Leadership in Health Services

The influence of change-oriented leadership on work performance and job satisfaction in hospitals - the mediating roles of learning demands and job involvement

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Abstract

Purpose – The purpose of this paper is to examine the mechanisms through which change-oriented leadership in hospitals influences job performance and employee job satisfaction. The authors examine the direct and the mediating effects of perceived learning demands and job involvement.

Design/methodology/approach – This cross-sectional study is based on a survey of four public hospitals in a regional health authority in Norway.

Findings – The findings illustrate how change-oriented leadership directly and indirectly influences work performance and job satisfaction. Learning demands and job involvement play mediating roles. Higher levels of change-oriented leadership decrease learning demands and increase job involvement, work performance and job satisfaction. Learning demands have a negative influence on work performance and job satisfaction. Job involvement has a positive influence on work performance and job satisfaction. The strongest relationship in the structural modelling is between change-oriented leadership and job involvement.

Research limitations/implications – This study is based on cross-sectional data. Future studies should therefore explore this further using a longitudinal design.

Practical implications – The practical implication of the study is to show how leaders by change-oriented behaviour can influence work performance and job satisfaction by reducing learning demands and increasing job involvement.

Social implications – This study illustrates different paths towards influencing job performance and job satisfaction from change-oriented leadership. It is important to use the potential of reducing learning demands and increasing job involvement, to improve job performance and job satisfaction.

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Originality/value – The authors have developed and validated a new theoretical mediational model explaining variance in job performance and job satisfaction, and how this is related to change-oriented leadership, job involvement and learning demands. This knowledge can be used to increase the probability of successful change initiatives.

Keywords Job involvement, Job satisfaction, Job performance, Change-oriented leadership, Learning demands, Work environment survey

Paper type Research paper

Introduction

New *technology* and advancements in treatment continuously transform hospital clinical work and administrative processes. These transformations also create high learning demands on all employees. Major advances have been made in fields such as information management, automated lab-tests, telemedicine, radiology and biotechnology. There is, however in the health sector, a gap between what is technologically possible and the resources available. The contextual dynamics of leadership in the health sector is possibly the most complex and challenging of all contexts (Denis *et al.*, 2010).

Introducing change in the health sector can create heavy learning demands. It can also lead to conflicts of interest where professional groups want to be involved and have a say in solving challenges. Change-oriented leadership behaviour theory emphasises that a leader is responsible for monitoring the environment, identifying necessary changes and acquiring the follower commitment and involvement that is required to implement change (Gill, 2002; Hayes, 2014; Yukl, 2013). Successful implementation of organizational change is dependent on follower commitment. Follower commitment to a change appears to develop over time and through the change itself (Tafvelin *et al.*, 2014).

In health services, there is a great need to implement change without reducing job performance and job satisfaction of hospital workers. Mechanisms that can mediate the influence of change-oriented leaders therefore need to be explored, to find ways of achieving this. Job involvement is an important work characteristic in many work design theories (Bakker and Demerouti, 2007; Hackman and Oldham, 1980; Oldham and Hackman, 2010). Learning demands however become an everyday experience where rates of organizational change are high. Learning demands can, due to higher levels of strain, have a negative influence on employee satisfaction and performance.

In this paper, we examine the mechanisms through which change-oriented leadership directly and indirectly can influence job performance and employee satisfaction. We examine whether change-oriented leadership can have a direct positive effect on job performance and job satisfaction. Additionally, we examine whether learning demands and job involvement play mediating roles in change leadership's influence on job performance and job satisfaction. Different professional groups in hospitals are embedded within different contexts. They may therefore perceive change processes and job characteristics in different ways. To increase the validity of findings, as well as to take the different professional groups into consideration, the theoretical and conceptual model will be assessed among different hospital groups (doctors, nurses and administrative staff) as well as at total survey sample consisting of data collected from four Norwegian hospitals. Structural equation modelling (SEM) is used to analyse data and explore the appropriateness of hypotheses and the theoretical model.

Change-oriented leadership behaviour, work performance and satisfaction

Change in hospitals includes both radical changes and emergent changes. Both can create ambiguity and challenges for employees (Denis *et al.*, 1996), but also positive emotions

(Huy, 2002; Kiefer, 2005; Bartunek *et al.*, 2011). The changes can be new medical technical equipment, small changes in treatment practice, new information technology systems and changes in managerial practices. Emergent changes are an integral part of other changes taking place in the hospital and cannot be viewed in isolation. Examples include organizational restructuring because of breakthrough changes in biological medicines and the reduced need for surgical capacity. All change, however, can result in learning demands that exceed the coping resources of employees. Such learning demands can harm work performance and job satisfaction.

Different forms of leadership can have different effects on employee well-being, satisfaction and performance (Alimo-Metcalfe *et al.*, 2008; Dumdum *et al.*, 2013; Nielsen *et al.*, 2009; Wang *et al.*, 2011). For instance, transformational leadership style is linked to measures of employee well-being, satisfaction (Arnold *et al.*, 2007; van Dierendonck *et al.*, 2004; Seo *et al.*, 2004; Vance and Larson, 2002; Berson and Linton, 2005; Sosik and Godshalk, 2000) and job performance (Barling *et al.*, 1996; Howell and Avolio, 1993; Gil *et al.*, 2005). However, effects of leadership may be dependent on context and situation (Denis *et al.*, 2010; Fulop and Mark, 2013; Einarsen *et al.*, 2007).

Most definitions of leadership are based on the assumption that leadership involves the exertion of intentional influence on people to guide, structure and facilitate activities and relationships in a group or organization (Yukl, 2013, p. 18). Yukl (2004) developed a tri-dimensional leadership model that included change-oriented behaviour. This contrasts previous two-dimensional leadership models that focus on task and relation-oriented behaviour. Yukl's model aims to explain the influence of leaders on organizational processes and provides a parsimonious model for understanding flexible, adaptive leadership in organizations. Examples of this include leaders' influence on human relations and on the efficiency and cost of internal operation. Yukl's model also attempts to provide insights into specific and relevant leadership behaviour in different situations, a knowledge that is useful to leadership development. The challenge for leaders is to find an appropriate balance among different types of behaviour, and to determine which component behaviour is most relevant for a particular situation. Yukl's (2013) view is that the primary concern of task-oriented behaviour is the efficient and reliable accomplishment of a task. Relations-oriented behaviour is primarily concerned with increasing mutual trust, cooperation, job satisfaction and identification with the team or organization.

Change-oriented leadership behaviour includes monitoring and interpreting the environment, encouraging and finding innovative ways to adapt to the environment. It also includes envisioning exciting new possibilities for the organization, explaining the need for change, implementing major changes in strategies, products or processes, experimenting with new approaches for achieving objectives and announcing and celebrating change implementation. Investigating in change leadership is therefore particularly relevant in today's high rate of change hospitals (Yukl, 2013). Hospital leaders need to have a keen sense of how external events, changes in technology, treatment opportunities and the need for economic savings impact internal organizational dynamics. This is particularly important in the tightly coupled institutional fields found in health services, where structuring degree is high and conflicts between professional groups with different institutional logics are common (Reay and Hinings, 2005).

Change-oriented leadership behaviour can be seen as sensemaking in organizational change. Sensemaking refers to the interpretive process through which people assign meanings to their experience and create mental model of events (Weick *et al.*, 2005; Maitlis and Christianson, 2014). This perspective emphasises the leader's role in the interpretation of external pressure and events, situates organizational practices and behaviour in a larger

political and cultural structure (Lüscher and Lewis, 2008). When employees perceive the support, trust and fairness that are antecedents of positive emotions, they experience pleasant and happy feelings, which lead to cooperative attitudes towards change (Bartunek *et al.*, 2011). How employees perceive and interpret the change processes is decisive for their emotions (Sanchez-Burks and Huy, 2009), for example job satisfaction, and for their behaviour, for example job performance.

Learning demands and job involvement

Research on the relationship between transformational leadership and performance-related outcomes indicates that this relationship is mediated by followers' perceptions of work characteristics (Nielsen *et al.*, 2008). De Lange *et al.* (2003) found strong evidence of causal relationships between a number of work characteristics and employee wellbeing in a meta-study of longitudinal research. Leaders' authority, their capability to influence job demands and job resources and employees' perceptions of demands and resources may be the underlying causes of this. Job demands are the physical, psychosocial and organizational aspects inherent in a job (Demerouti *et al.*, 2001). Demands are stressors and can be hindrances that prevent workers from accomplishing tasks and that (more particularly) impose a cognitive, physical or emotional burden on workers (LePine *et al.*, 2005). Workers experience learning demands when they lack the knowledge or skills that are required to perform. When necessary time to learn is not there, or learning demands exceed the capacity of the individual, motivation may be harmed and engender physical and psychological costs that reduce satisfaction and job performance.

A change-oriented leader, who understands society, the drivers of change and the consequences of change for their organization and employees, can take action and let the changes emerge as an organic part of the strategic and operational running of the organization. This type of leader involves the followers and communicates, explains and adapts learning demands to the capacity of each individual to avoid decrease in performance and satisfaction.

There has been a general agreement that forms of work organization that give employees greater discretion over their task activities tend to be beneficial for learning and wellbeing (Appelbaum *et al.*, 2000; Felstead *et al.*, 2010). There are also numerous organizational psychology theories that have emphasized the importance of participation in decision-making and job involvement for work performance and job satisfaction (Lawler, 1971, 1986) and in worker's health (Karasek, 1979; Demerouti *et al.*, 2001; Bakker and Demerouti, 2007). Additionally, research have to a large extent built on, and supported, the importance of job involvement in relation to wanted organizational outcomes (Chughtai, 2008; Diefendorff *et al.*, 2002; Fiabane *et al.*, 2013; Kilroy *et al.*, 2016; Lu *et al.*, 2012; Rotenberry and Moberg, 2007; Simpson, 2009; Twigg and McCullough, 2014; Xanthopoulou *et al.*, 2009).

Job involvement and participation are important because different stakeholders tend to favour different organizational solutions. In health care, there are strong professional groups with their own institutional logics, or sources of meaning to behaviour and practices visible in languages and day-to day-practices (Friedland and Alford, 1991). Tension between management representing business logic and health professionals with a medical way of thinking is well documented (Byrkjeflot and Kragh Jespersen, 2014; Reay and Hinings, 2005; Waldorff *et al.*, 2013). High levels of participation and of job involvement empower employees, can increase job motivation (Deci and Ryan, 2000) and may bridge tensions between groups and make coexistence easier. Participation and job involvement are particularly relevant in organizations that handle complex, knowledge-based problems, such as hospitals.

Mediational interference

In the current study, we expect different relations between study dimensions. First, change-oriented leadership might have direct influence on job performance and job satisfaction. Second, we also expect that learning demands and job involvement will meditate this influence. The assessments will indicate the relative importance of the direct influence change-oriented leadership for job performance and job satisfaction, when also testing the mediational mechanisms (Mathieu and Taylor, 2006). Structural equation modelling (SEM) will be used to assess the direct and mediational mechanisms. SEM are well fitted to assess models including multiple independent and dependent variables, as well as latent constructs that represent clusters of observed variables. SEM have become ubiquitous in organizational research and provide solutions to test theories when experiments are not possible (Kline, 2015; Nachtigall *et al.*, 2003; Savalei and Bentler, 2010). Assessments based on large samples increase the potential representatives of study findings.

Conceptual framework

Based on the previous theory and research described above, change-oriented leadership is expected to have a positive influence on job performance and job satisfaction. However, to our knowledge, it is not investigated whether these relationships are mediated through learning demands and job involvement. It is important to increase the understanding of factors that potentially mediate the influence change-oriented leadership has on job performance and job satisfaction. Potentially, change-oriented leadership will mainly have direct effects on job performance and job satisfaction. Alternatively, the direct effects will diminish or disappear when the mediators are included in the modelling. It is important to understand the psychological mechanisms that explain the influence from change-oriented leadership. It is further important to increase the understanding of individual coping mechanisms, and the role learning demands and job involvement play in order for health personnel to cope with change-oriented leadership, and be able to perform and be satisfied in their jobs.

There is also some uncertainty of how strong influence change-oriented leadership style has on job involvement and learning demands. It might even be unclear if the influences are positive of negatively laden; will change-oriented leadership be positively or negatively related to learning demands and job involvement? We choose to keep this as an open research question in the current study. Still, based on earlier research on job characteristics and job demands, we expect learning demands to be negatively related to job performance and job satisfaction. We expect an opposite influence from job involvement, which is likely to be positively related to job performance and job satisfaction. This study aims to build on previous research by testing the hypotheses listed below. Further, to increase both the precision and generalizability of research findings, the assessment and testing of the hypotheses will be conducted both in the total sample and three sub-samples: administration, nurses, physicians.

H1. The influence change-oriented leadership has on job performance and job satisfaction is mediated be employees' level of learning demands and job involvement.

H1a. Change-oriented leadership will be significantly related to learning demands and job involvement. However, the direction of the relationship will be an open research question.

H1b. Employees' level of job involvement will be positively related to job performance and job satisfaction.

H1c. Employees' level of learning demands will be negatively related to job performance and job satisfaction.

H2. Change-oriented leadership will be directly and positively related to employees' level of job performance.

H3. Change-oriented leadership will be directly and positively related to employees' level of job satisfaction.

The proposed theoretical framework of the relationships between leadership, learning demands, job involvement, job performance and job satisfaction is summarized in Figure 1.

Methods

The hospital context

Data for this study were collected from four public hospitals in a Norwegian regional health authority. The regional health authority has more than 20,000 employees and provides services to a population of 1.1million citizens.

Research design, survey and participants

The data used in this study were collected from a questionnaire that was sent to all regional health authority employees. The questionnaire had two roles. It was used to carry out a *Work environment survey* for the regional health authority's top management and to collect data for the research project "Task planning and leadership in the hospital sector". The survey consisted of a range of validated questions on themes relevant to the two issues. A total of 22,883 employees received the questionnaire. The overall response rate was 40 per cent ($N = 9{,}162$). Table I shows the number of participants in each professional group.

Measures

Leadership style has been measured by Yukl *et al.* (2002). *Yukl's change-oriented leadership* dimension consists of six items measured using a five-point scale. Examples of dimension items include "My leader proposes new and creative ideas for improving products, services, or processes" and "My leader describes a clear, appealing vision of what the organization can accomplish or become". Cronbach's alpha for change-oriented leadership style was 0.93.

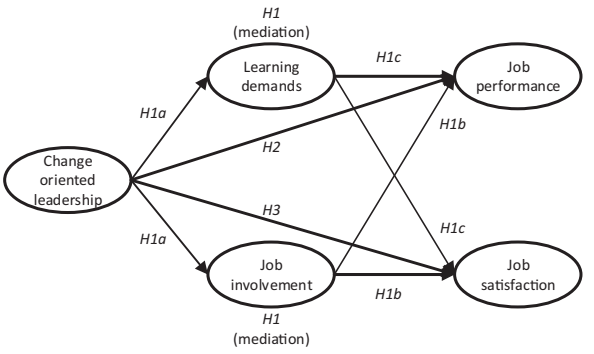

Figure 1.
Theoretical model and hypotheses underlying this study

Learning demands were measured using two items from QPS Nordic (Lindström *et al.*, 2000). The items were "Are your work tasks too difficult for you?" and "Do you carry out work tasks that require more training than you currently have?" The items were measured using a five-point scale. Cronbach's alpha for learning demands was 0.63.

Job involvement/participation was measured using the autonomy scale of the Organisation Assessment Survey (Dye, 1996). The autonomy/participation variable is based on an index of the following four statements:

(1) "In my department, we work together to influence the standards that constitute good work".

(2) "In my department, we often have the opportunity to influence goals or actions".

(3) "All employees in my department are involved in important decisions that affect them".

(4) "Employees have good opportunities to influence how work is carried out".

The participants responded using a five-point scale ranging from "to a very small extent" to "to a great extent". Cronbach's alpha for job involvement/participation was 0.92.

Job performance (mastery of work) was measured using QPS Nordic (Lindström *et al.*, 2000). This measure uses four questions to self-evaluate different topics. The questions included themes such as how satisfied the employee is with the volume of work they are required to carry out, the quality of the work, their ability to solve problems at work and satisfaction with their capacity to develop and maintain good work relationships with colleagues. These items were measured using a five-point scale ranging from never/seldom to always/very often. Cronbach's alpha for autonomy scale items was 0.79.

Job satisfaction was measured using four items from the Copenhagen Psychosocial Questionnaire (COPSOQ) (Kristensen, 2001). Items include "Regarding your work in general, how satisfied are you with the way your abilities are used?". Cronbach's alpha for job satisfaction scale items was 0.76.

Data analysis

The data were analysed using SPSS (2012; Version 21) and AMOS (Version 21; Arbuckle, 2012). Basic descriptive statistics, bivariate correlations and Cronbach's alpha were analysed using SPSS. Bivariate correlations were used to analyse relations between variables. Cronbach's alpha was used to assess internal consistency of factorial dimensions. AMOS was used for the remaining analyses. To cross validate the findings, or potentially reveal differences, confirmatory factor analyses (CFA) and structural model assessments were divided for the target groups (physicians, nurses and administration) and the total sample. To ensure the validity of measurement concepts, CFA was assessed before structural modelling was estimated.

Profession	(%)	N
Administration	8.6	787
Physicians	6.1	556
Nurses	32.2	2,946
Other diagnostic, care or service personnel	53.1	4,289
Total	100	9,162

Table I.
List of participants by profession

Several indicators were used in AMOS to evaluate model fit in relation to CFA and assessment of the structural model. They were the root mean square error of approximation (RMSEA), Tucker–Lewis index (TLI), incremental fit index (IFI), relative fit index (RFI), normed fit index (NFI) and comparative fit index (CFI). RMSEA scores of less than 0.08 (Browne and Cudeck, 1992) and values of 0.90 or more for the other indicators (Hoyle, 1995) were defined as indicating good fit. Often some of these fit indicators are evaluated on more stringent levels, but here these levels were considered adequate because of the complexity of the model (Kline, 2015). The large sample size indicated that chi-square should not be used to evaluate model fit (Bentler and Bonnet, 1980).

Results

Sample

The sample is described by Table I. The respondents were administration staff (n = 787), physicians (n = 556), nurses (n = 2,946) and other diagnostic, care or service personnel (n = 4,289).

Descriptive statistics

Table II presents the descriptive statistics for the total sample and the sub-samples. Statistical variation was considered to be satisfactory for all dimensions.

Construct validity

We carried out a confirmatory factor analysis (CFA) of the five latent factors and their respective indicators before testing the structural model. The latent factors were allowed to correlate in the model. The analyses indicated acceptable model fit across the subsamples (Table III). Standardised factor loadings, which ranged from 0.48 to 0.90 in the total sample,

Table II.
Descriptive statistics

Dimensions	Scale	Administrative (N = 787) Mean	Administrative (N = 787) SD	Physician (N = 556) Mean	Physician (N = 556) SD	Nurse (N = 2,946) Mean	Nurse (N = 2,946) SD	Total (N = 9,162) Mean	Total (N = 9,162) SD
Change-oriented leadership	1-5	3.55	0.99	3.30	0.93	3.32	0.96	3.38	0.96
Job involvement	1-5	3.48	0.85	3.07	0.87	3.24	0.79	3.29	0.84
Learning demands	1-5	2.08	0.71	2.39	0.71	2.16	0.66	2.10	0.70
Job performance	1-5	4.14	0.52	4.05	0.46	4.07	0.45	4.10	0.49
Job satisfaction	1-5	3.01	0.53	2.94	0.56	2.94	0.47	2.96	0.50

Table III.
Model fit descriptions related to the measurement and structural model

Samples	RMSEA	NFI	RFI	IFI	TLI	CFI	Chi-square
Measurement model							
Total sample	0.04	0.97	0.96	0.97	0.96	0.97	2951.24
Administration	0.05	0.95	0.93	0.97	0.96	0.97	478.35
Physicians	0.05	0.93	0.91	0.96	0.94	0.96	420.03
Nurses	0.05	0.97	0.95	0.97	0.96	0.97	1141.32
Structural model							
Total sample	0.05	0.97	0.96	0.97	0.96	0.97	3182.08
Administration	0.05	0.95	0.93	0.97	0.96	0.97	483.97
Physicians	0.06	0.93	0.91	0.95	0.94	0.95	431.76
Nurses	0.05	0.96	0.95	0.97	0.96	0.97	1282.25

were satisfactory. Correlations between the five latent factors, which were between −0.33 and 0.53, were low to moderate (Table IV). All factors were positively correlated, except the strain variable learning demands which were negatively correlated with the other factors.

Internal consistency

The internal consistency analyses show Cronbach's alpha values ranging from 0.63 to 0.93 (Table IV). The lowest alpha score (Learning demands = 0.63) was considered adequate because this factor only consisted of two items. The homogeneity of factors was considered to be good.

Test of structural model

We assessed the hypothesised structural model in the total sample and the three sub-samples, in accordance with the aim of the study. The hypothesised structural model fitted both the sub-samples and total sample data (Table III). Testing of the structural model generally supports the underlying theoretical perspective used in this study (Figure 1). Assessments indicate moderate to high support for the hypotheses of this study. Some exceptions were, however, also uncovered (Figure 2). The influence of change-oriented leadership was not significantly related to learning demands and job performance among administrative personnel. Change-oriented leadership also had no significant direct influence on the job performance among nurses and change-oriented leadership and job involvement had no significant direct influence on job performance among nurses. All hypothesised links, including the statistical significance and the directions of beta coefficients, were supported in the total sample.

Discussion

The suggested research model underlying the current study added a new perspective related to change management literature and suggested that learning demands and job involvement play important roles in mediating the influence change-oriented leadership has on job performance and job satisfaction. Generally, this expectation was supported among the total sample of health-care professionals. Additionally, the other hypotheses were supported in the total sample. Among the sub-samples of nurses, physicians and administration there were some non-significant paths in the model. The results are more thoroughly discussed in the following.

In *H1*, we expected that the influence of change-oriented leadership on job performance and job satisfaction was mediated by employees' level of learning demands and job involvement. The two mediating variables were significantly related to job performance and job satisfaction, and the results gave relatively strong support that learning demands and job involvement play mediating roles. However, not all of the paths were supported in the

Table IV. Correlations among variables

Dimensions	1	2	3	4	5
1. Change-oriented leadership	(0.93)				
2. Job involvement	0.53	(0.92)			
3. Learning demands	−0.08	−0.08	(0.63)		
4. Job performance	0.17	0.19	−0.33	(0.79)	
5. Job satisfaction	0.39	0.46	−0.13	0.26	(0.76)

Notes: All correlations are significant at the 0.01 level (two-tailed); alpha in diagonal

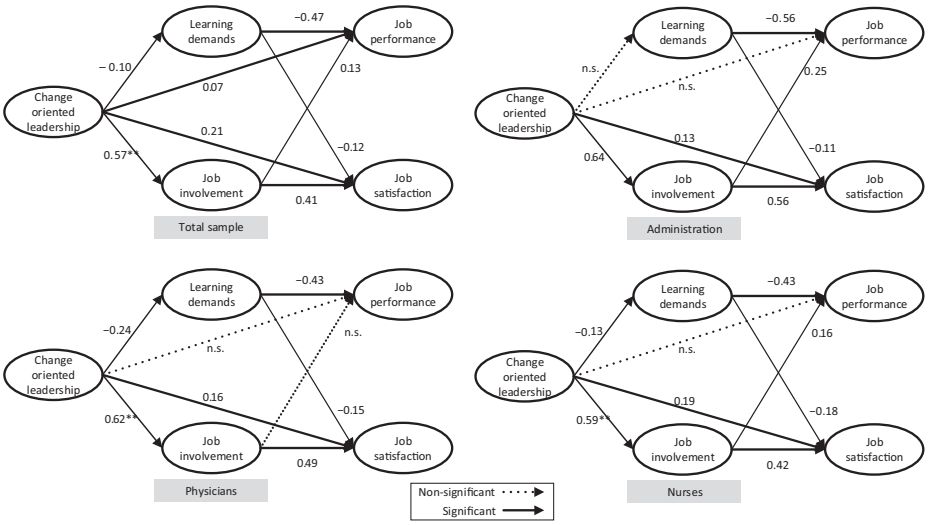

Figure 2.
Estimated standardised path coefficients for Sub-groups and the total sample

Notes: n.s. = non-significant beta coefficient ($p < 0.05$). Remaining paths are significant at minimum $p < 0.01$ level

sub-samples; among physicians, the relation between job involvement and job performance was not significant. This result suggests that learning demands are a more important predictors of job performance among physicians, and more specific, that high levels of learning demands have the potential to lower the job performance of physicians. Accordingly, the results propose that hospital leaders should try to reduce learning demands among physicians with the use of change-oriented leadership.

The results supporting *H1* are in line with work design literature (Karasek, 1979; Demerouti *et al.*, 2001) and motivation theory (Deci and Ryan, 2000). These theoretical perspectives show how work designs that give employees autonomy and control over their work, and a say in the decisions that matter in their working lives, have a decisive effect upon employee well-being and performance. Job involvement is a job resource that can reduce job demands, help personal goals be achieved and stimulate personal growth, development and learning (Schaufeli and Bakker, 2004, p.296).

In line with *H1a*, the results supported that change-oriented leadership was significantly related to learning demands and job involvement. However, change-oriented leadership was not significantly related to learning demands among administrative personnel. The reason for this may be that the administrative personnel to a larger degree manage their own work tasks and development, which might explain the non-significant result. The other results suggest that leaders have the potential to both reduce learning demands and increase job involvement in hospital settings.

H1b expected employees' level of job involvement to be positively related to job performance and job satisfaction. This hypothesis was confirmed in all model testing and illustrates how job involvement is a key job resource and characteristic to increase the two measurement outcomes among different hospital personnel. As such, the current study builds up on theories emphasizing that job involvement is an important work characteristic

influencing worker outcomes positively (Bakker and Demerouti, 2007; Hackman and Oldham, 1980; Oldham and Hackman, 2010). Further, high levels of participation and of job involvement empower employees (Deci and Ryan, 2000) which the current study indicates is important across different employee groups in hospital settings. Further, the influence on job satisfaction is particularly strong, indicating that job satisfaction of hospital personnel is strongly dependent on job involvement among employees.

Moreover, the relationship between change-oriented leadership and job involvement was generally the strongest relationship in the structural modelling. Hence, the results illustrate that change-oriented leadership to at great extent is positively related to job involvement. As such, change-oriented leaders should take on the possibility to increase job involvement among employees during change efforts in hospital settings. The results clearly support, among all groups, that this is important. Taking individual considerations to workers is also a dimension related to transformation leadership (Avolio and Bass, 1995). Hence, the results support this theory, and suggest that such consideration should aim towards increasing job involvement among hospital staff.

In this study, learning demands have a strong negative effect on the self-perceived work performance of all groups. Learning and development opportunities are usually seen as being a resource in the work environment. Examples of this include the demands control model (Karasek, 1979) and the voluminous empirical research based on this model (Mikkelsen *et al.*, 2000). Learning opportunities can, however, turn into learning demands where rates of change are high and are overtaxing the capacity of the individual. Learning demands may also reduce job satisfaction.

H2, expecting change-oriented leadership to have positive influence on job performance, was only supported in the total sample and not in the other groups. Hence, the results suggest that leadership should try to indirectly influence job performance via the important mediators suggested in the theoretical model. These job characteristics, namely learning demands and job involvement, seem to be the key for leaders to improve the job performance of nurses, physicians and administrative personnel.

Research in human resource management from the late 1980s and 1990s showed the weaknesses of top-down management and of no or little job involvement, and provided empirical evidence for the beneficial effect of high involvement work practices on work performance and satisfaction (Delery and Doty, 1996; Takeuchi *et al.*, 2009). In modern organizations, participation is not only seen as being a work value and a democratic principle, but an action imperative for organizations wishing to build the key capabilities that are essential for success in today's complicated and dynamic organizational environments (Fjeldstad *et al.*, 2012). Here involvement is the most effective source of control and that lateral processes are the key to organizational effectiveness and work satisfaction (Stewart *et al.*, 2011).

According to *H3*, change-oriented leadership was expected to have a positively relation with job satisfaction. This hypothesis was supported in all of the sub-samples and in the total sample as well. The relationship between change-oriented leadership and job involvement was generally the strongest relationship in the structural modelling. This illustrates that change-oriented leadership is perceived as positive by employees and contribute to job involvement, and that job involvement has a mediating role towards job performance and job satisfaction. These mechanisms might be important aspects in the daily work of leaders, suggesting that change-oriented leadership styles should influence job satisfaction and job performance indirectly via job involvement.

The study illustrates that a change-oriented leadership style influences work performance and job satisfaction, most probably because this leadership style permits followers to see what is expected of them. Change-oriented leadership might, in line with the

job demands-resource model (Demerouti *et al.*, 2001), be seen as being a resource that makes sense of the changes taking place both inside and outside of a hospital. It may also make it easier to deliver the quantity and quality of work that are expected and allow employees to, at the same time, maintain good relationships with their co-workers.

Table V presents the hypothesis and summaries of the findings.

Managerial implications

Hospitals need to increase their change and improvement capabilities. Studies that examine the factors that influence job performance and job satisfaction in change processes have the potential to increase our knowledge of change in the complex hospital setting.

This study demonstrates that change-oriented leadership has a positive influence on work performance and job satisfaction. It also shows that this is primarily achieved through leader influence upon job involvement and learning demands. Task-oriented, relation-oriented and change-oriented leadership behaviours are observable. They can therefore be learnt by leaders and be brought into play in their leadership. Health service institutions therefore have a number of alternative ways of preparing employees for change.

The change behaviour of leaders can be improved through leadership development and through systematizing experiences. Learning from experience is affected by the amount of challenge in assignments, the variety of tasks in assignments and the quality of the feedback. To be able to develop adequate leadership training programmes, knowledge about the specific behaviours is needed. For example, to increase task behaviour, you may have to plan short-term activities by goal setting. Leaders consulting with members when making decisions can achieve increasing relations behaviour. To increase change behaviour actions to improve collective learning may be a start. The ability of a leader to provide followers with tools for reducing their level of anxiety (related to change) and provide them with psychological safety is an additional factor that can have an effect upon followers' assessments of leadership (Shamir, 2007). A study of employees whose managers had participated in a two-year employer leadership development programme reported that informants viewed their managers' leadership as having changed in this period and that these changes were described as being positive (Avolio and Bass, 1998; Day, 2001; Dvir *et al.*, 2002; Palm *et al.*, 2015).

Table V.
Hypothesis and summary of findings

Hypothesis	Summary of findings
H1a. Change-oriented leadership will be significantly related to learning demands and job involvement. However, the direction of the relationship will be an open research question	Higher levels of change-oriented leadership decrease learning demands and increase the level of job involvement
H1b. Employees' level of job involvement will be positively related to job performance and job satisfaction	Job involvement has a positive influence on work performance and job satisfaction
H1c. Employees' level of learning demands will be negatively related to job performance and job satisfaction	Learning demands have a negative influence on work performance and job satisfaction
H2. Change-oriented leadership will be directly and positively related to employees' level of job performance	Change-oriented leadership directly and indirectly influences job performance
H3. Change-oriented leadership will be directly and positively related to employees' level of job satisfaction	Change-oriented leadership directly and indirectly influences job satisfaction

Change-oriented leaders have the potential to directly influence the work performance and job satisfaction of health-care providers. Health-care leaders should therefore be aware of the potential contained within job involvement, and the capacity of this to promote positive outcomes. Leaders should therefore increase the job involvement of their employees and should adapt learning demands to the capacity of each employee. The redesigning of jobs in improvement programmes should therefore take these findings and aspects into considerations.

A third way in which change-oriented leaders can promote positive outcomes is to use their influence to change work designs. Organizations for example increasingly use team work because team work has been shown to be an effective and stimulating way of organizing work (Chen and Kanfer, 2006).

This study shows that job involvement is the main work characteristic that mediates change-oriented leadership behaviour, work performance and satisfaction. A key driver of success in change management can therefore be taking time to include employee input into the search for the best work designs. Shamir (2011) has indicated that it is particularly important to allocate time to co-produced leadership, which is created in the relationship between the leader and follower and is usually used in hospitals to implement change.

Limitation of study

The cross-sectional design of this study represents a limitation. The true effect of change-oriented leadership behaviour on the outcome variables can only be documented by longitudinal studies. The study measures work performance using self-reported data. The limitation this represents is balanced by applying psychometric techniques as validated instruments and advanced statistical methods. Health services are highly regulated in Norway. The organization and regulation of regional health authorities reflect this high level of regulation. This sample is therefore probably very similar to samples taken in other regional health authorities in the country. More studies are however needed before the findings can be generalised across cultures. Future studies should explore this further using longitudinal designs. The findings of this study indicate that interventions and management training should be developed and tested in different settings.

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Further reading

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