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Psychosocial Work Conditions, Health, and Leadership of Managers

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To Nina and Edwin!

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ABSTRACT

Although psychosocial work conditions, health and leadership are concepts that have been studied for a long time, more knowledge is needed on how they are related in managers. Existing research suggests that managers are very influential in their workplaces, but the way in which their workplaces influence them is often overlooked. As a result, the potential reciprocity between managers' psychosocial work conditions, health and leadership is not in focus. Furthermore, managers have often been studied as a uniform group and little consideration has been given to potential differences between managers at different managerial levels.

The overall aim of this thesis is to increase knowledge about the relationships between managers' psychosocial work conditions, their health, and their leadership; and to elucidate differences between managers at different managerial levels in these relationships. The thesis consists of four separate papers with specific aims. In Paper I, the aim was to compare the differences in work conditions and burnout at three hierarchical levels: Subordinates, first-line managers, and middle managers; and to investigate if the association between work conditions and burnout differs for subordinates, first-line managers, and middle managers. In Paper II, the aim was to advance knowledge of workplace antecedents of transformational leadership, by investigating what psychosocial work conditions of first-line managers are associated with their display of transformational leadership; and whether superiors' leadership is associated with first-line managers' display of transformational leadership. In Paper III, the aim was to deepen the understanding of how managers' health and leadership is related by combining two perspectives in previous research. The two specific research questions were: What psychosocial conditions at work affect managers' health? How does managers' health influence their leadership? In Paper IV, the aim was to further the understanding of managers' perceptions of social support, and to increase our understanding of how managers perceive that receiving social support affects their managerial legitimacy.

The empirical material is based on three research projects with quantitative and qualitative designs. Papers I and II are based on cross-sectional data from 4096 employees in nine Swedish organizations. Paper III is based on 42

interviews with managers in a Swedish industrial production company, and Paper IV is based on 62 interviews with managers in a Swedish industrial production company and a Swedish municipality. The interviews were analysed using inductive content analysis.

The results showed that psychosocial work conditions and symptoms of burnout generally differed between subordinates and managers, and few differences were found between the managerial levels (Paper I). However, in the associations between psychosocial work conditions and symptoms of burnout, similarities were found between subordinates and first-line managers, while middle managers differed. First-line managers' psychosocial work conditions were also found to be associated with their display of transformational leadership (Paper II). Psychosocial work conditions were perceived to influence managers' performance and health, and particularly first-line managers described being dependent on favourable work conditions (Paper III). Furthermore, managers' health was perceived to influence their leadership, and affect both the quality of their work and the quality of their relationships with subordinates. Managers' social support came from different people within and outside their workplace (Paper IV). Support that concerned their work came from people within the workplace and was perceived to increase their managerial legitimacy, whereas support that concerned personal and sensitive matters was sought from those outside the workplace so that their managerial legitimacy would not be questioned.

The results suggest that managers' psychosocial work conditions, health and leadership are closely related and can be conceptualized as reciprocal spirals. Some resources in the psychosocial work environment, such as social support, may be hard to take advantage of, even if they are available. The psychosocial work conditions of managers at different managerial levels differ to some extent, which has consequences for how the relationship between psychosocial work conditions, health and leadership is expressed. Especially first-line managers seem to be in a vulnerable position because their influence is more restricted, and they are more dependent on favourable psychosocial work conditions.

SVENSK SAMMANFATTNING

Även om psykosociala arbetsvillkor, hälsa och ledarskap är begrepp som studerats under lång tid behövs det mer kunskap om hur de är relaterade hos chefer. Existerande forskning visar att chefer är väldigt inflytelserika på sina arbetsplatser, men hur deras arbetsplatser utövar inflytande på dem är ofta förbisett. Den reciprocitet som potentiellt finns mellan chefers psykosociala arbetsvillkor, hälsa och ledarskap beaktas därmed inte. Dessutom har chefer ofta studerats som en enhetlig grupp och hänsyn har sällan tagits till potentiella skillnader mellan chefer på olika chefsnivåer.

Det övergripande syftet med den här avhandlingen är att öka kunskapen om relationerna mellan chefers psykosociala arbetsvillkor, deras hälsa och deras ledarskap, samt att belysa skillnader mellan chefer på olika chefsnivåer i dessa relationer. Avhandlingen består av fyra separata artiklar med specifika syften. I artikel I var syftet att jämföra skillnaderna i arbetsvillkor och utbrändhet hos tre hierarkiska nivåer: Medarbetare, första-linjens chefer och mellanchefer; samt att undersöka om relationen mellan arbetsvillkor och utbrändhet skilde sig för medarbetare, första-linjens chefer och mellanchefer. I artikel II var syftet att öka kunskapen om arbetsplatsens förutsättningar för transformativt ledarskap, genom att undersöka vilka av första-linjens chefers psykosociala arbetsvillkor som var relaterade till deras utövande av transformativt ledarskap; samt om närmaste chefs ledarskap var relaterat till första-linjens chefers utövande av transformativt ledarskap. I artikel III var syftet att fördjupa förståelsen för hur chefers hälsa och ledarskap är relaterade genom att kombinera två perspektiv befintliga i tidigare forskning. De två specifika forskningsfrågorna var: Vilka psykosociala arbetsvillkor påverkar chefers hälsa; samt hur påverkar chefers hälsa deras ledarskap? I artikel IV var syftet att utveckla förståelsen för chefers upplevelse av socialt stöd, samt att öka förståelsen för hur chefer upplever att erhålla stöd påverkar deras chefslegitimitet.

Det empiriska materialet bygger på tre forskningsprojekt med kvantitativa och kvalitativa design. Artikel I och II baseras på tvärsnittsdata från 4096 anställda i nio svenska organisationer. Artikel III baseras på 42 intervjuer med chefer i ett svenskt tillverkande industriföretag, och artikel IV baseras på 62

intervjuer med chefer i ett svenskt tillverkande industriföretag och en svensk kommun. Intervjuerna analyserades med induktiv innehållsanalys.

Resultaten visade att psykosociala arbetsvillkor och symptom på utbrändhet generellt skilde sig mellan medarbetare och chefer, medan få skillnader fanns mellan chefsnivåerna (artikel I). I relationen mellan psykosociala arbetsvillkor och symptom på utbrändhet däremot fanns likheter mellan medarbetare och första-linjens chefer, medan mellancheferna utskilde sig. Första-linjens chefers psykosociala arbetsvillkor fanns också vara relaterade till deras utövande av transformativt ledarskap (artikel II). De psykosociala arbetsvillkoren upplevdes påverka chefernas prestationer och hälsa och särskilt första-linjens chefer beskrev sig vara beroende av gynnsamma arbetsvillkor (artikel III). Dessutom upplevde cheferna att deras hälsa hade betydelse för deras ledarskap, genom påverkan på kvaliteten på deras arbete och kvaliteten på relationerna till medarbetarna. Chefernas sociala stöd kom från olika personer på och utanför deras arbetsplatser (artikel IV). Stöd som handlade om arbetet kom från personer på arbetsplatsen och upplevdes öka deras chefslegitimitet, medan stöd som handlade om personliga och känsliga frågor söktes från personer utanför arbetsplatsen så att deras chefslegitimitet inte skulle ifrågasättas.

Resultaten tyder på att chefers psykosociala arbetsvillkor, hälsa och ledarskap är nära relaterade och kan förstås som ömsesidiga spiraler. Vissa resurser i den psykosociala arbetsmiljön, såsom socialt stöd, kan vara svåra att utnyttja även om de finns tillgängliga. Chefer på olika chefsnivåer har delvis olika psykosociala arbetsvillkor, vilket medför konsekvenser för hur relationen mellan psykosociala arbetsvillkor, hälsa och ledarskap tar sig uttryck. Särskilt första-linjens chefer tycks vara i en mer sårbar position eftersom deras inflytande är mer begränsat och de är mer beroende av gynnsamma psykosociala arbetsvillkor.

LIST OF PAPERS

The thesis is based on four papers, referred to in the text by their Roman numerals:

- I Lundqvist, D., Reineholm, C., Gustavsson, M., & Ekberg, K. (*In press*). Investigating work conditions and burnout at three hierarchical levels. *Journal of Occupational and Environmental Medicine*.
- II Lundqvist, D., Fogelberg Eriksson, A., Ekberg, K. First-line managers' work conditions as antecedents to transformational leadership. Submitted.
- III Lundqvist, D., Fogelberg Eriksson, A., Ekberg, K. (2012). Exploring the relationship between managers' leadership and their health. *Work*, 42, 419-427.
- IV Lundqvist, D., Fogelberg Eriksson, A., Ekberg, K. Managers' social support may both reinforce and undermine their legitimacy. Submitted.

INTRODUCTION

This thesis investigates managers – more specifically, their psychosocial work conditions, their health, and their leadership. In Sweden today, there are about 150 000 people working in a formal managerial position, according to recent statistics (Statistics Sweden, 2013). As managers, they are influential with regard to several important aspects of their organizations, such as their subordinates' health, well-being, and performance (Kuoppala, Lamminipää, Liira, & Vaino, 2008; Lowe, Kroeck, & Sivasubramaniam, 1996; Nyberg, 2009; Skakon, Nielsen, Borg, & Guzman, 2010; Yammarino, Spangler, & Bass, 1993), and the strategic development and social climate of the workplace (Corrigan, Diwan, Champion, & Rashid, 2002; Kane-Urrabazo, 2006; Mantere, 2008; Woolridge, Schmidt, & Floyd, 2008). As managers, they also serve a buffer role between superior managers and subordinates (Harris & Kacmar, 2005; Skagert, Dellve, Eklöf, Pousette, & Ahlberg, 2008). Thus, managers constitute important functions in their organizations.

Although existing knowledge suggests that managers have great influence in their workplaces, there is still insufficient research about their psychosocial work conditions and how these relate to their health, and to their leadership. The usual approach in most research is to view managers as the ones who influence the workplace and organization; reactions to that influence, and how this affects the managers, are often overlooked. However, it is most likely that managers are themselves influenced by the environment they influence. For instance, Dierendonck, Haynes, Borrill, and Stride (2004) found that managers' leadership and subordinates' well-being, over time, influenced each other; when leadership increased, so did well-being, and when well-being increased, so did leadership. Thus, subordinates also constitute an important part of managers' work environment, and not merely vice versa, as is most often investigated. Furthermore, the existence of different managerial levels is rarely accounted for. At least three types of reasons can be conceived as to why more research in this area is important. 1) Ethical reasons: It may be argued that employers and employees have an ethical and moral obligation to create a healthy workplace together, which includes the managers' leadership (Burton, 2010). 2) Legal reasons: According to the Swedish Work Environment Act, employers are obligated to create a workplace that minimizes hazards and fosters health (Swedish Work Environment Authority, 2011). 3) Financial

reasons: A manager who does not feel well may make the wrong decisions, or may not provide enough guidance, which may result in loss of productivity, competitive edge of the organization and considerable financial loss (Campbell Quick, Gavin, Cooper, & Quick, 2000; Campbell Quick, Macik-Frey, & Cooper, 2007; Little, Simmons, & Nelson, 2007). It would therefore be ethically, legally and financially beneficial if the workplace could be structured in such a way that it enables the managers' health and the practice of effective leadership. If psychosocial work conditions could be structured so that both health and leadership of managers could be developed, this would most likely benefit not only the individual manager, but also subordinates and the organization at large.

This thesis provides increased insights into the relationships between managers' psychosocial work conditions, health, and leadership. In the following sections, a description of the concepts of psychosocial work conditions, health and leadership is given, and previous research concerning the relationships between these three concepts in managers is presented.

Psychosocial work conditions

The earliest research to describe and investigate psychosocial work conditions in relation to health-related outcomes seems to have been conducted from two main perspectives (Aronsson, 1987; Karasek, 1979; Karasek & Theorell, 1990). One of these perspectives was primarily concerned with psychosocial work conditions as stressors, and stemmed from the early focus on physical hazards and prevention of physical injuries. There was, for instance, an initial emphasis on work pace (how fast one has to work) and workload (how much work one has to do). Later in the 1960s and 1970s, other work-related stressors were included, such as role conflicts (when people have incompatible expectations of what or how an individual's work tasks should be carried out), role ambiguity (when an individual does not know which work tasks he/she is expected to perform), and role overload (when an individual has too many work tasks; House & Rizzo, 1972; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). The second perspective focused on work redesign to increase job satisfaction and productivity (Aronsson, 1987; Karasek, 1979; Karasek & Theorell, 1990). Here the focus was rather on job enrichment, such as level of qualifications and degree of freedom in performing one's work (i.e. work

discretion). Research on psychosocial work conditions was undertaken within these two perspectives, but they rarely influenced each other.

In 1979, these two perspectives were combined in the Job Demands–Control model (Karasek, 1979). More specifically, the model combined job demands (summary of stressors) with decision latitude at work (summary of resources) to describe four different work situations. The basic proposition of the model is that stress-inducing work conditions are not detrimental if they are paired with coping-assisting work conditions (resources). Thus, according to the model, the healthiest jobs are those in which decision latitude is high. The model is one of the most established models in occupational health research, and has gained considerable support in relation to various health-related outcomes (Belkic, Landsbergis, Schnall, & Baker, 2004; Karasek & Theorell, 1990; Stansfeld & Candy, 2006).

The focus of the model was on how work is designed, and how this predicts health. However, it was criticized for leaving out certain relevant aspects, such as social relations in the workplace (e.g. Johnson & Hall, 1988). A third dimension, social support, was therefore added to the model and this is referred to as the Demands-Control-Support model (DCS; Karasek & Theorell, 1990).

The concept of social support originates from sociological studies of social inclusion in the late 1800s, where research showed that people who took part in their community had better health (House, 1981; House, Landis, & Umberson, 1988). However, it was not until the 1970s that social support research really began to take off (after Cobb's presidential address to the American Psychosomatic Society; Cobb, 1976). Social support research has been conducted from two perspectives: A structural perspective and a functional perspective (Aronsson, 1987; House, Umberson, & Landis, 1988). The structural perspective focuses on the amount of social relational contact people have with each other, and less on the content of those relationships. Social capital or social networks are common concepts in this perspective (Burt, Hogart, & Michaud, 2000; Ibarra & Hunter, 2007; Kaplan, 1984). In the functional perspective there is less focus on the amount of contact people have, but rather on the qualitative content of those relations and the exchange of support in those relations. In the functional perspective, social support is often defined as resources provided by other people that directly or indirectly help an individual regarding a certain problem (House, 1981; Langford,

Bowsher, Maloney, & Lillis, 1997; Shumaker & Bronwell, 1984). Social support has proved to be a powerful resource at work, with both main and buffering effects in relation to health-related outcomes (Bernin, Theorell, & Sandberg, 2001; Cohen & Wills, 1985; Viswesvaran, Sanchez, & Fisher, 1999) and other work-related aspects such as learning, leadership, performance etc. (Chiaburu, Van Dam, & Hutchins, 2010; Gilpin-Jackson & Bushe, 2007; Laschinger, Purdy, Cho, & Almost, 2006; Ouweneel, Taris, van Zolingen, & Schreurs, 2009; Tracey, Tannenbaum, & Kavanagh, 1995). Most research within the functional perspective of social support has focused on the types of support, or the source of support (the person providing the support), for instance as measured in the DCS model. However, House (1981) suggested that in order to really understand the concept and why it is important, research needs to focus not only on the types of support exchanged, but also on who gives the support and the problem to which it is given. Unfortunately, few studies have followed House's suggestion.

Although a vast amount of research has been conducted on psychosocial work conditions, this is still a difficult concept to define. Sometimes it is defined in terms of what it is not, for instance: "Nonphysical aspects of the work environment that have a psychological and physical impact on the worker" (Warren, 2001, p. 1299). Others define psychosocial work conditions in terms of what is included: "The psychosocial work environment includes the organization of work and the organizational culture; the attitudes, values, beliefs and practices that are demonstrated on a daily basis in the enterprise/organization" (Burton, 2010, p. 85). Cox, Griffiths, & Rial-Gonzalés (2003) provide a similar "inclusive" definition. Alternatively, psychosocial work conditions may refer to the interaction between the individual and the work environment: "Psychosocial factors could be defined as social conditions influencing individual psychological factors and vice versa. Another way of defining psychosocial factors is to say that they represent the interplay between social (environmental) and psychological (individual) factors. This interplay is the core of psychosocial research" (Theorell, 2007, p. 20). Since psychosocial work conditions are often investigated in terms of the way in which individuals perceive characterizations of their work, which has also been the strategy used in this thesis, this latter definition of psychosocial work conditions is used.

Health

Health and health-rated outcomes in the work context have been the subject of scientific studies for more than a century (Aronsson, 1987). Essentially, two different perspectives are discernible in occupational health research (Antonovsky, 1996; Bakker, Schaufeli, Leiter, & Taris, 2008; Schaufeli, 2004; Shimazu & Schaufeli, 2009). Founded on western medical thinking, the traditional and dominant perspective in occupational health research has been concerned with pathogenesis. The idea was that research needed to investigate and prevent risk factors that might reduce people's health and cause stress, strain, complaints and diseases. Thus, this perspective focuses on ill health. An example of this is burnout, which is a psychological syndrome in response to chronic emotional and interpersonal stress (Maslach, Schaufeli, & Leiter, 2001). This pathogenic perspective is still the dominant one in research, but during the last few decades it has been challenged by a second perspective.

Inspired by the works of Antonovsky, a second perspective in occupational health research focuses on salutogenesis (Antonovsky, 1996). Here the idea is that it is not enough to merely investigate and prevent risk factors for ill health; research also needs to investigate promoting factors that improve health. This perspective has gained momentum during recent decades, and in the work context it has focused on positive aspects such as well-being, work engagement, or flow (Bakker, et al., 2008; Schaufeli, 2004; Shimazu & Schaufeli, 2009). For instance, it is suggested that work engagement, which is characterized by high levels of activation and pleasure, is the positive antithesis to burnout (González-Romá, Schaufeli, Bakker, & Lloret, 2006; Maslach et al., 2001). The term "positive occupational health research" has been used to describe this line of research, to distinguish it from research in the pathogenic perspective.

However, health is a complex concept that is not easily defined, especially since health has been the interest of science for over two millennia (Nordenfelt, 2007a; 2007b), and different definitions and theories have accumulated over the years (Medin & Alexandersson, 2000). In modern times, theories of health concern functional normality, balance, ability, or well-being (Tengland, 2007). These perspectives can basically be divided into two broader perspectives: A biomedical versus a humanistic perspective (Medin & Alexandersson, 2000).

In the biomedical perspective, health is considered as the absence of disease, where disease is a dysfunction of organs or systems in the body. One of the proponents of this perspective is Christopher Boorse (1977). This perspective has been criticized for reducing health to bodily symptoms, and ignoring the relation between individual and environment. In the humanistic perspective, the focus is on the whole individual in relation to the environment. From a balance perspective, health is considered as the balance between an individual's goals in life, the individual's repertoire (capacities or abilities), and the environment (Pörn, 1993). From an ability perspective, health is considered as when a person has the ability to realize his/her essential/vital goals in life (Nordenfelt, 2006; 2007b). From the perspective of well-being, health is considered "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (WHO, 1948). Thus, in the humanistic perspective a person may still be healthy despite having a disease, if he/she is able to realize his/her most essential goals, or enjoy well-being. In this thesis, health is viewed from a humanistic perspective, meaning that it is possible for an individual to have health despite a disease.

The theoretical complexity of the concept of health makes it difficult to operationalize and measure. In most research, health is therefore measured in terms of symptoms or indicators of health or ill health (Brülde & Tengland, 2003), such as well-being or burnout. This is how health is measured in this thesis.

Leadership

Leadership has been the object of scientific investigations for more than a century. Despite more than 100 years of research, no consensus definition has been proposed. Furthermore, mainstream research has differed in focus over time, although the different approaches have only partly succeeded each other (Bass & Stogdill, 1990; Northouse, 2007; Yukl, 2010). An initial focus, in the early 1900s, was on the personality characteristics of the leader (Stogill, 1948), which later shifted to skills of the leader (technical, interpersonal, and conceptual skills) to denote that leadership could be trained (Katz, 1955; 1975; Yukl, 2010).

In the 1950s, the results of two independent investigations, the Ohio and the Michigan studies, were published (Fleishman, 1953; Yukl, 2010). Both

investigations proposed that leadership consisted of two sets of behaviours: Initiating structure or task-oriented leadership behaviours, and consideration or relations-oriented leadership behaviours. In the 1960s, a model called managerial grid was proposed, suggesting that the most effective leaders were “high-high”, thus displaying both task- and relations-oriented leadership (Blake and Mouton, 1964).

In the late 1960s and 1970s, researchers began to question the assumption that “high-high” leaders were always the most effective leaders. Instead, situational characteristics were investigated that moderated the relationship between leadership and the studied outcome (e.g. performance of subordinates). Two of the most prominent situational theories were Fiedler’s (1967) contingency theory (published in 1967), and Hersey and Blanchard’s (1993) situational theory (published in 1969).

During the 1970s and early 1980s, leadership research seems to have stagnated (Avolio, Walumbwa, & Weber, 2009). The dichotomization between task- and relations-oriented leadership behaviours that research had used for 30 years did not seem to generate any new findings. In 1985, Bass, inspired by Burns (1978), launched the theory of transformational leadership, as a part of the full range leadership model.

The full range leadership model, proposed by Bass (1985), consists of three leadership styles: Transformational, transactional, and laissez-faire leadership. Transformational leadership is said to “stimulate and inspire followers to both achieve extraordinary outcomes and, in the process, develop their own leadership capacity” (Bass & Reggio, 2006, p. 3). Followers are motivated and inspired to go beyond their self-interests to attain collective interests. Transformational leadership can be broken down into four behaviour components: Idealized influence (charisma), inspirational motivation, intellectual stimulation, and individual consideration (Bass, 1997; 1999; Bass & Reggio, 2006). Transactional leadership involves contingent rewards, active management by exception, and passive management by exception, which in essence motivates followers by using rewards or punishments (Bass, 1997; 1999; Bass & Reggio, 2006). The third leadership style, laissez-faire, is basically the absence of leadership, where the leader is indifferent to the tasks at hand and the followers. The term “new leadership theories” has been used as a collective name for motivation-based leadership theories proposed during this

time (Bryman, 1992), encompassing transformational leadership, charismatic leadership, ethical or authentic leadership, etc.

Leadership research has generally been criticized for being too leader-oriented (romancing the leader; Meindl, Ehrlich, & Dukerich, 1985). As a result, the focus of recent research has been broadened to include other forms of leadership, such as shared or distributed leadership, followership etc. Also, the theory of leader-member exchange (LMX), first introduced in the 1970s, has seen a revival (Graen & Uhl-Bien, 1995). However, transformational leadership and the full range leadership model remains the theory of leadership that is most researched and used today (Avolio et al., 2009), and has proved to be important for several organizational and individual outcomes, such as increased productivity (Bass, Avolio, Jung, & Berson, 2003; Judge & Piccolo, 2004; Lowe et al., 1996; Schaubroeck, Lam, & Cha, 2007; Wang, Oh, Courtright, & Colbert, 2011), improved followers' well-being (Skakon, et al., 2010), and improved organizational climate (Casida & Pinto-Zipp, 2008; Corrigan et al., 2002; Jung, Chow, & Wu, 2003; Pirola-Merlo, Härtel, Mann, & Hirst, 2002). Nevertheless, the full range leadership model has been criticized for placing too much emphasis on transformational leadership as the supreme leadership style (Yukl, 2010). In line with the thinking of managerial grid, Bass suggests that the most effective leaders are generally those who practise both transformational and transactional leadership (Bass, 1997; 1999; Bass & Reggio, 2006). Another criticism concerns the difficulty of empirically distinguishing between the four behavioural components of transformational leadership (Yukl, 2010), and researchers are often recommended to study transformational leadership as a single measure (Avolio, Bass, & Jung, 1999; Bono & Judge, 2004; Carless, 1998)

While the focus of occupational health research has mostly been on risk factors and their relation to reduced health and well-being, leadership research has focused on constructive behaviours and attitudes, and their relation to positive outcomes. It is only in recent years that destructive leadership behaviour and its consequences have begun to be investigated (Aasland, Skogstad, Noteaers, Nielsen, & Einarsen, 2010; Schyns & Schilling, 2013) - although some argue that laissez-faire leadership behaviours may be considered destructive (Bass & Reggio, 2006; Skogstad, Einarsen, Torsheim, Aasland, & Hetland, 2007).

This brief history of general trends in leadership research emphasizes the complexity of the concept of leadership. A major reason for the lack of an

agreed definition of leadership is that leadership is conceptualized and defined differently within each of these trends. Some common aspects are, however, still discernible. Leadership seems to be concerned with the process of influence exerted by one person (the leader) over other people (the followers) towards a certain common or collective goal. There is disagreement between different theories and perspectives regarding what this process of influence is, how it is manifested, and how it should be studied, but most research is concerned with direct leadership between leader and follower.

One theorist who has continuously tried to give an all-encompassing definition of leaders and leadership is Gary Yukl (2010). In 2010, he defined leadership as “the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives” (s. 26).

In this definition, Yukl seems to have taken one step closer to a parallel research area called managerial work or managerial behaviour research (e.g. Hales, 1999; 2005; Mintzberg, 1973; Stewart, 1989; Tengblad, 2006). The managerial work tradition has been criticized for being too atheoretical, but has provided much knowledge about what managers do and their work conditions. The research focuses on dense contextual descriptions, but often lacks theoretical explanation (Hales, 1999; 2005). On the other hand, leadership research has often been criticized for being too acontextual. Theoretical explanations are put forward, but little consideration is given to the context (e.g. Porter & McLaughlin, 2006; Yukl, 1989; 2010). In the managerial work tradition, the focus is on what managers do, and not solely on leadership, which is rather viewed as one out of their many tasks/roles. In his definition of leadership, Yukl seems to try to bring these two traditions together in an attempt to broaden the concept of leadership to include not only the direct interactions between leaders and followers, but also indirect behaviours that are important for this interaction. The definition proposed by Yukl is therefore used in this thesis.

In the leadership literature there has long been a discussion about leaders versus managers, and whether they are different. Some theorists have even gone so far as to suggest that leaders and managers represent different personalities and can never exchange roles with each other (e.g. Zalesnik, 1977). Today, however, this discussion seems to have faded, as most leadership research is conducted on managers and their subordinates. My own

conception is similar to Yukl's (2010). A leader is someone who practises leadership. Managers have a formal position in a hierarchical organization, and as such have certain rights and responsibilities. Thus, a leader does not have to have a managerial position, and a manager does not have to be a leader. However, most managers (given that they have subordinates) practise some form of leadership, because their position requires it of them. The term manager is used in this thesis because the empirical material consisted of individuals in formal managerial positions, all of whom had subordinate personnel. The term "subordinate" is used because the empirical material is based on individuals who report directly to the manager, and for whom the manager is responsible. Thus, the relationship between them exists in a hierarchical organizational structure.

Psychosocial work conditions and health of managers

Studies on managers' psychosocial work conditions show that their time and work tasks are fragmented, varied, and often complex (Hales, 2005; Mintzberg, 1973; Styhre & Josephson, 2006; Tengblad, 2006). They are responsible for the work, while also being in a cross-pressure situation between superior managers and subordinates, on whom they are dependent for the accomplishment of work tasks (Broadbridge, 2002; Erera-Weatherley, 1996; Li & Shani, 1991; Styhre & Josephson, 2006; Sundkvist & Zingmark, 2003; Wong, DeSanctis, & Staudenmayer, 2007). While managers' work is generally highly demanding, they also have high control/decision latitude (Bernin & Theorell, 2001; Karasek & Theorell, 1990; Westerberg & Armelius, 2000). According to the DCS model, this places them in an active work situation. Correspondingly, managers as an occupational group generally have good health (Broadbridge, 2002; Kentner, Ciré, & Scholl, 2000; Macleod, Davey Smith, Metcalfe, & Hart, 2005; Marmot & Smith, 1991; Muntanez, Borrell, Benach, Pasarin, & Fernandez, 2003).

During the last couple of years, there has been a debate as to whether managerial roles have changed or not. Some studies suggest that organizational changes and implementation of new organizational principles (e.g. lean production; Liker, 2004) have resulted in increased responsibilities, work tasks, and workloads for managers (Andersson-Connolly, Grunberg, Greenberg, & Moore, 2002; Mason, 2000; McCann, Morris, & Hassard, 2008;

Seppälä, 2004). Other studies suggest that most of the content of managerial work has not changed very much during recent decades, except that the workload seems to have increased (Hales, 2005; Tengblad, 2006).

Studies investigating the relation between psychosocial work conditions and managers' health have shown that tasks, expectations, and responsibilities should be clear and compatible (Broadbridge, 2002; Li & Shani, 1991; Parasuraman & Cleek, 1984; Peterson, Smith, Akande, Ayestaran, Bochner, Callan et al., 1995; Sundkvist & Zingmark, 2003; Wray, 1949), otherwise there is a risk that managers will overcompensate by taking on more tasks and responsibilities than necessary, which will make their workload and stress even worse (Broadbridge, 2002; Butterfield, Edwards, & Woodall, 2005; Persson & Thylefors, 1999; Thomas & Linstead, 2002). Managers usually work long hours to compensate for their high workload, which has consequences for their stress, health, performance and home life (Brett & Stroh, 2003; Hobson & Beach, 2000; Thomas & Linstead, 2002). The managerial role is often described as lonely; research has shown that managers need to get social support, feedback, and attention for their work (Lindholm, Deijn-Karlsson, Östergren, & Udén, 2003; Lindorff, 2001; Persson & Thylefors, 1999; Sundkvist & Zingmark, 2003), and that rewards are in proportion to the efforts invested (Kinnunen, Feldt, & Mäkikangas, 2008; Peter & Siegrist, 1997).

In early investigations of managers' psychosocial work conditions, it was pointed out that their psychosocial work conditions differed from those of their subordinates (e.g. Wray, 1949). Due to their different work tasks, managers had control and oversight over others' work, and they were in a cross-pressure situation between superiors and subordinates. This separation between managers and subordinates seems to have continued in occupational health research, because investigations tend to either focus on managers or subordinates. Only a few studies have compared their work conditions, and the relation between work conditions and health.

The few studies that have compared managers' and subordinates' psychosocial work conditions show that managers usually experience higher demands (Johansson, Sandahl, & Hasson, 2011; Skakon, Kristensen, Christensen, Lund, & Labriola, 2011), more conflicts at work (Skakon et al., 2011), and more conflicts between work and private life (Cooper & Bramwell, 1992) than subordinates. Managers also experience higher control, higher autonomy, more influence, more freedom at work (Frankenhaeuser,

Lundberg, Fredrickson, Melin, Tuomistro, Myrsten et al., 1989; Johansson et al., 2011; Skakon et al., 2011; Steptoe & Willemsen, 2004), and more social support than subordinates (Johansson et al., 2011; Wilkes, Stammerjohn, & Lulich, 1981).

Managers are also generally found to have better health than subordinates (Kentner et al., 2000; Macleod et al., 2005; Marmot & Smith, 1991; Muntanez et al., 2003). Some studies have also found that managers experience less stress than subordinates (Skakon et al., 2011; Wilkes et al., 1981).

The fact that managers have better health and experience less stress compared with their subordinates is often explained by their greater influence and opportunities for adjusting their work (Johansson, et al. 2011; Bernin & Theorell, 2001). Thus, in reference to the DCS model, managers have more control and social support, placing them in an active and developing work situation, and the demands placed on them are therefore less detrimental.

However, managers are not a uniform group, and there may be differences between managers at different managerial levels, in that they have different work tasks (Kraut, Pedigo, McKenna, & Dunette, 1989; Pavett & Lau, 1983; Velde, Jansen, & Vinkenbug, 1999). First-line managers' work tasks tend to be operational, short-term, and focused on facilitating the work tasks of subordinates; while middle managers' work tasks tend to be more strategic, long-term and focused on facilitating the performance of work groups (Allan, 1981; Kraut et al., 1989; Pavett & Lau, 1983). Furthermore, the higher the managerial level, the more opportunities there are for them to adjust the assignment. Middle managers have more resources, information, and autonomy than first-line managers (Izraeli, 1975; Marzuki, Permadi, & Sunaryo, 2012). These managerial differences may result in differences in health (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Morgeson & Humphrey, 2006; Pousette, Johansson Hanse, 2002), and studies suggest that higher managerial levels have better health than lower managerial levels (Muntanez et al., 2003).

Although research has shown that psychosocial work conditions differ at different hierarchical levels, it is generally presumed that the relation between psychosocial work conditions and health is the same, regardless of hierarchical level; but this may not be the case. For instance, managers and subordinates

may experience the same degree of role ambiguity, but it is experienced as more stressful for managers (Schuler, 1975).

Thus, more research is needed that considers hierarchical differences, particularly differences between managers at different managerial levels, in the relation between psychosocial work conditions and health.

Psychosocial work conditions and leadership of managers

Leadership research has mostly been devoted to investigating the effect of leadership. Over the years, there have been several calls for the necessity of studying the context in which leadership is practised (Avolio & Bass, 1995; Bass, 1999; Day, 2001; Porter & McLaughlin, 2006; Shamir & Howell, 1999; Yukl, 1989). Yet context is rarely accounted for, and if so, used as a moderator in the relation between leadership and outcome. The situational theories proposed in the 1960s and 1970s suggested that the effectiveness of leadership depended on the situation in which it was practised. Fielder's contingency theory (1967) suggested that the effectiveness of leadership depended on three contextual factors: Relationship between manager and subordinates, tasks structure, and positional power. Depending on these three factors in a given situation, an effective leader should be either task-oriented, relations-oriented, or both. On the other hand, Hersey and Blanchard's theory (1993) suggested that the effectiveness of leadership depended on the subordinates' "maturity", i.e. experience in the organization and of the work tasks. They suggested that the task-oriented dimension should be in the forefront when maturity was low, and should be diminished over time as maturity grew.

What these situational theories have in common is that leadership has to be adapted to the situation; by leaders practising different leadership behaviours (Hersey & Blanchet, 1993), or by leaders finding situations which fit their leadership style (Fiedler, 1967). These theories focus on the effectiveness of leadership, and do not describe why a leader has a particular leadership style, or how the situation influences the practised leadership.

Research investigating how the context shapes the practised leadership has been scarce, regardless of theoretical perspective (Porter & McLaughlin, 2006). A few studies have shown that managerial level, organizational department,

and cultural setting influence which leadership behaviour is practised (Bruch & Walter, 2007; Oshagbemi, 2008; Oshagbemi & Gill, 2004; Oshagbemi & Ochoi, 2006; Jepson, 2009). In the last couple of years, a few studies have investigated how the context shapes transformational leadership. Focusing on organizational antecedents, Wright and Pandey (2009) found that hierarchical decision making and inadequate lateral communication were associated with less transformational leadership, while the use of performance measures was related to more transformational leadership. Walter and Bruch (2010) found that centralization of the organization, and larger organizations were associated with less transformational leadership, while formalization was related to more transformational leadership. In interviews with managers, Tafvelin, Isaksson, and Westerberg (2013) found that top-down management, financial strain, and continuous change were perceived as hindering factors for their transformational leadership.

The psychosocial work conditions of managers as antecedents of their transformational leadership have however only been investigated in a few studies. Nielsen and Cleal (2011) found that high cognitive demands, feelings of being in control, and meaningfulness of work were related to self-rated transformational leadership. Tafvelin, et al. (2013) found that lack of support, high workload, limited influence, administrative tasks, and distance to employees were perceived by managers as hindering work conditions for their transformational leadership. Trépanier, Fernet, and Austin (2012) found that the quality of social relations in the workplace was positively related to self-rated transformational leadership.

Superiors' leadership may also be considered a psychosocial work condition, or a source of modelling for lower level managers' leadership, but previous findings regarding the relationship between superiors' leadership and lower-level managers' leadership are mixed. Some studies suggest that lower level managers display the leadership style exhibited at higher managerial levels – the so-called cascading effect (Bass, Waldman, Avolio, & Bebb 1987; Chun, Yammarino, Dionne, Sosik, & Moon, 2009; McDaniel & Wolf, 1992). Other studies find little or no support for a cascading effect, and argue that the context or work situation of the leader may be more important for their display of transformational leadership behaviours than their superiors' leadership style (Coad, 2000; Oshagbemi & Gill, 2004; Storduer, Vandenberghe, & D'hoore, 2000).

Thus, more research is needed that investigates the relation between managers' psychosocial work conditions and their leadership, particularly the relationship to transformational leadership, because it is one of the most effective leadership styles, as shown in much research. Leadership that is rated by subordinates also needs to be investigated, as leadership will only be influential if the leader is ascribed such a style.

Psychosocial work conditions, health, and leadership of managers

As has been presented above, previous research has investigated psychosocial work conditions in relation to managers' health, and, to some extent, to their leadership. However, the relationship between managers' psychosocial work conditions, health and leadership has hardly received any scholarly attention. The very few studies that have addressed this question can be divided into two different perspectives.

Some studies suggest that the work conditions under which managers work affects their health and well-being, which in turn influences their leadership behaviours (Gibson, Fiedler, & Barrett, 1993; Halverson, Murphy, & Riggio, 2004; Sjöberg, Wallenius, & Larsson, 2006). Other studies suggest that when managers' leadership behaviours do not match or correspond with their work conditions (what is required of their position) they will experience stress that reduces their health and well-being (Chemers, Hays, Rhodewalt, & Wycsocki, 1985; Gardiner & Tiggemann, 1999; Ryska, 2002). In other words, psychosocial work conditions influence managers' health, which in turn influences how their leadership is practised; or, the effectiveness of managers' practised leadership has an influence on their health.

These two perspectives conceptualize the relation between health and leadership differently, but they both emphasize that managers' psychosocial work conditions are important for the understanding of this relationship. This suggests that the relationship is quite complex, but it may also reflect the lack of attention to the reciprocal nature of this relationship. In fact, recent research, based on Hobfoll's conservation of resources theory (1989), argues that psychosocial work conditions, health and behaviours at work may be related in a reciprocal fashion (Demerouti, Bakker, & Bulters, 2004; Hakanen, Peeters, & Perhoniemi, 2011; Hakanen, Perhoniemi, & Toppinen-Tanner, 2008; Llorens,

Schaufeli, Bakker, & Salanova, 2007; Salanova, Llorens, & Schaufeli, 2011; Schaufeli, Bakker, & Rhenen, 2009; Van der Heijden, Demerouti, & Bakker, 2008; Weigl, Hornung, Parker, Petru, Glaser, & Angerer, 2010).

Thus, more research is needed regarding the relationship between the psychosocial work conditions, health, and leadership of managers, which considers the potential reciprocity between the concepts.

Rationale for this thesis

Previous research has investigated the relationship between managers' psychosocial work conditions and their health, and found several psychosocial work conditions important. However, managers have been studied as a uniform group and little consideration has been given to potential differences between managers at different managerial levels. On the other hand, the relationship between psychosocial work conditions and managers' leadership has only been investigated in a few studies, and then as managers' self-rated leadership. Research needs to investigate the psychosocial work conditions of managers in relation to their displayed leadership (as perceived by subordinates), as the effectiveness of leadership depends on the perceptions of the followers.

To my knowledge, no study has previously tried to discover whether psychosocial work conditions may be related both to managers' health, and to their leadership; but there are indications that such relationships may exist. For instance, managers' social support has previously been related to their health, and in other studies to their leadership. However, there are different types and sources of social support, and the way in which the different aspects of social support are related to managers' health and leadership needs to be investigated. Furthermore, the relationship between psychosocial work conditions, health and leadership has been conceptualized in two ways previously, but the potential reciprocity between the concepts has been overlooked. Assuming that improvements in managers' psychosocial work conditions, health and leadership may benefit not only the managers, but also their subordinates and the organization at large, these shortcomings in previous research need to be addressed.

AIM

Overall aim

The overall aim of this thesis is to increase knowledge about the relationships between managers' psychosocial work conditions, their health, and their leadership; and to elucidate differences between managers at different managerial levels in these relationships.

Specific aims

The specific aims of the included papers are:

PAPER I: To compare the differences in work conditions and burnout at three hierarchical levels: Subordinates, first-line managers, and middle managers; and to investigate if the association between work conditions and burnout differs for subordinates, first-line managers, and middle managers.

PAPER II: To advance knowledge of workplace antecedents of transformational leadership, by investigating what psychosocial work conditions of first-line managers are associated with their display of transformational leadership; and whether superiors' leadership is associated with first-line managers' display of transformational leadership.

PAPER III: To deepen the understanding of how managers' health and leadership is related by combining two perspectives in previous research. The two specific research questions are: What psychosocial conditions at work affect managers' health? How does managers' health influence their leadership?

PAPER IV: To further the understanding of managers' perceptions of social support, and to increase our understanding of how managers perceive that receiving social support affects their managerial legitimacy.

METHODS

Research design

To fulfil the aim of this thesis, material from three empirical research projects has been used, and this has generated four papers. One of the projects had a quantitative design, and two had qualitative designs.

The quantitative research project is called Leadership for Health and Productivity (LOHP). The overall aim of this project is to provide a deeper understanding of the interplay between organization, leadership and work conditions for health and development of production. The research design and research questions were formulated by a team of researchers at Linköping University, in collaboration with the Royal Institute of Technology (KTH). The material is based on questionnaires distributed among nine different organizations during 2010/2011. Papers I and II are based on the material collected in this research project.

The two qualitative research projects were conducted in response to requests from two different organizations. A team of researchers at Linköping University was contacted in late 2007 by an industrial production company who wished to find out more about males' and females' opportunities to become managers and exercise leadership in their organization. The design and research question of the project was developed through continuous meetings between the research team and the company, and 42 managers were interviewed as a result of this project. During 2008/2009, managers at a municipality heard about the project and asked for a similar investigation to be conducted in their organization. The same design and research question was used, and 20 managers were interviewed as a result of this second project. Paper III is based on the material collected in the first project, and Paper IV is based on the combined material from both of these two projects, i.e. 62 interviews with managers.

Papers I, II

Sample

The research setting in Papers I and II was nine organizations in Sweden. Four organizations were municipalities, one was an industrial production company, two were governmental agencies, one was a hospital department, and one was a private healthcare company.

Data collection

Researchers involved in the LOHP project contacted each organization and asked if they were interested in participating in the study. The organizations decided if they wanted the whole organization, or only a few departments, to take part, and provided the researchers with an organizational scheme and contact information to the employees. All participants in the organizations or departments included in the study received an envelope containing a questionnaire and a pre-stamped envelope addressed to Linköping University. The highest managers (executive level) were excluded from the questionnaire study.

Based on the organizational scheme received from each organization, all questionnaires were coded so that each participant could be connected to the organization in which they were working, to their immediate manager, and to their hierarchical level. This coding procedure made it possible to follow the hierarchical order in each organization. The three hierarchical levels of the material were later extracted on the basis of the organizational schemes: Subordinates, first-line managers, and middle managers. A manager was defined as an employee with personnel and budgetary responsibilities. A first-line manager had at least one subordinate without managerial responsibilities, while a middle manager had at least one subordinate with managerial responsibilities.

A total of 6841 questionnaires were sent out, and 4096 (60%) usable questionnaires were returned. Of the respondents, 3659 were subordinates, 345 were first-line managers, and 92 were middle managers (see Table 1). The

response rate was 57% for subordinates, 84% for first-line managers, and 74% for middle managers.

Table 1. Distribution of responding subordinates, first-line managers, and middle managers in the nine organizations.

		Subordinates	First-line managers	Middle managers	TOTAL
		<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Organization	Governmental agency A	773 (93)	50 (6)	12 (1)	835 (100)
	Governmental agency B	173 (81)	33 (16)	7 (3)	213 (100)
	Hospital	39 (93)	2 (5)	1 (2)	42 (100)
	Industrial company	603 (93)	33 (5)	11 (2)	647 (100)
	Municipality A	248 (96)	11 (4)	0 (0)	259 (100)
	Municipality B	350 (95)	15 (4)	5 (1)	370 (100)
	Municipality C	808 (95)	38 (4)	6 (1)	852 (100)
	Municipality D	63 (85)	9 (12)	2 (3)	74 (100)
	Private healthcare company	602 (75)	154 (19)	48 (6)	804 (100)
TOTAL		3659 (89)	345 (8)	92 (2)	4096 (100)

In Paper II, the focus was on first-line managers and their displayed leadership as rated by their direct reporting subordinates. Twenty-three first-line managers were therefore excluded from the final sample because too few of their subordinates responded to the questionnaire. The final sample in Paper II therefore consists of 322 first-line managers and 3001 of their subordinates.

Measures

Psychosocial work conditions

Demands: In Papers I and II, mental workload at work was measured using a five-item scale (Karasek & Theorell, 1990). An example item was: "Does your job require you to work very fast?". The response scale ranged from *Yes, often* (1) to *No, never* (4). Cronbach's alpha was .80 in Paper I (total sample) and .74 in Paper II (first-line manager sample).

Control: In Paper I, the ability to use skills at work and the degree of influence over work tasks was measured using a six-item scale (Karasek and Theorell, 1990). The response scale ranged from *Yes, often* (1) to *No, never* (4). Cronbach's alpha was .70. In Paper II, the scale was split into its sub-dimensions: Skill discretion (four items) and decision authority (two items). An example item of skill discretion was: "Does your job require creativity?". Cronbach's alpha was .40. An example item of decision authority was: "Can you decide for yourself how to carry out your work?". Cronbach's alpha was .66.

Role clarity: Role clarity at work was measured using a three-item scale in Paper I and Paper II (Lindström, Elo, Skogstad, Dallner, Gamberale, Hottinen et al., 2000). An example item was: "Do you know exactly what is expected of you at work?". The response scale ranged from *Very seldom or never* (1) to *Very often or always* (5). Cronbach's alpha was .75 in Paper I (total sample) and .73 in Paper II (first-line manager sample).

Role conflict: Role conflicts at work were measured using a three-item scale in Paper I and Paper II (Lindström et al., 2000). An example item was: "Do you have to do things that you feel should be done differently?". The response scale ranged from *Very seldom or never* (1) to *Very often or always* (5). Cronbach's alpha was .66 in Papers I and II.

Interaction between work and private life: In Paper I, interferences between work and private life were measured using a two-item scale (Lindström et al., 2000). An example item was: "Do the demands of your work interfere with your home and family life?". The response scale ranged from *Very seldom or never* (1) to *Very often or always* (5). Cronbach's alpha was .63.

Performance feedback: In Paper II, a two-item scale was used to measure how easy it was to determine one's own performance at work (Lindström et al., 2000). An example item was: "Do you get information about the quality of the work you do?". The response scale ranged from *Very seldom or never* (1) to *Very often or always* (5). Cronbach's alpha was .57.

Social capital at work: In Paper I, the efficacy of social capital, indicating whether people feel respected, valued and treated as equals at work, was measured using an eight-item scale (Kouvonen, Kivimäki, Vahtera, Oksanen, Elovaino, Cox et al., 2006). An example item was: "People feel understood and accepted by each other". The response scale ranged from *Fully disagree* (1) to

Fully agree (5). Cronbach's alpha was .90. In Paper II, a modified version of the scale was used. Because the inter-correlation between the original scale and another independent variable (superiors' transformational leadership; $r=.62$, $p=.01$) was too high, three items concerning the relationship to the manager were omitted. The resulting index was confirmed using a principal component analysis (varimax rotation). Cronbach's alpha was .89.

Innovative climate: In Paper II, the innovative climate at work was measured using a six-item scale (Lundmark, 2010). An example item was: "In the department people are recognized for innovative work". The response scale ranged from *Strongly disagree* (1) to *Strongly agree* (5). Cronbach's alpha was .82.

Span of control: Information regarding the managers' span of control was obtained from the organizations, and used in Papers I and II.

Opportunity to adjust work: In Paper I, opportunity to adjust work, e.g. when feeling out of sorts, was measured using three items (Johansson, Lundberg, & Lundberg, 2006). The items were: "Can you work at a slower pace?", "Can you shorten the working day?", and "Can you get help from work colleagues?", with a response scale ranging from *Always* (1) to *Seldom/never* (3).

Burnout

In Paper I, symptoms of burnout were measured using the generic part (six items) of the Copenhagen Burnout Inventory (CBI; Kristensen, Borritz, Villadsen, & Christensen, 2005). The scale is intended to answer the question "How tired or exhausted are you?", and the response scale ranges from *Always* (1) to *Never/almost never* (5). Cronbach's alpha was .89. The index ranges from 0-100, where the first category (always) is scored 100, and the fifth category (never/almost never) is scored 0.

Leadership

In Paper II, transformational leadership was measured by the seven items of the Global Transformational Leadership scale (GTL; Carless, Wearing, & Mann, 2000). An example item was: "My leader communicates a clear and positive vision of the future". The response scale ranged from *Rarely or never* (1) to *Very frequently or always* (5). Superiors' transformational leadership

(independent variable) was rated by the first-line managers. Cronbach's alpha was .93. First-line managers' transformational leadership (dependent variable) was rated by the first-line managers' direct reporting subordinates, and aggregated to a mean rating for each manager. Cronbach's alpha was .95.

Control variables

In Paper I, sex, age, and level of education were used as control variables, as previous research has shown that these factors are associated with self-rated health (Baum & Grunberg, 1991; Härenstam, 2009; Roberts, 1999; Östlin, 2002). To adjust the possible heterogeneity effect of respondents working in different sectors, organizations, and work groups, three control variables were created (Antonakis, Bendahan, Jacquart, & Lalive, 2010): 1) subordinates and their immediate managers were matched, 2) first-line managers and their immediate managers were matched, 3) middle managers and their organizations were matched.

In Paper II, sex, age, and level of education were used as control variables, as previous research has shown that these factors are associated with leadership (Eagly, Johannesen-Schmidt, & van Engen, 2003; Gregory, Moates, & Gregory, 2011; Kearney, 2008; Oshagbemi, 2008; Walumbwa, Wu, & Ojode, 2004). Additionally, the first-line managers' organizational affiliation and work group affiliation were used as control variables (Antonakis et al., 2010).

Data analysis

In Paper I, demographics of subordinates, first-line managers and middle managers were examined using cross-tabulation and the chi-squared test and Fisher's exact test. The distribution of the means and standard deviations for psychosocial work conditions and symptoms of burnout among subordinates, first-line managers, and middle managers were calculated using ANOVA. Due to the unequal sample sizes, the Games-Howell post-hoc test was used. Pearson's product-moment correlation was used to examine the relationship between the variables. To investigate the associations between psychosocial work conditions and symptoms of burnout, multiple linear regressions were performed (method Enter). Power was calculated to ensure validity of the multiple regression models, and found satisfactory (>.97) for the three hierarchical levels (Dunlap, Xin, & Myers, 2004). SPSS version 19.0 was used.

In Paper II, first-line managers were categorized into two groups based on the aggregated leadership variable, as rated by their subordinates. The highest possible score for transformational leadership is 35. It was considered that the highest tertile comprised leaders who frequently displayed transformational leadership, and the rest were leaders who infrequently displayed transformational leadership (cut-off score = 26.43). Demographics of leaders who frequently displayed, and who infrequently displayed, transformational leadership behaviours were examined using cross-tabulation and the chi-squared test and Fisher's exact test. The distribution of means and standard deviations in psychosocial work conditions and superiors' leadership among leaders who frequently displayed, and who infrequently displayed transformational leadership behaviours were compared using the *t*-test. Pearson's product-moment correlation was used to examine the relationship between the variables. The association between psychosocial work conditions, using continuous variables, and the dichotomized transformational leadership scores, as dependent variable, was analysed using logistic regressions (method Enter). Psychosocial work conditions were first investigated univariately in relation to transformational leadership, to determine which to include in the multiple logistic regression model. Work conditions with a *p*-value equal to or below .15 were included in further analysis. SPSS version 20.0 was used.

In Papers I and II, missing scores on single questions were dealt with in accordance with previous research (Ware, Snow, Kosinski, & Gandek, 1993). A total score was calculated for a person if he/she had answered at least half of the questions. The missing items were given the average score of the other items in the scale.

Ethics

Ethical principles for the social sciences have been fulfilled. The study was approved by the Ethics Committee at Linköping University. Each questionnaire had a covering letter describing the purpose of the project, how the material was going to be handled and used; it was explained that participation was voluntary, and responses would be kept confidential. Although the participating organizations promised that the questionnaire would be filled in during working hours, each questionnaire contained a pre-stamped return envelope addressed to Linköping University, to further ensure that the employer would not see any individual responses. The returned

questionnaires, organizational scheme and coding schemes are stored safely at Linköping University.

Papers III, IV

Sample

In Papers III and IV, the research setting was a large Swedish industrial production company. The company acts in a competitive international market, specializing in products and services in materials handling and logistics. A few years earlier, the company was bought by a larger international enterprise and a new production system inspired by the Toyota Production System (Liker, 2004) was implemented.

In Paper IV, the research setting is also a medium-sized municipality in Sweden. The municipality is a regional part of the Swedish welfare system and a politically driven organization to secure citizens' basic rights and services in that geographical region.

The two organizations were similar in the sense that they were both situated in the same geographical region, and they each had about 2000 employees. However, their activities were in different fields, the managers had different work tasks within the organizations, and there was a contrasting gender distribution among their employees: In the industrial production company, 80% of the employees were men, whereas in the municipality 80% were women.

The participating managers were purposely selected (Patton, 2002) by the researchers based on the organizational scheme from each organization. To ensure variation in the material, selections were made wherever possible to include both men and women from all three managerial levels within each division of the industrial production company and from three divisions in the municipality. In the industrial production company, the participating managers worked in divisions responsible for production, manufacturing and assembly; storage and logistics; quality; informational technology; human resources; and finance and sales. In the municipality, the participating

managers worked in divisions responsible for care and social services; culture and recreation; and upper secondary and adult education.

All the selected managers agreed to participate in the study after being informed about the purpose, that participation was voluntary, and that information would be treated confidentially. The material for Paper III consists of 42 interviews with managers in the industrial production company. The material for Paper IV consists of 62 interviews from both organizations.

Data collection

A semi-structured interview guide (Kvale, 1996) was developed by the research team in response to the first research project (industrial production company). The interview guide was tested on two managers to make sure the questions were understandable and made sense in the overall interview. The interview guide covered several themes concerning their work, leadership, learning and career development, recruitment, and health. A few questions were dropped, as they resulted in the same answers. The final interview guide was used for the rest of the managers. The same interview guide was used for the second project (municipality), except that a few words were rephrased.

All managers were interviewed using the semi-structured interview guide, to allow them to describe their perceptions and experiences in their own words (Kvale, 1996). Their own thoughts and analysis of the subject could thereby be captured and used. Examples of interview questions posed to all participants relevant for Paper III were: "How would you describe your leadership?", "Can you describe a situation when you felt like a good/less good manager?", "Can you describe a situation at work that made you feel well (i.e. it was important for your well-being)?", and "How does your health influence your leadership?". Example questions relevant for Paper IV were: "What people do you meet during a working day, and in what contexts do you meet them?", "How do you get support from a) top management, b) other managers, c) subordinates)", and "How does your organization help you deal with the expectations placed on you as a manager?".

The managers were interviewed face-to-face at their offices or at other suitable places during working hours within each organization. The interviews lasted between one and two hours. After receiving consent from the participants, the

interviews were all audio-taped and then transcribed verbatim by a professional transcriptionist.

The interviews with managers in the industrial production company were conducted in spring 2008, and interviews with managers in the municipality were conducted in spring 2009.

Data analysis

The data analysis in Papers III and IV was performed in accordance with inductive qualitative content analysis (Burnard, 1991; Hsieh & Shannon, 2005; Schilling, 2006).

Content analysis as a research method has been used for over a century (Hsieh & Shannon, 2005). Generally, this is a method for structuring large quantities of text material in a meaningful manner (Burnard, 1991; Hsieh & Shannon, 2005; Schilling, 2006). Content analysis is a term encompassing several approaches (Hsieh & Shannon, 2005). It can be inductive (deriving categories from the material), deductive (deriving categories from theory), or summative (showing frequencies of specific terms and their latent meaning). The analysis can thereby focus on the manifest (the expressed) or the latent (the underlying).

Inductive content analysis was used in this thesis, which means that codes, categories and themes were derived from the material (Burnard, 1991; Hsieh & Shannon, 2005; Schilling, 2006). The results are thereby grounded on the expressed information provided by the participants, without imposing previous theories and research on the material. This approach facilitates the descriptions of a phenomenon, but may limit theory development in the analytical phase. However, the results of the analysis are discussed in relation to previous research and theory where theoretical development may occur. There is also a risk that relevant codes are overlooked. This can be avoided in several ways, for instance by using independent researchers, discussing codes and categories with other researchers, and/or presenting the results to the participants for verification.

In both Papers III and IV, the analytical procedure was similar. The analysis was performed in several steps, focusing on different aspects in each step. In

the first step, all transcripts were read through several times to gain a general impression of the material. In the next step the coding procedure began.

In Paper III, the coding procedure started from the research questions. For instance, all psychosocial work conditions described in the transcripts in relation to health were coded and put into summarizing matrixes for each manager. An example of this might be “recognition”.

In Paper IV, the coding procedure started from Figure 1, inspired by House (1981). House suggests that researchers need to investigate the whole support chain, i.e. types of social support, sources of support, and the problems for which the support is provided. However, we also added the place where the support is provided (see Figure 1). The analysis was performed inductively so the richness of the material was not delimited to House’s four predefined categories of social support. His categories were used later in the analysis, to provide comparisons with our findings. The coding procedure began by identifying the four aspects of the social support chain (Figure 1) in the transcripts. For instance, all individuals or groups of people who were described as providing support or help to the manager were coded under the label “source of support”. This inductive process generated a matrix for each individual manager, in which the whole support chain was preserved (Who-What-Why-Where). All supportive sources, the types of support, their importance, and places where support was exchanged, were placed in the matrix.

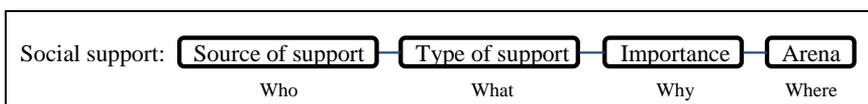


Figure 1. The social support chain.

These individual matrixes were then collapsed into combined matrixes for each managerial level, in both Paper III and IV. In Paper III, males and females were also separated, while in Paper IV, the two organizations were separated. We chose not to separate males and females in Paper IV because there were too few male managers in the municipality. Thus, six matrixes were created in each paper.

After having returned to the managers' original statements, the content of the codes in the matrixes was used to create descriptive categories. In Paper III, a descriptive category could for example be "social climate". In Paper IV, a descriptive category for types of support could be "information about work".

In order to see similarities and differences (Ryan & Bernard, 2003) in the managers' descriptions, the content of the descriptive categories was compared – between gender and managerial level (Paper III), and between managerial level and organization (Paper IV). For instance, work conditions mentioned by male first-line managers were compared with the other five groups (Paper III). The supportive sources mentioned by first-line managers in the municipality were compared with the other five groups (Paper IV). As mentioned in Paper IV, our inductively generated categories were compared with House's (1981) four typologies, to emphasize the similarities and differences between us.

The analytical procedure was then repeated with regard to the second research question: Managers' leadership in relation to their health (Paper III), and managers' legitimacy in relation to their social support (Paper IV).

The analysis was conducted mainly by me. To ensure validity and reliability of the results, the codes and categories, the relationship between them and the conclusions drawn, were continuously discussed with the co-authors throughout the analysis, until agreement was reached (Patton, 2002). Quotes were later selected to illustrate the content of the descriptive categories. A seminar was also held where the findings from Paper III were presented to representatives of the different managerial positions participating in the study and confirmed by them.

Ethics

The projects have followed the Swedish Research Council's (2011) guidelines for ethical research practice. During the initial contacts, when the managers were telephoned by the researchers to schedule the interviews, they received information about the projects and their purpose; they were told how the material was going to be handled and used, that participation was voluntary, and that they could decline to participate at any time. This information was also repeated at the interview session. Informed consent was also obtained

verbally when the participants gave their approval for the interview session to be audio-recorded. For confidential purposes, only shorter quotations have been presented in the papers, along with information about the gender and managerial level of the quoted manager.

RESULTS

Paper I

The purpose of the study was to compare differences in work conditions and burnout at three hierarchical levels: Subordinates, first-line managers, and middle managers; and to investigate if the association between work conditions and burnout differs for subordinates, first-line managers, and middle managers.

The result showed that there were differences between the three hierarchical levels with regard to several psychosocial work conditions, and symptoms of burnout. Managers rated demands, control, and social capital as significantly higher than subordinates, but no differences were found between first-line managers and middle managers. No differences were found between the three hierarchical levels concerning role clarity and role conflict. Middle managers had significantly more interaction between work and private life than subordinates and first-line managers, and first-line managers had a larger span of control than middle managers. Regarding opportunity to adjust work, significant differences were found between subordinates and middle managers. Middle managers had more opportunity to work at a slower pace than subordinates, while subordinates had more opportunity to get help from work colleagues. Middle managers also had more opportunity than both subordinates and first-line managers to shorten their working day. Subordinates had more symptoms of burnout than managers, but no differences were found between first-line managers and middle managers.

The result also showed that different psychosocial work conditions were associated with symptoms of burnout at the three hierarchical levels. For subordinates, interaction between work and private life, demands, and role conflict were associated with more symptoms of burnout, whereas social capital, control, and opportunity to shorten the working day were associated with fewer symptoms of burnout. For first-line managers, interaction between work and private life, demands, and opportunity to get help from work colleagues were associated with more symptoms of burnout, whereas social capital was associated with fewer symptoms of burnout. For middle

managers, role conflict, demands, and opportunity to get help from work colleagues were associated with more symptoms of burnout, whereas having the opportunity to shorten the working day was associated with fewer symptoms of burnout.

Paper II

The purpose of the study was to advance knowledge of workplace antecedents of transformational leadership, by investigating what psychosocial work conditions of first-line managers are associated with their display of transformational leadership; and whether superiors' leadership is associated with first-line managers' display of transformational leadership.

Psychosocial work conditions were first associated univariately with transformational leadership, to determine which to include in the multiple logistic regression model. The only work condition that was omitted was demands.

Two models were used in the multiple logistics regression analysis. In the first model, psychosocial work conditions were adjusted for each other to examine their associations with transformational leadership. High skill discretion, large social capital, low role conflict and small span of control were associated with transformational leadership. In the second model, the associations between psychosocial work conditions and transformational leadership were adjusted for superiors' leadership. High skill discretion, large social capital, low role conflict, and small span of control remained associated with transformational leadership, and high performance feedback became significant. Superiors' leadership was not associated with first-line managers' display of transformational leadership.

Paper III

The purpose of the study was to deepen the understanding of how managers' health and leadership is related, by combining two perspectives in previous research. The two specific research questions were: What psychosocial conditions at work affect managers' health? How does managers' health influence their leadership?

The result showed that most managers felt their health was good, but many, particularly first-line managers, perceived their work as stressful. The managers' health was closely related to their own performance, and to that of their subordinates. Factors that were emphasized as being important for their health were: Achieving the results as expected, as well as having their performance acknowledged and rewarded in the organization. The managers reported that the ability to achieve results as expected, and to gain rewards, depended on how favourable their psychosocial work conditions were. Unfavourable psychosocial work conditions, such as low degree of decision latitude and/or poor social climate and support in the workplace, made the managers' work much more difficult and prevented them from achieving results as expected, which in turn affected their health. The health of first-line managers seemed to be more dependent on favourable psychosocial work conditions, as they described that their performance relied heavily on their work conditions, and they needed more acknowledgement to feel well, than managers at higher managerial levels.

The result also showed that managers' health had considerable influence on their leadership, mainly affecting the quality of their work, and the quality of their relationships with subordinates. When the managers did not feel well, they withdrew, their work performance deteriorated, e.g. in decision making and problem solving, and they provided their subordinates with less support and guidance, affecting both production and health in the workplace.

Paper IV

The purpose of the study was to further the understanding of managers' perceptions of social support, and to increase our understanding of how managers perceive that receiving social support affects their managerial legitimacy.

The result showed that supportive sources within and outside the workplace differed in the types of support they provided the managers with; and that issues of legitimacy were different, depending on the source of support and the arena where the support was exchanged.

Support that directly helped the managers to perform their work tasks was provided mostly by sources within their workplace, i.e. closest manager, subordinates, and managerial colleagues within the same division, and the support concerned information and discussions about work issues, practical assistance, confidence, appreciation, and feedback. The received support was thought to strengthen the managers' legitimacy, and was often accessed via the location of their workplace, and via formal and informal meetings.

Support for sensitive and personal matters, which helped managers to develop their leadership or their health, was provided mostly by sources outside the workplace. The sources were mentors, managerial colleagues from other organizations, support functions, customers, and family and friends. The support concerned discussions and ventilation of the managers' stress or difficult personnel issues, practical assistance, information, and feedback. This sensitive and personal support was thought to question the managers' competence and ability of being a manager. The support was therefore often accessed via vocational courses and via informal meetings considered as safe spaces detached from their daily work and based on mutual trust. The managers could thereby control the information they revealed.

Thus, managers solved the question of potentially jeopardized legitimacy by distinguishing between different sources, based on what supportive function they had and in which arenas they were found. However, these arenas could also be perceived as too demanding, and the managers might therefore refrain from asking for support, with potential consequences for their work, health and leadership development.

DISCUSSION

The overall aim of this thesis was to increase knowledge about the relationships between managers' psychosocial work conditions, their health, and their leadership; and to elucidate differences between managers at different managerial levels in these relationships. In general, the results show that psychosocial work conditions were related to managers' health (Papers I, III, IV) and to their leadership (Papers II, IV). Managers' health also seemed to be a prerequisite for their leadership (Paper III), and to some extent their leadership seemed to influence aspects of their psychosocial work conditions (Paper III). The results also show that there were some differences in these relationships for managers at different managerial levels (Papers I, III, IV).

The following section will elaborate on these main findings, consider some methodological issues, and suggest future research. The section ends with the conclusions and implications of this thesis.

Managerial differences

In three of the four papers in this thesis, differences between managers at different managerial levels were addressed. In previous research, managers at different managerial levels have rarely been compared with each other; instead, managers are usually investigated as a uniform group. As a group, managers usually differ from subordinates in terms of work conditions and health (e.g. Johansson et al., 2011; Skakon et al., 2011). This was evident in Paper I, where managers rated their psychosocial work conditions fairly similar to those of the subordinate level. The two managerial levels differed only in a few psychosocial work conditions (interaction between work and private life, span of control, and opportunity to shorten the working day). However, there is some research suggesting that managers at different managerial levels have different work tasks, and require different competences or skills, which indicates that they do different things and have different work conditions (Broadbridge, 2002; Kraut et al., 1989; Pavett & Lau, 1983; Velde et al., 1999). This was shown in Paper I, when the relationship between psychosocial work conditions and symptoms of burnout was

investigated. First-line managers seemed to be more similar to the subordinate level, rather than middle managers; in other words, the most strongly related psychosocial work conditions for symptoms of burnout were the same for subordinates and first-line managers, but not for middle managers.

In Paper III, it was more common for first-line managers than middle managers or executive managers to describe their health as poor or insufficient. Compared with middle managers and executive managers, first-line managers' health was also more dependent on their psychosocial work conditions; in other words, work conditions needed to be favourable for first-line managers to feel well. In Paper IV, the difference between first-line managers, middle managers, and executive managers concerned the people from whom they received support. More specifically, the two higher managerial levels more often received work-related support from colleagues and subordinates than first-line managers did.

The results show that managers at different managerial levels have fairly similar psychosocial work conditions compared with each other, but that the importance of these psychosocial work conditions differs in relation to their health. A reason for this may be that managers at different managerial levels have different work tasks. First-line managers are responsible for daily operations and their work is often interlinked with their subordinates' work; they often work at the same place, and they encounter the same daily problems (Allan, 1981; Kraut et al., 1989; Pavett & Lau, 1983). On the other hand, middle managers are not as present in the daily operations; their responsibilities are often more strategic and less operational, and the daily problems that subordinates and first-line managers have to solve tend to only involve middle managers indirectly. Furthermore, even if first-line managers and middle managers have many resources to handle the demands placed on them in their work (Bernin & Theorell, 2001; Skakon et al., 2011), they may also have different opportunities to use these resources (Izraeli, 1975; Marzuki et al., 2012). Since the first-line managers are responsible for daily operations, they are often required to be present in the daily work. The responsibilities of higher managerial levels do not pose similar requirements, and they can therefore more easily use the resources available to them or change their assignments. This was for instance shown in Paper III, when an executive manager explained that his work tasks spanned over longer periods of time, which made it less stressful. Thus, differences in work tasks may explain why different psychosocial work conditions were related to symptoms of burnout

at the two managerial levels in Paper I. It may also explain why first-line managers were more dependent on favourable psychosocial work conditions than middle and executive managers in Paper III. So even if psychosocial work conditions are quantitatively similar for the different managerial levels, the opportunity to use available resources due to differences in work tasks results in psychosocial work conditions being of different importance for their health.

To summarize, it seems that psychosocial work conditions of managers and their subordinates really do differ, and managers should be distinguished as a group of their own in occupational health research. However, it is also important to be aware that differences in managerial levels may have consequences for the relationship between psychosocial work conditions and health.

Psychosocial work conditions for managers' health and leadership

The relationship between psychosocial work conditions and health was addressed in three of the four papers (Papers I, III, IV). Table 2 shows that social capital and opportunity to shorten the working day were associated with increased health (i.e. fewer symptoms of burnout) in first-line managers and middle managers respectively. Managers' health also increased in connection with control, social climate (in terms of social support and feedback), appreciation, role clarity, and role fulfilment (i.e. achieving results as expected). Table 2 further shows that interaction between work and private life, demands, and opportunity to get help from colleagues were associated with decreased health (i.e. more symptoms of burnout) in first-line managers. Role conflict, demands, and opportunity to get help from colleagues were related to decreased health in middle managers. Managers' health also decreased in connection with demands (in terms of work pace, simultaneous work tasks, and time pressure), as well as role conflicts and social conflicts at the workplace.

Regarding the relationship between psychosocial work conditions and first-line managers' display of transformational leadership behaviours, Table 2 shows that performance feedback, social capital, and skill discretion (a dimension of control) increased the display of transformational leadership

behaviours. Role conflicts and span of control decreased first-line managers' display of transformational leadership behaviours.

These results suggest that some psychosocial work conditions are common for managers' health as well as their leadership. These are control, role conflict, and social relations at work (i.e. social support, social climate, social capital; see Table 2).

Table 2. Psychosocial work conditions related to increased or decreased health or leadership display in managers.

	Health ^a		Leadership ^b	
	Paper I (symptoms of burnout)	Paper III (well-being)	Paper II (transformational leadership)	
	<i>First-line managers</i>	<i>Middle managers</i>		
Psychosocial work conditions related to increased health ^a or leadership display ^b	Social capital	Opportunity to shorten the working day	Control Social climate (social support, feedback) Appreciation Role clarity Role fulfilment (achieving results)	Performance feedback Social capital Skill discretion
Psychosocial work conditions related to decreased health ^a or leadership display ^b	Interaction between work and private life Demands Opportunity to get help from colleagues	Role conflict Demands Opportunity to get help from colleagues	Demands (work pace, simultaneous work tasks, time pressure) Role conflict Social conflicts	Role conflict Span of control

Control, or at least skill discretion, concerns the opportunity to use and develop skills at work, and is an indicator of being stimulated by one's job (Karasek & Theorell, 1990). Since work is such a central part of life, it is important for health and well-being whether or not people find their jobs and work tasks stimulating. Managers who feel stimulated by their work may experience increased well-being, but they may also display leadership

behaviours that challenge their subordinates and encourage them to feel equally stimulated by their work (Nielsen & Cleal, 2011). Skill discretion therefore seems to be a resource at work which promotes managers' health and helps them to practise leadership.

Role conflicts on the other hand seem to impair managers' health and their practised leadership. Role conflicts arise when incompatible demands are placed on an individual at work. Situations when managers do not know what demands or expectations they are supposed to fulfil, may generate stress (Broadbridge, 2002; Li & Shani, 1991; Parasuraman & Cleek, 1984; Peterson et al., 1995; Sundkvist & Zingmark, 2003; Wray, 1949). Furthermore, managers may display less leadership because they do not know what expectations to convey to their subordinates, or because they are distracted, as they need to solve the role conflict. Role conflicts therefore prevent managers from seeing the bigger picture, acting as role models, and inspiring followers, which are important aspects of effective leadership (Bass, 1997; 1999; Bass & Reggio, 2006).

A third aspect that seems important, both for managers' health and their leadership, concerns social relations at work. Social relations at work, whether expressed in terms of climate, support or capital, concern being part of a work community in which the individual feels respected, valued and has the opportunity to exchange resources (House, 1981; Kouvonen et al., 2006). Such relations are important, as work tasks are rarely completed alone and without input from others. This is particularly true for managers, whose work depends to a large extent on others (Broadbridge, 2002; Styrrhe & Josephson, 2006; Wong, et al., 2007). The absence of these work-related relations means social isolation; the individual is alone with the problems that may occur at work, but also misses the sense of belonging that work colleagues provide. Thus, social relations fulfil basic human needs in people (Maslow, 1943). However, research in social support has shown that relations at work can provide different types of support for different problems (e.g. Lindorff, 2005). The results from Paper IV showed that work-related support could be distinguished from personal and sensitive support. Work-related support was mostly sought from people in the individual's own workplace. Sensitive and personal support, involving support for development of health or leadership, was mostly sought from people outside the individual's own workplace. As this latter support might potentially call their competence and managerial ability into question, managers sought the support in particular safe spaces detached from their daily work, with people they were confident would not

disclose the information they revealed. Thus, managers distinguished between different people, based on what support they provided and where they were located. Social relations at work therefore seem important for managers' work, health and leadership, but it also seems important that the people who provide support are not in contact with each other. Surprisingly, opportunities for getting help from colleagues at work were related to increased symptoms of burnout for both first-line and middle managers in Paper I. This result could be interpreted in the light of the findings from Paper IV, showing that opportunities for getting help from colleagues may also constitute a risk of being called into question as a manager. Thus, although social relations at work are important for most people, such relations may be more complicated for managers than for non-managers.

In Paper II, it should be noted that only transformational leadership behaviours in the full range model were investigated, and that transactional and laissez-faire leadership were left out. Thus, the common psychosocial work conditions found and discussed above concern transformational leadership. The managers might have practised a transactional leadership style, and the way in which psychosocial work conditions were related to such a style was not investigated. However, it has consistently been shown that transformational leadership is a style that is related to various positive outcomes (e.g. Lowe et al., 1996; Skakon et al., 2010), and the greatest positive effects would probably be achieved by restructuring managers' workplaces to encourage transformational leadership behaviours.

To summarize, it seems that psychosocial work conditions are related to managers' health, and to their leadership. Managers' skill discretion or control, role conflicts, and social relations are psychosocial work conditions that are particularly interesting, as they seem to be related to both health and leadership. Restructuring managers' workplaces so that these aspects are improved may result in increased health *and* leadership display. However, it is also important to realize that supportive relations are a complicated issue for managers, as asking for support can pose a risk of being called into question as a manager. Increasing managers' opportunities for support therefore involves encouraging them to create their own network with people they trust. Organizations may create forums and arenas for support, without trying to control the arena or impose the support. This could be done for instance by creating discussion groups that do not encompass immediate supervisors. It is also important that organizations try to change managers' perception that

support is a potential threat, for instance by discussing the importance of support and the fact that everyone needs it.

The reciprocal relationship between psychosocial work conditions, health and leadership in managers

The question of how psychosocial work conditions, health and leadership of managers are related is of course a complex one. Two main perspectives are distinguishable in previous research. One of these suggests that work conditions influence health, which in turn influences leadership (e.g. Gibson et al., 1993). In contrast, the second suggests that the fit between work conditions and leadership influences health (e.g. Chemers et al., 1985). These two perspectives reflect one of the major shortcomings in previous research: That relationships are investigated as narrow and limited models, and potential reciprocity is overlooked. In all fairness, the papers included in this thesis (particularly Papers I and II) follow this logic as well. However, the four papers combined may provide the basis for a discussion of how these three concepts are related.

Psychosocial work conditions seem to be important for managers' health (Papers I, III, IV) and their leadership (Papers II, IV). For instance, a manageable work pace (one aspect of demands) and receiving social support, in terms of ventilating problems and stress, from people outside the workplace, seem to be important for managers' health and well-being. Lack of role conflicts and receiving social support, in terms of having discussions and exchanging experience, from people outside the workplace, seem to be important for their practised leadership and the leadership behaviours they display. Thus, how the workplace is structured, and how favourable the psychosocial work conditions are, seem to be important for managers' health and their leadership. However, as shown in Paper III, managers' health also seems to influence their leadership. And as leadership research has shown, the leadership of managers influences subordinates' well-being, performance, social climate and the culture of the workplace, etc. (e.g. Lowe et al., 1996; Skakon et al., 2010). Thus, the leadership behaviours the managers display constitute a basis for the formation of their own psychosocial work conditions (at least, several of them). Based on the findings presented in this thesis, it is

suggested that psychosocial work conditions, health and leadership of managers are closely and reciprocally related. This relationship can be conceived of as spirals, which arguably can be either positive (indicating gain-spirals), or negative (indicating loss-spirals; Hobfoll, 1989).

The relationships between the three concepts are illustrated in Figure 2. Psychosocial work conditions are related to managers' health, and managers' health is related to their leadership. Psychosocial work conditions are also related to managers' leadership, which in turn is related to their psychosocial work conditions. In this way, managers' health may be viewed as a resource (Nutbeam, 1998; Reineholm, Gustavsson, & Ekberg, 2011) in the reciprocal relationship between psychosocial work conditions and leadership. These relationships are of course not detached from their context, but are viewed as a result of an interaction between the workplace and the individual (the manager), which takes place in an organization and a surrounding society. Thus, the interaction between workplace and individual in terms of relationships between managers' psychosocial work conditions, health and leadership influences, and is influenced by, the organization and surrounding society. Although the organizational and societal influences have not been the focus of this thesis, it seems reasonable to assume that such a relationship exists. For instance, it has been suggested that organizational conditions influence managers' psychosocial work conditions (e.g. Andersson-Connolly et al., 2002; Seppälä, 2004), their health (e.g. Butterfield et al., 2005; Seppälä, 2004), and their leadership (e.g. Walter & Bruch, 2010; Wright & Pandey, 2009). Furthermore, managers who do not feel well may make the wrong decisions, or may not provide enough guidance, resulting in loss of productivity and the organization's competitive edge, as well as great financial loss (Campbell Quick et al, 2000; Campbell Quick et al., 2007; Little et al., 2007), with consequences for society.

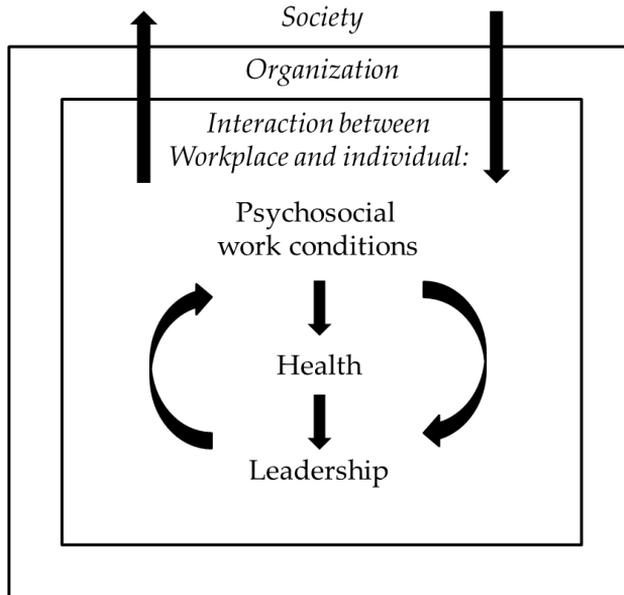


Figure 2. Illustrating model of the relationships

A positive gain spiral is likely to form when psychosocial work conditions are favourable. This increases managers' health and leadership, which in turn makes the psychosocial work conditions even more favourable. Thus, the three concepts enhance each other. Negative events from the societal or organizational realm in the model, which disturb the gain spiral (for instance, by increasing the demands), can be handled if psychosocial work conditions, in terms of resources, are available and/or if the managers' health and leadership (considered as resources) are unaffected (Hobfoll, 1989). In Paper II, for instance, it was found that managers' experienced demands were not conveyed in their leadership. Thus, managers' subordinates were not aware of the demands experienced by the managers, possibly because the demands could be handled by available resources (e.g. by asking for support or by having good health and well-being), and thereby did not disturb the spiral.

Events that are more far-reaching, for instance the implementation of new production systems (e.g. lean production, or new public management; Hood, 1991), may however disturb the reciprocal spiral. Such implementations can change managers' work tasks and psychosocial work conditions (e.g. Andersson-Connolly et al., 2002; Butterfield et al., 2005; Seppälä, 2004). If the stressors increase and the available resources at work decrease, this may result in managers experiencing increased stress (Butterfield et al., 2005; Seppälä,

2004; Mason, 2000; McCann et al., 2008), and potentially create a loss spiral (Demerouti et al., 2004; Van der Heijden et al., 2008). On the other hand, organizational changes may also increase the resources available at work, and result in increased well-being of managers (Andersson-Connolly et al., 2002; Seppälä, 2004; Mason, 2000; McCann et al., 2008), and potentially create a gain spiral (Hakanen et al., 2008; Hakanen et al., 2011; Llorens et al., 2007; Salanova et al., 2011; Schaufeli et al., 2009; Weigl et al., 2010).

Due to the requirements of their position, or, as shown in Paper IV, because they fear having their competence and managerial ability questioned, managers may however not find it so easy to use the available resources to deal with such events. They may therefore avoid asking for help or not use available resources, despite the need for doing so; and such behaviours may have consequences for their health, their leadership, and for the execution of their work tasks. A notable finding in Paper III was the immense importance of role fulfilment; that is, achieving results as expected and performing well. If work tasks are not performed, their roles are not fulfilled (i.e. they do not achieve the results as expected); this was important for their health and well-being, which in turn influenced their leadership. The reciprocal relationship between psychosocial work conditions, health, and leadership may thereby become a negative loss spiral.

The managerial differences in the relationship between psychosocial work conditions, health and leadership noted above may make first-line managers more susceptible to loss spirals than middle- or executive managers. The reluctance to ask for sensitive and personal support was found in all three managerial levels in Paper IV. But because first-line managers were more dependent on favourable psychosocial work conditions, their spirals seem more vulnerable to external organizational and societal influence.

To summarize, it seems that both of the two previous perspectives on the relationship between psychosocial work conditions, health, and leadership are correct, but alone they provide too static and one-sided a view. They need to be combined in order to capture the dynamic complexity and reciprocity of this relationship.

Methodological considerations

The four papers that make up this thesis used both quantitative and qualitative methods, thus contributing to both a deeper and a more general understanding of the investigated phenomenon.

All four papers were based on a large and rich body of material. A concern in Papers I and II may be the overrepresentation of public organizations, which may have significance for the interpretations of the result. However, the models were fairly strong, and inclusion of more private organizations would probably have had little impact on the overall findings. The material included data from managers of both genders, at different managerial levels, and from different organizations (except in Paper III), which indicates that the results have strong external validity. In the quantitative project, the executive managerial level was excluded, as their numbers were deemed too few to carry out statistical analysis. It would have been more uniform if all three managerial levels had also been present in Papers I and II, but as Papers III and IV show, no differences were found between executive managers and middle managers. The inclusion of executive managers would therefore probably have had little impact on the overall result of this thesis. One of the difficulties of such extensive material consists in handling and doing justice to the richness of the data. This is particularly true in the qualitative analysis. This difficulty has been addressed by using a structured method of analysis, by creating matrixes for structure and overview, and through continuous discussions with other researchers. However, there is always a risk that the experience of some individuals is not fully captured and used.

A potential limitation of this study is the lack of gender perspective. Previous research has shown some differences between male and female managers, for instance concerning their networks, leadership styles, and opportunities to influence their work conditions (Eagly, et al., 2003; Gustavsson & Fogelberg Eriksson, 2010; Ibarra, 1997; Westerberg & Armelius, 2000). In this thesis, gender differences were analysed only in Paper III, where no such differences were found. In Papers I and II the analysis was adjusted for gender, and in Paper IV gender differences were deliberately not analysed because there were too few male managers in the municipality. Investigations of gender differences may be a potential approach in future research.

A potential limitation is also the reliance on the managers' own perceptions, in terms of self-rated questionnaires or interviews. However, it has been suggested that self-rated work conditions are similar to objectively measured work conditions (Härenstam, Karlqvist, Bodin, Nise, & Schéele, 2003). Besides, it is probably the way in which individuals perceive their work environment that influences their reactions, and not how it "actually" is (Harris & Daniels, 2007). One of the strengths of Paper II was that psychosocial work conditions were rated by first-line managers, while transformational leadership was rated by their subordinates, thus minimizing the risk of common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Paper III is based on 40 interviews and Paper IV on 62 interviews, which constitutes an extensive material. However, the fact that I did not conduct all the interviews personally increases the risk of the interviewer not fully understanding the interview questions and their relevance (Patton, 2002; Schilling, 2006). Follow-up questions and in-depth questions may thus not always be posed, and some clarifications may be lost. On the other hand, the fact that there were several interviewers implies a reduced risk that the researchers' precognitions and attitudes influenced the informant, and thereby the validity of the results (Patton, 2002; Schilling, 2006).

Both Papers I and II are cross-sectional. The results should therefore be interpreted with this in mind. In Papers III and IV, the interviews were also conducted at one point in time, but could concern the managers' own analysis of retrospective events. Thus, the interviews could capture the managers' own perception of complex causal relationships, such as the relationship between health and leadership. The cross-sectional limitations in Papers I and II should therefore be related to the arguments in Papers III and IV concerning a reciprocal relationship between the studied variables.

Due to the complexity of the concepts, an all-encompassing measurement of psychosocial work conditions, of health, and of leadership could not be used. Several important psychosocial work conditions have been used in the papers (except for Paper IV, which only dealt with social support). Managers' health was measured as (lack of) symptoms of burnout in Paper I. In Paper III and IV, health was more vaguely defined and concerns the managers' sense of well-being. Paper II only investigated transformational leadership behaviours, while no defined leadership theory was used in Paper III or IV. However, the managers' descriptions were reminiscent of transformational leadership and

of task-oriented and relations-oriented leadership. The method for investigating leadership in this thesis has been directed at the managers' own descriptions and their subordinates' rating of the managers' leadership behaviours. This is one way of trying to study a very complex phenomenon, but this approach may be criticized from the perspective that leadership is a process involving both manager and subordinate. The subordinates' contribution to the leadership studied in this thesis is therefore not captured; for this, a different methodological approach would have been required.

Future research

This thesis suggests that future research should pay more attention to the reciprocity of the studied relationships. Future research should focus particularly on the suggested spirals and should be aimed at understanding the mechanisms for creating and maintaining positive and negative spirals. Such research findings could be incorporated in the work design and HR strategies of organizations.

Future research should also be directed at understanding first-line managers' greater dependence on favourable work conditions and investigating how their work could be made easier (so that negative spirals do not occur). Such research may also be needed concerning middle managers and executive managers. Their work is often more strategic and long-term, and it is important to prevent negative spirals at an early stage, as these may have serious consequences for the organization and for those working in it.

Conclusions and implications

The results in this thesis indicate that there is a reciprocal relationship between managers' psychosocial work conditions, health and leadership. Managers are in a position which enables them to have a great deal of influence in the workplace, at the same time as the workplace has an influence on them. These results therefore challenge traditional research with clearly distinguishable dependent and independent variables, and emphasize the need for a more holistic or comprehensive view in occupational research.

The main conclusions can be broken down into the following points:

- Managers' psychosocial work conditions, health and leadership are suggested to be closely related and can be conceptualized as reciprocal spirals.
- Psychosocial work conditions such as skill discretion, social relations and role conflicts seem especially important in this reciprocal relationship, as they are related to both health and leadership.
- Some resources in the psychosocial work environment may be hard to take advantage of, even if they are available. Resources may be available to the managers, but their work tasks may prevent them from actually using them. They may also be reluctant to use resources (such as social support), as this is perceived to potentially question their competence.
- Managers' psychosocial work conditions differ to some extent at different managerial levels, and this has consequences for the way in which the relationship between psychosocial work conditions, health and leadership is expressed. Especially first-line managers seem to be in a vulnerable position, because their influence is more restricted and they are more dependent on favourable psychosocial work conditions.

The implications drawn from these conclusions are:

- Organizations need to pay special attention to the psychosocial work conditions and health of their first-line managers.
- Opportunities for challenging work and rewarding social relations may lead to improved health and leadership, which should benefit the workplace and the organization.
- Some resources in the psychosocial work environment, e.g. social support, may require special attention in the organization. Managers need to have more room for manoeuvre regarding networking. It is particularly important for them to have safe spaces, places that are detached from their daily work, involving people they trust; this is most likely to increase the exchange of sensitive support.

- The relationships between managers' psychosocial work conditions, health and leadership are conceptualized in this thesis as positive and negative spirals, suggesting that changes targeted at one concept lead to positive results in the other concepts as well. However, all three concepts should be targeted at the same time to achieve sustainable results. In doing so, a healthy workplace is created, not only for the managers, but for the whole workplace and the organization at large. Such a workplace is not only financially beneficial; it also fulfills the ethical and legal demands of a good workplace.

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