and supportive leadership have associations with employee health and well-being, especially in relation to work-related health outcomes, such as job satisfaction and work engagement. The qualitative studies mainly highlight relationship-oriented and democratic leadership, characterized by a leader who motivates and inspires employees, who is available and listens to employees, and who simultaneously shows trust in employees' abilities by giving them responsibility, space and codetermination. Aspects that the qualitative studies point to as health-promoting behaviours among leaders and managers also largely recur in the leadership theories and scales for leadership used in the quantitative studies. These methods together provide a clearer picture about the kinds of leadership behaviours that promote health.

The studies also point out indirect leadership as related to employee health and well-being. Taken together, the studies all indicate several different kinds of factors

through which leadership is active. The quantitative studies highlight four different kinds of factors (mediators). One factor involves the actual tasks and the conditions surrounding them. Another factor involves the social climate and environment at the workplace or organization. A third factor involves the individual and their attitude towards their job, while the fourth factor involves health-promoting activities and initiatives. The qualitative studies point out similar factors, especially those pertaining to the conditions for carrying out tasks, the social climate, and health-promoting activities and initiatives. Regarding indirect leadership, it is difficult to say that any particular leadership style is “better” or “worse” in relationship to a particular health outcome. Transformational leadership is the most studied form of leadership and also the form for which most studies find mediating factors. Indeed, overall, many studies find that transformational leadership has direct associations with employee health and well-being, that are primarily work-related, and indirect associations with employee health and well-being through other factors.

Evaluating the material

This section discusses and points out problems in the results of the reviewed studies. It culminates in an overarching evaluation of the articles and what they say together about the relationship of leadership to health and well-being at the workplace.

First of all, it can be concluded that so-called transformational leadership is thought to hold a unique position in the field. In several studies, this form of leadership is both a starting point and a result when it comes to the direct and indirect importance of leadership for employee health and well-being. However, the reviewed studies have several problems.

First of all, it is problematic that the quantitative studies investigate transformational leadership as an overarching style without breaking it down into its four leadership behaviours (see Chapter 2). Second, it is also problematic that the studies do not investigate

transformational leadership in relation to the entire theory, the so-called Full Range of Leadership Model (FRLM), which also includes transactional leadership and laissez-faire leadership. This is the case even though the author of the theory considers it a comprehensive theory (Bass & Riggio, 2006) and other researchers (Vera & Crossan, 2004) have shown that a combination of transformational and transactional behaviours may be preferable depending on the situation. This theoretical selection may therefore be questionable, because the researchers are studying individual styles without a clear theoretical basis for how they are related (also see Arnold, 2017). Third, it is important to note that

most of the studies had no critique of FRLM. Earlier research has demonstrated methodological shortcomings, and the fact that the theory places the leader on a pedestal and fails to note the significance of employees' roles as co-creators of leadership has also garnered criticism (Alvesson, 2019; Knippenberg & Sitkin, 2013; Yukl, 1999).

Several of the studies use broad theories such as FRLM as their starting points and consequently, it is very difficult to determine what it is about the form of leadership that promotes health, and what a manager or leader should actually do, based on the studies' findings. In other words, it is difficult to transform the results of the quantitative studies into practical action, because the investigated theories are so abstract. We see here that the qualitative studies' results complement the quantitative studies and clarify the behaviours more precisely. However, the qualitative studies have other shortcomings, primarily regarding the scope of the results. While the descriptions of leadership are closer to reality in terms of how it is performed, we can simultaneously question the significance

of a few respondents' experiences of their respective organizations. There is also reason to be cautious with regard to the qualitative studies that make assertions about the kind of leadership that promotes employee health and well-being. More specifically, these studies have not investigated the actual outcome in terms of whether employee health has indeed been impacted by leadership.

The combined results from both the quantitative and qualitative studies are interesting with regard to what leaders can actually do to promote employee health. When it comes to direct leadership, an overarching pattern in the research is that leaders who try to promote employee health and well-being face a balancing act. They are expected to be available and to provide active help and support to employees, while also being sufficiently distanced in order to provide space, a mandate, and to not interfere.

Here, the challenge lies in the fact that different individuals, tasks or operations may have different requirements for what this balancing act entails, and how much is "enough". The level of presence, support and space, and the kind of mandate an employee needs may differ from one individual to the next, and may also differ for the same individual from one task to the next. Here, a leader must be sensitive and flexible, and adapt their leadership according to the existing needs. The need for leadership that is adapted to the prevalent situation is a theme raised primarily in the qualitative studies. Here, once again, it is problematic that the quantitative studies do not go into sufficient depth. It could be the case that some leadership behaviours are important in certain situations, while others are more important in different ones. The same could apply to indirect leadership. In this literature review, the indirect significance of leadership was explicitly investigated in 19 associations, 16 of which found a relationship between leadership and health outcomes mediated by other factors. The qualitative studies also emphasized indirect leadership with similar factors as those found in the quantita-

tive studies. These factors concerned the work tasks and conditions for completing them, as well as the social climate and environment at the workplace or in the organization. They also pertained to the individual and his or her self-confidence and attitude towards the work, along with participation in health-promoting activities and initiatives. These factors are also consistent with factors identified in previous literature reviews as motivating, relational and social cognitive (Inceoglu et al., 2018). Thus, the results of this literature review together with previous literature reviews demonstrate that leadership has significance for health and well-being among employees, but primarily via other factors in the work environment or the individual. Naturally, it is important to mention that this literature review studied constructive leadership theories and their relationship to health and well-being. Destructive forms of leadership or illness have not been investigated. It could be the case that certain leadership behaviours are directly related and others are indirectly related to health and well-being, but this has not been adequately explored, because it is rare for multiple leadership styles or leadership behaviours to be studied at once. The studies in which different health outcomes were used in relation to mediators provide some insight. In some studies, such as Munir et al. (2012), transformational leadership is directly related to job satisfaction, while the relationship to well-being is mediated. The association may simply differ depending on what is being measured. Previous literature reviews have also called attention to this (Arnold, 2017; Harms et al., 2017; Inceoglu et al., 2018).

Sensitive, adapted leadership for health and well-being places enormous demands on the leader. It is therefore important for the leader to have the prerequisites to be able to exercise good leadership. This involves practical conditions for the organization, such as time, resources, number of employees, social conditions and opportunities for support. Something that emerges in the qualitative studies in particular, but which is also investigated in

one of the quantitative studies (Tafvelin, von Thiele Schwarz, et al., 2019), is the reciprocity between manager and employee. The qualitative studies point out that employees' reactions to the performance of leadership in terms of health and well-being have significance for managers' health, well-being and subsequent performance of leadership. The kind of positive and reinforcing cycles mentioned in some of the qualitative studies also appear in other previous research (see for example van

Dierendonck, Haynes, Borrill, & Stride, 2004). However, the result from the quantitative study (Tafvelin, von Thiele Schwarz, et al., 2019) does not support this finding, because employees' job satisfaction and work capacity had no connection to the subsequent performance of intervention-oriented leadership. In addition, it is naturally conceivable that such a reciprocal association could differ between different kinds of leadership behaviours.

The significance of context for the relationship between leadership and health is another problematic aspect. Studying intervening factors, such as mediators, is certainly a step towards contextualizing the phenomenon, but collectively, the contextual framework is still underdeveloped in the included studies, especially in the quantitative studies. This problem has also been addressed in earlier literature reviews (Arnold, 2017; Harms et al., 2017; Inceoglu et al., 2018;

Kuoppala et al., 2008; Montano et al., 2017; Skakon et al., 2010). Few studies clarify the importance of context in the relationship between leadership and health, for example in terms of the prerequisites managers have for exercising leadership. For managers or leaders to be able to be available to their employees – which is a fundamental aspect of theories such as FRLM and LMX, as well as in the findings of the reviewed studies – a reasonably sized staff, economic resources and geographic proximity are all necessary. The lack of context in the studies is problematic because the unique aspects of the study material are neither analysed nor problematized, and knowledge of how organizational (such as

work environment policies) or national factors (such as the Swedish model, the Co-Determination in the Workplace Act [MBL], work environment provisions) shape the relationship is rendered invisible. There is therefore a risk that too much focus will be placed on individual leaders in the form of their leadership, when in actuality, the focus should be on making changes to the organizational structure. Furthermore, most leadership theories used in the studies were developed in a North American context, but they are applied relatively uncritically as a universal “best practice” in a Nordic context. The risk for theoretical reproduction thus becomes immanent, i.e. North American theories are confirmed in a Nordic context because the unique aspects of the Nordic context are not factored in. An example of this is that few studies discuss the significance of the population from which the data have been collected. As demonstrated by the results of the review, the material in many of the studies is from the social services sector and the respondents are predominantly female. In other words, there is a risk that the results are coloured by the context.

Finally, we can also conclude that what is pointed to as health-promoting leadership is very similar to the contemporary understanding of what good leadership is in general. Transformational and supportive leadership have been highlighted as central to other types of outcomes, such as productivity, for example. Thus, there is not thought to be a dramatically unique style that only promotes health and well-being.

Some methodological challenges of the literature review

To increase the transparency of this literature review and to present to the reader the fairest and most objective picture possible, we want to comment on a few challenges posed by this kind of review and the process of comparing studies to one another. Concepts such as

health and well-being as well as leadership are theoretically complex and difficult to operationalize. This has entailed that the different studies have approached the subject from different perspectives and have used several different terms and instruments. We have tried to clarify what the authors studied, but even in the cases of studied leadership or health outcomes that superficially appear to be measuring or composed of the same thing (such as transformational leadership or job satisfaction), the terms may be defined differently or measured with different instruments.

In other words, there is a risk that they are capturing or measuring different aspects of the phenomenon in question.

Furthermore, all of the quantitative studies included in the literature review focused on the relationship between leadership and health outcomes, but starting from different questions. This means that the studies’ final models may look different, with some adjusting for different background factors and several other work environment factors, while others adjust only for a few factors, such as gender and age. Some studies also test several different leadership styles. Therefore, both bivariate associations (without adjusting for other factors) and adjusted associations are reported in order to give the reader a clearer, fairer picture.

The studies in the literature review also differ with regard to the number of participants included in the analysis. For example, one study is based on material from over 12,000 participants, while another study had just over 100 participants.

This is significant for the possibilities of the studies to find statistically significant associations. With many participants, it is easier to find a statistically significant association, even if the association is weak. Some studies report associations that are very low, but still statistically significant, probably because there are several thousand participants.

However, in most studies the association is at about 0.15 to 0.25, which means leadership explains about 2 to 6 per cent of employee health and well-being.

The searches were conducted in two databases: Scopus and Web of Science. Both of these are broad databases and cover most higher-quality scientific journals with peer-reviewed articles. It is possible that searching additional databases would have generated even more articles, but we believe that the current search strategy captured most studies of relevance for the area.

The report presents one study as an intervention study, but in reality, several studies were based on material from interventions. However, these studies lacked a clear control group and focused more on the significance of leadership for health outcomes, among other things, and less on the evaluated intervention. We have therefore chosen to present them as association studies.

Knowledge gaps

In light of the preceding discussion and evaluation of the overall material, we have been able to identify a number of knowledge gaps in the existing research. The field is growing in terms of the number of studies being published, but the latest studies have added relatively little new information. This may be due to homogeneity with regard to which methods and theories are used as well as which industries have been studied.

If we begin with knowledge gaps related to which methods were used, we can conclude that the dominance of quantitative studies has resulted in a great deal of information about the occurrence of leadership for health and well-being, but relatively little knowledge of what this entails in the day-to-day work. Put simply, we know that transformational leadership is beneficial to employee health, but we do not know how a manager actually performs this kind of leadership in practice. Thus, learning more about the leadership practiced requires a different kind of data collection, such as observing managers and employees in daily work. Research on what managers do includes several well-conduc-

ted studies based on shadowing in the field, meeting observations and contextual interviews (Mintzberg, 2009; Tengblad, 2012). Such methods could facilitate a better understanding of actual leadership practices. Furthermore, case studies would be suitable for counteracting the lack of contextualization that characterizes many of the reviewed studies. One advantage of case studies is that it is natural to capture leadership in context, i.e. to create rich descriptions of how the surrounding factors influence managers' and leaders' opportunities to exercise their leadership. The information that could be generated through case studies could then be verified through quantitative-oriented studies. Another knowledge gap related to method is that we do not know very much about how leadership impacts the health and well-being of employees and how this changes in a longer-term perspective.

Thus, there is a need for longitudinal, multi-methodological studies to investigate the ways in which leadership influences employee health and well-being and whether this changes over time. This is not a unique finding of this literature review; similar inadequacies have been identified and possible actions presented in all previous literature reviews (Arnold, 2017; Harms et al., 2017; Inceoglu et al., 2018; Kuoppala et al., 2008; Montano et al., 2017; Nyberg et al., 2005; Skakon et al., 2010).

Regarding theoretical gaps, earlier in the chapter we discussed the fact that a small number of theories have been granted enormous significance in the field. In general, there is little discussion of the problems with these theories; instead, they are used rather mechanically and uncritically, and often not even in their entirety. Thus, there is a need here for knowledge that questions theories such as transformational leadership, for example, and its, at times, rather one-sided focus on the leader. For example, theories about co-workership and co-leadership could contribute a new understanding of how leadership is generated and maintained. Based on theories of gender, diversity and equality, we could probably also discover several aspects of the

relationship between leader and employee that could contribute to a more nuanced picture of health-promoting leadership.

Finally, we also see knowledge gaps resulting from the fact that many of the studies are based on material collected in very specific contexts, i.e., in the public sector and especially in social services.

There is a need here for broader, comparative studies, where several types of industries and organizational sizes are represented in order to identify common patterns and contextual differences.

General guidance

What can someone working to promote employee health and well-being in organizations take away from this literature review? Based on the reviewed articles, previous literature reviews and the theories of leadership and health presented in the report, several potential implications, for example with regard to managers and leaders, can be identified.

First of all, it may be important to consider the fact that leadership is a situational phenomenon that develops differently depending on the individuals involved, and on the various prevalent conditions of a given context. This means that there is no

“best” form of leadership that works equally well in all circumstances. It is therefore impossible to simply take a leadership theory and try to apply it as “best practice”; rather, many adaptations will be necessary based on the conditions of the relevant context.

The reviewed research does, however, have some level of consensus regarding overarching direct leadership behaviours that are thought to work well for fostering health and well-being. For example, these behaviours

include being a role model for employees with regard to work and health, and also inspiring and motivating them at work.

It is also important to encourage employees’ personal development. Furthermore, it is important to be available, to show trust and to give employees space and autonomy. As it may be difficult to find a balance between being present and supportive, while also providing space and responsibility, it is important for leaders and employees to have a continual dialogue about their expectations of leadership, so that the leader can adapt to the needs of employees and the organization. An employee who prefers to be given space for one task may need a more present leader for another task. This requires flexible leadership that is adapted to the current situation and context.

It is also important to point out that it has proven to be difficult to capture in the research exactly how the leadership behaviours described above actually impact employee health and well-being. Rather, the research often points to the significance of indirect leadership, for example by building a culture and an environment that foster health. What this culture or environment looks like depends on several factors such as leeway, resources, the task, expertise and so forth. One piece of advice is to discuss what health means at your workplace and what the expectations are of leaders and colleagues in this regard.

Finally, it is also worth noting that it is important for the leader or manager to be given the necessary conditions and support to be able to exercise leadership that promotes health and well-being. For example, this requires resources, an appropriately sized staff and employees who can interact with leadership constructively.

5. Conclusions

The purpose of this report was to compile research-based information about which leadership behaviours can contribute to health at the workplace. The following three questions guided work on this report:

- What theoretical starting points with regard to leadership and/or management are present in empirical studies on leadership for health and well-being?
- How has leadership for health and well-being been studied methodologically, and in what contexts?
- What direct and indirect leadership behaviours that promote health can be identified in previous research?

The literature review has focused specifically on empirical studies that investigated how constructive leadership behaviours are associated with employee health and well-being in the context of Nordic working life. The 33 analysed studies used different leadership theories, but the Full Range of Leadership Model dominates the field, albeit with only one of the model's three styles: transformational leadership. In addition, more supportive leadership behaviours without clear leadership theory were also studied. The studies are primarily based on two data collection methods: surveys completed by employees or interviews with managers and employees. Of these 33 studies, 13 studies were based on data collection at several points in time (a longitudinal study design).

The overall image of these studies shows that leadership impacts employee health and well-being and this primarily takes place via other factors in the work environment. Leadership behaviours such as being a role model, inspiring, motivating, stimulating and simultaneously seeing and supporting each employee (so-called transformational leadership) have been emphasized as meaningful, as has the assertion that leaders should be available while simultaneously showing trust in employees and giving them space and a mandate. Leaders must be flexible and adapt their leadership style to the situation and to employees' needs. The results suggest that indirect leadership is active through several different factors in the work environment, such as the work tasks and conditions for completing them, what the social climate looks like in the organization or at the workplace, and the individual's attitude and self-confidence, as well as participation in health-promoting activities and initiatives.

The literature review also demonstrates a need for more research in the field. To obtain a better understanding of the relationship between leadership and health and well-being and how such leadership should be exercised in practice, the significance of context must be studied more, and different kinds of specific leadership behaviours must be compared.

More longitudinal studies that use and combine material from different sources and apply different theoretical perspectives are needed.

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Appendix – Method

This appendix provides an in-depth description of the method used to produce this literature review. The work has followed the SAWEE model. The intention is to present a relatively chronological description in order to give the reader an understanding of the process in its entirety. We begin with a description of how the focus areas of the literature review were determined and thus how the studies were selected, and how the inclusion criteria were determined.

This is followed by a description of the search strategies and how the first study screening was carried out. After that, we describe the assessments of relevance of the full texts and the quality review process for the studies deemed relevant.

Selection of studies

When beginning this literature review, the content, focus and limitations of the review were clarified based on the PEO model (People, Exposure, Outcome). The PEO model was used to clarify the focus of the content of the studies forming the foundation of this literature review (see Table 13) and to clarify the kinds of content and studies that would not form the focus (see Table 14).

The inclusion criteria for the literature review were determined jointly by the authors and representatives from the Swedish Agency for Work Environment Expertise (librarian and process manager). The studies should:

- a. focus on the contexts of working life and workplaces
- b. be carried out in a Nordic context
- c. investigate leadership in terms of styles, behaviours, roles or similar terms or synonyms in relation to
- d. employee health and well-being (health factors).

To ensure that the basis of the literature review was scientific and empirically founded and to obtain a reasonable quantity of studies to manage within the stipulated time period, additional limitations were chosen. The studies should be:

- e. scientific articles in international, peer-reviewed (academic) journals
- f. published or “in press” between 2009 and 2019
- g. written in English; and
- h. contain empirical material.

The purpose of limiting the material to the Nordic context was partly to limit the scope of the literature in relation to the available timeframe, and partly because, as the literature review should culminate in guidance, the cultural and geographic proximity of the

Nordic countries was likely to produce more transferable results compared to studies from non-Nordic countries. The specific timespan was chosen in part with the quantity of literature in mind, and in part because this timespan complements the earlier systematic literature reviews in the field with which the authors were familiar from the start of the project (Kuoppala et al., 2008; Skakon et al., 2010). Because these reviews had already assessed studies from 1970 to July 2009, a longer timespan would only overlap them. Other research reviews were not familiar to the authors when beginning the project, but were incorporated into the report. However, all of the later reviews set limitations differently – only studies with a certain design, certain scales, certain journals and so forth, and none of them included qualitative studies. Of the 33 studies in this literature review, only six overlap with previous literature reviews.

The exclusion criteria were determined in parallel with the inclusion criteria stated above. Studies would be excluded if they:

- a) focused solely on contexts other than

Table 13: Inclusion criteria in the PEO model

People	Exposure	Outcome
Studies focused on the contexts of working life and workplaces.	Leadership in terms of styles, behaviours, roles and similar terms/synonyms.	Employee health and well-being (health factors).
Studies carried out in a Nordic context.		

Table 14: Exclusion criteria in the PEO model

People	Exposure	Outcome
Studies solely focused on contexts other than working life, such as school and education.	Indirect leadership	Studies focused only on illness.
Studies carried out in a non-Nordic context.	Destructive leadership	

working life, such as school and education (for example, studies of relationships between teachers and students); b) were only carried out in a non-Nordic context; c) focused only on indirect leadership; d) focused only on destructive leadership; and e) focused only on illness. Studies were also excluded if they f) were not based on empirical material (such as literature reviews, meta-analyses, conceptual articles, “viewpoints” or the equivalent); g) were not published in scientific, academic journals (such as reports, books, book chapters, doctoral or licentiate dissertations); and h) were written in a language other than English.

Search strategy

After establishing the inclusion and exclusion criteria, the authors of this literature review identified ten studies that met the inclusion criteria and which they had used themselves in other projects. The librarian used these ten studies to generate suitable search terms, and to validate the subsequent searches and make sure all ten studies were included in the search results. The initial search terms were determined based on the ten identified articles, and based on the authors’ previous experiences in

the research field. The final search terms were selected through discussions between the authors, the librarian and the process manager from the Swedish Agency for Work Environment Expertise. The searches were primarily carried out in the Scopus database. Web of Science was used as a supplementary database (see Table 15). Scopus generated 2,463 hits and Web of Science generated 1,499 hits. After eliminating duplicates, 2,859 unique studies remained. The project librarian conducted all searches in June 2019 and delivered titles and abstracts for all hits via the software Rayyan.

Screening of titles and abstracts

The authors read through all titles and/or summaries (abstracts) of all hits using the software Rayyan. All hits were marked with either “include”, “exclude” or “maybe” (see Table 16). The studies marked “maybe” and the studies in which different assessments were made were read by all authors and discussed until consensus was reached. In the assessment process, the authors attempted to determine whether the study in question empirically explored the relationship between leadership on the one hand, and health and

Table 15: Different steps, search strings and number of hits for the search

Database	Step	Area	Search string	Number of hits
Scopus	1	Leadership	TITLE-ABS-KEY (leadership) OR TITLE-ABS-KEY ("Leader* behavior*") OR TITLE-ABS-KEY ("Leader* style*") OR TITLE-ABS-KEY ("Leader* skills") OR TITLE-ABS-KEY ("Supervisor* behavior*") OR TITLE-ABS-KEY ("Leader-member exchange") OR TITLE-ABS-KEY ("Manager* behavior*")	177 015
	2	Health	TITLE-ABS-KEY ("Well being" OR Wellbeing) OR TITLE-ABS-KEY (Health W/0 (work* OR employ* OR occupational OR subordinate)) OR TITLE-ABS-KEY (healthy PRE/0 (employee* OR work*))	295 830
	3		1 AND 2 (10 standardartiklar)	4 632
	4		3 AND Filters activated: Språk: English Publication type: Article År: 2009 och framåt	2 463
Web of Science	1	Leadership	TS= (leadership) OR TS= ("Leader* behavior*") OR TS= ("Leader* style*") OR TS= ("Leader* skills") OR TS= ("Supervisor* behavior*") OR TS= ("Leader-member exchange") OR TS= ("Manager* behavior*")	99 347
	2	Health	TS= ("Well being" OR Wellbeing) OR TS= (Health NEAR/0 (work* OR employ* OR occupational OR subordinate)) OR TS= ("Healthy employee*") OR TS= ("Healthy work*")	141 067
	3		1 AND 2 (8 standardartiklar)	2 058
	4		3 AND Filters activated: Språk: English Publication type: Article År: 2009 och framåt	1 499
Total	5		Scopus steg 4 AND Web of Science steg 4	2 859

well-being on the other. At this phase, no consideration was given to whether the study investigated constructive leadership and positive health and well-being. In cases in which this was difficult to determine, the study was marked with “maybe”. The “maybe” group also included studies that were literature reviews, conceptual papers, and studies where no abstract could be seen. In total, there were 491 studies (studies marked “Include”, “Maybe – Difficult”, “Maybe – Incomplete information”) for which a reading of the full text was assessed as necessary in order to determine whether the study met the inclusion criteria.

Relevance assessment of full texts

After downloading the full texts, the review of relevance began. All full texts were assessed to determine whether the inclusion criteria had been met. Each study was assessed to determine whether it 1) was written in English; 2) addressed empirical material; 3) measured or addressed well-being or health and not (only) illness, pain, ailments or similar negative/pathogenic indicators; 4) measured or addressed constructive leadership and not (only) destructive leadership, i.e. the

Table 16: Number of studies for screening

Assessment	Number of studies		
Include	367		
Exclude	2 290		
Maybe	204	with the following labels:	
		Difficult to assess	112
		Literature reviews/conceptual studies	78
		Incomplete information	14
Total	2 859		204

studies do not measure leadership involving abusive, exploitative, manipulative, or similar leadership behaviours; 5) contained empirical material collected at least in part from a Nordic context; 6) at least partially addressed the relationship between constructive leadership and health and well-being. Studies that included both positive and negative (salutogenic and pathogenic) indicators of health and well-being are included, but the focus of this literature review is only on the positive outcomes. For example, a study might investigate leadership in relation to job satisfaction and perceived stress but the focus is only on the relationship between leadership and job satisfaction. The relationship between leadership and health was not the main focus of some of the qualitative studies, but studies with findings that at least partly address this relationship were considered relevant.

Table 17 presents an overview of how many studies were excluded based on the various exclusion criteria.

As positive health and positive well-being are complex terms that may be defined differently, a decision was made to include studies as long as they were not obviously pathogenic, and as long as the authors of the studies themselves considered well-being or health an outcome. After reviewing all of the downloaded full texts for relevance, 37 studies met all of the relevance assessment criteria above.

Quality assessment

Both authors carried out the quality assessments of all studies judged as relevant for the literature review.

One assessment protocol was used for studies with a quantitative approach and another assessment protocol was used for studies with a qualitative approach.

Studies with a quantitative approach were assessed for quality with a protocol developed by Tompa (Tompa et al., 2007, 2016) which has been used in several previous literature reviews, both Swedish (Ståhl, 2016) and international (Andersen et al., 2019). The protocol consists of ten questions, in which each one is assessed and given 1 to 5 points. An example of a question is: “Are the results adjusted for important influencing factors?” In accordance with the assessment protocol, studies with 35 points or more were considered high quality; studies with 25 to 34 points were considered medium-high quality; and studies with 24 points or less were considered low quality. In accordance with the assessment protocol and previous literature reviews, only studies of high or medium high-quality were included in this literature review. Of a total of 31 quantitative studies reviewed for quality, 28 were assessed as high or medium-high quality.

The studies based on qualitative data were assessed using a review template developed

Table 17: Number of excluded studies and reason for exclusion

Excluded	Excluded	Reason for exclusion	
Excluded based on title or abstract:	2 290		
Excluded – literature review:	78		
Excluded – relevance:	454	Excluded – focus on illness or destructive leadership	128
		Excluded – non-Nordic context	186
		Excluded – lack of empirical material (conceptual)	19
		Not written in English	1
		Excluded – book chapter	14
		Wrong focus (for example, not leadership, leaders' health) or context	77
		Duplicates	2
		Does not study the leadership-health relationship	27
Excluded due to quality:	4		
Totalt antal exkluderade:	2 826		

by the Swedish Agency for Health Technology Assessment and Assessment of Social Services (SBU, 2017). SBU's review template consists of five headings: purpose, selection, data collection, analysis and results. Each of these headings has questions to be answered in the quality assessment. For example, the following question comes under the heading of purpose: "Is the study based on a well-defined problem/question?" The questions are answered with yes, no, unclear or not applicable. The results are summed up to determine whether the article is of high, medium-high or low quality. Studies of high and medium-high quality were included. Of a total of six qualitative studies reviewed for quality, five were assessed as high or medium-high quality. Thus, a total of 33 studies were included in the review. Figure 2 presents an overview of the different steps of the process.

In conjunction with the quality assessment, any conflicts of interest that may have arisen due to how the included studies were funded

were also assessed. When funders were listed, they were exclusively national research councils or internal funders from the universities at which the researchers were active. No conflicts of interest emerged.

Processing and analysis

The quantitative studies assessed as high or medium-high quality went on to analysis.

In the analysis process, all studies were read and tables were compiled with key information relevant for this literature review. This key information includes the country in which the study was conducted, on which population, how leadership was measured, how health-related outcomes were measured, what the association looked like between leadership and health-related outcomes, bivariate data, and adjustments in the final model for other factors, as well as any mediators investigated. This was described in the results section of

the literature review and conclusions were drawn based on this description. This procedure is called narrative synthesis (SBU, 2017).

The qualitative articles were analysed in four steps. In step 1, the articles were read and assessed for relevance and quality.

Based on this reading, the first content overview was created. In step 2, a reading was conducted based on descriptive categories which aimed to collect basic information about the articles, such as journal, country, purpose, questions, theoretical starting points, methodology and more. In step 3, an inductive conventional content analysis (Hsieh &

Shannon, 2005) of the findings of the articles was carried out. The results, discussion and conclusions were read through and, based on this reading, preliminary categories were created from each article. In this step, each article was summarized with a focus on the content and validity of the findings. In step 4, the authors discussed the relationships between the preliminary categories, leading to the identification of four overarching categories that are addressed to some degree in most of the included articles: 1) direct leadership, 2) indirect leadership, 3) mutual influence and 4) leadership adapted to the situation.

Figure 2: Flow chart of how many articles were reviewed in the different steps of the process.



A list of all excluded studies can be found at mynak.se in association with this report.



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