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The impact of leadership on the health of subordinates

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SALTSA – JOINT PROGRAMME
FOR WORKING LIFE RESEARCH IN EUROPE
The National Institute for Working Life and The Swedish Trade Unions in Co-operation

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Introduction

There is an ongoing discussion about leadership and its impact on various aspects of work-related health. This discussion involves the public as well as the private sector. It has been suggested that leadership factors have and have had an influence on the increasing work-related ill health, but these suggestions have rarely been based on scientific studies. The relationship between leaders and subordinates has gradually been more focused, but it is still scientifically unclear as to what extent and in what ways leaders influence the health of employees.

The figure below demonstrates how leaders may influence the health of employees.

The leader can be described as a possessor of the tools to create and change the structure and culture within an organization. These prerequisites will influence managers' leadership style, managers' health and also legitimate the communication processes, feedback and reward systems. According to Schein (1992) it is the middle- and low level managers who primarily influence the subordinates, their stress and health outcomes. They execute and determine the boundaries for the subordinates.

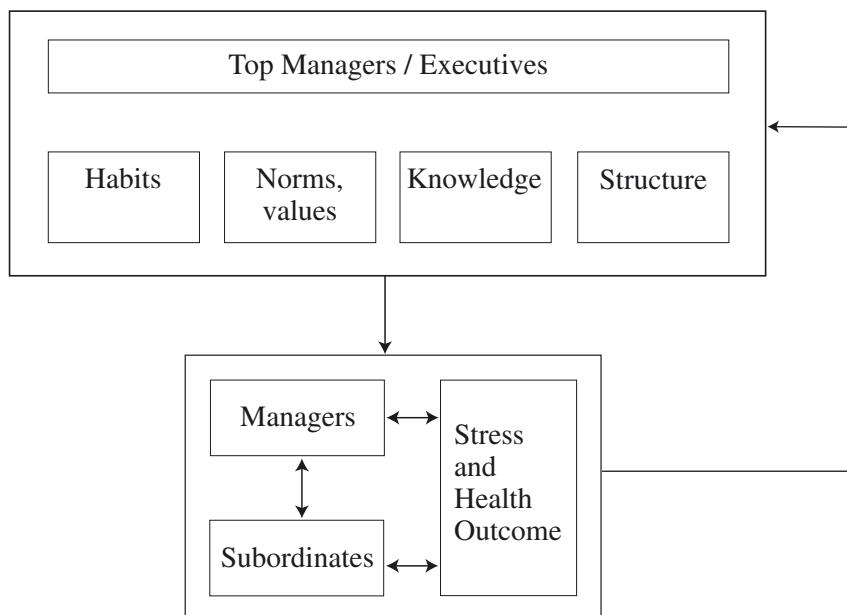


Figure 1. Corporate Culture Health Transaction Model (Bernin, 2002)

The European states have experienced structural changes in labour market and living conditions during the last two decades, which are discussed as factors that may influence health levels in populations (Theorell & Vogel, 2003).

The structural changes have led to new demands on employees' flexibility and ability to handle changes, which is referred to as a health risk (Aronsson & Sjögren, 1994, Arnetz, 1996).

This pilot study is a project with the overall aim to generate ideas on possible ways to investigate the relationship between leadership and the health of subordinates in organisations within the EU. To be able to generate research questions we decided to:

1. Organize a workshop in Stockholm in November 2003 with researchers from different European countries.
2. Go through literature and earlier studies on leadership and its possible impact on the health of subordinates.

The specific study questions and objectives of the pilot project were:

1. To investigate and map earlier and current research on leadership and health. To gain knowledge and an understanding of different leadership styles. Are leadership styles "national" or "global"?
2. To identify factors of successful leadership in relation to health. What are the health promoting factors?
3. Are the same leadership behaviours successful across different sectors?

This paper contains the results from our literature search. We have searched for information in both reviews and databases. The aim has been to get an overview of the studies conducted and to detect possible patterns in the results. We have unfortunately not had the time or resources to go through the quality of each study and compare them regarding e.g. quality of instruments, population and study design, though this is considered important for the proceeding work with a future project.

We have started by going through definitions of leadership and the history of leadership research. Since the beginning of the last century, research on leadership has focused on different aspects of leaders' personality traits, behaviours and styles. When searching in data bases for health outcomes among employees, a couple of theories of leadership were found to dominate the research scene: the theory of task- and relationship oriented leadership and the theory of transformational and transactional leadership. These will be presented in more detail. We have also tried to capture the European cross-cultural perspective on leadership.

The results from our searches on leadership and its outcomes among subordinates will be presented. Both outcomes on job satisfaction and different

aspects of health have been investigated. We have found a limited amount of studies on cross-cultural aspects of leadership and its effects on subordinates.

The results are then summarized. Although the research on effects of leadership on subordinate health is limited, especially in a cross-cultural perspective, we have tried to draw some conclusions from our findings and from these conclusions elaborated on possible ways of investigating the topic further.

Background

Culture

There is no consensually agreed-upon definition of culture. Culture is variously defined in terms of commonly shared processes: Shared ways of thinking, feeling and reacting; shared meanings and identities; shared socially constructed environments; common ways of interpreting how technologies are used; and commonly experienced events (House, Wright & Aditya, 1997). Culture represents a collective agreement and refers to sharing of important interpretations and meanings. Cultural norms and forces are manifested linguistically, behaviourally and symbolically in the form of artifacts and these are transmitted across generations. Common experiences, like history, religion, language and political and economic experiences are inherent in the notion of culture. Cultural variables are influential largely because members of groups identify themselves with an agreed-upon set of values and social identities and these have powerful socialization effects on the members. The social influence of cultural forces is assumed to provide a set of behavioural, affective and attitudinal orientations for members of cultures and the members are presumed to abide by a set of norms, reflecting their commonalities (House et al., 1997).

Corporate culture

Several different cultures most often exist within an organization, but there is also a predominant corporate culture, expressing central values that are shared by the majority (Abrahamsson & Andersen, 1996). According to Hofstede (1994) corporate culture is a phenomenon that differs from national culture, perhaps most evidently because employees are free to leave the corporation. The organization is described as a social system, in which the employees are involved only during working hours. The corporate culture may however also influence the leisure time of employees.

Schein (1992) analysed culture regarding its degree of visibility and describes three different levels. Basic underlying assumptions constitute the least visible level, which includes unconscious perceptions, thoughts, feelings and beliefs. Espoused values include strategies, goals and philosophies and artefacts all visible organizational structures and processes.

Leadership

As is the case with culture, there is at present no consensually agreed-upon definition of leadership among scholars. Definitions vary in terms of emphasis on leader abilities, personality traits, influence relationships, cognitive versus

emotional orientation, individual versus group orientation and appeal to self-versus collective interests (Bass, 1990, Yukl, 1994). Here are some key features noted by some definers of leadership (in Forsyth, 1990):

1. Leadership is a reciprocal process. Any aspect of the leader, group member or setting can influence and be influenced by every other variable in the system. An interactional view assumes that leadership is a fluid, dynamic process involving continual adjustments among the three elements (Barrow, 1977, Cartwright & Zander, 1968, Hollander, 1985)
2. Leadership is a transactional process. The leader/member relationship is a form of social exchange; leaders and group members trade their time and energy in exchange for valued monetary and social rewards (Burns, 1978, Hollander & Julian, 1969, Pigors, 1935).
3. Leadership is often a transformational process. The transformational leader increases group members' motivation, confidence and satisfaction by uniting members and changing their beliefs, values and needs (Bass, 1985, Bass, Avolio & Goldheim, 1987)
4. Leadership is a cooperative process of legitimate influence rather than sheer power (Grimes, 1978). In a small group, for example, the individual who influences others the most is often designated the leader (Hollander, 1985). The right to lead is, in most instances, voluntarily conferred on the leader by some or all members of the group (Kochan, Schmidt & De-Cottis, 1975).
5. Leadership is an adaptive, goal-seeking process, for it organizes and motivates group members' attempts to attain personal and group goals (Katz & Kahn, 1978).

Trait theory of leadership

During the first half of the 20th century, studies aiming at mapping personal traits among leaders dominated the research on leadership (Larsson, 1999), but these early studies found few traits that were consistently related to leadership effectiveness (Forsyth, 1990) and the model was criticized (Larsson, 1999). A classical model with this type of orientation is Kurt Lewin's description of the three leader types: democratic, autocratic and laissez-faire (Larsson, 1999).

Leader Behaviour

At The Ohio State University a research program on leadership started in 1945, which came to dominate the field of leadership studies for two decades. Characteristic for the research was the focus on the behaviour of the leaders rather than their personality traits (Larsson, 1999). In the Ohio State University Leadership Studies, researchers investigated behaviours in military and organizational leaders (Hemphill, 1950). By using factor analysis they found the

two dimensions consideration and initiating structure to account for over 80% of the variation in followers' ratings of their leaders (Forsyth, 1990). Several other independent researchers have later noted the same dimensions. A host of studies argues that the behaviours that make up the role of leadership fall into two general clusters: Relationship behaviours and task behaviours. Although the labels vary – supportive versus work-facilitative (Bowers & Seashore, 1966), employee-centred versus production-centred (Likert, 1967), relations-skilled versus administratively skilled (Mann, 1965) or group-maintenance versus goal achievement (Cartwright & Zander, 1968) – the two basic dimensions surface with remarkable consistency (Forsyth, 1990).

Relationship behaviours address the feelings, attitudes and satisfaction of the members of the group and boosting morale, increasing cohesiveness, reducing interpersonal conflict, establishing leader/follower rapport and illustrating one's concern and consideration for group members all go into relationship leadership (Lord, 1977). Task behaviours, in contrast, pertain to the problem at hand rather than the personal satisfactions of the group members. Leaders must also lead; they must guide the group in the direction of successful goal attainment. Defining problems for the group, establishing communication networks, providing evaluative feedback, planning, motivating action, coordinating members' actions and facilitating goal attainment by proposing solutions and removing barriers are key aspects of task leadership (Lord, 1977). These two dimensions were incorporated by the Ohio State researchers in their Leader Behavior Description Questionnaire (LBDQ) (Stogdill, 1974).

Lennerlöf (1969) writes that all research conducted up to that point appeared to suggest that a combination of high structure and high consideration is the most adequate leadership.

A large amount of empirical research support the notion that both a purely relationship oriented leadership and a so-called combined style have positive effects on job satisfaction among subordinates and in most cases also lead to a higher productivity (Bass, 1981). Larsson (1999) argues that a common result from research on these two dimensions is that consideration is necessary, but not enough for a successful leadership. The situational demand of initiation of structure must be added, e.g. more initiation of structure when stress is high and less initiation of structure when the situation is calmer.

Situational and contingency theories of leadership

The research on the leaders' behavioural style was criticized for the lack of environmental, situational analysis, so after studying managers' personal traits and behavioural styles, leader and subordinate interaction became the focus of many studies. One of the first contingency theories of leadership effectiveness was Fiedler's (1967). He identified a task-oriented and a relationship-oriented

leadership style and studied which one was the most effective in different situations. Reddin (1973) introduced a three-dimensional leadership theory, in which he adds a dimension of effectiveness to the task- and relationship orientation. Effective is a leader, who can adjust his/her leadership behaviour to the situation. Hersey & Blanchard (1972, 1974, 1976) developed the theory further by trying to explain when the different styles are effective. The situation is defined in terms of maturity of the group. The maturity of the group depends on the group members' motivation to reach results, their willingness and ability to take responsibility and their education and experience. Blanchard, Zigarmi & Zigarmi (1986) later expanded the model further, by adding that the leader's level of support and direction should depend on the level of an individual's maturity, which is a function of competence and commitment. In the first level of maturity, there is energy and motivation, but not competence, and a directing task oriented leadership style will most probably be successful, since the enthusiasm needs to be canalised. When maturity increases, which means that the capacity to solve the tasks given increases, the leader can move towards a more supportive leadership style and put emphasis on creating good relations. When both competence and motivation are high, the importance of the leader in the daily work decreases. Thylefors (1991) points out the weaknesses of the model, e.g. that the subordinates' level of competence and motivation can vary a lot with the tasks they have at hand and that motivation can depend on a lot of factors that are hard to predict or control. Therefore it puts high demands on leader's capability to quickly diagnose a group and its individuals. The positive contribution of the model is that it stresses the need for leaders to be alert, sensitive and flexible (Thylefors, 1991).

Ekvall (1988) adds another dimension to the preceding two: change orientation. Subordinates in the CLIPO-study (conducted in Sweden in 1990 on leadership within the health care sector) described their opinion on how their closest superior should act and quite a concordant picture emerged. The leader should primarily be relationship oriented, secondly structuring and thereafter change oriented (Thylefors, 1991).

Thylefors (1991) argues that the leadership style or attitudes emanate from the leaders' personality, in a wider definition. Techniques are important, but are inferior to the leader's attitudes. The underlying values and motives of the leaders are the factors that determine whether a leader is successful and appreciated by their subordinates or not. Therefore, there can be effective and appreciated leaders exhibiting different leadership styles.

Transformational and transactional leadership

The situational models have only had limited support in research studies (Bass, 1997) This has contributed to the re-emergence of the personality trait theories

(Larsson, 1999). Although the personality trait theories have been harshly criticized, even the critics themselves later found that they overreacted (Hersey, Blanchard & Johnson, 1969/1996). A literature review by Nystedt (1997) shows that personality traits are clearly related to successes and failures of leaders. He points out that this becomes more evident when looking at a broader pattern of personality traits (rather than one isolated trait). Personality traits constitute an important part of the newer leadership theories, which have developed during the 1980s. The theory of the so called transformational leadership has more and more come to dominate the research scene (Larsson, 1999).

The ideas of transformational and transactional leaderships were first introduced by Burns (1978) and later developed by Bass (1985). Bass defines transformational supervision in terms of the leader's motivational effect on followers. They feel loyalty, trust, admiration and respect toward the transformational leader. The followers are motivated to serve and achieve more than they were originally expected to. They are inspired to achieve higher-order needs and are made more aware of the organization's needs for their unique skills and talents.

Larsson (1999) explains the dynamics of the transformational leadership to be the subordinates' identification with the leader, their sharing of his or her visions of the future and the efforts made by subordinates to go beyond their own self-interests. Bass (1990) mentions a few personality traits that characterize transformational leaders: self-confidence, determination, understanding of subordinate needs and freedom from inner conflicts. It is acknowledged that there are four various types of transformational leadership behaviours:

1. Idealized Leadership. This is the behaviour that arouses followers to feel a powerful identification and strong emotions toward the leader.
2. Inspirational Motivation. A leadership behaviour that models high values as an example and includes communication of an inspiring vision. It also promotes powerful symbols to arouse greater effort and a feeling of belonging.
3. Individualized Consideration. This behaviour provides coaching, support and encouragement of specific followers.
4. Intellectual Stimulation. A behaviour that influences followers to view problems from a fresh perspective and with a new increased awareness.

The end result of transformational leadership is empowering others to take more initiative in their work, inspiring them to be more committed and building their self-confidence.

Transactional leadership, in contrast, seeks to motivate followers by appealing to their own self-interest. Its principles are to motivate by the exchange process. For example, business owners exchange status and wages for the work effort of the employee. In the political environment, politicians may exchange favours or

government jobs for votes. Transactional behaviours focus on the accomplishment of task and good worker relationships in exchange for desirable rewards. It is thought by many today that transactional leadership can encompass four types of behaviour:

1. Contingent Reward. To influence behaviour, the leader clarifies the work needed to be accomplished. The leader uses rewards or incentives to achieve results when expectations are met.
2. Passive Management by Exception. To influence behaviour, the leader uses correction or punishment as a response to unacceptable performance or deviation from the accepted standards.
3. Active Management by Exception. To influence behaviour, the leader actively monitors the work performed and uses corrective methods to ensure the work is completed to meet accepted standards.
4. Laissez-faire Leadership. The leader is indifferent and has a hands-off approach toward the workers and their performance. This leader ignores the needs of others, does not respond to problems or does not monitor performance.

Transactional leadership behaviour is used to one degree or another by most leaders. Each of the components of transactional and transformational leadership can be assessed by the Multifactor Leadership Questionnaire (MLQ) (Avolio & Bass, 2002).

Bass (1985) sees the two leadership dimensions as complementary rather than contrary to one another. They are also both aiming at reaching a goal. But there are a couple of crucial differences between transformational and contingency rewarding leadership. Transformational leaders do not only react to circumstances, they also actively try to reshape and influence the environment; and transactional leaders motivate subordinates by punishments and rewards, whereas transformational leaders try to make subordinates strive towards a more long-term goal and be motivated from within (Larsson, 1999).

Bass (1997) summarizes the research of the effects of transactional versus transformational leadership on job satisfaction among subordinates and the effectiveness of the organization. He ranks the different leadership styles in the following way:

1. Transformational leaders.
2. Leaders using Contingent Rewards.
3. Leaders using Active Management by Exception.
4. Leaders using Passive Management by Exception.
5. Laissez-faire Leaders.

Larsson (1999) finds a limitation of the theory of transformational leadership to be that very little is said about how leaders accomplish the elevation of subordinates from lower to higher levels of the need hierarchy so they can commit themselves beyond their own self-interests.

Bass (1990), and Shamir, House & Artur (1993) have tried to explain the effects of transformational leaders by theories of personality psychology. They emphasize the self-perceptions of the subordinates, which was something that Freud commented on as early as 1923. Freud meant that when you follow a charismatic leader with high ideals you try to solve a conflict between your ideal self-image and your actual self-image by letting your leader embody the ideal self-image. By then identifying with the leader you can fulfil your own wishes to be for example less self-centered and more altruistic. This may lead to subordinates trying to protect a positive and idealized picture of the leader, since critique towards the leader will be experienced as critique towards themselves (Larsson, 1999).

Cross-cultural research on leadership

More than 7500 studies of leadership have been conducted since the beginning of the last century (Bass, 1990), but a majority of these studies have been carried out in one country only (Zander, 1997). There has been a large number of leadership studies outside the US conducted by non-American researchers with a focus on leaders' behaviours in a specific country, but Smith & Peterson (1988) point out that these researchers have most often been strongly influenced by the research models and methods used in the US (Zander, 1997).

The cultural congruence proposition asserts that cultural forces affect the kind of leader behaviour that is accepted, enacted and effective within a collectivity. This proposition is supported by empirical evidence. House et al. (1997) conclude, from a review of empirical studies in cross-cultural leadership, that cultural differences account for a significant amount of variance in preferred leader behaviour as well as in actual leader behaviour.

The near universality of leader behaviours proposition asserts that some leader behaviours are universally or near universally accepted and effective. Despite wide-ranging differences in cultural norms across countries studied, there is some support for this proposition (House et al., 1997). Bass, Burger, Doktor & Barrett (1979) found that managers from twelve culturally diverse countries expressed a desire to get work done while using less authority. Smith and Peterson (1994) found that managers in twenty-five countries reported satisfaction with events for which they were delegated substantial discretion. Transformational leadership has been found effective and acceptable in studies from a large number of different countries and Bass (1997) asserts that three components of

transformational leadership are near universal: charisma, intellectual stimulation of followers and individualized consideration towards followers.

House et al. (1997) suggest that leadership behaviours that are near-universally accepted might never have been widely introduced to the members of many societies. It may therefore be difficult for them to express a preference for such behaviours and unrealistic of researchers to expect them to. Findings from the study of Hofstede (1980) can be taken as an example. Despite the relatively high power distance orientation of the French, French managers who experienced democratically oriented management by their superiors expressed a desire to work for such managers again (House et al., 1997).

House et al. suggest a theoretical framework to guide cross-cultural leadership theory and investigation. The theory is, among others, built upon the implicit leadership theory as proposed by Lord and Maher (1991). According to implicit leadership theory, individuals have implicit theories (stereotypes, beliefs, convictions and assumptions) of what behaviours and characteristics make up a good leader. Since members of cultural entities share values, beliefs, social identities, motives etc, they are likely to have similar implicit theories of leadership. Implicit leadership theory further asserts that individuals are attributed leadership qualities and then accepted as leaders on the basis of the degree of fit, or congruence, between the leader behaviours they enact and the implicit leadership theory held by the attributors. The better the fit, the more the leader is accepted by the attributors (House et al., 1997).

Zander (1997) studied interpersonal leadership (ILP) in 18 different countries and found that employees' preferences regarding elements of IPL varied significantly across countries. Employees in the USA, Canada, UK, Australia and the Netherlands wanted a high intensity of interpersonal leadership with focus on coaching. Employees from Denmark, Norway, Sweden and Finland preferred a low intensity leadership focused on coaching. In Spain, Brazil and Austria, the preference was a directing leadership of high intensity and in Japan, Germany, Switzerland, Belgium, France and the Philippines the employees wished to have a directing leader and low intensity of leadership.

Hofstede (1994) measured inequalities in national culture in 53 countries or regions, of which 15 were European. Power Distance (PDI) was analysed in 40 countries and 43 percent of the variance in this variable was explained by geographical latitude. Higher latitudes had lower PDI – power distance index. Low PDI corresponds to low subordinate dependence on managers. Subordinates in countries with low PDI had a preference for a consultative leadership, which meant interdependence between the subordinates and the manager. Latitude and population size explained 51 percent of the variance and wealth explained 7 percent.

Holmberg & Åkerblom (2001) used an ethnographic semantics method when analyzing leadership images in the Swedish media. The analysis showed that different institutional contexts generated different implicit models of leadership, even within the same national framework. Their conclusion is that leadership is exercised and enacted as an expression of both socially constructed institutions and culturally grounded values.

Leadership and gender

Westberg (1998) has pointed out that most working-life research has been gender neutral. Also leadership has in leadership theory been described as something gender neutral, which has been criticized from a feminist perspective. It has been emphasized that there are clear similarities between social constructions of leadership and social constructions of masculinity (Wahl, 1992). According to Wahl (1997) there appear to be gender differences in leadership style, but that it is unclear what characteristics these differences have and how they arise.

A meta-analysis of 45 studies of transformational, transactional, and laissez-faire leadership styles found a small difference between female and male leaders. Female leaders were more transformational than male leaders and also engaged in more of the contingent reward behaviours that are a component of transactional leadership. Male leaders were generally more likely to manifest the other aspects of transactional leadership (active and passive management by exception) and laissez-faire leadership (Eagly et al., 2003).

There are several circumstances that account for differences between men and women within the EU, for example differences within the labour market. The Nordic countries (Sweden, Denmark, Finland and Norway) are characterized by high labour market participation, based on equal job opportunities for men and women and a two breadwinner strategy. In the southern countries (Greece, Italy, Spain and in some aspects Portugal) female employment is generally much lower, in the direction of the male breadwinner strategy. The remaining central EU member states (Germany, France, Belgium, the Netherlands, Luxembourg, UK, and Ireland) are in some aspects close to the Nordic model (especially the Netherlands) and sometimes closer to the southern model (especially Germany regarding female employment) (Vogel, 2003). Between 1980 and 1999 7 of the 8 million newly employed in the EU were women (Östlin, 2002). With regards to family formation the Nordic countries have smaller household size, earlier exits, earlier partnering, higher fertility, larger divorce rates and singleness rates, and elderly seldom live with their mid-aged children. The Southern countries, including Ireland, depart concerning all these aspects. The remaining central EU member states take an intermediate position in most aspects (Vogel, 2003). There are differences in life style circumstances for male and female top executives in different nations. (Kuusipalo et al., 2000).

Health

Health can be described in many different ways. Theorell and Vogel (2003) clarify the three concepts disease, illness and sickness:

- *Disease* refers to biological or physiological reactions. It is an individual and biologically oriented description. The symptoms are objective (clinical) and are usually related to environmental risk factors.
- *Illness* is subjective and relates to the consequences of a disease. Illness needs to be understood in its social context.
- *Sickness* is the social consequence of disease and illness. Sickness is an inability in an individual role and is mostly identified by others.

Self-reported health has been shown to be a valuable indicator of health.

According to several reports, poor self-reported health correlates with elevated mortality and objective measures of morbidity. Therefore questions about self-reported health have substantial potential value in efforts to compare health levels between European countries (Theorell & Vogel, 2003).

There are several obstacles to the discussion of health findings when different studies are compared. Cultural differences in meaning of words as well as accessibility to health care influence peoples' answers to self rated health questions. Self-ratings of health are also influenced by the current demands from employment, family obligations and the general cross-pressure of daily life. The environment not only affects disease, but also the subjective health reported in health surveys. The obstacles are even more explicit in international comparisons. In spite of identical measurement (identical questions in a questionnaire) there is a cultural factor involved. Despite all these methodological difficulties comparative research in self-related health should still provide valuable insight in the determinants of health inequities (Theorell & Vogel, 2003).

There are considerable variations in material living standards and income distribution, education and socio-economic conditions between different European countries. These conditions are currently being discussed as factors of relevance to the level and distribution of health in populations (Theorell & Vogel, 2003). There are differences in the mean working-time between European nations. The mean working-time was 1551 hours per year in Sweden in 1998. Sweden reported the lowest mean compared to Germany, France and Great Britain. Great Britain reported over 1700 hours per years (OECD, 1999).

Predictors of work-related (ill) health

Many factors can be sources of pressure at work. It may be lack of personal development, too high a workload, conflicts at work, too high or low a level of responsibility, home/work conflicts, lack of social support, organizational changes and many other factors in an organization (Bernin, 2002).

The demand-control model

The demand-control model was introduced by Karasek (1979) and was further developed by Karasek and Theorell (1990). Johnson (1986) added social support to the demand-control model.

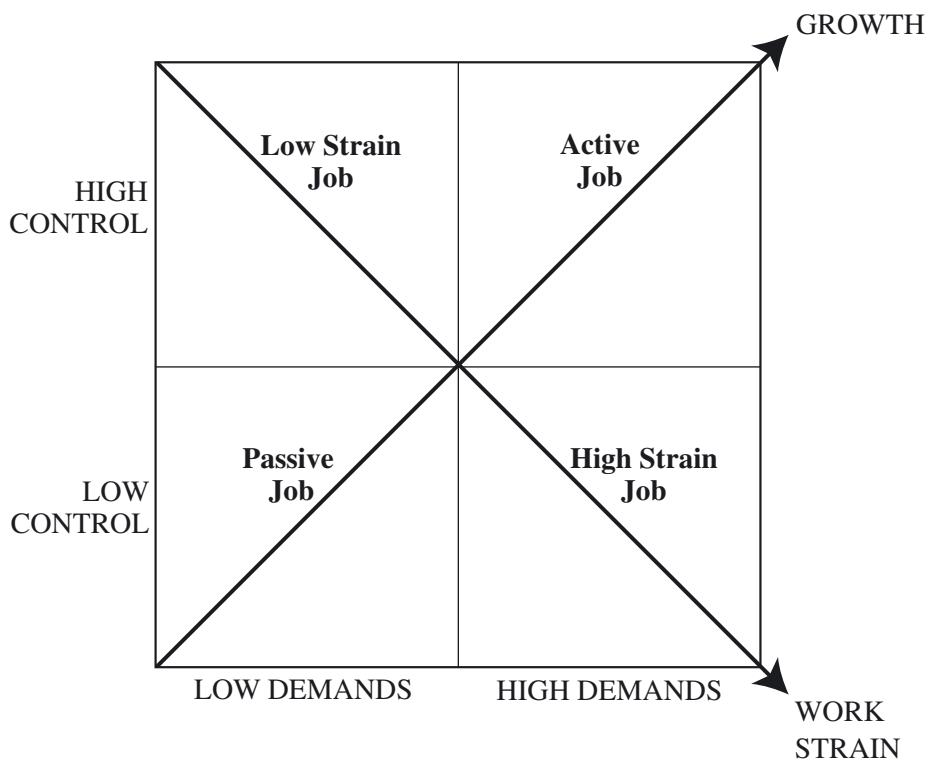


Figure 2. Demand-Control-Support (Karasek, 1979)

Bernin (2002) writes that work organization is crucial in the demand-control model. Whether the organization allows the employees to develop skills or not is central to the individual's possibility to exert control. High demands may induce high arousal and the hypothesis is that high arousal is dangerous to health, when the possibility to exert control is poor. Decision latitude is often divided into skill discretion and authority over decisions. The level of decision latitude is to a great extent part of the organization, since it is influenced by the goals, the strategies and the values in the organization. Managers have been positioned in the active quadrant with high psychological demands and high decision latitude. More men than women are situated in the active quadrant (Karasek & Theorell, 1990).

In a recently conducted study, subordinates in the health care sector, were found to have the same high levels of psychological demands as their managers (Bernin & Theorell, 2003).

Cardio-vascular risk factors have been investigated in relation to the demand-control model in several epidemiological studies. Although there is an elevated risk of developing cardiovascular disease in job strain work, the findings regarding the classical cardiovascular risk factors in relation to job strain have been inconsistent (for a review see Belkic et al, 2000). Theorell et al. (1998), Hallqvist et al. (1998) and Reuterwall et al. (1999) have found that decreased decision latitude and job strain may be risk factors for myocardial infarction per se, both for women and men. Women in the health care were in another study examined with regard to blood pressure and job strain (Theorell et al., 1993). Diastolic blood pressure was associated with job strain both during work hours and leisure time, whereas systolic blood pressure was associated only with job strain during work hours.

Social support

Johnson (1986) added social support to the demand-control model and stated that social support is a basic need at the workplace, acting to protect against pressure. The effect of support depends on how the receiver perceives it (House, 1981). All social interactions are not supportive. There are many kinds of interactions that have negative connotations (Karasek & Theorell, 1990). Social support can sustain or improve health and is often described to be related to health in three different ways.

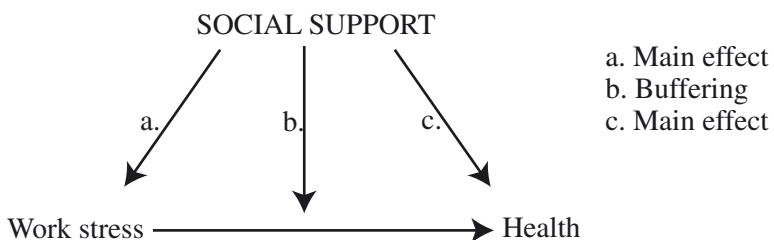


Figure 3. Social Support (House 1981).

Social support concerns different kinds of support between individuals. House (1981) divided social support into four categories of behaviour:

- Emotional support
- Instrumental support
- Informational support
- Appraisal support

Emotional support includes empathy, love, caring and trust and is according to House included in all kinds of support. Instrumental support corresponds to

direct help with practical needs. Information support could be regarded as help to self-help. Appraisal support is similar to information support since information is central to appraisal.

Social support has been found to differ between occupational groups (Karasek & Theorell, 1990). In a cross-sectional Swedish study of cardiovascular disease, social support has been shown to be related to the demand-control model. High cardiovascular disease risk was found with low levels of social support, especially in male blue-collar workers. Women with coronary heart disease reported lower decision latitude than women in the control group. Low decision latitude was often combined with poor social support in general (Johnson & Hall, 1988). A case-control study of the Swedish male population (Johnson et al., 1995) showed that low control and low support were associated with high relative risk of cardiovascular mortality. Another longitudinal study of 50-year old men showed that both poor emotional support and a small extended network were significant predictors of cardiovascular diseases (Orth-Gomér et al., 1993). Several researchers have reported that social isolation is a risk factor for coronary heart disease (Berkman & Orth-Gomér, 1998). The results have been shown for both men and women, but have not been as consistent among women as among men.

Leadership and subordinate health

Management is part of the organization, of its culture and structure. Leaders and subordinates are both influenced by the organizational structure and culture, but leaders probably have a greater possibility to shape and change it. Management or leadership style may, in interaction with the organization, be a factor that has impact on the health of subordinates.

In the literature on leadership research, describing the development from the beginning of the last century, the health of subordinates is not regularly mentioned as a factor of relevance for leadership effectiveness. Factors like productivity and employee job satisfaction appear as definitions of a successful leadership.

Vance and Larson (2002) conducted a computerized search for research studies on the outcomes of leadership on individuals, groups and organizations in the health care and business literature between 1970 and 1999. They found that most of the literature on leadership consisted of anecdotal or theoretical discussion. Only 4,4 % (n 290) of 6628 articles were data based. The largest proportion of the research (120/290, 41,1%) was purely descriptive of the demographic characteristics or personality traits of leaders. 27,9 % of 290 articles showed the influence of leadership on subordinates and 5,2 % the influence on the recipients of services or organizational changes.

The research on the influence of leadership on subordinates has, as mentioned above, primarily focused on subordinate job satisfaction. The conducted search will therefore include job satisfaction as an outcome variable. However, our main interest is still to gather information on the impact of leadership on the health of subordinates. Since no review of leadership research describing subordinate health outcomes has been found, the search for articles in databases will have to guide the following discussion on the topic.

Results – the impact of leadership on employees

Searches in PsycINFO and PubMed

A search in the data bases PsycINFO and PubMed of research studies on the impact of leadership on subordinates' health was conducted. The key words used were leadership and health, stress, burnout, strain, tension, turnover, retention, job satisfaction, anxiety, exhaustion, sick leave and sick absence. Only articles with abstracts presenting results (results that were comprehensible) are included in the summary below. No evaluation or comparison regarding scientific quality has been made. The research results are presented regarding what leadership style and outcome variable they study.

Leadership styles and behaviours studied

The leadership styles or dimensions most frequently studied are:

1. Consideration and Initiating structure as measured by the Leader Behavior Description Questionnaire, LBDQ, developed by the Ohio State researchers (Stogdill, 1974)
2. Transformational and transactional leadership as measured by the Multifactor Leadership Questionnaire (MLQ) (Avolio & Bass, 2002).

Outcome variables studied

When investigating the impact of leadership behaviour on employees, the most frequently studied outcome variable is job satisfaction. Other outcome variables, that come closer to a description of health, are perceived stress (job strain) and burnout. Retention and work alienation also gave a couple of interesting results, whereas searches on sickness absence or sick leave yielded no relevant information in combination with leadership.

The outcome variables found in this literature search can thus be categorized under the "illness" description of health. There are no objective measurements, such as biological or physiological markers nor any measurement identified by others (such as sickness absence). Subordinates have completed questionnaires, where they report their experienced level of for example stress or burnout.

The impact of leadership on subordinates' job satisfaction

Research on leadership and subordinate job satisfaction has been conducted in a variety of organizations and in a large number of different countries. The job satisfaction of teachers and nurses in relation to their leaders appears particularly well investigated. The research results from the different countries, organizations and professional groups, when investigating the effect of the leadership

behaviours or styles referred to earlier, follow similar patterns. They will therefore be presented without such specifications. The results from this search are consistent with those presented in reviews made by e.g. Bass (1981, 1990).

Results from several studies indicate that there is a relationship between perceived leadership style and the job satisfaction of subordinates. Chiok Foong Loke (2001) found that leadership behaviours explained 29% of job satisfaction and Lucas (1991) that leadership style perceptions predicted 36,6% of the variance in job satisfaction scores among nurses. Bratt et al. (2000) present results indicating that job stress and nursing leadership are the most influential variables in the explanation of job satisfaction among nurses. Sorrentino et al. (1992) found significant correlations between head nurse behaviour and job satisfaction in subordinates as well as a moderating effect of leadership on job anxiety and support perceived by nurses.

Upenieks (2002) found that clinical nurses employed at “magnet” hospitals experience greater levels of empowerment and job satisfaction than do nurses employed at “non-magnet” hospitals. This is due to access to work empowerment structures within their practice environments. Differences in leadership effectiveness between magnet and non-magnet nurse leaders that accounted for differences in job satisfaction of nurses included greater visibility and responsiveness by magnet leaders, better support of nurse autonomous decision-making by magnet leaders and greater support of a professional nursing climate among magnet leaders.

High power motivation in nurse managers has been found to correlate negatively with use of good leadership behaviours and high staff nurse job satisfaction. Managerial motivation for achievement, on the other hand, correlated positively with use of good leadership behaviours and high nurse job satisfaction (McNeese-Smith, 1999).

Skogstad & Einarsen (1999) found positive correlations between a change-centered leadership style and subordinates’ job satisfaction, organizational commitment and evaluations of the leader’s competence.

Upenieks (2003) investigated nurse leaders’ perceptions of what comprises successful leadership in today’s acute inpatient environment. The results show that 83% of the nurse leaders validated that access to power, opportunity, information, and resources creates an empowered environment and a climate that fosters leadership success. Access to these factors also enhances good work satisfaction among nurses.

Leadership behaviours of consideration and initiating structure

Research results from several studies indicate that both consideration and initiating structure behaviours of leaders are positively related to job satisfaction among subordinates (Kennerly, 1989, Bare-Oldham, 2002, Alsubaie, 1997).

Boumans & Landeweerd (1993) found that nurses are most satisfied if the head nurse pays much attention to both “social” and “instrumental” leadership and that social leadership alone also contributes positively to nurses’ reactions to their job, whereas instrumental leadership alone leads to health complaints. Butler & Cantrell (1997) also found both consideration and initiation of structure leadership behaviour to have positive effects on the productivity of group members. Other studies reveal a positive relationship only between consideration leadership behaviour and job satisfaction among subordinates (Zigrang, 2000, Payden, 1997) or at least that this relationship is stronger than the one between initiating structure leadership behaviour and job satisfaction (Haddad & Samarneh, 1999, Pakard & Kauppi, 2000, Pool, 1997). Results by Schriesheim & Murphy (1976) indicate that in low-stress jobs, leadership consideration enhances job satisfaction and performance, but in high-stress jobs, leadership structure is helpful. High structure has dysfunctional effects only when accompanied by low consideration.

Transformational and transactional leadership styles

Several studies have shown that transformational leadership correlates positively with high job satisfaction among subordinates (Medley & Larochelle, 1995, Dunham-Taylor, 2000, Shieh et al., 2001). Shieh et al. (2001) also found Contingent Reward Leadership styles to positively predict job satisfaction. Results from a study conducted by Morrison et al. (1997) indicate that both transformational and transactional leadership styles are positively related to job satisfaction. Pollock (1998) presents a result in accordance with this and puts emphasis on the inspirational motivation leadership behaviours as being especially important for subordinates’ job satisfaction.

He also found that employees respond negatively to laissez-faire leadership and that the greater a subordinates’ professional orientation, the less influence the leader has on his/her job satisfaction. Al-Dmor & Al-Awamleh (2002) found transformational leadership to be positively related to job satisfaction, but transactional leadership to be positively related to self-oriented performance. Brossoit (2001) suggests that transformational leaders positively influence employees’ cognitions of empowerment. Her results indicate that transformational leaders appeal strongly to employee perceptions of meaning in their jobs and that perceptions of meaning to a great extent contribute to job satisfaction. Sparks & Schenk (2001) present results that support the notion that transformational leadership indeed “transforms” followers by encouraging them to see the higher purposes in their work. A relationship between belief in a higher purpose of one’s work and job satisfaction was found.

Catalano (2003) studied the relationship between transformational and transactional leadership and job satisfaction in an aerospace environment. The conclusion of the author is that leadership in the aerospace industry generally follows similar leadership trends as in other organizations, whether the goal is the production of commodities for sale or the provision of services. It also shows that leadership in high-tech industries influence job satisfaction as in traditional industries.

The impact of leadership on subordinates' health (stress and burnout)

Does leadership at all have any impact on employee health?

Leadership has in a number of studies been referred to as one of many possible sources of stress at the work place (McVicar, 2003, Jonsson, Johansson, Rosengren, Lappas & Wilhelmsen, 2003) but the magnitude of its impact varies across studies. Stordeur, D'hoore & Vandenberghe (2001) found leadership dimensions to explain 9% of the variance in emotional exhaustion and Gordick (2002) found that transformational leadership explained 2% of the variance in coping with organizational change and that it was not a significant predictor of perceived stress.

In a large prospective study of a random sample of Swedish employees Oxenstierna et al (2004) found that lack of decision authority as well as lack of support from work mates were powerful predictors of longlasting sick leave (at least 60 days). Support from superiors had no statistically significant effect. Some studies indicate a moderate relationship between leadership styles and burnout/emotional exhaustion/depersonalization (Langner, 2002; Webster & Hackett, 1999). Vealey, Armstrong, Comar & Greenleaf (1998) found perceived coaching styles/behaviours predictive of athlete burnout. But several studies have found no impact of leadership on health of subordinates, or the results indicate that the role of leadership is inferior to other work related and demographic factors (Mazur & Lynch, 1989, Lubofsky, 2002, Bernin and Theorell, 2003). Stordeur, Vandenberghe & D'hoore (1999) found that leadership dimensions were not significantly related to burnout once stressors like job strain, lack of social support, conflict at work and feeling that the job is threatened were included in the regression model. These findings are supported by results from Gordick (2002) and Widerszal-Bazyl (2003). Widerszal-Bazyl (2003) points out that social support plays an especially important role. She suggests that further research should focus on the indirect relationship between leadership and employee health and analyse to what extent supervisors influence e.g. demands, control and social support, which are known to have a strong impact on employee health.

Subordinate participation and autonomy

A higher perceived access to empowerment structures (information support, resources and opportunity) has been shown to predict lower levels of job tension (Laschinger, Wong, McMahon & Kaufmann 1999). Offerman & Hellman (1996) found that leaders and subordinates had different views of what factors are associated with stress among subordinates, where leaders particularly underestimated the importance of leader delegation and subordinate participation. Stordeur et al. (1999) tested the demand-control model (Karasek, 1979), and the results confirmed that perceived control reduced the effect of job strain on burnout. They suggest that if job strain is high, managers can reduce its effect by providing subordinates opportunity to control their work environment.

A combination of leadership behaviours of high structure and low consideration has been shown to have a statistical association with poor health in subordinates (Seltzer & Numerof, 1988; Duxbury, Armstrong, Drew & Henly, 1984). Seltzer et al. (1988) suggest that the loss of autonomy that come from having a highly structuring supervisor, coupled with low consideration, may be an important contributor to burnout. Active management-by-exception (the leadership behaviour, where the leader actively monitors the work performed and uses corrective methods to ensure the work is completed to meet accepted standards) has also in a study by Stordeur, D'hoore & Vandenberghe (2001) been found to create increased levels of emotional exhaustion among subordinates. One study showed that when athletes perceived that their coaches provided good social support, positive feedback, democratic decisions and less autocratic style, there were more positive (e.i. perceived competence, enjoyment) and less negative (i.e. anxiety, burnout) psychological outcomes (Price & Weiss, 2000). Rosengren, Engstrom & Axelsson (1999) conducted a qualitative study of the staff's experience of an accomplished organizational change and pointed out the importance of participation of staff members concerned. The leadership, when undergoing structural changes, is considered a major factor to make other staff members participate.

Consideration and structure

Leaders' consideration or social leadership style has been found related to low reported job tension, burnout or emotional exhaustion among subordinates (Sheridan & Wredenburgh, 1979, Melchior, van den Berg, Halfens & Abu-Saad, 1997, Mccain, 1995).

A couple of studies make it likely that a leader who balances task and relationship orientation creates the lowest levels of stress or burnout among subordinates (Harris, 1999, Wilcoxin, 1989). Arvonen (1995) found that the more employee-oriented or structure-oriented leadership style, the less mental fatigue and psychosomatic load. There was also a weak correlation between

change oriented leadership and mental fatigue. Herman (1985) found a gender difference in teacher burnout related to considerate/inconsiderate principals. Whereas no significant differences were found for female teachers working under considerate/inconsiderate principals, male teachers who worked under inconsiderate principals reported higher depersonalization scores than did those with considerate principals.

Transformational and transactional leadership

Rome (2000) found a palliative effect of leadership agents on reactions to workplace stressors. Transactional and particularly transformational leadership decreased stress reactions (physical, emotional and psychological) among subordinates. Results from Sosik & Godshalk (2000), and Corrigan, Diwan, Campion & Rashid (2002) support the notion that transformational leadership behaviours relate negatively to job stress and burnout and also that laissez-faire leadership behaviours have an inverse effect (Sosik & Godshalk, 2000). Schultz, Greenly & Brown (1995) found both transformational and transactional leadership styles to be antecedents to a favourable work environment and less burnout.

Finally, Rose (1998) showed leader-member-exchange (which refers to the quality of the relationship between the leader and the subordinate) to be negatively related to burnout, though other factors had moderating effects under some conditions.

Results reported by Kagan (1989) showed that teachers with non-analytic and pragmatic cognitive styles (COGs) tended to prefer a more process-oriented style of leadership and that analytic teachers preferred a more task-oriented principal. Non-analytic teachers appeared to be relatively unsusceptible to many sources of organizational stress. The more analytic and realistic teachers were, the more they tended to report organizational stress. (These findings could be more related to reporting styles, however, than to true differences).

The impact of leadership on employee retention

Taunton, Boyle, Woods, Hansen & Bott (1997) tried to trace the effects of manager leadership characteristics on staff registered nurse retention. They found that manager consideration of staff directly affected retention.

Results from another study reveal that managers with leadership styles that seek and value contributions from staff, promote a climate in which information is shared effectively, promote decision making at the staff nurse level, exert position power and influence coordination of work, provide a milieu that maintains a stable cadre of nurses (Boyle, Bott, Hansen, Woods & Taunton 1999).

Testing the transformational leadership theory, McDaniel & Wolf (1992) found that intellectual stimulation, charisma and individual consideration are

aspects of leadership, which enhance retention and staff satisfaction. The authors suggest that transformational factors are similar to leadership qualities described in “magnet” hospitals.

The impact of leadership on employee work alienation

A study on work alienation and leadership (Sarros, Teanewski, Winter, Santora & Densten, 2002) shows that transformational leadership was associated with lower work alienation, whereas transactional leadership was associated with higher work alienation. Organizational structure was not significantly predictive of work alienation but was negatively associated with transformational leadership and positively associated with transactional leadership.

Cross-cultural research on the impact of leadership on subordinates

Spector et al. (2001) studied individualism-collectivism in managers in 24 nations from all over the world. The highest mean score on the individualism scale was observed in France, and Sweden had the third highest average score. However, there were significant differences between the European nations with regard to job satisfaction and psychological and physical well-being, but this was not associated with individualism-collectivism.

Walumbwa (2002) has pointed out that previous cross-cultural research on transformational leadership theory has mainly focused on replicating the augmentation effects of transformational leadership over transactional leadership on followers' attitudes and behaviours. Relatively few studies have systematically examined cultural impacts in moderating the influence of transformational leadership and transactional leadership behaviours on work-related outcomes. Using a field survey of 577 employees from banking and financial sectors in China, India and Kenya, the author examined the moderating effects of cultural orientation on the relationships between leadership styles, work-related attitudes and organizational withdrawal. The author found that cultural orientation moderated the effects of leadership styles on outcome variables.

Yousef (2000) investigated the potential mediating role of organizational commitment in the relationships between leadership behaviour, job satisfaction and job performance in a non-western country where multiculturalism was a dominant feature in the workforce. Results suggest (in support of many western studies) that those who perceived their superiors as adopting consultative or participative leadership behaviours are more satisfied with their jobs. The results also indicate that national culture moderates the relationship between leadership behaviour and job satisfaction.

Scandura, Von Glinow & Lowe (1999) examined leadership and organizational outcomes in the Middle East and used US samples as a frame of reference. Results indicated that people-oriented leadership (Consideration) was related to job satisfaction and leadership effectiveness in the US sample. In stark contrast, task-oriented leadership (Initiating Structure) was related to satisfaction and leadership effectiveness in the Middle East.

Oxenstierna et al (manuscript) have studied stress among employees in a large multinational company and found differences in stress among subordinates with regards to typical ways of dealing with problems or conflicts in the organisation. The highest levels of perceived stress, self-reported health and self-reported sick leave were reported in organisations where no conscious effort was made to solve the problems (*laissez-faire*). Organisations with a democratic way of dealing with problems had the best health rates among subordinates and thereafter came organisations where leaders make the decisions in an authoritarian way. A comparison between Sweden and Germany revealed that democratic solutions were more common in Sweden and authoritarian solutions more common in Germany.

Thomsen et al. (1998) found very few cultural differences between the predictors of a healthy workplace for Swedish and English psychiatrists. The predictors were high self-esteem, satisfactory support with work-related problems, lower perceived workload, positive view of leadership, low work-related exhaustion, and having a sense of participation in the organisation.

Intervention studies of leadership

An intervention study conducted by Theorell et al. (2001) measured effects on subordinates after managers had participated in a psychosocial manager program. There was a significant decrease in serum cortisol levels and a significantly improved authority over decisions among employees with managers who had participated in the intervention, compared to the control group.

What is the relationship between job satisfaction and experienced stress/burnout/health?

Duxbury et al. (1985) found job satisfaction and burnout to be related to each other and affected in a similar way by initiation of structure and consideration leadership, though burnout was affected to a lesser degree. Blase, Dedrick, & Strathe (1986) found a moderate association between teacher satisfaction and degree of stress perceived to result from the principals' initiation of structure and consideration behaviour. Stordeur et al. (1999) found burnout to be negatively correlated with job satisfaction. Results reported by Rose (1998) indicate that Leader-Member-Exchange is positively related to job satisfaction and negatively related to burnout.

Summary

The overall aim of the pilot study was to generate ideas on possible ways of investigating the relationship between leadership and the health of subordinates within the EU. The results will be summarized under the headlines of the specific study questions and objectives.

Research on leadership and health

Only a limited amount of leadership literature has discussed the impact of leadership on subordinates. An even smaller amount of studies has investigated how leadership affects the health of subordinates. Most studies on leadership have also been carried out in the US, and when conducted in Europe and other countries, the studies have to a great extent been influenced by US leadership models and instruments. Most leadership studies have been conducted in one country only, and no more than a couple of European cross-cultural studies on the impact of leadership dimensions on the health of employees have been found in the search conducted. The gender perspective has not been included in hardly any studies found.

Leadership styles – are they ‘national’ or ‘global’

Leadership styles

The theories of leadership most frequently investigated and referred to are the theory of task- and relationship oriented leadership and the theory of transformational and transactional leadership styles.

Task/relationship oriented leadership

A host of studies have, since the 1940s, found that the behaviours that make up the role of leadership fall into two general clusters: relationship behaviours and task behaviours. Relationship behaviours address the feelings, attitudes, and satisfaction of the members of the group. Task behaviours, in contrast, pertain to the problem at hand rather than the personal satisfaction of the group members.

Transformational/transactional leadership

There are four various types of transformational leadership behaviours.

1. Idealized Leadership. This is the behaviour that arouses followers to feel a powerful identification and strong emotions toward the leader.
2. Inspirational Motivation. A leadership behaviour that models high values as an example and includes communication of an inspiring vision. It also promotes powerful symbols to arouse greater effort and a feeling of belonging.

3. Individualized Consideration. This behaviour provides coaching, support and encouragement of specific followers.
4. Intellectual Stimulation. A behaviour that influences followers to view problems from a fresh perspective and with a new increased awareness.

Transactional leadership can encompass four types of behaviour.

1. Contingent Reward. To influence behaviour, the leader clarifies the work needed to be accomplished. The leader uses rewards or incentives to achieve results when expectations are met.
2. Passive Management by Exception. To influence behaviour, the leader uses correction or punishment as a response to unacceptable performance or deviation from the accepted standards.
3. Active Management by Exception. To influence behaviour, the leader actively monitors the work performed and uses corrective methods to ensure the work is completed to meet accepted standards.
4. Laissez-Faire Leadership. The leader is indifferent and has a hands-off approach toward the workers and their performance. This leader ignores the needs of others, does not respond to problems or does not monitor performance.

National or Global?

There is some support for the proposition that some leader behaviours are close to universally accepted and effective. Transformational leadership has been referred to as having such qualities, especially charisma, intellectual stimulation of followers and individualized consideration towards followers. The results from the search conducted in the last couple of months support this proposition. In several studies transformational leadership has been shown to positively influence both job satisfaction and health of subordinates. The results follow similar patterns, regardless of cultural and organizational context. The effects of task- and relationship oriented leadership also appear rather consistent across different cultural and organizational contexts.

Reviews of cross-cultural research on leadership have shown that cultural differences account for a significant amount of variance in leader behaviour preferred by subordinates as well as in actual leader behaviour. Implicit leadership theory asserts that individuals have culturally influenced implicit theories (stereotypes, beliefs, convictions, and assumptions) of what behaviours and characteristics make up a good leader. Leaders are accepted on the basis of the degree of fit, or congruence, between the leader behaviours they enact and the implicit leadership theory held by the attributors or subordinates.

Health promoting factors in leadership

The following is an attempt to summarize the health promoting factors in leadership.

With respect to the health and job satisfaction of subordinates, a good leader:

- Shows consideration towards subordinates
- Initiates structure when needed –especially in stressful situations
- Allows subordinates to control their work environment, gives access to empowerment structures and opportunities for participation, autonomy and control.
- Inspires employees to see a higher meaning in their work.
- Provides intellectual stimulation
- Is charismatic

With respect to the health and job satisfaction of subordinates, a bad leader:

- Does not show consideration
- Initiates structure without showing consideration, or deprives subordinates of participation, autonomy, and control.
- Uses only a transactional approach towards subordinates
- Acts laissez-faire – does not respond to subordinates and does not monitor performance

Are the same leadership behaviours/styles successful across different sectors?

Many studies have been conducted within the health care (especially on nurses) but there are also studies from various private organisations. The results follow similar patterns, regardless of cultural and organizational context. One reason for this may be that the leadership styles and behaviours examined in previous studies do not capture cultural and organizational differences, although these may well exist.

Gender

In leadership theory, leadership has been described as something gender neutral. The research found in our database searches has to a very limited extent investigated the gender perspective in leadership and subordinate health. There is, however, some support for existing differences between male and female leaders with regard to leadership styles.

More men than women are placed in the active quadrant of the demand-control model, which indicates that men have more control at work. There are also gender differences in social support.

There are several circumstances that account for differences between men and women within the EU, for example differences within the labour market and family formation. Life style circumstances differ between men and women and between different EU member states.

Demand-control-social support

Leadership styles and behaviours have been found to explain quite a limited amount of the variance in different outcome measures of health among subordinates. But it has also been suggested that the relationship between leadership and employee health could be indirect. Leaders may have a large impact on e.g. demands, control and social support, which are known to strongly influence employee health.

Consideration towards subordinates is an important health-promoting factor in leadership. This may resemble aspects of social support, well investigated and important for well-being. A combination of leadership behaviours of high structure and low consideration has been found deviant for the health of subordinates and it has been suggested that this is due to subordinate loss of autonomy. This may, in turn, resemble aspects of control, well investigated in the demand-control model.

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