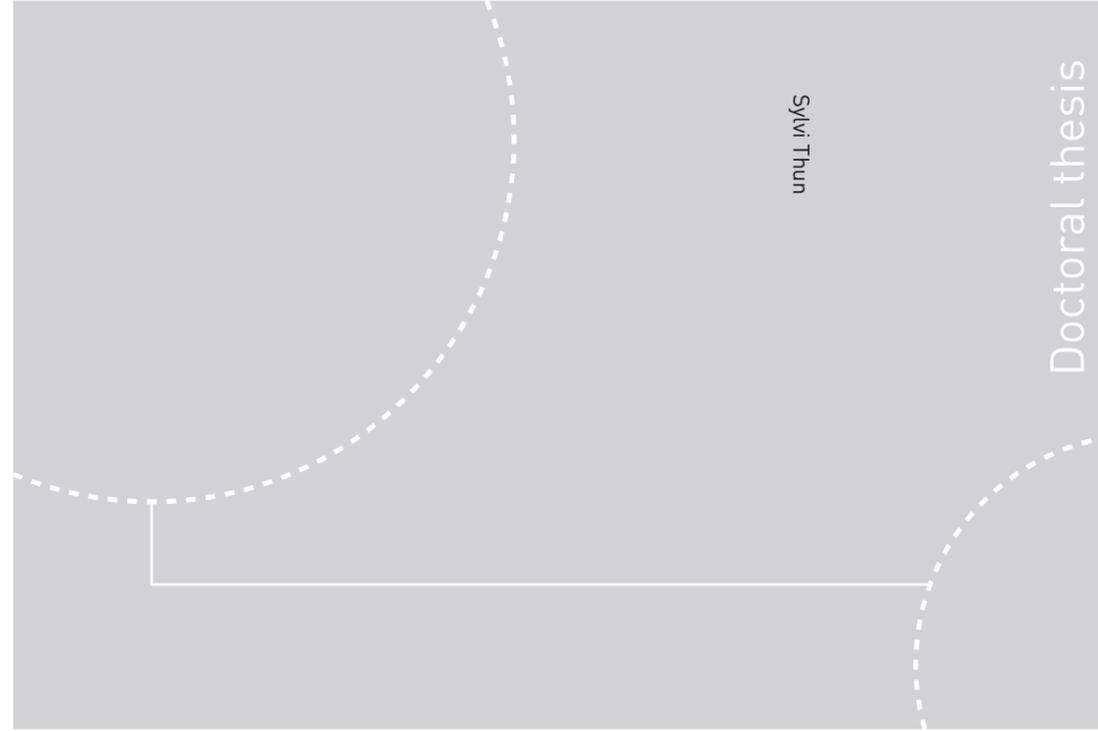


ISBN 978-82-326-2392-1 (printed ver.)  
ISBN 978-82-326-2393-8 (electronic ver.)  
ISSN 1503-8181



Doctoral theses at NTNU, 2017:160

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Thesis for the Degree of  
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Thesis for the Degree of Philosophiae Doctor

Trondheim, June 2017

Norwegian University of Science and Technology  
Faculty of Social and Educational Sciences  
Department of Psychology



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Printed by NTNU Grafisk senter

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## Summary

There has been an increased focus on research into people attending work during illness, termed sickness presenteeism, because of its economic and personal costs. Despite the substantial amount of research on presenteeism, the findings on the relation between presenteeism and job characteristics are inconsistent. Contradictory findings can, to a large extent, be attributed to a lack of a dynamic understanding of presenteeism and the mainly negative focus of the research. A sound theoretical framework can contribute to a more coherent understanding of the phenomenon.

The overall goal of this thesis is to illustrate the dynamics of presenteeism within the job demands-resources (JD-R) theory. The thesis objective is to demonstrate the complexity and dynamics of presenteeism, by investigating presenteeism as both a predictor and outcome, and by showing the dynamic relationship between positive and negative aspects of this phenomenon. The thesis consists of three papers which exemplify parts of these aims.

The purpose of Paper 1 was to study the association between perceived supervisors' attitudes and attendance norms. Paper 1 was based on data from a nationwide study, and the sample consisted of 1,658 employee representatives. The results showed that perceived supervisors' attitudes were related to both organizational adjustment norms and attendance pressure norms, but more strongly with adjustment norms. The paper furthermore discussed the importance of presenteeism's positive aspects by showing that it is possible to be present during sickness due to work adjustments.

The objective of Paper 2 was to explore the relationship between sickness presenteeism and burnout among physicians in four European countries, while controlling for job resources and demographic variables. Paper 2 was based on data from the study of Health

and Organisation among University hospital Physicians in Europe (HOUPE study, phase 1). The sample consisted of 2,078 physicians from Norway, Sweden, Iceland, and Italy. Presenteeism was positively associated with both exhaustion and disengagement, but accounted for more of the variance in exhaustion than disengagement. The paper demonstrates that presenteeism can be constituted as a job demand, and this is discussed in relation to the JD-R theory.

The objective of Paper 3 was to examine the relationship between job demands and presenteeism mediated by exhaustion, when simultaneously controlling for job resources. The data from the HOUPE study (phase 2) with 545 physicians from Norway represented the sample in paper 3. Exhaustion mediated the relationship between job demands and presenteeism, and the health impairment process in the JD-R theory was supported. The paper discussed the importance of treating presenteeism as an outcome and as part of a reciprocal relationship.

Together these findings address the complexity of presenteeism. The dynamics of presenteeism can be investigated through the lens of the JD-R theory. Presenteeism is influenced by different processes, such as the health impairment process or the motivational process. The thesis emphasizes the need for reciprocal attention to employee health, and that presenteeism, in itself, can be perceived as a demand depending on aspects in the work environment. Knowledge about the complexity of presenteeism has implications for both the research and practical field, by raising awareness of different aspects of presenteeism in the workplace. This thesis argues that presenteeism can be a proper means for both the employer and employee if work adjustments are offered. A motivated employee is better on the job than off the job. How we perceive our leaders handling situations of presenteeism can affect adjustment norms at the workplace. Workplaces should strive to be aware of which norms

exist so that it is possible to guide them in a more efficient direction. By acknowledging presenteeism as a complex attendance behavior it is possible to both improve positive aspects of presenteeism and reduce its negative aspects.



## Acknowledgments

I feel privileged to have been given the opportunity to undertake a doctoral degree in psychology. By doing both research and lecturing, it has been an intense time in which I have learned tremendously. There have been times of joy and times of frustration, but mostly I feel I have been lucky to be able to spend my working days developing myself as a researcher. To spend days reading, researching, and gaining knowledge about interesting topics such as sickness presenteeism, psychosocial work factors, and statistics have been truly interesting. I am grateful for all those who, in some way or another, have contributed the completion of this thesis.

First and foremost, I am sincerely grateful to Professor Per Øystein Saksvik, my main supervisor, for the first period of working with this thesis, and later my co-supervisor. Deep gratitude goes to you for giving me the opportunity to pursue a career in academia by involving me in research and teaching. Without your encouragement I would not be where I am today. Thank you for interesting discussions, valuable feedback, and being a true inspiration.

To Lise T. Løvseth, my main supervisor for the last period working with this thesis: you have been extremely important in this process. Thank you for supporting my ideas, for invaluable feedback, and inspiring discussions. I have enjoyed our collaboration and learned tremendously from you. Thank you for being a true inspiration and giving me the opportunity to use the HOUPE data.

To all of my colleagues at the department of Psychology, particularly the “coffee girls”, thank you for nice breaks, support, and laughs. Lunch breaks with you; Ingrid, Vibeke, Nina, Silje, Ingvild, and Eva have been truly important. Thank you for being there for me.

Several of my colleagues need special thanks. Thank you, Marit, Fay, and Anne for welcoming and sharing wisdom about teaching when I first started here as a university lecturer. I have learned a lot from you. Ingrid, my “partner in crime” on presenteeism research, thank you for valued discussions and collaboration as bachelor project managers. Thank you Solveig for sharing your dataset and for your collaboration on paper 1. To the whole HOUPE Study Research Group, thank you for giving me the chance to do interesting research on your dataset, for feedback and cooperation on paper 2. I express my gratitude to all co-authors, your contributions are important.

To my colleague and friend, Eva, you have been extremely important during my time here at the department. I am grateful that you have listened to me at times of frustration, supported me in insecure times, and encouraged me to “go for it”. Thank you for everything.

Big thanks go to my friends outside of academia for relaxing and fun leisure activities. It is always nice to meet you girls.

To my dear parents, Vigdis and Steinar, thank you for your support throughout my life, for always being there for me, helping out, taking good care of my children, and encouraging me to pursue my goals. Thanks for inspiring me, believing in me, and giving me guidance, care, and love. To my siblings Stein Vidar, Solveig, and Tor Inge, thank you for thinking that it is cool that your little sister completes a doctoral degree.

Finally, my gratitude goes to Trym, Sofie, and Thomas for reminding me that life outside of work is sweet. To Trym and Sofie, you are always my number one priority. To my husband, Thomas thank you for our everyday life. The unconditional love from the three of you are priceless.

## **List of Papers included in the Thesis**

### **Paper 1**

Thun, S., Saksvik, P. Ø., Mehmetoglu, M., Ose, S. O., & Christensen, M. (2013). The impact of supervisors' attitudes on organizational adjustment norms and attendance pressure norms. *Scandinavian Journal of Organizational Psychology*, 5 (2), 15–31. Retrieved from <http://sjop.no/index.php/sjop/article/view/355>

Received: April 19, 2013. Accepted: November 18, 2013. Published: December 08, 2013.

### **Paper 2**

Thun, S., Fridner, A., Minucci, D., & Løvseth, L. T. (2014). Sickness present with signs of burnout: The relationship between burnout and sickness presenteeism among university hospital physicians in four European countries. *Scandinavian Psychologist*, 1, e5. doi: 10.15714/scandpsychol.1.e5

Received: June 6, 2014. Accepted: October 15, 2014. Published: November 8, 2014.

### **Paper 3**

Thun, S. & Løvseth, L. (2016). A Health Impairment Process of Sickness Presenteeism in Norwegian Physicians: The Mediating Role of Exhaustion. *Health*, 8, 846–856. doi:10.4236/health.2016.89089

Received: May 4, 2016. Accepted: June 12, 2016. Published: June 15, 2016.

### List of Abbreviations

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ANOVA	Analysis of variance
CFI	Comparative Fit Index
COV-SEM	Covariance Structural Equation Modeling
D.G. rho	Dillon-Goldstein's rho
IA	Inclusive Worklife
JD-R	Job Demand - Resources
GFI	Goodness of fit Index
GOF	Goodness of fit
MCAR	Missing Completely At Random
ML	Maximum Likelihood
OLBI	Oldenburg Burnout Inventory
PLS-PM	Partial Least Squares Path modelling
RMSEA	Root-mean-square Error of Approximation
SEM	Structural Equation Modelling
SRMR	Standardized Root Mean Square Residual
SPSS	IBM Statistical Package for the Social Sciences
TLI	Tucker-Lewis Index
QPS-Nordic	General Nordic Questionnaire for Psychological and Social Factors at Work
VIF	Variance Inflation Factor

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## Introduction

Because of its high prevalence and profound effect on the person and the organization, the phenomenon of sickness presenteeism or presenteeism, going to work despite illness, has received increased scientific and societal attention in recent decades (Aronsson & Gustafsson, 2005; Aronsson, Gustafsson, & Dallner, 2000; Bergström, Bodin, Hagberg, Aronsson, & Josephson, 2009; Bergström, Bodin, Hagberg, Lindh et al., 2009; Caverley, Cunningham, & MacGregor, 2007; Dellve, Hadzibajramovic, & Ahlberg, 2011; Gosselin, Lemyre, & Corneil, 2013; Hansen & Andersen, 2008; Hemp, 2004; Heponiemi et al., 2010; Johns, 2010, 2011; Kivimäki et al., 2005; Schultz, Chen, & Edington, 2009; Schultz & Edington, 2007). Recent populations studies of presenteeism report a prevalence range from 53 % to 72 % (Aronsson & Gustafsson, 2005; Caverley et al., 2007; Hansen & Andersen, 2008), with higher frequency in service organizations (such as educational and care-and-welfare sectors) (Aronsson & Gustafsson, 2005). A growing body of research indicates that presenteeism appears to be a much costlier problem to the person, organization, and the society than its counterpart, absenteeism (Goetzel et al., 2004; Hemp, 2004; Schultz et al., 2009). In Finland, the annual costs of presenteeism is estimated to be around EUR 986 – EUR 1302 (Vänni, Neupane, & Nygård, 2016). Productivity loss due to sickness presence is estimated to cost \$150 billion (Hemp, 2004), or 1.8 times the cost of absenteeism (Cooper & Dewe, 2008), as it affects job performance as well as short term and long term health conditions among employees (Aronsson et al., 2000; Bergström, Bodin, Hagberg, Aronsson et al., 2009; Bergström, Bodin, Hagberg, Lindh et al., 2009; Caverley et al., 2007; Deery, Walsh, & Zatzick, 2014; Gustafsson & Marklund, 2011; Hansen & Andersen, 2009; Taloyan et al., 2012). Due to economic and personal costs the attention and effort to decrease this behavior among employees has led to an increase in research on antecedents and consequences.

Despite the substantial amount of research on presenteeism, the understanding of its dynamics is limited, the research is inconsistent, mainly with a negative focus, and the phenomenon lacks a sound theoretical background. The latter is important, as a theoretical framework will contribute to a more coherent understanding of the interplay between correlates, explain contrasting findings, and create a tool for organizational interventions that suit different work environments/organizations.

In addition, it is important to emphasize that work in itself can have a therapeutic or health promoting effect (Waddell & Burton, 2006). These positive aspects of work need more attention in the literature on presenteeism. For instance, the Norwegian Welfare system acknowledges that work is essential for employee well-being and their mental and physical health, and that it fulfil human needs, such as for identity, stimulation, self-realization, meaningfulness, social status in society, and a place to experience appreciation (Arends et al., 2012; Johansson, 2007; Lau, Finne, & Berthelsen, 2011; Waddell & Burton, 2006). Being on sick-leave can lead to many negative consequences for the individual, such as isolation, marginalization, and feelings of shame, guilt, and anger (Eriksson, Starrin, & Janson, 2008; Jansson & Björklund, 2007). Accordingly, being a part of a work environment and not being excluded because of illness can have major beneficial outcomes for the individual. Knowledge of different types of work attendance may provide insight into new ways to strengthen conditions that support sustainable health, work ability (Dellve et al., 2011), and presenteeism, through positive work attendance.

In light of the current body of knowledge and the arguments above, this topic must be integrated in a dynamic model that can be applied to a diversity of occupations, conditions and premises. By identifying to what extent current presenteeism is anchored in positive work attendance, negative attendance, or both, this will enable more precise identification of its

antecedents that, in turn, will enable appropriate interventions. In the effort to reveal the antecedents of this phenomenon, few studies have defined presenteeism in itself as a predictor in order to better understand the possible reciprocal relationship between work factors, health, and presenteeism. This behavioral approach, examining psychosocial work factors with theoretical grounding, is important for developing the research field on presenteeism (Johns, 2010, 2012).

The main aim of the current thesis is to illustrate the dynamics of presenteeism within an established theoretical framework, in order to guide future research and practical implications on this phenomenon. This will enable exploration of (Aim 1) the complexity and dynamics of this phenomenon in relations to known and unknown correlates (Paper 1, 2, & 3); (Aim 2) investigation of presenteeism as both a predictor (Paper 2) and outcome (Paper 3); and (Aim 3) considerations of the dynamic relationship between positive and negative aspects of this phenomenon (Paper 1).

### **Structure of the Thesis**

First, I present concepts from the theory of interest. Then, the main research question is stated, followed by figures illustrating the aim. The subsequent Method section presents procedure, material, sample, methods for gathering and analyzing data, and ethical considerations. The Results section includes a summary of the results, listed as Paper 1–3. Further, the research results are discussed in relation to the theoretical framework, followed by the section on limitations and implications for practice and future research. Finally, conclusions are presented. The articles are listed as appendices at the end of the thesis.

## **Sickness Presenteeism**

Sickness presenteeism is, “the phenomenon of people, despite complaints and ill health that should prompt rest and absence from work, still turning up at their jobs” (Aronsson et al., 2000, p. 503). This definition is most commonly used in occupational health psychology. However, there has been some debate in the literature regarding the establishment of the definition of sickness presenteeism (presenteeism). The word *presentee* was, according to Johns (2012), invented by the American author Mark Twain, in 1892, in his book *The American Claimant*, and after that the term presenteeism occurred occasionally in business literature. Early versions used the term to refer to individuals who showed excellent attendance at work (Canfield & Soash, 1955), those who simply attended work, as opposed being absent (Smithy, 1970), those with the tendency to be reluctant to work part time rather than full time (Sheridan, 2004), and those with reduced productivity due to health problems (Turpin et al., 2004). A definitional consensus is still illusive and the literature sums up to at least nine different definitions, having one thing in common; that it refers to physical presence at work (Johns, 2010).

The definition of Aronsson et al. (2000) does not ascribe any motives or consequences for presenteeism, which is a question that must be established by empirical evidence (Johns, 2010). In accordance with this definition, employees are classified as presentee if they have attended work while ill at least twice in a year (Niven & Ciborowska, 2015). Interest in research on presenteeism has expanded over recent decades and comes from two main sources; European scholars in management, epidemiology, or occupational health and American medical scholars and consultants (Johns, 2010, 2012). The latter source has focused at the loss of productivity as a function of various illnesses, while the European researchers

have provided knowledge on the frequency of presenteeism, its occupational characteristics, its causes, and its correlates.

Johns (2010) dynamic model addresses some key variables relevant for developing a formal theory of presenteeism. According to the model, presenteeism and absenteeism is work attendance interrupted by an acute, episodic, or chronic health event. Presenteeism contains subjective assessments of one's medical condition, one's abilities to deal with job demands despite illness, and the available job and personal resources that can facilitate job performance (Miraglia & Johns, 2015). The literature review and outline of a model offered by Johns (2010, 2011) suggest that certain structures of the work context, individual characteristics, and work experiences might affect the occurrence of presenteeism. The substitution hypothesis (Caverley et al., 2007), the idea that factors that prevent sickness absence should tend to encourage presenteeism, together with the idea that absence and presence can be used strategically to maintain and/or adjust relationships with colleagues, clients, customers, the larger organization, and one's family, are highlighted in the model (Johns, 2011).

The model further emphasizes that there is an interaction between the illness and the situation in the decision process (Johns, 2010). The individual, the context, or an interaction between the health event, the individual, and the context will affect a person's choice to either continue their work or be absent. Previous experiences will then affect the outcome of the choice the next time the employee has to decide between presence and absence. According to this model, factors in the work context will be more influential in the decision making process when the health symptoms are perceived as moderate (Johns, 2010). Factors in the workplace that provoke conflict can also compel attendance, whether one is in good health or not. Sickness presence can have costs and benefits for relationships at the workplace and home, and also for oneself (Johns, 2011).

The dynamic model of Johns (2010) is particularly interesting because it accounts for the context, as well as describing interactions between the situation and the person. According to Johns (2010), the model addresses some key variables to signal what a theory of presenteeism should address. However, a literature review depending on correlates of sickness absenteeism, can challenge the development of a presenteeism theory. It is essential for both leaders and researchers to treat presenteeism and absenteeism as two different behaviors, and to be cautious in making inferences about presenteeism from absenteeism patterns (Johns, 2011). Knowledge of presenteeism is also important, since sickness absenteeism is an insufficient measure of health status for certain groups in the labor market (Aronsson, Gustafsson, & Mellner, 2011). Before we can develop good practical presenteeism interventions, the complexity of presenteeism, meaning both positive and negative aspects, needs to be investigated more and better understood. The outline of a theory of presenteeism needs to be developed further, since research and assumptions concerning presenteeism have been significantly atheoretical (Johns, 2010). To contribute to a more comprehensible understanding of presenteeism, it may be fruitful to integrate Johns' (2010) assumptions into an established theoretical framework.

### **The Dynamics of Sickness Presenteeism in an Established Theoretical Framework**

In order to understand, explain, and make predictions about various types of employee well-being, employee health, and organizational outcomes, the job demand-resource (JD-R) theory (Figure 1) provides a suitable theoretical framework (Bakker & Demerouti, 2007, 2014; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). The theory is an extension of the job demand-resources model, which was originally used to explain burnout (Bakker & Demerouti, 2016). The JD-R theory has an understanding that work is a process of change and

is not something static, which is important with regards to presenteeism, since it varies according to the focus and context.

One important building block of the JD-R theory is its flexibility, meaning that all job characteristics can be classified in two different categories; job demands and job resources. Job demands are physical, psychological, social, or organizational characteristics of the job that involve sustained physical and/or psychological efforts (Demerouti et al., 2001). Job resources are physical, psychological, social, or organizational work characteristics that are either functional in achieving goals at work or stimulate personal growth, learning, and development, and may reduce job demands and the associated physiological and psychological costs (Demerouti et al., 2001). Job resources can be located at different levels; at the organizational level (e.g., career opportunities), the social level (e.g., coworker support), task level (e.g., autonomy), and the organization of work (e.g., role clarity) (Bakker, Demerouti, & Verbeke, 2004). Personal resources refer to positive self-evaluations that are linked to resiliency and the individual's sense of their ability to successfully control and impact upon their environment (Hobfoll, Johnson, Ennis, & Jackson, 2003). The theory suggests that personal resources, such as self-efficacy and optimism, also are important predictors of motivation, and can act as buffers of demanding job demands (Bakker & Demerouti, 2014, 2016). The classification of work environment in terms of job demands and resources illustrates the complexity that is relevant for the understanding of presenteeism. Another assumption in the JD-R theory that can highlight the dynamics of presenteeism is that job features may stimulate two psychologically different processes, a motivational process, indicating that motivation has a positive impact on job performance, and a health impairment process, where job strain has a negative impact on job performance.

In the health impairment process, the idea is that poorly designed jobs or tough job demands over time deplete employee's mental and physical resources and may lead to strain, as well as health problems (Bakker & Demerouti, 2007, 2014, 2016; Demerouti et al., 2001). For example, job demands, such as workload, role ambiguity, and role conflict, predict burnout, and it is indicated in the literature that job demands are especially related to exhaustion (Alarcon, 2011; Lee & Ashforth, 1996). The motivational process assumes that job resources have motivational potential and encourage high work engagement, low cynicism, and good performance. Job resources can either play an intrinsic (e.g., personal growth) or extrinsic (e.g., act instrumental) role in the motivational process (lack of job resources will encourage disengagement). In addition to the main effects of job demands and resources, the JD-R theory states that different types of job demand and job resources may interact in predicting job strain, and that job resources may buffer the impact of job demands on strain (Bakker & Demerouti, 2007, 2014, 2016). Demands and resources have unique effects on employee health and motivation, and together they have joint effects on employee wellbeing (Bakker & Demerouti, 2014). Another proposition of the theory is that job resources mostly influence work engagement in situations with high job demands.

The JD-R theory can be applied to all work environments, and can, thus, also be tailor-made to the specific occupation by looking at its unique job demands and resources. For example, whereas physical demands are relevant for construction workers, cognitive demands are more important for scientists (Bakker & Demerouti, 2014, 2016). The JD-R theory suggests that work characteristics, employee health, and motivation mutually influence each other over time and can change the work environment. The dynamic nature of the relationships between work environment and wellbeing raises questions about reversed causal relationships, assuming that the individuals' levels of exhaustion/work engagement

(wellbeing) also influence their job demands and resources (work environment) (Bakker & Demerouti, 2014; Bakker, Demerouti, & Sanz-Vergel, 2014). For instance, a reciprocal relationship between burnout and presenteeism has been demonstrated (Demerouti, Le Blanc, Bakker, Schaufeli, & Hox, 2009). When employees experienced exhaustion, they used presenteeism as a compensation strategy, which ultimately increased their feelings of exhaustion at a later time (Demerouti et al., 2009). Two concepts related to the JD-R theory, job crafting and self-undermining, illustrated in figure 1, will not be described, since they are beyond the scope of this thesis.

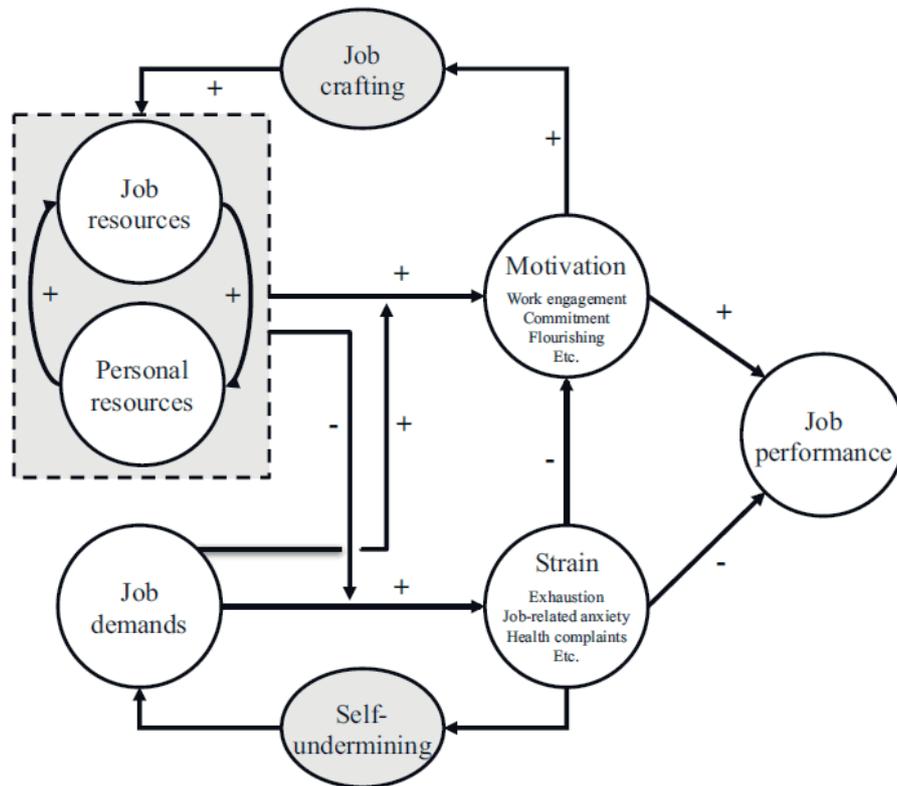


Figure 1. The job demands – resources model (Bakker & Demerouti, 2016, reprinted with permission from the authors).

A substantial amount of research has supported the assumptions of the JD-R theory, including its flexibility, the two processes, its effect on different outcomes, and the consequences of different outcomes (Bakker, Demerouti, & Euwema, 2005; Crawford, LePine, & Rich, 2010; Demerouti, Bouwman, & Sanz-Vergel, 2011; Fernet, Austin, & Vallerand, 2012; Nahrgang, Morgeson, & Hofmann, 2011; Schaufeli, Bakker, & Van Rhenen, 2009). However, the theory has also been criticized. According to Schaufeli and Taris (2014), its flexibility can be a weakness because it challenges the theory's generalizability, as well as preventing both clear insights into the underlying psychological mechanisms involved and an explanation of "why". In addition, the motivational process lacks empirical evidence as it has been studied in isolation and little is known about the direct and indirect effect of job demand on engagement. According to Schaufeli and Taris (2014), the most important issue regarding the JD-R theory is the need for a reconceptualization of demands and resources in terms of positively and negatively valued work characteristics. In that statement lies the possibility that some demands can be experienced positively, as some challenging demands act so as to motivate, while lack of some resources may be experienced negatively and cause stress. It is also argued that lack of resources can be experienced as a demand (Schaufeli & Taris, 2014). The notion of a valued work characteristic can be illustrated by some contradictory research findings on correlates of presenteeism within aspect from the JD-R theory.

A much studied resource related to presenteeism is social support, which refers to perceptions of relationships of varying strength and quality that are supportive (Karasek & Theorell, 1990; Viswesvaran, Sanchez, & Fisher, 1999). A prominent resource factor in research on presenteeism is job control, which consists of the ability to influence what occurs at work (Miraglia & Johns, 2015). Job control can be referred to as an employee's decision authority, work autonomy, decision latitude, or work pace. The decision to be absent or

present will vary with the perception of job control (Johns, 2010). Previous studies have investigated the main effects of control and social support, as well as their underlying influence on presenteeism. However, the findings vary in how they correlate with presenteeism, with some finding negative relations where others find positive associations (Caverley et al., 2007; Hansen & Andersen, 2008; Johansson & Lundberg, 2004; Jourdain & Vezina, 2014; Kivimäki et al., 2005). Deery et al. (2014) recommend investigating the relative importance of job resources in relation to presenteeism because job resources can provide knowledge of how employees respond to the strains of being present during sickness. A focus on characteristic values highlights the possibility of a complex relation between presenteeism and aspect in the JD-R theory. Jourdain and Vezina's (2014) results indicate that the combination of low decision authority and high supervisor's support decreases the positive association between job demands and presenteeism propensity within a 10-year time frame. The context and experience of high job demands and professional culture can, in some cases, be positively related to presenteeism, and, in others, negatively (Giæver, Lohmann-Lafrenz, & Løvseth, 2016).

The JD-R model derives from earlier models/theories of work stress and motivation including the job control-demand-support model (Johnson & Hall, 1988; Karasek, 1979; Karasek & Theorell, 1990), job characteristic theory (Hackman & Oldham, 1980), two-factor theory (Herzberg, 1966), effort-reward imbalance model (Siegrist, 1996), and conservation of resources theory (Hobfoll, 1989, 2002). The JD-R theory tries to respond to the one-sided attention towards motivation or stress, suggesting that it is too simplistic and static to take into account the dynamic nature of job change (Bakker & Demerouti, 2014). As these are important aspects of presenteeism, the JD-R theory constitutes a suitable framework for the current thesis.

## **Sickness Presenteeism as a Predictor and Outcome**

The main focus on correlates of presenteeism presumes that presenteeism is a consequence of a choice affected by different factors. Johns' model (2010) is based on this principle. The JD-R theory acknowledges that presenteeism can also be a predictor of and be experienced as a job demand in the work environment. There are aspects in the workplace that can constitute presenteeism to act as a demand, which, in turn, have long-term consequences for employee health and performance (Bergström, Bodin, Hagberg, Aronsson, et al., 2009; Bergström, Bodin, Hagberg, Lindh, et al., 2009; Caverley et al., 2007; Dellve et al., 2011; Schultz et al., 2009; Schultz & Edington, 2007; Taloyan et al., 2012). For example, rates of sickness presence were shown to be higher among employees suffering with exhaustion or burnout compared with a non-burnout group (Peterson, Demerouti, Bergström, Åsberg, & Nygren, 2008), and presenteeism can also lead to burnout over time (Demerouti et al., 2009). Presenteeism has also been shown to predict serious coronary events among men (Kivimäki et al., 2005) and long term sickness absence at a later date (Hansen & Andersen, 2009). The magnitude of presenteeism as a predictor support the assumption that presenteeism can be part of a reciprocal relation (Demerouti et al., 2009).

A recent meta-analysis on presenteeism concluded that general ill health, job demands, perceived stress, negative relational experiences, positive attitudes, and lack of job resources are important antecedents and correlates of presenteeism (Miraglia & Johns, 2015). In more detail, research indicates that workload, fairness, values, reward, control (Pohling, Buruck, Jungbauer, & Leiter, 2016), job stress (Elstad & Vabo, 2008; Leineweber et al., 2011), and time pressure (Hansen & Andersen, 2008) are related to presenteeism. Johns (2011) reported that respondents attending work when ill were found to be more common among those engaged in interdependent work and those experiencing work–family conflict and that it was

negatively related to respondents' overall health. The frequency of presenteeism was positively related to task significance, ease of replacement, and work–family conflict. Internal locus of control, neuroticism, absence legitimacy, and job security were negatively related to the frequency of presenteeism (Johns, 2011). The lack of self-evaluation of health symptoms may also promote presenteeism (Giæver et al., 2016). Research on presenteeism antecedents has been substantial over last decade, nevertheless, this has been with a primary focus on presenteeism solely as a negative work behavior. Research on the positive aspects of presenteeism has been scarce.

### **The Positive Aspect of Sickness Presenteeism**

Although the negative aspects are important, there has been little focus on the positive aspects of presenteeism, which is important for gaining knowledge about the phenomenon's dynamics. Although research has indicated that presenteeism is costly for employees' health, there have been some dissenting viewpoints on the solely negative consequences of presenteeism (Claes, 2011; Vingard, Alexanderson, & Norlund, 2004). In some situations, there may be a need for presenteeism prevention, while in others it may be more appropriate to encourage presenteeism, which leads to a more positive approach to presenteeism.

Being a part of a work environment during illness can have favorable outcomes for the individual, as work, in itself, is essential for individuals' well-being and their mental and physical health (Waddell & Burton, 2006). When experiencing well-being, a favorable work environment may lead to a positive experience of presenteeism (Lau, Victor, & Ruud, 2016), as work is important for identity and social status (Waddell & Burton, 2006). In order to prevent inactivity and isolation, a positive approach on presenteeism is encouraged. An example of this positive emphasis of presenteeism can be found in the Norwegian Welfare system, which has established an agreement on an inclusive working life (IA-agreement). The

IA-agreement is between the Norwegian government and social partners to strengthen a proactive approach as a means to deal with various challenges in the workplace (The Norwegian Government, 2014). All companies in Norway can participate as an inclusive working life enterprise. One important goal of the IA-agreement is to encourage employers to make necessary work adjustments when an employee has health problems, reports injuries, or can no longer carry the normal job tasks, in order to prevent employees from being excluded from work.

In Norwegian work life, presenteeism with work adjustment is regarded as a better option than absenteeism. Norwegian governments explicitly endorse presenteeism by encouraging general practitioners, employers, and employees to use graded sick leave instead of full sick leave. Accordingly, the possibility to take out partial (graded) absence certificates and work adjustment in Norway gives many employees an opportunity to experience the positive aspects of presenteeism. The governmental initiative states that presenteeism with adjustments would be beneficial both for the individual and the organization. Markussen, Mykletun, and Roed (2012) showed that employees who were assigned partial (graded) absence certificates by their physician had shorter absences. Partial absence presupposes work activity and work adjustment by requiring the employee to use his/her remaining work-capacity (Markussen et al., 2012). Another aspect is that, in Norway, the welfare system ensures that there is no financial loss for an employee to be on sick leave for up to one year (up till 6xNational Insurance basic amount (G)), if necessary. In Norway, the employers pay for the first 16 days of sick leave, and, consequently, it is profitable for both the society and the organization to have employees perform some work, hence being sickness present.

The positive aspects of presenteeism lack systematic knowledge in the current literature on presenteeism. Presenteeism with adjustment opportunities could be regarded as

an example of the positive aspect of presenteeism with regard to employees' health and organizational productivity. In Rostad, Milch, and Saksvik's (2015) study, the perception of organizational adjustment was related to long-term healthy employees. Workplaces can actively work towards the positive aspects of presenteeism by focusing on work adjustments in situations where it is suitable. However, a related concept, limited to the use of the decision authority component of the control dimension, is adjustment latitude (Johansson, 2007; Johansson & Lundberg, 2004). Adjustment latitude describes the opportunities people have to use their decision authority to reduce or adjust their work effort when feeling ill with headaches, backache etc., in order to maintain sufficient ability to work (Johansson & Lundberg, 2004, 2009). However, the associations between adjustment latitude and presenteeism have been inconsistent (Gerich, 2014; Johansson, Hultin, Moller, Hallqvist, & Kjellberg, 2012; Johansson & Lundberg, 2004).

A few studies have reported positive reasons for attending work ill. Job enjoyment (Johansen, Aronsson, & Marklund, 2014; Marklund, Aronsson, Johansen, & Solheim, 2015; Miraglia & Johns, 2015); job satisfaction and work involvement (Claes, 2011; Giæver et al., 2016; Miraglia & Johns, 2015); increased job experience, self-confidence and professional identity; as well as support and positive leadership (Giæver et al., 2016) can promote positive experiences of presenteeism. Attending work with mental illness enhances positive experiences such as flow, meaningfulness, and coping (Lau, Edvardsen, & Victor, 2015). It has also been shown that employees present during mental illness had fewer symptoms, functioned better, and experienced greater well-being than employees on sick leave due to mental illness (Lau et al., 2016). Further investigation into the antecedents and consequences of the positive aspects of presenteeism is warranted. Still, in order to understand the dynamics

of presenteeism, there is a need for an extended focus regarding how presenteeism is explored that is manifested in a theory.

### **The overall Objective of the Thesis**

The introduction demonstrates the situation-specific and complex nature of presenteeism. The main aim of the present thesis was to explore the dynamics of presenteeism within an established theoretical framework, to gain knowledge about presenteeism's relation to a specific context/situation, and to guide future research towards an understanding that presenteeism is the result of different processes (Paper 1, 2 & 3, Figure 2 & 3). The thesis explores the dynamics of presenteeism by investigating antecedents and presenteeism as both a predictor (Paper 2, Figure 4) and outcome (Paper 3, Figure 5), and increasing knowledge about presenteeism as a positive aspect in the work place (Paper 1, Figure 3). To fulfil this purpose, several research questions were developed and are the background for the presented Papers in the current thesis. Paper 1–3 are used as examples to demonstrate how the dynamics of presenteeism can be incorporated into an established theoretical tradition, and exemplify important aspects regarding the purpose of the thesis.

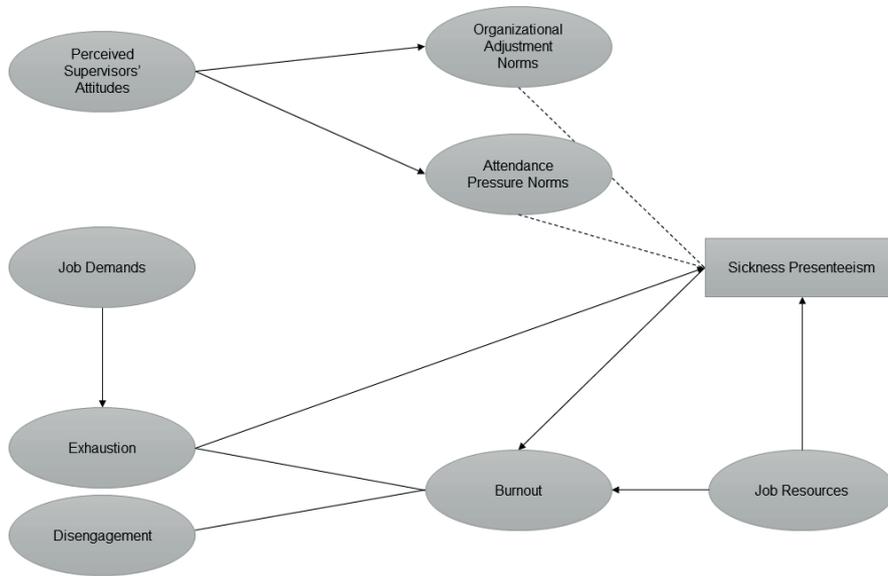


Figure 2. Model of the research questions in Paper 1, Paper 2, and Paper 3.

## Aims and Objectives of the Papers

**Paper 1.** The objective of Paper 1 was to study the association between perceived supervisors' attitudes concerning work adjustments, organizational adjustment norms and attendance pressure norms. Four hypotheses were investigated.

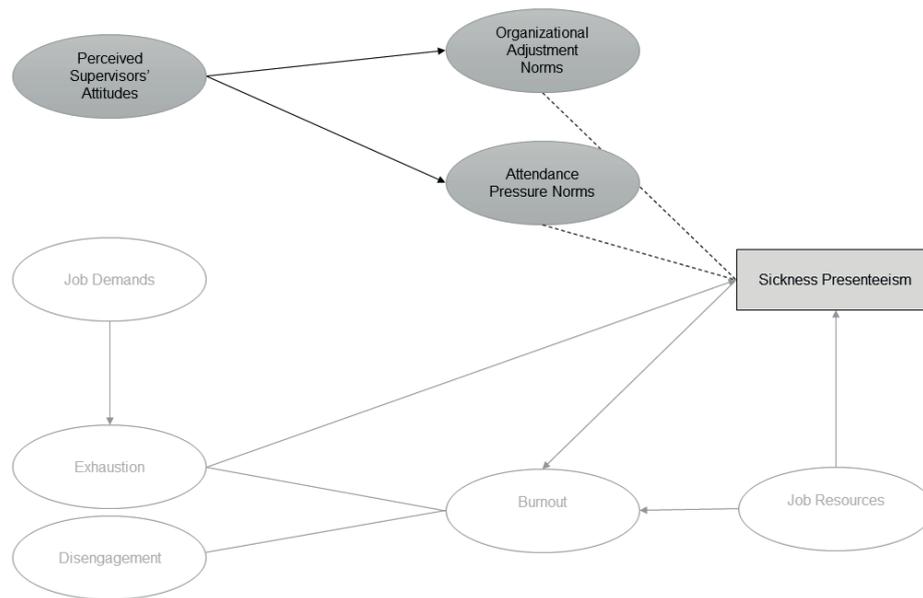


Figure 3. Model examined in Paper 1: Norms illustrating negative and positive aspects of sickness presenteeism.

**Paper 2.** The objective of Paper 2 was to explore the relationship between sickness presenteeism and burnout among physicians in four European countries, while controlling for job resources, such as social support, control over work pace, and decision-making, and demographic variables, such as age, gender, and nationality. Two hypotheses were investigated.

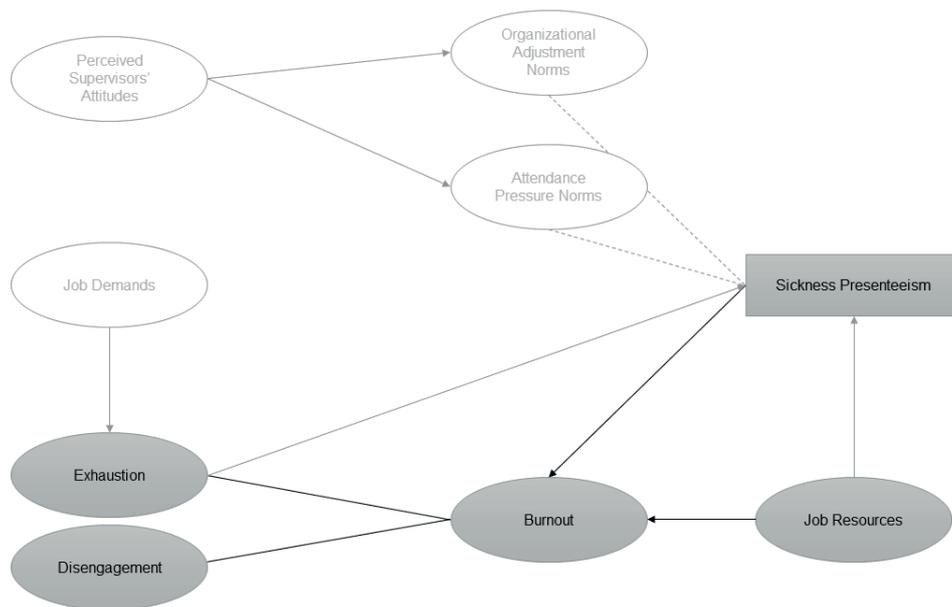


Figure 4. Model illustrating the hypotheses in Paper 2: Sickness presenteeism as a predictor of burnout.

**Paper 3.** The objective of Paper 3 was to examine the relationship between job demands and presenteeism mediated by exhaustion, when simultaneously controlling for job resources, such as control over work pace and social support. Four hypotheses were investigated.

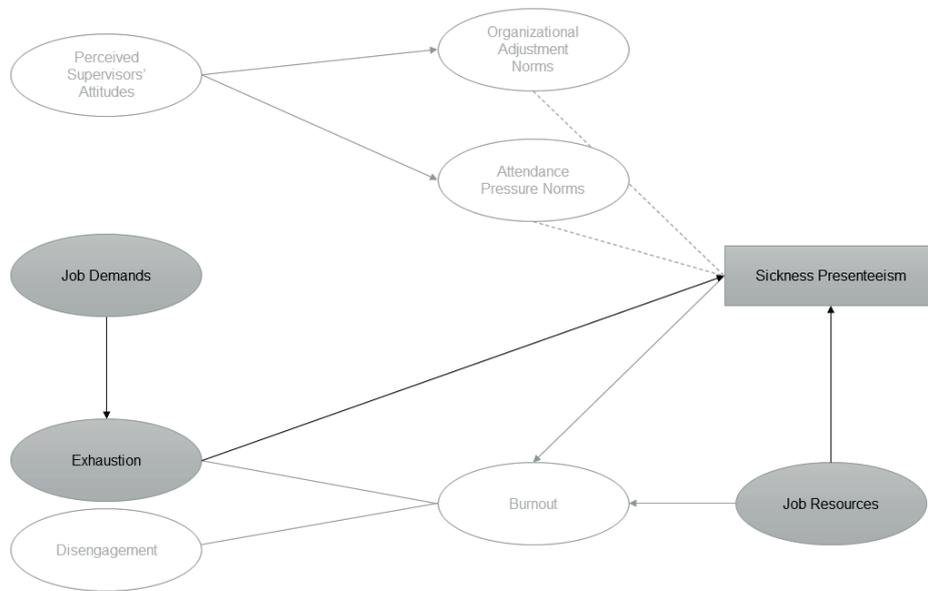


Figure 5. Model examined in Paper 3: Sickness presenteeism as an outcome of a health impairment process.

## Method

### Samples and Procedures

**Procedures and Participants Paper 1.** Study 1 was conducted in 2008 as part of a nationwide evaluation (Ose et al., 2009). Companies with 9 or more employees that had signed the IA-agreement were randomly selected by Statistics Norway (ssb.no) and invited to participate in the study. Every fifth firm that got the invitation and wanted to participate received the survey. The inclusion criteria in Study 1 was employee representatives which were involved in IA-work. Firms in the sample varied in size from having 9 to 1,816 employees. The total response rate of firms participating was 62 % ( $N=3075/5000$ ). The survey was distributed by mail and the participants were given a choice to either answer a web-based survey or a printed version of the questionnaire. The sample consisted of 1,658 employee representatives (response rate 40 %). Among the respondents, 66% were elected as employee representatives and 22% as safety delegates. The participants worked in private (61%) and public (33%) sectors.

**Procedures and Participants Paper 2.** Study 2 used data from the Health and Organisation among University hospital Physicians in Europe (HOUPE-study) phase 1, concerning work-related health, organizational culture, and working conditions among university hospital physicians in Norway, Sweden, Iceland, and Italy. The data collection was carried out from December 2004 to February 2006. Invited physicians were permanently employed and actively working at the time of data collection ( $N=3947$ ), and included both full-time and part-time physicians. The survey was administered both on the web and in Paper format. All participants received a letter containing personal password and log-in information for the web-based questionnaire. The joint data collection of the web survey was organized centrally for the three Nordic countries at the project website. The survey was conducted in

English in all countries except for Italy. The Italians received questionnaires in their native language and only by paper. A response analysis showed that all countries had an acceptable response rate and demographic representation according to physician age, gender, and position. The total response rate was 52.6% ( $N=2078/3947$ ).

**Procedures and Participants Paper 3.** The survey in study 3 included data from the Norwegian participants of HOUPE-study phase 2 (2012). The sample procedure and data collection was similar to HOUPE phase 1. The inclusions criteria were employment as full-time or part-time physicians actively working at the time of data collection. A response analysis showed that the sample was representative according to age, gender, and position. The total response rate was 71.8 % ( $N= 545/759$ ), where 45 % ( $n= 245$ ) were female physicians.

## **Instruments**

### **Instruments Paper 1**

The questionnaire used in study 1 consisted of 16 questions, with responses on a five-point scale from 1 (totally disagree) to 5 (totally agree).

**Organizational Adjustment Norms.** Organizational adjustment norms take into account that you are sick and that the job is adjusted so that you can perform it or any other job that is manageable with the illness, without getting worse, which might, preferably, achieve an improvement in health status (Biron & Saksvik, 2009; Saksvik, Guttormsen, & Thun, 2011). Participants were asked to agree or disagree on statements regarding common perceptions among the employees at their workplace. Four items assessed the perceptions of different norms in the workplace that would influence a company to promote adjustment when present while ill, such as “It is easy to find alternative work for those who need less

strain”. The internal consistency of the measure was measured with Dillon Goldsten’s rho (D.G. rho =.86). The items were developed according to the norm scale used by Hammer, Saksvik, Nytrø, Torvatn, and Bayazit (2004). High scores indicated a perception that work adjustments were possible.

**Attendance Pressure Norms.** Attendance pressure norms reflect circumstances where employees perceive that the norm at the workplace is attending work despite their health condition (Saksvik, 1996). Participants were requested to agree or disagree on statements regarding shared perceptions among the employees at their workplace. Three items assessed the perception of different attendance pressure norms that would pressure employees to attend work in spite of health problems (D.G. rho = .77). For example, “It’s expected that you attend work irrespective of how you feel”. These items were also based on the norm scale used by Hammer et al. (2004). High scores indicated a perception that attendance pressure exists.

**Perceived Supervisors’ Attitudes.** Four items measured the perceived attitudes of supervisors in regard to cooperating and communicating with their employees, as well as involving them in decisions regarding work adjustment, such as “Superiors are attendant to ideas from their followers” (D.G. rho =.88). The items were developed to concern support from the superior and social interactions in a concrete IA-context, and are based on the General Nordic Questionnaire for Psychological and Social Factors at Work (QPS-Nordic) (Dallner et al., 2000; Elo et al., 2000; Lindström, 2000). High scores indicated a perception that the supervisors’ had positive attitudes towards IA-work.

**Structural Barriers.** Three items were developed for study 1 and assessed perceived limitations and consequences regarding work adjustment at the workplace (D.G. rho = .79). For example, “Adjustment of work for individuals causes increased load for their colleagues”.

High scores indicated a perception that there exist challenges (structural barriers) when doing work adjustments.

**Control Variables Paper 1.** Number of employees (firm size), sector (public or private), and structural barriers (in the first two hypotheses) served as control variables.

### **Instruments Paper 2 and 3**

The questionnaire in Paper 2 and 3 consisted of 107/123 items concerning education, work-related health, organizational culture, and working conditions among physicians.

**Sickness Presenteeism.** The item “Have you gone to work with an illness in a situation where you would have recommended a patient to stay at home?” measured presenteeism in Paper 2 (Rosvold & Bjertness, 2001). The response was rated from 1 (very seldom or never) to 5 (very often or always). In Paper 3, a question about the time-frame followed the abovementioned item; “How often has this happened during the last 12 months?” and measured presenteeism. The response was rated 1 (none), 2 (once), 3 (2-4 times), to 4 (more than five times). A high score points to a feeling of going to work while sick.

**Burnout.** The outcome variable in Paper 2 was measured by a Mini version of OLBI (Demerouti, Bakker, Vardakou, & Kantas, 2003). The two dimensions of burnout, exhaustion ( $\alpha = .80$ ) and disengagement ( $\alpha = .77$ ), consist of five items each, and included both positively and negatively worded items. One item measuring exhaustion was “After my work, I usually feel worn out and weary”, and one item for disengagement was “Lately, I tend to think less during my work and just execute it mechanically”. The negatively worded items were revised. The response scale was 1 (totally agree) to 4 (totally disagree). High scores on the burnout measures indicate a feeling of exhaustion and disengagement. Due to the aim in Paper 3, only exhaustion ( $\alpha = .73$ ) was of relevance.

**Job Resources.** Social support was measured with “How much can people as listed below be relied upon for support when things get tough at work?” (Hellesøy, 1985). The item was rated with references to the immediate supervisor and the physicians’ colleagues (in their work unit), respectively. Responses were on a five-point scale ranging from 1 (not at all) to 5 (very much). Control over work pace and decision-making derived from QPS Nordic (Dallner et al., 2000; Elo et al., 2000; Lindström, 2000). Four items measured control over work pace ( $\alpha = .84/.83$ ), such as “Can you decide yourself when you are going to take a break”. Two items measured control over decision-making ( $\alpha = .45$ ), for example “Can you influence the amount of work assigned to you?”, and were only questioned in Paper 2. The response scale was rated from 1 (very seldom or never) to 5 (very often or always). The job resources scales correspond to the QPS Nordic validation data (Dallner et al., 2000; Wannström, Peterson, Asberg, Nygren, & Gustavsson, 2009). High scores on the items indicate high job resources at work.

**Job Demands.** The three items measuring role conflict were derived from the QPS-Nordic (Elo et al., 2000; Lindström, 2000) and were measured from 1 (very seldom or never) to 5 (very often or always). One item measuring role conflict was “Are you given assignments without adequate resources to complete them?”. The alpha of this scale ( $\alpha = .68$ ) corresponded to the validation data on QPS Nordic. Three items measured work–family conflict (Carlson, Kacmar, & Williams, 2000), such as “I am often so emotionally drained when I get home from work that it prevents me from contributing to my family”. The participants were asked to provide their responses from 1 (totally agree) to 4 (totally disagree). The items were reversed for the purpose of the study. The alpha of this scale ( $\alpha = .84$ ) corresponded to a validation study (Carlson et al., 2000). High scores on the items indicate a perception of high job demands at work. Job demands were only utilized in Paper 3.

**Control Variables Paper 2 and Paper 3.** Age, gender, and country were included in Paper 2 as control variables. Age was measured in nine age categories (from >29, 30-34 ... to <65). Gender was coded with male (1) and female (0). All countries were dummy coded, and Sweden was the reference category. Social support and work pace were controlled for in Paper 3.

### **Statistical Analyses**

In all Papers the data was pre-analyzed to ensure that the assumptions of the analysis utilized were not violated. The Durbin-Watson value, the Variance Inflation Factor (VIF), and Tolerance statistic were checked. Visual inspection was done to see if the normal probability plots indicated a distribution of residuals reasonably close to normal, and a visual inspection of the scatter plots was done to check that there was no substantial heteroscedasticity. All independent variables measured with response scales had sufficiently normal distribution to warrant parametric tests. In Paper 1, the XLSTAT software was used for estimating the measurement and structural model. In Paper 2, all analyses were conducted with IBM Statistical Package for the Social Sciences (SPSS), version 19. In Paper 3, IBM SPSS AMOS, version 22 was used for estimating the measurement and structural model. In Paper 3, Correlational analysis, descriptive analyses, and missing analysis was conducted using IBM SPSS, version 22. Descriptive analyses, inter-rater reliability, and Pearson's correlation were utilized in all studies.

**Missing Data.** Prior to the analyses, the datasets were screened for missing data. In Paper 1, the amount of missing did not exceed 5-10 %. To warrant statistical analysis, missing data was replaced using the Lohmöller method (Lohmöller, 1988). With an average amount of missing not exceeding 10 %, no formal statistical techniques were used to replace missing data in Paper 2. In paper 3, the Little's MCAR (Missing Completely at Random) test was not

significant ( $\chi^2(287) = 315.60, p = .118$ ), indicating that the data could be considered to be missing completely at random (Tabachnick & Fidell, 2013). However, since the statistical software utilized (Amos) does not handle missing data, the few cases with missing data were replaced with the maximum likelihood (ML) estimation.

**Structural Equation Modelling.** The main analysis conducted in Paper 1 was a partial least squares path modelling (PLS-PM) approach to structural equation modelling (SEM). PLS-SEM has good statistical strength and is suitable to use when the aim is to look at complex relationships, and predict an outcome in explorative studies with many latent variables (Chin, 2010; Hair, Hult, Ringle, & Sarstedt, 2014). Due to the aim of study 3, testing a health impairment process, covariance structural equation modeling (COV-SEM) was utilized (Blunch, 2013; Tabachnick & Fidell, 2013). To test the indirect effects hypothesized, a bootstrapping procedure with bias-corrected intervals was conducted.

**Hierarchical Regression Analysis.** In order to answer the main question in Paper 2, hierarchical regression analysis (block-wise entry) was conducted. The control variables were entered first in the model. In the second block, known predictors were entered into the model, based on their importance in predicting the outcome. Then, in the third and last block, the predictor of interest was added to find its unique value of prediction and explanation of variance.

**Analysis of Variance.** In paper 2 one-way Analysis of variance (ANOVA) was applied to test mean differences between countries, and post-hoc tests (Hochberg GT2 and Games-Howell) were applied to confirm where the differences occurred.

### **Ethical Considerations and Approvals**

The participation, in all three studies, was voluntary. All respondents received an informed consent form with a description of the study. In all studies, anonymity was assured, and it was emphasized that individual data could not be identified in any way (confidentiality). The HOUPE project was approved by the administration of the hospital, the union representatives of the physicians at the hospital, and the Regional Committees for Medical and Health Research Ethics and National Data Inspectorates. In addition to a short oral presentation given in organizational forums, all participants received a letter with a description of the study and an informed consent was required. It was assured that it was possible to withdraw from the studies at any time, without any questions being asked. The protection of participants' answers to the online survey was considered to be within standards.

## Results

### Results Paper 1. The Impact of Supervisors' Attitudes on Organizational Adjustment Norms and Attendance Pressure Norms

The aim of Paper 1 was to investigate if the perceptions of supervisors' attitudes regarding work with the IA-agreement influence norms of attendance. More specifically, to investigate how perceived supervisors' attitudes influences the perception of organizational adjustment norms and attendance pressure norms at work, in a representative sample of Norwegian IA-workplaces. Prior to the PLS-PM analysis, a confirmatory factor analysis (measurement model) was conducted. The measurement model demonstrated acceptable internal consistency. Perceived supervisors' attitudes and structural barriers accounted for 43% of the variance in organizational adjustment norms, whereas the same set of variables and sector accounted for 13 % of the attendance pressure norms (Figure 6). Perceived supervisors' attitudes ( $\beta = .613, p < .001$ ) was positively and strongly related to organizational adjustment norms. Structural barriers against IA-work influenced organizational adjustment norms, both directly ( $\beta = -.155, p < .001$ ) and indirectly ( $\beta = -.106, p < .001$ ), through the perceived attitudes of supervisors when controlling for firm size and sector. Perceived supervisors' attitudes were also the strongest predictor of attendance pressure norms, however, the relationship was negative ( $\beta = -.301, p < .001$ ). Structural barriers against IA-work also influenced attendance pressure norms, both directly ( $\beta = .153, p < .001$ ) and indirectly ( $\beta = .052, p < .001$ ), through the perceived attitudes of supervisors when controlling for firm size and sector. Models exhibiting goodness-of-fit (GoF) values equal to or higher than .90 are considered good (Esposito et al., 2010). Indicated by a quality estimate of PLS-PM the global criterion Goodness of Fit (GoF), the hypothesized model had a good fit to the data (GoF = .922). The study furthermore discusses the importance of including

organizational adjustment norms and attendance pressure norms in research on presenteeism because perceptions about workplace norms can have an effect on the choice of going to work while sick or staying at home.

## **Result Paper 2. Sickness Present with Signs of Burnout: The Relationship between Burnout and Sickness Presenteeism among University Hospital Physicians in four European Countries**

The objective of Paper 2 was to investigate the relationship between presenteeism and burnout, controlling for job resources. Presenteeism was positively associated with both exhaustion and disengagement. Presenteeism, age, gender, country, support from superior, support from colleague, control over work pace, and control over decision-making explained 24% of the variance in exhaustion and 21% of the variance in disengagement (Figure 6). Findings indicated that presenteeism was associated with exhaustion ( $\beta = .19, p < .001$ ) and the additional variance explained by entering presenteeism in the analysis was 4%. Furthermore, presenteeism was also associated with disengagement ( $\beta = .07, p < .001$ ). According to the results, support from supervisors ( $\beta = -.24, p < .001$ ) had the strongest influence on disengagement, whereas presenteeism ( $\beta = .19, p < .001$ ) and control over work pace ( $\beta = -.19, p < .001$ ) had the strongest influence on exhaustion. In addition, using a one-way ANOVA, a significant difference between the countries in their scores on burnout were found. According to Hochberg GT2 and Games-Howell Post-hoc tests Sweden was the country where the participants had highest mean level of the burnout dimensions (disengagement [ $F(3, 2002) = 17.02, p < .001$ ], exhaustion [ $F(3, 2002) = 17.15, p < .001$ ]).

### **Result Paper 3. A Health Impairment Process of Sickness Presenteeism among Norwegian Physicians: The Mediating Role of Exhaustion**

The purpose of Paper 3 was to test the relationship between work–family conflict/role conflict (job demands) and presenteeism mediated by exhaustion, controlling for social support and work pace. As a first step in the SEM-analysis, a confirmatory factor analysis was conducted. The confirmatory factor analyses demonstrated good fit to the data,  $\chi^2(114) = 231.16$ ,  $p < .001$ , a goodness-of-fit index (GFI) of .956, a CFI of .963, a Tucker-Lewis Index (TLI) of .951, an SRMR of .043, and an RMSEA of .043 (Bentler, 1990; Hu & Bentler, 1999; Tabachnick & Fidell, 2013). The SEM-analysis indicated that the variables in the study explained 17 % of the variance in sickness presenteeism (Figure 6). Exhaustion had a positive relation with presenteeism ( $r = .30$ ,  $p < .01$ ,  $\beta = .36$ ,  $p < .001$ ) in both the correlational- and SEM-analyses. Correlational analyses indicated that job demands and job resources in the study were related to presenteeism, however, no direct effects were found in the SEM-analysis. Exhaustion mediates the relationship between work–family conflicts and presenteeism, and the relationship between role conflicts and presenteeism. An increase in work–family conflict by one *SD* increased presenteeism by .22 *SD* ( $p < .01$ ) through exhaustion, whereas an increase in role conflict by one *SD* increased presenteeism by .08 *SD* ( $p < .01$ ) through exhaustion. Job resources had no direct effect on presenteeism in the hypothesized SEM-model. The health impairment process of presenteeism was confirmed, and the hypothesized model had a good fit to the data ( $\chi^2(116) = 231.23$ ,  $p < .001$ , GFI = .956, CFI = .964, SRMR = .043, TLI = .953, and RMSEA = .043).

### Model summary of results in Paper 1, Paper 2, and Paper 3

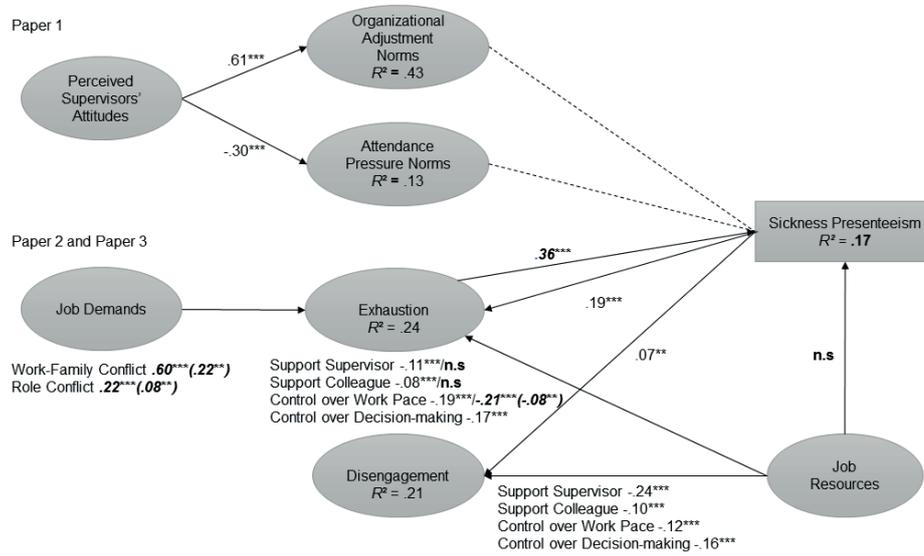


Figure 6. Illustration of the main findings. Paper 1 are illustrated in the upper part of the model. Paper 2 and Paper 3 are summarized in the lower part of the model. The  $\beta$  and  $R$  values in bold represent findings in Paper 3.  $\beta$  in parentheses report the indirect effects in Paper 3. \*\* $p < .01$ , \*\*\*  $p < .001$



## **Discussion**

The papers included in this thesis demonstrate the situation-specific and complex nature of presenteeism, and how the dynamics of presenteeism can be incorporated into an established theoretical tradition. The results of three studies of presenteeism can be summarized as follows. The main contribution is the enhanced understanding of the dynamics of presenteeism within the JD-R theory to gain knowledge about presenteeism's relation to a specific context, and to advance research towards an understanding that presenteeism is the result of different processes. By investigating presenteeism in terms of an established theoretical approach, new insights about the complexity of presenteeism and its different aspects have been demonstrated. The findings suggest both a health impairment process and a motivational process associated with presenteeism. The processes of presenteeism depend on the perception of positive or negative job demands and/or job resources. The associations between job demands, job resources, and presenteeism are mediated by a strain or motivational component. The thesis further explores the dynamics by investigating presenteeism as both a predictor and an outcome variable. Presenteeism was positively related to burnout, and especially the dimension of exhaustion. Employees attending work sick reported high levels of exhaustion. Further, a health impairment process of presenteeism indicates that exhaustion acts as a mediator between job demands and presenteeism. Together, these findings support the understanding of a reciprocal view regarding health, work characteristics', and presenteeism. Finally, the thesis contributes to knowledge about presenteeism as a positive aspect in the work place. Characteristics at work may influence the perception of presenteeism as something negative or positive. Presenteeism as a positive aspect in the workplace relates to norms of attendance and the perception of leaders'

awareness of work adjustments. Encouraging job adjustment advances a positive understanding of presenteeism. In the following, the aims will be discussed in more detail.

### **The Complexity of Sickness Presenteeism: The Relevance of Job Demands-Resources Theory**

The main aim was to investigate the dynamics of presenteeism through the lens of JD-R theory and how it can advance research on presenteeism. The classification of the work environment in terms of job demands and resources makes the theory universal and possible to apply in various occupations. The JD-R theory's broad definition of demands and resources illustrates the complexity of presenteeism (Paper 1). Attendance pressure norms could have been constituted as a job demand in a health reducing process, while organizational adjustment norms could have been constituted as a job resource in a motivational process. In a work environment where the possibilities for work adjustments are high, employees' may respond differently with respect to the choice of attendance than in situation where attendance pressure norms exist. Importantly, the JD-R theory highlights that consequences of presenteeism will depend on the process type. Perceived leader attitudes' can also be constituted as a resource, and this supports the notion that every workplace has its unique job demands and resources and that leadership plays an important role in this.

The definition of job demands and the health impairment process in the JD-R theory supports the understanding that presenteeism is related to burnout (Paper 2). The current thesis shows that presenteeism, or attendance pressure, in itself, can constitute a job demand. By using the JD-R theory, it is possible to look at presenteeism dynamics, with both positive and negative aspects that arise due to its two processes. The reciprocal focus in the theory also highlights the possibility that presenteeism can be constituted as both a predictor and an outcome, depending on the situation. The focus on job performance shows that it can be

important to investigate the health impairment process of presenteeism (Paper 3) and that it is important to control for relevant resources.

In line with Crawford et al. (2010), Schaufeli and Taris (2014), and Van den Broeck, Van Ruysseveldt, Vanbelle, and De Witte (2013) the findings from this thesis also emphasize that there is a need to reconstruct the terms of job demands in positive and negative job demands. As illustrated in paper 1 presenteeism can be experienced as a negative demand if it is due to attendance pressure, or as a positive demand if it is due to work adjustments. The interpretations of its valued characteristic can be difficult, because it might be related to the context and consequences. Accordingly, presenteeism can act as positive demand if it elicits development and satisfaction, and as a negative demand if it leads to strain and frustration. In addition, it is not the amount of job demands per se that leads to strain, but the type of demand (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). According to Van den Broeck et al. (2013), negative job demands or job hindrances, such as role problems and organizational politics, can be perceived as obstacles that can frustrate employees' need for personal development and goal achievement. This, in turn, can deplete energy and lead to burnout (Bakker & Demerouti, 2016; Schaufeli & Taris, 2014; Van den Broeck et al., 2013). Findings from Paper 2 demonstrate that attending work during illness relates to burnout also when controlling for job resources. The results of Paper 3 indicate that employees are more likely to attended sickness present experiencing role-conflicts, work-family conflicts, and exhaustion. Experiencing conflicting demands can cause attendance pressure which in turn increase symptoms of exhaustion and presenteeism. The findings in this thesis illustrate the importances of extending the scope of job demands beyond the typical psychosocial and structural job demands. Challenging and positive demands, such as job complexity, time pressure, and workload, can also tap into employees' energy. Contrarily, they might add to

employees' performance, satisfaction, and goal achievement, and elicit positive effects (Van den Broeck et al., 2013).

### **Considerations of Sickness Presenteeism as a Job Demand or Consequence**

The results in Paper 2 show that presenteeism can represent a negative job demand that might worsen employee health. Work characteristics creating attendance pressure to fulfil duties at work can explain presenteeism being experienced as a demand (Grinyer & Singleton, 2000; McKeivitt & Morgan, 1997). Factors that will affect the individual's choice of being absent or present include demands compelling attendance pressure (Aronsson & Gustafsson, 2005; Saksvik, 1996). Attendance pressure forces people into work despite their health condition (Aronsson & Gustafsson, 2005; Biron & Saksvik, 2009; Saksvik, 1996). Psychological tension and stress will arise if expectations conflict, either with personal preferences or with one another. Individual, but also collectively agreed upon, attitudes towards presenteeism may influence the role of attending, ill or not (Dellve et al., 2011). For example, many physicians did not call in sick because of the perception of a norm expressing that illness is not appropriate for physicians, that they should not burden colleagues, and that high workload and working hard is something they should do, and also have to do (McKeivitt & Morgan, 1997). Marklund et al. (2015) also reported the impact of not burdening colleagues with additional work and financial reasons as important for the act of presenteeism. Experience of negative consequences of being away from work affecting either the individual, work mates, or a third party, were strongly related to presenteeism (Johansson & Lundberg, 2004).

According to the JD-R theory, attending work while ill can be experienced as a negative job demand because it requires sustained physical and psychological effort from the employee. In paper 2, participants reported presenteeism while having symptoms of burnout,

hence illustrating presenteeism experienced as a job demand. The choice of presenteeism is also affected by social aspects of the work (Aronsson & Gustafsson, 2005; Johns, 2010). According to Johns (2010) dynamic model of presenteeism, the experience of presenteeism will affect the next choice of work attendance. If presenteeism is experienced as a negative demand it is possible that a demanding setting will force employees to choose sickness absenteeism instead of presenteeism. It has already been argued in the literature that presenteeism has a negative effect on future absenteeism (Bergström, Bodin, Hagberg, Aronsson, et al., 2009; Deery et al., 2014; Gustafsson & Marklund, 2011; Hansen & Andersen, 2009), and this can lead to negative consequences as it can cause serious health problems in the long term (Bergström, Bodin, Hagberg, Lindh, et al., 2009; Gustafsson & Marklund, 2014; Kivimäki et al., 2005). Therefore, it is important to look deeper in the antecedents' relationship to negative/unhealthy presenteeism.

Job demands and overall health are important predictors of presenteeism (Biron, Brun, Ivers, & Cooper, 2006; Demerouti et al., 2009; Jourdain & Vezina, 2014; Miraglia & Johns, 2015). The results of Paper 3, confirm a health impairment process of presenteeism, indicating an indirect effect between job demands and presenteeism. This finding challenges previous findings stating a direct relation between job demands and presenteeism. The job demands in Paper 3 are regarded as negative demands. It would be beneficial to investigate the process of presenteeism where work characteristics are classified as either negative or positive demands and negative or positive resources. For instance, a supportive workplace gives employees the confidence needed to take some time off from work, but can also stimulate presenteeism. The health state (exhaustion) is one mediator that can help explain the relationship between demands and presenteeism. According to the JD-R theory, job demands deplete energy and leads to exhaustion (strain), which, in turn, affects work behavior. Based

on a theoretical view and previous findings, this thesis assumes a causal relationship between job demands and exhaustion, which, in turn, can affect presenteeism. The result of Paper 3 support that people working in demanding situations can develop signs of burnout and attending work while sick.

It is important to acknowledge that both job resources and demands can be valued both positively and negatively, not only job demands as suggested by Crawford et al. (2010), Schaufeli and Taris (2014) and Van den Broeck et al. (2013). A considerable amount of research have demonstrated a negative relationship between job resources and presenteeism (Aronsson & Gustafsson, 2005; Caverley et al., 2007; Jourdain & Vezina, 2014). This indicates that job resources can decrease presenteeism. In contrast, some studies have shown that job resources can increase presenteeism (Biron et al., 2006; Hansen & Andersen, 2008; Kivimäki et al., 2005). The contradictory findings can be explained by the flexibility of job resources in the JD-R theory, stating that every workplace or occupations have its unique job resources. Resources are aspects of the job that are functional in achieving work goals, reduce job demands, or stimulate development and growth. However, it has also been argued that lack of job resources may be constructed as a job demand (Schaufeli & Taris, 2014). Though, job resources can rather be viewed as a positive or negative resource. Low feelings of adjustment latitude increased the prevalence of presenteeism (Aronsson & Gustafsson, 2005; Gerich, 2014; Johansson, 2007; Johansson & Lundberg, 2009). Nevertheless, employees having high feelings of adjustment latitude had fewer days in which they experienced health problems (Gerich, 2014) and stayed at home instead of attending work ill (Hultin et al., 2013). Lack of positive aspects can increase the possibility of attending work ill.

The inconsistent findings on the association between job resources and presenteeism in previous literature may be a result of how they are categorized, and depend on the working

conditions and how conditions differ in the work context. Whether there is a positive or a negative association may depend on factors such as occupational status, level of education, and occupational sector (Bakker & Demerouti, 2016). Occupations with high status or prestige, having high responsibilities and workload, often have many job resources at their disposal, hence the correlation between job demands and resources will often be positive. However, in other occupations, a high workload often implies that there is too little time for skill variety, feedback from leaders, and opportunities to grow, which results in limited job resources and a negative relationship (Bakker & Demerouti, 2016). It is possible that job resources and demands values are unique and also depend on the context.

Another explanation of the inconsistent findings in former studies may be that the research had a sole focus on main effects. Occupations or work places might have unique mediators. Motivational (e.g., job satisfaction, job engagement, job commitment) and strain mediators (e.g., exhaustion, job-related anxiety, migraine, health complaints) vary depending on the work context (Bakker & Demerouti, 2016). The possibilities of work adjustments may affect job resources relation to presenteeism. Lack of resources and challenging demands might be related to two different processes in the JD-R theory. As stated in paper 3, presenteeism can be a result of a health impairment process. However, it is also possible that presenteeism involves a motivational process.

### **Considerations of the Dynamic Relationship between Positive and Negative Aspects of Sickness Presenteeism**

A motivational process may indicate an indirect positive relationship between resources and presenteeism. Enjoying one's job and being satisfied may also motivate attendance when feeling sick and might make employees feel "well enough" to attend (McGregor, Magee, Caputi, & Iverson, 2016; Miraglia & Johns, 2015). Job resources might

stimulate presenteeism indirectly through a motivational process because they facilitate positive attitudes, motivation, and dedication to the job (Bakker & Demerouti, 2007; Crawford et al., 2010; McGregor et al., 2016; Miraglia & Johns, 2015). Miraglia and Johns (2015) problematize the value of presenteeism and if it should be considered as a positive or negative phenomenon. This current work argues for both, as a flexible approach is important and makes different aspects of presenteeism relevant and highlights that the processes of presenteeism vary according to circumstances. This includes the jobs' unique positive or negative factors of job resource/demand, the health state, job attitudes, and whether employees "want to" be present while sick or negative emotions make them feel that they "have to". A positive motivating process can encourage employees to put more energy and time into the job, stimulating presenteeism without exaggerating the health problem or giving negative consequences. The result in Paper 1 where there was a strong association between perceived supervisors' attitudes and adjustment norms illustrates the motivational path of presenteeism and highlight positive aspects with the phenomenon, which addresses its complexity.

By using the JD-R approach, perceptions of leaders' attitudes towards adjustments represent a positive resource that affect presenteeism through organizational adjustment norms. The results of Paper 1 emphasize positive aspects with presenteeism by bringing awareness on work adjustments. Presenteeism is continually being shaped by the individual and organization which plays a role in the decision to work while ill (Baker-McClearn, Greasley, Dale, & Griffith, 2010; Johns, 2010; Nicholson & Johns, 1985; Steers & Rhodes, 1978). When investigating organizational adjustment norms, it is argued that a positive approach to presenteeism is taken because of the underlying thought that it is possible to manage the illness, without getting worse or, preferably, while achieving an improvement in

health. It is important to differentiate between attendance as a result of efficient work adjustments and presence as a result of attendance pressures. For instance, an employee who had a positive experience with work adjustments may be more inclined to use presenteeism as a coping strategy when feeling ill.

JD-R studies have consistently reported that employees accomplish the best job performance in challenging, resourceful work environments, and that management influences how employees perceive their job demands and resources (Bakker & Demerouti, 2014, 2016). Findings from paper 1 demonstrate that leaders being aware of their attitudes concerning work adjustments is an important aspect in making presenteeism a positive element at work. Leaders may influence the work environment and indirectly influence their followers' well-being and job performance (Bakker & Demerouti, 2016). Where the employees experience that the leader has positive attitudes toward adjustments, it is possible that employees will attend work while sick, as a reaction to a positive resource, the norm "this is how we do it around here", or because the adjustment arrangements are perceived as a positive job demand. Participants in a study by Lau et al. (2015) reported that it was easier to attend work ill with mental illness if the leaders were aware of their position as a role model, stayed at home with sick kids, and were trustworthy. Support, acknowledgement, integrity, and care from the leader, helping with structure and predictability, was crucial for the motivation to attend work ill (Lau et al., 2015). According to Johns (2010), previous experiences will affect the job attendance and performance of the employee when the next possible episode of presenteeism occurs. The perception of presenteeism as something negative or positive at the workplace may have substantial consequences. In some cases, it would be desirable for both the individual and the workplace for employees to attend work ill with work adjustments. Taking into account the substantial amount of research on negative consequences' of presenteeism, it

will, in some situations, be better to stay home, especially if adjustments are not appropriate or possible.

### **Methodological Considerations**

The findings in this thesis are based on cross-sectional data which precludes any conclusions regarding causality. The path from job demands to presenteeism is based on theory and previous findings, but it is possible that the causality of this relation is reversed or reciprocal. Testing the statistical predictions of a model of presenteeism based on theory and previous findings can be relevant. Longitudinal studies that includes a reciprocal relationship between factors can contribute to a valid causal interference (Taris & Kompier, 2003). For instance, the opposite direction of the path between presenteeism, exhaustion, and work–family conflict or the effect of health status on the perceptions of work characteristics (Taris & Kompier, 2003). Only a few studies provide insight into the causes and consequences of presenteeism by including a reciprocal relationship with a full-panel design with more than two waves. It is important to continue this work within the JD-R theory.

Self-reports may increase the risk of common method variance in terms of recall bias and social desirable responses (Johns & Miraglia, 2015; Podsakoff et al., 2003). Still, it seems questionable why respondent would over report their prevalence of presenteeism in anonymous and confidential studies. The reported prevalence corresponds with other studies (Demerouti et al., 2009; Rosvold & Bjertness, 2001). In this thesis, the variables have been measured by self-reports as the concepts are subjective and about the individuals' experiences, such as presenteeism. Self-reports of presenteeism are difficult to avoid, as it is the individual themselves that know if they are present while sick (Claes, 2011; Johns, 2011). Self-reported health indicators are shown to be good estimates of health state (Kehoe, Wu, Leske, & Chylack, 1994; Miilunpalo, Vuori, Oja, Pasanen, & Urponen, 1997) and constitute

valid measures (Johns & Miraglia, 2015; Kompier, 2005; Miilunpalo et al., 1997). In circumstances where presenteeism is measured, due to work adjustments, it is possible to obtain register data from the organization provides an added value to self-report data (Baker-McCleary et al., 2010; Demerouti et al., 2009).

To limit methodological bias, assuring respondents anonymity aims at decreasing strategic responding and increasing valid answers (Podsakoff et al., 2003). In behavioral research studies, it is important that the measurement context account for possible common-method-variance to improve the validity of research findings (Podsakoff et al., 2003). Kompier (2005) stresses the need to ensure reliability (over time, interrater) and usability (utility, costs effectiveness) and to utilize more than one source of data collection. In this current thesis, three different sources of data are utilized.

Some of the measures in Paper 1 have not been subject of a validation process and needs to be taken into consideration when interpreting the results. It is also important to emphasize that the employee representatives' reported perceptions can be biased by personal views and not reflect the norm as perceived by the other employees. However, all questions were asked at a collective level to ensure shared understandings of attendance pressure and organizational adjustments. In Paper 3, the presenteeism measure had only four categorical measurement points, but it was still utilized as it contained a time frame to decrease recall bias. The same analysis was conducted with an alternative question with five continuous answers on the scale (without a time frame), and the results were similar.

All samples had good sample size and relatively high response rate (62 % /52.6 % /71.8 %), decreasing the likelihood of random errors and increasing the accuracy of the estimates. Paper 1 consisted of a randomly selected sample that was representative for the IA-firms. The nationwide sample is a strength of Paper 2. The samples are homogeneous with

respect to occupation in Papers 2 and 3. A control group or sample from another occupation would strengthen the generalizability of the findings. Still, it is important to acknowledge that the specific samples utilized in this thesis also have strengths. IA-firms can contribute with knowledge about positive aspects of presenteeism, since they have encouraged work adjustments during illness, while physicians have been shown to have high prevalence of presenteeism (McKevitt, Morgan, Dundas, & Holland, 1997; Rosvold & Bjertness, 2001). The samples have given this thesis an opportunity to investigate the phenomenon among those experiencing it, including both its positive and negative aspects. An appropriate sample is important when investigating different aspects of the process of presenteeism and its associations, providing valuable insight to decide when it should be prevented or encouraged.

### **Future Studies**

By developing knowledge about presenteeism it is important to acknowledge that it can be negative, but also positive, for the organization, the work environment, and the individual. Therefore, it is important to have a theory focusing on specific health problem, so that it is possible to adjust for the health event and the unique workplace demands/resources to ensure presenteeism can lead to gains in health, rather than only reductions in health. Since, in some cases, it is favorable to attend work while sick instead of being absent (Johns, 2010), an increased understanding of the concept and the association between presenteeism and self-rated health may be important in preventing future ill-health (Aronsson et al., 2011) and promoting health. This current thesis tries to contribute to a theory of presenteeism that is not explained by processes based on absenteeism. Although the current thesis argues that the JD-R theory is relevant to the presenteeism process, it is also important to develop a specific theory about presenteeism, which emphasizes the role of subjective health, the reciprocal relationship between subjective health and presenteeism, and that positive/negative job

resources and positive/negative job demands have to be considered in relation to each other (interactions effects), the specific health problem, and different mediators. As in JD-R, two processes need to be developed further. A motivational process of presenteeism is crucial to develop to understand the positive and healthy sides of presenteeism.

Future studies investigating the motivational process are of considerable interest in the research field (Miraglia & Johns, 2015). In line with this, other studies of adjusted presenteeism are also desirable. It would be interesting to include personal resources and organizational resources in a study for understanding the complexity of presenteeism. Additionally, more moderation/interaction studies are needed in the field of presenteeism. Cross-sectional studies can contribute with important knowledge about interactions between resources and demands, as well job demands' interactions with each other. Job demands seldom occur in isolation from other job demands (Bakker & Demerouti, 2016). It is recommended that mediations effect in the two processes should be tested in longitudinal studies with no less than three waves, in order to gain knowledge about the causality and reciprocal relations of presenteeism. The design of new studies should include analysis of the purpose and the nature of the desired inference in relation to the measurement methods (Spector, 2006).

Hopefully, this thesis can contribute to an extended understanding of the dynamics of presenteeism that encourages researchers, employers, and employees, to make interventions concerning presenteeism, understanding its important nature in questions concerning work behavior and employees' health, and incorporating questions about presenteeism into work environment questionnaires. In some situations, it would be appropriate to encourage it, in others, to prevent it, from which various practical considerations arise.

## **Practical Implications**

This thesis can bring some awareness of and highlight some possible responses to challenges regarding presenteeism. Presenteeism has, in recent studies, been viewed as a challenge at work, with major costs for the individual, organizations, and society. However, presenteeism can also be beneficial without stimulating negative consequences.

Working with presenteeism can be difficult because it is a personal and subjective behavior. To begin with, leaders, policy makers, or other stakeholders involved have to observe which signals they send out as agents of the work environment, investigate the existing norm of attendance, look at the experienced legitimacy of absence, and be aware of their own behavior regarding presenteeism. They need to motivate their followers to engage in healthy work attendance. By bringing attention to the presenteeism dynamics, the management should try to identify the workplace's unique demands and resources, as well as possible adjustments that may need to be made. Awareness among employers' and employees' regarding the possibility of engaging in adjusted presenteeism can be highly efficient for helping employees create a better person–job fit in those situations.

Every presenteeism behavior needs a tailored focus (Burton, Pransky, Conti, Chen, & Edington, 2004; Johansson & Lundberg, 2004). Tailor made focus can be challenging work for the organizations. Therefore, it is important to invest in strategies that work. Presenteeism encourages collaboration between employees' and employers'. Without cooperation, presenteeism would remain an invisible and costly form of work attendance that fails to meet its potential for the individual, workplace, and society. A practical goal would be achieving a common understanding about presenteeism, its challenges, and its opportunities, by, for instance, investigating the norms of attendance. Organizations should communicate clear expectations concerning presenteeism, and implement guidelines and practices that allow

employees to choose an alternative behavior, even by making absenteeism a more attractive option (Jourdain & Vezina, 2014), or offering work adjustments. Small efforts in the work environment can be cost efficient, as a result of the negative consequences that may follow unhealthy forms of presenteeism (productivity loss, contagious illness, future absenteeism and future bad health (burnout)). Information about the dynamics of presenteeism and reflections about norms of behavior can have major practical relevance for an organization in terms of stimulating healthy forms of presenteeism and preventing unhealthy ones. By understanding the dynamics of presenteeism, individuals would be better suited to make the right decision, and interventions can be made to prevent negative presenteeism. It is also possible to develop salutogenic interventions focusing on the positive aspects of presenteeism. The complexity of presenteeism is crucial to acknowledge when, for instance, governmental initiatives are made to reduce sickness absence. Awareness of different aspects of presenteeism may highlight a tailor-made focus that can benefit welfare systems. An understanding of the dynamics of presenteeism, as something more multifaceted than assumed earlier is beneficial for both the employee and employer.

## **Conclusion**

The conclusion from this study can be summarized in the following way. Presenteeism is a rather complex attendance behavior that is positioned between a fully productive worker and a non-productive one (on sick leave). In this thesis, statements have been made about presenteeism's dynamics and complexity. Presenteeism can be both a healthy and unhealthy behavior. This current work emphasizes that the type of presenteeism performed and its consequences can be explained by the JD-R theory. The type of presenteeism is influenced by different processes, either by a health impairment path or a motivational path. However, with regards to presenteeism, it seems important to categorize demands and resources in relation to

a value. Negative demands' relation to health can constitute one type of presenteeism, while challenging demands another. The thesis also highlights the need for reciprocal attention with regard to presenteeism, and that presenteeism itself can be perceived as a demand, depending on aspects in the work environment. In light of the JD-R theory, it is suggested that previous research lacks a positive approach to investigating presenteeism's motivational process and its positive aspects, and that there is no differentiation between positive resources and negative resources. Presenteeism can be a good solution for the employer, and also for the employee, if work adjustments are offered. A motivated employee is better on the job than off the job. The perception of and willingness to make adjustments in the work environment have an impact on the act of presenteeism. How we perceive our leaders handling situations of presenteeism can affect norms in the workplace. Workplaces should strive to be aware of which attendance norms exist, so that it is possible to guide them in a more efficient direction. A concluding remark would be to make the act of presenteeism more visible and to acknowledge it as a complex attendance behavior that needs a tailor-made focus. Increased attention on the dynamics of presenteeism will benefit both the individual, the organization, and society.

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doi:10.1111/j.1467-9450.2008.00697.x

# Paper I



## The impact of supervisors' attitudes on organizational adjustment norms and attendance pressure norms.

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Received: 19.04.2013; Accepted: 18.11.2013; Published: 08.12.2013

### Abstract

How do the supervisors' attitudes influence organizational adjustment norms and attendance pressure norms? To test the hypothesised study model, we employed the partial least squares path modelling (PLS-PM) approach to structural equation modelling (SEM). Analyses on information provided by employee representatives (n=1658) in a nationwide study, showed that employee representatives' perception of supervisors' attitudes influenced organizational adjustment norms and attendance pressure norms. Positive supervisors' attitudes towards adjustment of work influenced the desire to attend work despite ill health, and this can reduce costs associated with sick leave. This paper also discusses the importance of including attendance pressure norms and organizational adjustment norms in research on antecedents of sickness presenteeism.

**Keywords:** workplace norms; work adjustment; attendance pressure; supervisors' attitudes; sickness presenteeism; sickness presence

## Background and rationale for the study

Work is essential for both physical and mental health and also important for social status and identity (Waddell & Burton, 2006). There is a delicate balance between workplace factors that stimulate employees to come to work without threatening their health and factors that induce negative health resulting in productivity loss (Biron & Saksvik, 2010). The workplace can develop suitable adjustment arrangements that promote a climate in which it is legitimate to come to work with a minor health problem and still maintain adequate productivity levels. Conversely, employees could also experience attendance pressure where there are no adjustment arrangements present in the work organization. Therefore, it is important to distinguish between positive factors that trigger an employee's decision to work, because it is sincerely perceived as the best option for their positive health development, and factors that trigger attendance pressure leading to an impairment of their health. The objective of this paper was to study how supervisors' attitudes were related to positive and negative attendance norms.

Work adjustment makes it possible to work while ill and use the remaining work-capacity. Activation requirements can reduce the probability that long-term sickness absence leads to inactivity, and reduce benefit claims (Markussen, Mykletun, & Røed, 2012). Markussen et al. (2012) showed, that employees who were assigned partial (graded) absence certificates by their physician, had shorter absences. Partial absence presupposes work activity and work adjustment by requiring the employee to use his/her remaining work-capacity (Markussen et al., 2012). The possibility to adjust work is important for individuals who want to return to work after long-term absence (Johansson, Lundberg, & Lundberg, 2006) and may affect the choice of attendance or absence. The cost of sickness absence represents a major challenge for many workplaces and for the society as a whole (Odeen et al., 2013). It is important to look further into factors that may trigger workplace

adjustment since it may reduce sickness absence and its challenges. In this study we wanted to find out how supervisors' attitudes are related to organizational adjustment norms and attendance pressure norms. This study is among the first to look at organizational adjustment norms and the relation to supervisors' attitudes. Since work is essential for our health, it is important to look at factors in the workplace that foster attendance and activity instead of pressure, inactivity, and absence.

To find out more about organizational adjustment norms and attendance pressure norms we surveyed employee representatives that were employed in Norwegian enterprises that had decided to participate in The Agreement on an Inclusive Working life (The IW-agreement) (The Norwegian Labour and Welfare Administration, 2013). (More information about the IW-agreement is found at the end of the introduction). We asked the representatives about their evaluation of their supervisors' attitudes related to cooperating and communicating with their employees, as well if they involved them in decisions regarding work arrangements. We also asked the employee representatives about existing norms in their organization concerning work adjustment and attendance pressure. By doing so we hoped to learn what differentiated the companies that managed to reorganize work, i.e., find good solutions for work adjustments compared to those that, to a larger extent, relied on attendance pressure.

### Organizational adjustment norms and attendance pressure norms

Norms are beliefs, usually taken for granted, about how people should think and behave (Homans, 1992). Organizational norms are collectively agreed upon behaviors, attitudes, and beliefs that give employees a shared purpose and understanding of the workplace and their roles in it (e.g., Cooke & Rousseau, 1988; Schein, 1992). The domain of behaviors covered by norms will differ across organizations, but implicit rules about appearance, work performance, social relations, and interaction patterns exist in most workplaces (Hammer, Saksvik, Nytrø, Torvatn, & Bayazit, 2004, p.84). It

is important to examine workplace norms because the leading attendance norms and work pressure norms in the workplace are positively related to job stress experiences at an individual level (Rennesund & Saksvik, 2010). Norms may influence the decision to go to work (Steers & Rhodes, 1978). More specifically, group absence norms have been found to be associated with attendance behavior (Rentsch & Steel, 2003).

Attendance pressure norms reflect circumstances that pressure employees into working despite their health condition (Saksvik, 1996). Many workers experience attendance pressure at more intense levels than others. Attendance pressure weighs more heavily upon those workers who are obligated to actually be present at work in order to perform their job. Medical doctors (Elstad & Vabø, 2008; McKeivitt, Morgan, Dundas, & Holland, 1997), teachers, and health-care workers (Aronsson, Gustafsson, & Dallner, 2000) are prime examples of these types of employees.

Organizational adjustment norms take into account that you are sick and that the job is adjusted so that you can perform it or any other job that is possible to manage with the illness, without getting worse or, preferably, achieve an improvement in health status (Biron & Saksvik, 2010). Adapting the work environment and the work tasks in order to help the worker recover from certain minor illnesses without having to take sick leave, could promote positive results for both the worker and the employer (Biron & Saksvik, 2010). The key factor may be the attitude of the employer in regard to finding good organizational solutions given the impairment of the employee. This could include offering assistance from co-workers, special equipment to make the work easier or special time arrangements that would not jeopardize productivity.

Organizational support theory supposes that employees develop universal opinions concerning the extent to which the company values their contributions and cares about their well-being (Eisenberger, Huntington, Hutchison, & Sowa, 1986). The theory also presumes that the work effort will increase if the work organization meets employees' socio-emotional needs and

beliefs. Supervisors act as agents of the organization and have an important role in directing and evaluating employees. The supportiveness offered from supervisors tends to be attributed to the organization by the employees (Shanock & Eisenberger, 2006).

Perceptions of superiors' supportiveness have a strong influence on the employees' perceived organizational support. We argue that perceived supervisors' attitudes toward work adjustment and attendance pressure are similar to thoughts behind organizational support theory and perceived supervisor support. These factors influence employees' beliefs concerning adjustment and pressure. Employees in an organization tend to form universal opinions about the extent to which the organization cares about their well-being. Such perceived organizational support reduces absenteeism (Eisenberger et al., 1986). In this project the universal opinions are reflected through the eyes of the employees' representatives.

Employees' perceptions about supervisors' attitudes can be positively compared to the organizations' values and rules regarding aspects of the work environment (Eisenberger et al., 1986; Rhodes & Eisenberger, 2002; Shanock & Eisenberger, 2006). Employees may care about supervisors' attitudes because supervisors hold the responsibility for directing and evaluating the subordinates' performances. The employees can feel more obligated to "pay back" or respond by becoming more committed to the organization if they feel that the supervisors are treating them well (Wang & Walumbwa, 2007). Additionally, employees that perceive their supervisor as being supportive may be more willing to attend work even when conditions are bad (Bacharach, Bamberger, & Biron, 2010). We argue that the perceived attitudes of supervisors may have an impact on organizational adjustment norms and attendance pressure norms.

*H1. There is a positive association between employees perceiving supervisors' attitudes as positive towards work adjustments and the existence of organizational adjustment norms in the workplace.*

H2. *There is a positive association between employees perceiving supervisors' attitudes as negatively towards work adjustments and the existence of attendance pressure norms.*

Organizational adjustment norms and attendance pressure norms are thought to be relevant to the occurrence of sickness presenteeism. This assumption is based on Steers' and Rhodes' (1978) model summarizing variables influencing employee attendance as well as Johns' (2010) dynamic model for presenteeism and absenteeism. It is also important to use a behavioral approach (Johns, 2011). Today the widely used definition of presenteeism is, "attending work when ill when they should have been absent with regard to their health situation" (e.g. Aronsson, Gustafsson, & Dallner, 2000; Biron & Saksvik, 2010; Böckerman & Laukkanen, 2010; Caverly, Cunningham, & McGregor, 2007; Johns, 2010). Presenteeism has shown to be a stronger predictor of health than absenteeism (Caverly, Cunningham, & MacGregor, 2007), and therefore it is important to look at antecedents of presenteeism.

Information about the antecedents of sickness presenteeism is still relatively sparse (Böckerman & Laukkanen, 2010). Virtually all medical and organizational literature treats the phenomenon negatively, either with regard to the organization or the employee (Johns, 2010). We argue that there is a positive side of presenteeism and there exists other outcomes that are related to productivity and health gains. It is important to emphasize that the focus of this article is on the separation of the different antecedents of sickness presenteeism. There is a more positive aspect of sickness presenteeism in the form of organizational adjustment norms and a more negative aspect in regard to attendance pressure norms. The actual frequency of presenteeism is not at issue. This study is not focused on employees'

evaluations of their superiors, but rather on the superior's ability to have general attitudes regarding work adjustment and pressure norms in the workplace.

**The Agreement on an Inclusive Working life.** In Norway, authorities invest significant amounts of money and effort to increase workplace adjustments because the national cost of sick leave is significant for the society (The Norwegian Labour and Welfare Administration, 2012). All sick leaves are paid by the company for the first 2 weeks and by society for the rest of the year, if necessary. It is therefore more expensive for the organization if the employee is absent due to illness than if the employee is present with health problems. In response to high rates of sickness absenteeism and disability benefit throughout the 1990s, the Norwegian government decided on a very different approach to reach a possible solution. They choose to shift parts of the responsibility for solving these issues to the social partners, a move that was perceived as quite unusual internationally (OECD, 2005). The agreement, which was to become known as the IW-agreement, was between the Norwegian government and social partners, and it promoted cooperation in strengthening proactive measures at the workplace.

This agreement is relevant in the present study because it based on an IW-evaluation study. It is also significant because the agreement highlights central aspects, which are important to understand when Norwegian working life is being studied. All companies in Norway are urged to voluntarily sign up to become Inclusive Working life enterprises (IW-enterprises). One of the responsibilities of employers is to make necessary adjustments in the workplace when an employee reports injury or health problems and can no longer carry out his or her normal job tasks. This allows the employee to work part time

or have a reduced work day in the sick period instead of being away from work altogether (The Norwegian Labour and Welfare Administration, 2012). The IW-agreement is in effect urging employees to be present while sick.

In regard to the IW-agreement, we were interested in a variable called structural barrier. One aspect of structural barriers is the possibility that the adjustment of work can cause an increased workload for the colleagues of people who come to work ill or cause difficulties in replacing absentee employees (e.g. attendance requirements in Johansson & Lundberg, 2004). It is likely that highly skilled people cannot find co-workers to adequately accomplish their tasks if they are ill and they must therefore catch up on their workload upon their return (Biron & Saksvik, 2010; Thun, 2010). In Giæver, Saksvik, & Thun (2013) structural barriers in the general health care system prevented psychologists from achieving a full potential for a new arrangement, where psychologists had the possibility to write out sick leaves and arrange work adjustments. Structural barriers can make it harder to make workplace adjustments. Johns (2010) argue that contextual factors like ease of replacement (increase workload and none substitute) influence the choice of attending work or not. In this study, increased workload is one of the contextual factors that we measure in structural barriers. The relationship between attitudes and norms may be dependent on the barriers in the situation. Structural barriers in the workplace may therefore influence the supervisors' attitudes.

*H3: If there are many structural barriers in the company, it will be associated with lower existence of organizational adjustment norms through the indirect relation with perceived supervisors' attitudes.*

*H4: If there are many structural barriers in the company, it will be associated with the existence of more attendance pressure norms through the indirect relation with perceived supervisors' attitudes.*

Firm size may have an impact on how employees perceive that the organization meets their individual needs (Dekker & Barling, 1995). There may be a link between firm size, ownership of the company, and attendance behaviour (Claes, 2011). In a large organization it may be more difficult to meet individual needs considering work adjustments. We have controlled for the number of employees (firm size), and whether the organizations are in the private or public sector. Firm size and sector were included from independent databases.<sup>1</sup>

## Method

### Participants and procedure

In this study we have analysed the answers provided by employee representatives in a nationwide evaluation (Ose et al., 2009). We randomly selected IW firms with 9 or more employees (n=25140) and every fifth firm received the survey. Statistic Norway (SSB) drew the sample from the Register of Company and Business Enterprises and the sample is representative for the IW-firms. 5,000 IW-agreement businesses received a questionnaire and 3,075 participated (Response rate 62 %). The main sample consisted of both leaders (50%) and employee representatives (33%) who worked with and were involved in IW-work. The present sample consists of

<sup>1</sup> In our first model we also controlled for change in absenteeism. The change in absenteeism was constructed by all employees' absence mean (%) before each workplace signed the IW-Agreement, minus the absence mean (%) at the time of the survey. This variable did not contribute to the model, and since the model remained the same without it we argue that the model is better without it. This shows that change in absenteeism is not a significant contributor explaining the study's dependent variables.

1,658 employee representatives (response rate 40 %). In Norwegian workplaces it is common to have an elected employee representative. Employee representatives are nominated and voted for by colleagues to represent them on different boards and councils. They are not the same as union representatives. Among the respondents, 66% were elected as employee representatives and 22% as safety delegates. We had participants working in private (61%) and public (33%) sectors. Firms in our sample varied in size from having 9 to 1,816 employees, with a mean of 52.

The participants in this study represent the voice of the employees and are people who have worked closely with IW-agreement cases. It was a criterion that the person who participated in this study was the one who had worked the most with the IW-agreement. The representatives answered on behalf of the employees and gave their subjective evaluation on the IW-agreement, their leaders' attitude regarding the IW-work and the work climate.

The survey was distributed by mail and the respondents were given a choice to either answer a printed version or one on the internet using a personal code. All respondents received a description of the study with information about confidentiality and anonymity. The participation was voluntary and the study was conducted in 2008.

## Measures

The questionnaire used in this study consisted of 16 questions. The questions were comprised of statements in which the participants were asked to answer the statements on a five-point scale from "totally disagree" to "totally agree".

**Organizational adjustment norms.** This index consisted of four items that assessed the perception of the existence of different attitudes in the workplace that would influence a company to promote sickness presenteeism. Examples are (1) *It is easy to find*

*alternative work for those who need less strain, and (2) At this workplace it is taken into consideration that different health problems may demand different arrangements.* Individuals' perceptions of their work experiences are important and these items are developed according to the norm scale used by Hammer et al. (2004).

**Attendance pressure norms.** This index consisted of three items that assessed the perception of the existence of different attendance pressure norms that would pressure employees to attend work in spite of health problems (Saksvik, 1996). These items were also collected from the norm scale used by Hammer et al. (2004). Examples are: (1) *It's expected that you attend work irrespective of how you feel,* and (2) *Employees who are absent are seen as disloyal.*

**Perceived supervisors' attitudes.** This index consisted of four items measuring the perceived attitudes of supervisors in regard to cooperating and communicating with their employees as well as involving them in decisions regarding work adjustment. Examples of items from this index are: (1) *Superiors are attendant to ideas from their followers,* and (2) *In our workplace the management does quality and systematic work with IW.* These items are not from an established scale, but are based on the QPS-Nordic items concerning support from the superior and social interactions (Elo et al., 2000), which are designed to be meaningful in a concrete IW-context.

**Structural barriers.** The index consisted of three items assessing perceived limitations and consequences regarding work adjustment. Examples of these barriers are: (1) *Adjustment of work for individuals causes increased load for their colleagues,* and (2) *The activity of our firm makes organizational adjustment of work complicated.* The items were developed for the present

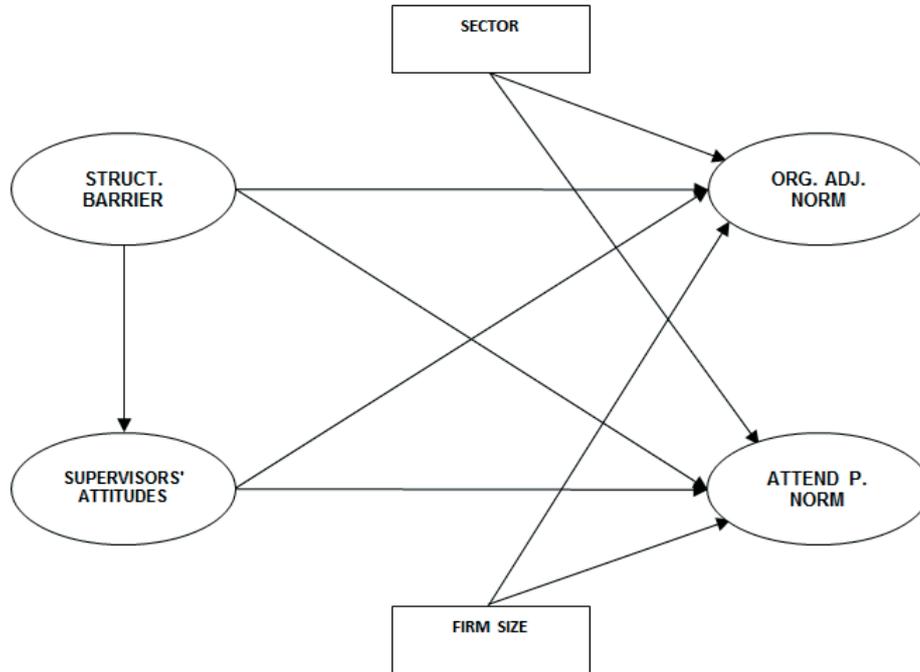


Figure 1. The hypothesised model of the study

study. In the first two hypotheses structural barriers were controlled for.

**Control variables.** Number of employees (firm size), sector (public or private) and structural barriers served as control variables.

## Data analysis and results

We employed a partial least squares path modelling (PLS-PM) approach to structural equation modelling (SEM) to test the hypothesised model of the study (see figure 1). Despite the fact that PLS-SEM and COV-SEM are complementary approaches, there are still some cases in which PLS-SEM is seen as an alternative to COV-SEM. Three of these situations are when multicollinearity is severe (Cassel, Hackl, & Westlund, 2000; Kristensen & Eskilden, 2010), when adjustment measures are not well-established (Chin, 2010; Smith & Barclay, 1997), and when the research objective is an explanation of variance (prediction of the constructs) (Hair, Hult, Ringle, & Sarstedt,

2013). As all of these situations apply to our study and data, we have chosen the PLS-SEM approach. The XLSTAT software was used for estimating the measurement and structural model of the study.

### Measurement model

Since the measurement model consisted of only constructs with reflective measures, we examined the following psychometric properties: item reliabilities (loadings' size), composite reliabilities (CR), average variances extracted (AVE) and discriminant validity. As shown in Table 1, all of the item loadings were large enough ( $>0.6$ ), and the composite reliability coefficients were satisfactory ( $>0.7$ ), indicating acceptable internal consistency.

Convergent validity was further demonstrated because the AVE values of the four constructs were higher than 0.5. Finally, the AVE of each of the constructs was larger than the squared correlations between any two constructs in the model, which was indicative of discriminant validity (Table 2).

Table 1. Measurement Model

CONSTRUCTS	INDICATORS	M (SD)	Item Reliabilities	CR (D.G. rho)	AVE
Structural Barriers	The activity of our firm makes organizational adjustment of work complicated.	2.487 (1.352)	0.821	0.788	0.553
	The employees feel uncertainty with colleagues who have permanent disabilities.	2.611 (1.203)	0.763		
Perceived Supervisors' Attitudes	Adjustment of work for individuals causes increased load for their colleagues.	3.409 (1.230)	0.636		
	In this firm the superiors go far to adjust work for those who have been sick.	3.627 (1.161)	0.827	0.880	0.632
	The IW-agreement has contributed to better cooperation between employees and the management.	3.404 (0.960)	0.617		
Organisation Adjustment Norms	In our workplace the management does good and systematic work with IW.	3.298 (1.127)	0.858		
	Superiors are attendant to ideas from their followers about IW.	3.412 (1.078)	0.853		
	It is easy to find alternative work for those who need less strain.	3.041 (1.267)	0.776	0.862	0.612
	Around here people with health problems get help and support to manage their job.	3.772 (1.057)	0.830		
Attendance Pressure Norms	At this workplace work is looked upon as health promoting and positive, also for those with health problems.	3.539 (1.071)	0.671		
	At this workplace it is taken into consideration that different health problems may demand different arrangements.	3.764 (1.092)	0.840		
	It's expected here that you attend your work irrespective of how you feel.	1.938 (1.162)	0.774	0.773	0.541
	Employees who are absent are seen as disloyal.	1.507 (0.934)	0.719		
	Employees who come to work late and leave early are frowned upon.	2.746 (1.307)	0.711		

CR: Composite Reliability (Dillon-Goldstein's Rho); AVE: Average Variance Extracted

**Table 2. Discriminant validity (*Average variance extracted* > squared correlations)**

	1	2	3	4
1. Structural Barriers	-			
2. Perceived Supervisors' Attitudes	<b>0.030</b> (-0.173)	-		
3. Organizational Adjustment Norms	<b>0.068</b> (-0.260)	<b>0.403</b> (0.635)	-	
4. Attendance Pressure Norms	<b>0.046</b> (0.214)	<b>0.104</b> (-0.322)	<b>0.100</b> (-0.316)	-
Average variance extracted (AVE)	0.553	0.632	0.612	0.541

Average variance extracted in *italics*

Squared correlations are in **bold**

Correlations are provided in parentheses, Pearson's *r*

**Table 3. Structural Model with standardized path coefficients ( $\beta$ )**

	Direct effect on Organisation Adjustment Norms	Indirect effect on Organisation Adjustment Norms	Direct effect on Attendance Pressure Norms	Indirect effect on Attendance Pressure Norms	Direct effect on Perceived Supervisors' Attitudes
Structural Barriers	-0.155***		0.153***		-0.173***
Perceived Supervisors' Attitudes	0.613***		-0.301***		
Firm Size	-0.037		0.045		
Sector	0.014		0.072**		
Structural Barriers Via Perceived Supervisors' Attitudes		-0.106***		0.052***	
Adjusted $R^2$	0.43		0.13		0.03

\*\* Statistically significant at 0.01 \*\*\* Statistically significant at 0.001

### Structural model and hypothesis testing

As shown in Table 3, the findings indicate that perceived supervisors' attitudes are positively and strongly ( $\beta= 0,613$ ) related to organizational adjustment norms. Firm size, structural barriers and sector were all controlled for in reaching this conclusion. These findings lend support to the first hypothesis of our study. The results of the

analysis further reflect that supervisors' attitudes are negatively and moderately ( $\beta= -0,301$ ) associated with attendance pressure norms, again having controlled for firm size, structural barriers and sector. These results provide support for the second hypothesis of our study.

The findings further indicate that structural barriers do have small negative

( $\beta = -0,106$ ) and positive ( $\beta = 0,052$ ) indirect effects through perceived supervisors' attitudes on organisational adjustment norms and attendance pressure norms, respectively. This finding supports the third and fourth hypotheses of our study.

To adequately evaluate the quality of a structural model estimated with PLS-PM, a global criterion of goodness-of-fit (GoF) has been proposed by Tenenhaus et al. (2004, in Esposito, Trinchera, & Amato, 2010). The aim of the GoF-index is to account for the model performance at both the measurement and the structural model [all of the  $R^2$ -values are taken into consideration] with an emphasis placed on overall prediction performance of the model (Chin, 2010). This GoF-index is bounded between 0 and 1. Models exhibiting *relative* GoF-values equal to or higher than 0.90 are considered good (Esposito et al., 2010), which clearly was the case in our study (i.e. GoF = 0.922).

## Discussion

The main results of the present study support our initial hypotheses that perceived supervisors' attitudes are related to organizational adjustment norms and attendance pressure norms. There was a strong and positive influence from perceived supervisors' attitudes on organizational adjustment norms. Perceived supervisors' attitudes and structural barriers accounted for 43% of the variance in organizational adjustment norms. It is important that superiors are aware of their attitudes regarding adjustment at the workplace. How employees perceive the attitudes of their superiors regarding organizational adjustment is crucial. Supervisors' attitudes may have an essential role in working with positive sickness presenteeism (work adjustments) and affect the adjustment norms. The supervisor can contribute to successful work adjustments and influence the workplace to emphasize the positive aspects of presenteeism. The supervisors' attitudes toward adjustment may also influence employees' perception of the work environment. Another aspect that is important and may be affected by the attitude, is the quality of the relationship between the supervisor and the employee.

Effective and appropriate leadership is an important issue when promoting presenteeism (Buck, Porteous, Wynne-Jones, Marsh, Phillips, & Main, 2011). These findings relate to the organisational support theory indicating that supervisors have an important role in directing the employee (e.g. Eisenberger et al., 1986).

Structural barriers have an influence on the perceived supervisors' attitudes, and how the organization makes adjustments can potentially affect the superiors' attitudes. Ose (2010) argues that it is a paradox where those who are ill or vulnerable require resources from the superiors, thereby taking time and resources from other workers and resulting in the healthy employees not being supported sufficiently. One can therefore argue that the number of employees a superior is allowed to have personal responsibility for should be lowered.

Structural barriers influenced organizational adjustment norms both directly and indirectly through the perceived attitudes of supervisors when controlling for firm size and sector. The prediction of a direct influence was not hypothesized, yet it is a very interesting finding. This could quite possibly mean that it is important to acknowledge how organizational adjustments may affect colleagues. If the workplace itself makes it difficult to accomplish something positive regarding the adjustment processes, it may be more difficult for the employees actually present in the workplace to maintain a positive attitude toward these adjustments. Working with organizational adjustments can affect employees' presence in the workplace because they have to take over others' tasks in addition to their own (Ose, 2010). It is possible to experience negative consequences of being away from work that can affect either the subject, colleagues, or a third party (Johansson & Lundberg, 2004). One must be aware of the negative aspects of work adjustments, especially if the adjustments for some employees go beyond those of others (Ose, 2010). Some employees may choose to go to work while ill to avoid creating more workload for their colleagues. Structural barriers may therefore be a double risk factor. Double risk factors contribute to employees working through illness directly

as stressors and indirectly because they worsen health (Aronsson & Gustafsson, 2005; Hansen & Andersson, 2008).

Perceived supervisors' attitudes, structural barriers and sector explained 13% of the variance in attendance pressure norms. The existence of attendance pressure norms was perceived as higher in the private sector. Structural barriers also had a positive indirect relationship with attendance pressure norms. If there is little perceived support from superiors regarding work adjustment, attendance pressure increases. Employees then tend to come to work while sick as a consequence of this increased attendance pressure. Appearing at work as a result of attendance pressure may be unhealthy in a long-term perspective. Salutogenic factors have a positive impact on health, whereas some of the attendance pressure factors (e.g. time pressure) have been found to be a double risk and increase the probability of ill health (Biron & Saksvik, 2010). In terms of psychological pressures and the social context in which the employees work, there is a significant need to understand the impact of health problems on the workforce (Wynne-Jones, Buck, Varnava, Phillips, & Main, 2009). The ways in which attendance pressure norms affect groups and individuals can vary according to individual characteristics (Biron & Saksvik, 2010). It is important that there are salutogenic factors in the psychosocial work environment, and perceived attitudes of superiors may stimulate these positive factors.

The findings in the present study are important as they extend current literature on antecedents of sickness presenteeism by focusing on norms. People's social norms, attitudes, beliefs, and contextual factors are important in understanding presenteeism (Aronsson & Gustafsson, 2005; Johansson & Lundberg, 2004). Existing literature on sickness presenteeism has, for example, been focused on productivity loss (e.g. Chapman, 2005), working time arrangements (i.e. regular overtime increases sickness presenteeism) (Bökerman & Laukkanen, 2010), the cost of presenteeism (Cooper & Dewe, 2008), the individual's decision to take sick leave or to remain at work while ill (Wynne-Jones et al., 2009), type of health

complaint (Aronsson et al., 2000), and occupation (Elstad & Vabø, 2008; McKeivitt et al., 1997). A behavioral approach to presenteeism is important (Johns, 2010), and studies examining psychosocial factors revealing theoretical grounding are required (Johns, 2012).

Perceived attitudes of supervisors were related to antecedents of presenteeism in the context where the companies wanted their employees to be present at work, by having adequate work adjustments in place, if they were to become ill. These findings make a relevant contribution to the literature since we were studying IW-workplaces. The results were therefore based on experiences and perceptions from employees working at companies that emphasize the positive aspects of sickness presenteeism. It is important to distinguish between presence as a result of efficient work adjustments and presence that results from attendance pressure. The complexity of the relationship between health and work is evident. The individual needs may vary according to the type of health complaint and job, as these can affect absence and presence in different ways (Wynne-Jones et al., 2009; Johns, 2008).

The establishment of a well-constructed sickness presenteeism scale that is more detailed and, if possible, more objective than a single-item measure is necessary (Baker-McCleary, Greasley, Dale, & Griffith, 2010; Demerouti, Le Blanc, Bakker, Schaufeli, & Hox, 2009; Gustafsson & Marklund, 2010; Johns, 2012). Many methods of measuring presenteeism and antecedents of presenteeism exist in current literature. Some methods measure presenteeism directly by asking about its frequency (e.g. Aronsson & Gustafsson, 2005), while others measure indirectly by examining outcome factors such as productivity loss related to presenteeism (e.g. Hemp, 2004). Due to the notion that work environment and context are important determining factors, we argue that it is important to explore antecedents of sickness presenteeism and not merely its frequency and productivity loss. Knowledge about the antecedents may help reduce sickness presenteeism that results in further health issues. Some may argue that it is difficult to talk about presenteeism when

we are measuring norms, but organizational culture plays an important role in shaping the decision as to whether or not a person will come to work while ill (Nicholson & Johns, 1985). Sickness presenteeism is continually being shaped by individual and organizational factors; it is not an individual one-dimensional construct (Baker-McClearn et al., 2010). Consequently, it is important to look at norms in the workplace.

### Study limitations

Limitations need to be considered with regard to the findings of the present study. Firstly, the study was cross-sectional and has self-reported data. The research agenda on sickness presenteeism argues for both cross-sectional and longitudinal approaches (Claes, 2011). The present study is not oriented toward causality, but toward the concurrent interaction between positive and negative workplace factors and resulting attendance behavior. It is difficult not to utilize self-reported data because it is the individuals themselves who inherently know if they are working while sick or not (Claes, 2011) and if this is due to attendance pressure or work adjustments.

Supervisors' attitudes were measured by questioning employee representatives and were based on their perceptions. This means that the results are based on the employee representatives' experiences and thoughts about their superiors' attitudes and actions. How the representative and the superior cooperate and their relationship, may affect these results. Same source bias can also be a limitation and the correlation may be larger as a result of this. It can be difficult to generalize the employee representatives' answers to other employees because organizational norms are often a result of shared attitudes, beliefs and behaviors (e.g., Cooke & Rousseau, 1988; Schein, 1992). It is, however, reasonable to assume that employee representatives can adequately represent the employees and that it is possible to successfully generalize the findings to the remainder of the workplace.

We cannot generalize our findings to the entire working population (non IW-enterprises) because our study was conducted in a specific context (in IW-

enterprises). It is possible to use this knowledge in other contexts however, because there are many companies working toward reducing sickness absenteeism and gaining productivity without having an IW-agreement act. In these cases our results could contribute to an increased knowledge. The companies in this study were not a random sample of all Norwegian firms, and this could undermine the generalizability of the study results because the IW-firms may constitute a biased sample.

This study does not control for variation between industries in the private or public sector or the differences between occupational structures in firms that may be determinants of the dependent variables. These issues are a potential limitation of our approach.

### Practical implications

A management program that succeeds in improving attitudes may be effective in reducing voluntary absenteeism (Sagie, 1998). Further research should investigate whether a management program can succeed in improving organizational adjustment norms instead of sickness absenteeism or attendance pressure. Another practical implication would be to do a descriptive study of workplace norms and conduct a relevant seminar with the employees. If organizational norms are accepted beliefs and collectively agreed upon behaviors, and attitudes promoting a shared understanding of the workplace for employees are present, then it may be important to make these norms more explicit. In some cases, the norms could have been established on incorrect assumptions. By more thoroughly exploring workplace norms, it may be easier to change some of the collectively agreed upon beliefs. It may also be helpful to conduct an interactive workshop where both supervisors and employees come together to solve different work adjustment cases. The IW-agreement can be of benefit by improving the focus on the role supervisors have in workplace norms and use this knowledge to improve the IW-work. Future IW-agreements may benefit by doing work health promotion and interventions that consider norms at the workplace. IW-arrangements should focus on activity and

adjustment as a result of the cooperation between the employer and the employee. Partial sick leave that also involves a third part, the stakeholder of the sick leave (i.e., the physician), may be an important tool, but we argue that daily psychosocial work environment improvements are more important. It may also be practical to know that attendance pressure was perceived as higher to workers in the private sector.

In Norway it has for the last 15-20 years been a governmental initiative to find solutions to lower absenteeism and reduce costs for the society. The IW-agreement and more use of partial (graded) sick-leaves are examples of such efforts. A message from the present study to the stakeholders of innovative regulations to reduce absenteeism is that one has to be aware of the potential pitfalls connected to increased pressure on employees that in a longer time perspective may lead to even higher absenteeism or increased early retirement. The initiatives can succeed if good initiatives for workplace adjustment also are initiated parallel to these governmental strategies to tighten up the absenteeism system. But as we have shown, structural barriers may be obstacles, even if the leaders have the best attitudes and ambitions.

We argue that it is important to look at contextual and personal factors when attempting to gain knowledge of antecedents of presenteeism. We also need research on how salutogenic workplace factors can reduce antecedents of negative sickness presenteeism and productivity loss while promoting productivity and health. Productivity loss will most likely be dependent on how urgent the need is for the worker to come to work in order to avoid a reduction of income.

Further research should continue to focus on antecedents of presenteeism, use longitudinal studies that explore causality and consequences of presenteeism on health and undertake cross-national studies.

## Conclusion

Issues concerning workplace norms, antecedents of sickness presenteeism and perceived supervisors' attitudes are

of considerable interest to practitioners concerned with management issues, human relations, health issues and sickness absenteeism. Through the supervisors' attitudes it is possible to stimulate the desire to attend work despite ill health, and this can reduce costs associated with sick leave. This study has shown the importance of including attendance pressure norms and work adjustment norms in the research on antecedents of sickness presenteeism. This inclusion fosters a focus on health outcomes as opposed to job productivity. Since this is the first article about organizational adjustment norms and attendance pressure norms as antecedents of presenteeism we conclude that more studies are needed.

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## Paper II



**Sickness Present with signs of Burnout: The Relationship between Burnout and Sickness Presenteeism among University Hospital Physicians in four European countries**

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**Abstract**

Research has indicated that physicians often report symptoms of burnout and have a high prevalence of sickness presenteeism, yet there are few studies of the relationship between burnout and sickness presenteeism among physicians. The present survey study investigates the association between sickness presenteeism and the two dimensions of burnout, exhaustion and disengagement, when controlling for job resources. A survey was administered both on the web and in paper format among university hospital physicians in four European countries: Norway, Sweden, Iceland and Italy ( $N = 2078$ ). Sickness presenteeism was positively associated with both exhaustion and disengagement, but explained more of the variance in exhaustion than in disengagement. The results of this study indicate that decreasing the high prevalence of sickness presenteeism may offer a promising avenue for future interventions aimed at reducing burnout among physicians. Although the study confirmed a relationship between burnout and sickness presenteeism, it is argued that the specific link between these two variables needs more attention.

**Keywords:** burnout, disengagement, exhaustion, job demand–resources model (JD-R), sickness presenteeism.

**Received:** June 6, 2014. **Accepted:** October 15, 2014. **Published:** November 8, 2014.

**Language:** English.

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**Acknowledgement:** The authors are grateful to the physicians who participated in this study. The authors thank the entire HOUPE Study Research Group. The authors would like to thank Per Øystein Saksvik and Tove H. Hammer for their review of the manuscript and helpful suggestions. Special thanks to Lilja Sigrun Jónsdóttir for data collection in Iceland.

This is a peer-reviewed paper.

**Citation:** Thun, S., Fridner, A., Minucci, D., & Løvseth, L. T. (2014). Sickness present with signs of burnout: The relationship between burnout and sickness presenteeism among university hospital physicians in four European countries. *Scandinavian Psychologist*, 1, e5. <http://dx.doi.org/10.15714/scandpsycho1.1.e5>

## Sickness present with signs of burnout: The relationship between burnout and sickness presenteeism among university hospital physicians in four European countries

8. november  
2014

**Attending work while ill was significantly associated with employee burnout in this survey study of hospital physicians in four European countries, conducted by Sylvi Thun and colleagues.**

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Published: . Last updated: 8. november 2014

Sickness presenteeism refers to the phenomenon of attending work while ill when one should have been absent due to one's health status (Aronsson & Gustafsson, 2005; Aronsson, Gustafsson, & Dallner, 2000; Caverley, Cunningham, & MacGregor, 2007; Johns, 2010), which is a complex behavior affected by attitudes, norms, as well as personal and work-related factors (Aronsson & Gustafsson, 2005; Johns, 2010). Studies show a persistent high prevalence of sickness presenteeism among physicians (McKevitt, Morgan, Dundas, & Holland, 1997; Rosvold & Bjertness, 2001; Sendén, Løvseth, Schenck-Gustafsson, & Fridner, 2013). The Norwegian Medical Association's health survey found that 80% of physicians worked during an illness for which they would have sick-listed patients themselves (Rosvold & Bjertness, 2001). Recent data from European university hospitals confirm this high prevalence (Sendén et al., 2013). Working whilst having infections, or other diseases might be harmful to the physician's own health as well as to their patients and staff members by affecting job performance, health and productivity (Bergström, Bodin, Hagberg, Aronsson, & Josephson, 2009; Bergström, Bodin, Hagberg, Lindh, Aronsson, & Josephson, 2009; Caverley et al., 2007; Dellve, Hadzibajramovic, & Ahlborg, 2011; Hansen & Andersen, 2008; Hemp, 2004; Heponiemi et al., 2009; Kivimaki et al., 2005; Schultz, Chen, & Edington, 2009; Schultz & Edington, 2007). Studies report that physicians have higher rates of sickness presenteeism (80%) than other occupations, for example police (47%) (Leineweber et al., 2011), and nurses (68%) (Aronsson et al., 2000; Josefsson, 2012). However, studies of the relative effects of sickness presenteeism on physician's health are scarce.

Concurrent with high prevalence of sickness presenteeism there are frequent reports on symptoms of burnout among physicians (Arigoni, Bovier, & Sappino, 2010; Houkes, Winants, Twellaar, & Verdonk, 2011; Peterson et al., 2008; Prins et al., 2010). Burnout is defined by the two main dimensions of emotional exhaustion and disengagement resulting from work demands (Demerouti, Bakker, de Jonge,

Janssen, & Schaufeli, 2001). Emotional exhaustion may develop as a consequence of demanding cognitive, affective and physical strain (Demerouti, Bakker, Vardakou, & Kantas, 2003). Disengagement refers to the experience of negative attitudes toward work in general, the work object or the work content. It also refers to distancing oneself from one's job (Demerouti et al., 2003). The relative frequent reports of both sickness presenteeism and burnout among physicians impose the necessity to look at these two phenomena in relation to one another.

The coexisting occurrence of sickness presenteeism and burnout in some occupations has resulted in a few studies investigating the relationship between these two health behaviours and its nature. A study of hospital nurses suggests a reciprocal relationship between burnout and sickness presenteeism (Demerouti, Le Blanc, Bakker, Schaufeli, & Hox, 2009). Sickness presenteeism was reported to increase the likelihood of burnout if there was inadequate physical and psychological recovery after disease or strain (Demerouti et al., 2009; Meijman & Mulder, 1998). In addition, Dellve et al. (2011) found that sickness attendance was associated with burnout, poor health, and sick leave. In a study of doctors having burnout symptoms the decrease of sickness presenteeism measured as increase in sick leave, prevented later burnout (Rø, Tyssen, Gude, & Aasland, 2012). These studies indicate that sickness presenteeism could be a relevant predictor for burnout. However, we lack studies on the relative influence of sickness presenteeism on burnout compared with other work factors known to affect stress, health, and well-being among physicians.

The Job Demand-Resources Model (JD-R) states that when job demands are high and there are few job resources there is a higher risk of burnout (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Job demands are organizational, social or physical aspects of the job that require sustained physical and/or psychological effort from the employee (Demerouti, Bakker, de Jonge et al., 2001). Medical academics are exposed to high and often conflicting demands as they are expected to conduct original medical research, teach, and perform administrative and clinical duties. As the nature of the work in university hospitals is in itself stressful, this group of physicians are exposed to occupational stressors and a psychosocial work environment that is characterised by risk factors that according to the JD-R model will be negatively associated with their stress and health (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner et al., 2001; Piko, 2006). Sickness presenteeism among employees, e.g., academic physicians, can result from workplace characteristics creating attendance pressure to fulfil their duties at work (Grinyer & Singleton, 2000; McKeivitt & Morgan, 1997; McKeivitt et al., 1997; Thun, Saksvik, Mehmetoglu, Ose, & Christensen, 2013). In addition, their high workload combined with concerns for their own career opportunities, patients and colleagues, as well as responsibilities for family and social life can compromise sufficient self-care, restitution, and rest (Fridner, 2004) which in turn can cause high levels of sickness presenteeism in this profession. According to the JD-R model, sickness presenteeism may constitute a demand that can have an effect on employees' health and well-being. To reduce the negative effects of high demands, the JD-R model shows that physical, social, and organizational aspects of the work

may constitute resources that are functional in achieving work goals (Demerouti, Bakker, de Jonge et al., 2001).

The JD-R model shows that resources such as a supportive social network from both supervisors and colleagues are important to moderate stress and burnout (Humphrey, 2013; Viswesvaran, Sanchez, & Fisher, 1999; Eisenberger, Huntington, Hutchison, & Sowa, 1986; Hoff, Whitcomb, & Nelson, 2002; Karasek & Theorell, 1990; Luchman & Gonzalez-Morales, 2013; Russell, Altmaier, & Vanvelzen, 1987). Another important resource is job control (e.g.; Fernet, Austin, Trepanier, & Dussault, 2013; Peterson et al., 2008; Demerouti, Bakker, Nachreiner et al., 2001) which refers to an employee's decision authority or work autonomy (Demerouti, Bakker, Nachreiner et al., 2001; Lee, Lovell, & Brotheridge, 2010). Job control has been consistently related to high job performance as well as low strain in the organizational literature (Alarcon, 2011; Johns, 2011; Maslach, Schaufeli, & Leiter, 2001) and has also been seen as health promoting (Claes, 2011). Control over work can modify the process of burnout, and research has shown that control over work pace and decisions explain some of the variance in exhaustion and disengagement among physicians in academic medicine (Løvseth, Fridner, Jónsdóttir, Marini, & Linaker, 2013).

The high prevalence of sickness presenteeism among physicians highlights the importance of systematic investigation of this phenomenon because it can affect the quality of health care provided (Shanafelt, Bradly, Wipf, & Back, 2002), the quality of work (Shirom, Nirel, & Vinokur, 2006) as well as their long-term health (Bergström, Bodin, Hagberg, Aronsson et al., 2009; Kivimaki et al., 2005). It is important to investigate this relationship and its associated factors to create appropriate theories of work design and occupational stress interventions (Luchman & Gonzalez-Morales, 2013), which could then be implemented to decrease the prevalence of burnout and sickness presenteeism in the medical profession.

National and occupational contexts are relatively neglected factors for understanding work-related health (Thun et al., 2013). Multinational group comparisons of physician health and work conditions are often necessary in research as they increase the possibility of generalizing the results. There are also studies which show inconsistency in findings in how gender and age affect burnout (Maslach et al., 2001; Purvanova & Muros, 2010). Houkes et al. (2011) found that high levels of depersonalization is found in male general practitioners, while emotional exhaustion is found in female general practitioners, and according to Walsh (2013) it is more likely that female doctors experience burnout. Therefore, it is relevant to investigate whether nationality, age and gender modify the relationship between burnout and sickness presenteeism, and these factors are therefore controlled for in this study.

The main aim for the present study was to explore the relationship between sickness presenteeism and burnout among physicians in four European countries, while controlling for job resources such as social support, control over work pace, and decision-making and demographic variables like age, gender, and nationality.

**Hypothesis 1.** Sickness presenteeism is positively associated with disengagement when controlling for demographic variables and job resources.

**Hypothesis 2.** Sickness presenteeism is positively associated with exhaustion when controlling for demographic variables and job resources.

## Method

**Participants and Procedure.** The present study used data from all participants in a study concerning work related health, organizational culture and working conditions among university hospital physicians in Norway, Sweden, Iceland and Italy. The present study is a part of a larger on-going project (e.g., [Fridner, 2004](#); [Løvseth et al., 2013](#); [Sendén et al., 2013](#)). The project was approved by the administration of each hospital, the respective Regional Ethics Boards and National Data Inspectorates. In addition to a short oral presentation given in organizational forums, all participants received a letter with a description of the study. All physicians voluntarily participated and completed the informed consent that was required.

The survey was administered both on the web and in paper format. All participants received a letter containing personal password and log-in information for the web-based questionnaire. The joint data collection of the web survey was organized centrally for the three Nordic countries at the project website. The survey was conducted in English in all countries except for Italy. The Italians received questionnaires in their native language and in paper format only. The Italian version was validated using back translation between English and Italian. The data collection was carried out from December 2004 to February 2006. Invited physicians were permanently employed and actively working at the time of data collection ( $N = 3947$ ), and included both full-time and part-time physicians. Anonymity was guaranteed, and it was emphasized that individual data could not be identified in any way.

The total response rate was 52.6% ( $N=2078/3947$ ). In Norway the response rate was 54.7%, in Sweden 59.8%, Iceland 47.8%, and 41.3% in Italy. There was lower participation among male physicians (48.5%) than female physicians (58.5%). In total, 378 physicians participated from Norway, 1074 from Sweden, 254 from Iceland and 372 from Italy. A response analysis showed that all countries had an acceptable response rate and demographic representation according to physician age, gender and position.

**Measures.** The questionnaire consisted of 107 items concerning education, work-related health, organizational culture, and working conditions. The present study was based on a selection of variables relevant to the current foci and included burnout measured by the dimensions of exhaustion and disengagement, sickness presenteeism, social support from both colleagues and supervisors, control over work pace and decision-making, gender, age and country.

*Burnout.* The outcome variable of the current study of burnout was measured by a Mini version of Oldenburg Burnout Inventory (Demerouti et al., 2003; Rudman, Gustavsson, & Hultell, 2014; Løvseth et al., 2013). The two dimensions of exhaustion ( $\alpha = .80$ ) and disengagement ( $\alpha = .77$ ) consist of five items each. «After my work, I now need more time to relax than in the past to become fit again» was one item measuring exhaustion. An example of disengagement was: «It happens more and more often that I talk about my work in a derogatory way.» The response scale was «totally agree» (1) to «totally disagree» (4). The index included both positively and negatively worded items. The positive and negative items were presented in mixed order, and the negatively worded items were revised. Peterson et al. (2011) and Halbesleben and Demerouti (2005) have found support for the validity, reliability and the proposed two-factorial structure of the original version of the Oldenburg Burnout Inventory.

*Sickness presenteeism.* The item «Have you gone to work with an illness in a situation where you would have recommended a patient to stay at home?» measured sickness presenteeism (Rosvold & Bjertness, 2001; Sendén et al., 2013). The response was rated from «very seldom or never» (1) to «very often or always» (5). This type of question is in line with what Johns (2011) labels “subjective presenteeism” meaning that it incorporates a more perceptual take on respondents’ experiences with their own health and attendance as opposed to the most commonly used «days-present» item developed by Aronsson et al. (2000).

*Job resources.* Social support was measured by the item «How much can people as listed below be relied upon for support when things get tough at work?» The item was rated with references to the immediate supervisor (support supervisor) and the physicians’ colleagues (support colleagues), respectively. Responses were on a five-point scale ranging from «not at all» (1) to «very much» (5). A high score for each item of support indicated high levels of support (Andersen, Aasland, Fridner, & Løvseth, 2010; Fridner et al., 2011; Løvseth et al., 2013).

The scales for the variables «control over work pace» and «control over decision-making» were derived from the General Nordic Questionnaire for Psychological and Social Factors at Work (QPS Nordic) (Lindström, 2000). Control over work pace consists of four items ( $\alpha = .84$ ). One item asked respondents to consider how often they could set their own work pace. Control over decision-making consisted of two items ( $\alpha = .45$ ). One item was «If there are alternative methods for doing your work, can you choose which method to use?» The response was rated from «very seldom or never» (1) to «very often or always» (5) on all items of each scale. The scale alphas correspond to the validation data on QPS Nordic (Wannstrom, Peterson, Asberg, Nygren, & Gustavsson, 2009); however, three of the original items of control over decision-making were not thought to be relevant for the participants (e.g., “contacts with customers”), and were removed from the questionnaire.

*Control variables.* Age was measured in nine age categories (from >29, 30-34 ... to <65. Gender was coded with male = 1 and female = 0. All countries were dummy coded, and Sweden was the reference category, meaning that the effects of the other countries were compared to Sweden. The country with the largest sample

became the reference category, following the procedures described in Field (2009).

**Statistical analysis.** Pearson's correlations were used to measure relationships between the included variables. The predictor variables' influence on the dimensions of burnout and other relevant correlates of burnout and sickness presenteeism were investigated with a block-wise hierarchical regression analysis. Potential multicollinearity was used to examine the variance inflation factor (VIF). All indices were developed according to recommended criteria (Field, 2009). One-way ANOVA was used to test significant differences between countries. Hochberg GT2 and Games-Howell Post Hoc test was conducted (Field, 2009). Hochberg's GT2 procedure is designed to manage situations where the sample sizes differ. All independent variables measured with response scales had sufficiently normal distribution to warrant parametric tests. All analyses were conducted with IBM SPSS Statistics, version 19.

## Results

Table 1 presents the mean score of each variable of the total sample and of each country. The mean score of exhaustion was  $M = 2.52$  ( $SD = 0.53$ ), which indicates high scores of exhaustion in the total sample. The participants reported a lower mean score  $M = 2.14$  ( $SD = 0.48$ ) at disengagement. Scores about 2.25 have been considered as having high exhaustion, and scores over 2.1 on disengagement have been considered as high in other studies using the same instrument (e.g., Peterson et al., 2008). The mean score at  $M = 3.01$  ( $SD = 1.19$ ) indicates a high score on sickness presenteeism among the participants in the total sample. Because existing knowledge and literature of this type of context specific measure is still limited, we have to base the cut off on other presenteeism measures. In research where they dichotomize a five-point scale, the cutoff is usually between *not relevant* to *yes/once* considered as not low sickness presence, and those answer *yes/2-5 times* and *more than 5 times* as high sickness presence (Aronsson & Gustafsson, 2005; Gustafsson & Marklund, 2014).

There was significant country differences in disengagement [ $F(3, 2002) = 17.02$ ,  $p < .001$ ] and exhaustion [ $F(3, 2002) = 17.15$ ,  $p < .001$ ]. The post-hoc tests indicate that the participants from Sweden had higher scores on disengagement than all the other countries ( $p < .001$ ). The Swedish also had significantly higher scores on exhaustion than the participants from Norway and Iceland ( $p < .001$ ). The sample from Italy had significantly higher scores on exhaustion than the samples from Norway ( $p < .05$ ) and Iceland ( $p < .05$ ).

**TABLE 1:** Descriptive statistics for the study variables in each country and in the total sample.

	Sweden (n=1074)		Norway (n=378)		Iceland (n=254)		Italy (n=372)		Total Sample (N=2078)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Disengagement	2.21	0.48	2.04	0.43	2.08	0.45	2.07	0.54	2.14	0.49
Exhaustion	2.59	0.53	2.40	0.47	2.39	0.51	2.52	0.56	2.52	0.53
Sickness presenteeism	3.01	1.19	3.00	1.03	3.06	1.11	3.36	1.07	3.08	1.14
Support supervisor	2.89	1.18	3.17	1.12	3.25	1.16	2.47	1.23	2.91	1.20
Support colleague	3.69	0.98	3.67	0.95	3.75	0.87	3.33	1.05	3.63	0.99
Control over decision- making	2.99	0.86	3.09	0.78	3.16	0.86	2.94	1.02	3.02	0.88
Control over work pace	2.67	0.98	2.68	0.88	2.67	0.98	3.08	1.08	2.75	0.99

The bivariate correlations between the variables are presented in Table 2. Sickness presenteeism was positively related to disengagement ( $r = .10, p < .001$ ) and exhaustion ( $r = .26, p < .001$ ). Control over decision-making was negatively related to exhaustion ( $r = -.34, p < .001$ ) and was the strongest correlate of exhaustion. The strongest correlate of disengagement was support from supervisor ( $r = -.32, p < .001$ ).

**TABLE 2:** Correlation between all variables in the total sample, Pearson's  $r$ .

	1	2	3	4	5	6	7	8	9
1. Disengagement	-								
2. Exhaustion	.47***	-							
3. Sickness presenteeism	.10***	.26***	-						
4. Support supervisor	-.32***	-.22***	-.12***	-					
5. Support colleague	-.20***	-.14***	-.11***	.43***	-				
6. Control over decision- making	-.29***	-.34***	-.11***	.24***	.15***	-			
7. Control over work pace	-.24***	-.31***	-.14***	.09***	-.01	.52***	-		
8. Age	-.07	-.12***	.04	-.08	-.10***	.19***	.28***	-	

	1	2	3	4	5	6	7	8	9
9. Gender	.03	-.18***	-.08***	.02	-.05	.12***	.15***	.20***	-
NOTE: *** $p < .001$ (Two-tailed)									

We performed hierarchical regression analysis for each burnout dimension. The hierarchical multiple regression analysis (Table 3) indicates that sickness presenteeism was associated with disengagement when age, gender, country, support from superior, support from colleague, control over work pace, and control over decision-making were entered in the model, ( $\beta = .07, p < .001$ ). The variables included in the model explained 21% of the variance in disengagement.

The hierarchical multiple regression analysis (Table 3) indicates that sickness presenteeism was associated with exhaustion when age, gender, country, support supervisor, support colleague, control over work pace, and control over decision-making were entered in the model ( $\beta = .19, p < .001$ ). Furthermore, the additional variance explained by sickness presenteeism was 4%. The variables included in the model explained 24% of the variance in exhaustion.

**TABLE 3:** Hierarchical multiple regression results for the prediction of exhaustion, and disengagement controlled for age, gender, country, job resources and sickness presenteeism.

Predictor	Exhaustion		Disengagement	
	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$
Step 1:	.06***		.03***	
Age		-.10***		-.07***
Gender		-.15***		.06**
Country (Sweden)				
Norway		-.13***		-.15***
Iceland		-.10***		-.09***
Italy		-.01		-.11***
Step 2:	.14***		.17***	
Support supervisor		-.11***		-.24***
Support colleague		-.08***		-.10***
Control over work pace		-.19***		-.12***
Control over decision-making		-.17***		-.16***
Step 3:	.04***		.004**	
Sickness presenteeism		.19***		.07**

	Exhaustion		Disengagement	
Total R <sup>2</sup>	.24***		.21***	
n	1909		1909	
NOTE: ** $p < .01$ ***; $p < .001$ . Gender: 0 = Female; 1 = Male. $\beta$ = Standardized beta.				

## Discussion

The main results of the present study support our initial hypotheses that sickness presenteeism is positively associated with the two dimensions of burnout when we control for known predictors of burnout. We found that sickness presenteeism was a significant predictor of exhaustion and disengagement and that the relationship was significant when controlling for other relevant job resources. It is possible that sickness presenteeism among employees is a risk factor that may worsen physician health and increase symptoms of burnout; however, this relationship needs to be tested in a longitudinal study. According to Demerouti and her colleagues (2009), an employee who is present when sick can become a more exhausted employee. Accordingly, employees who experience exhaustion activate compensation strategies like sickness presenteeism, which could in turn increase their exhaustion (Demerouti et al., 2009). The link between the variables can thus be that sickness presenteeism may predict burnout because it affects recovery (Meijman & Mulder, 1998). It seems that sickness presenteeism is an important risk indicator, and this supports the findings of Dellve et al. (2011) that sickness presenteeism is associated with burnout. However, it is unclear whether sickness presenteeism is a symptom of burnout or pre-burnout condition, or whether it is a cause of burnout. An important finding in this study is that sickness presenteeism has a distinctive contribution after controlling for other factors. Sickness presenteeism affects many employees and offers potential negative consequences at numerous levels (Claes, 2011).

As pointed out by Maslach and colleagues, it is important to control for resources in the prevalence and process of burnout (Maslach et al., 2001). In line with other empirical findings, the results confirm that an employee's sense of control over work pace and decision-making, as well as high levels of social support, are relevant in the workplace to prevent burnout among physicians (e.g., Løvseth et al., 2013; Tayfur & Arslan, 2013), which indicates the importance of controlling for job resources. The results from this study also show that participants with support from supervisors and co-workers have lower scores on exhaustion and disengagement. Our findings confirm the importance of social support systems for physician's health and well-being (Wallace & Lemaire, 2007). This result is important because it confirms the parts of the JD-R model which emphasize that low levels of job resources in support of the employees are associated with a higher risk for burnout (Demerouti, Bakker, Nachreiner et al., 2001). This underscores the importance of including a variety of predictors in order to fully understand the relationships

between burnout and sickness presenteeism and its effect on the organization, the physician, and provision of healthcare services.

Another way to look at the relationship is that emotional exhaustion can be an important determinant of sickness absence and later sickness presenteeism (de Vroome, Smulders, & Houtman, 2010). The association between sickness presenteeism and exhaustion may be linked to a negative spiral with an unfavourable consequence in the long run. A positive correlation ( $r = .26, p < .001$ ) may indicate that it is exhaustion that leads to sickness presenteeism. de Vroome et al. (2010) argue that emotional exhaustion may serve as an important marker to reduce sickness presenteeism. According to Demerouti and her colleagues (2009), it is likely that sickness presenteeism and burnout have a reciprocal relationship. There is a need for longitudinal studies to investigate whether there is a reciprocal relationship. This study contributes with an understanding that it is a positive relationship between burnout and sickness presenteeism, and that this knowledge is important to use in developing policies at the workplace. Although the study confirmed a relationship between burnout and sickness presenteeism, the specific link between these two variables remains a matter of speculation.

There are some cross-country differences to be mentioned. For instance, the participants in Sweden experienced higher levels of disengagement than the other countries. Differences between the subsamples can be explained by national differences in the countries studied such as structural factors of employment between the organizations, differences in the well-fare system on sickness absence among other (Bambra, 2007; Heymann, Rho, Schmitt, & Earle, 2010; Osterkamp & Röhn, 2007). Despite possible relevance, the variables mentioned are beyond the scope of the present study. However, this highlights the importance of including a variety of predictors to fully understand the relationships between burnout and sickness presenteeism and its effect on the organization, the physician and provision of health care services, and the need for additional multinational studies. Still, the relationship between sickness presenteeism and burnout were significant when we controlled for nation, which emphasizes that it is a general relation between these variables.

**Study strength and limitations.** This study contributes to the existing literature by investigating the relationship between sickness presenteeism and burnout in an occupation that has shown high rates of both sickness presenteeism and burnout. The strengths of this study are that it is multinational, has a large sample size, uses the same methodology in three international sites and uses standardized scales.

Limitations that should be considered regarding the findings of the present study are that the study was cross-sectional and relied on self-reported data, and that the study is not oriented toward causality but rather toward the parallel associations between workplace factors and burnout. In this study sickness presenteeism constitutes a demand that may have an effect on employees' health and well-being. However, there may be a limitation that sickness presenteeism was the only job demand in this study. Future studies should include a variety of other job demands

since job demands is an important predictor of burnout (Demerouti, Bakker, & Nachreiner et al., 2001).

In research on sickness presenteeism, it is difficult not to use self-reported data because it is the individual who knows if he or she is sickness present or not (Claes, 2011; Johns, 2011). The item used in this study (Rosvold & Bjertness, 2001) is more specific and context dependent than the most used item in research of sickness presenteeism (e.g. Aronsson et al., 2000; Aronsson & Gustafsson, 2005; Hansen & Andersen, 2009). A more specific item used in this study considers the contextual setting for the physicians and makes the results easier to apply to a specific setting. The advantage is that the question required physicians to consider themselves as patients and relate to situations and conditions where they would have recommended a patient to stay home. The measure of sickness presenteeism used in this study is not limited to a defined period, like 6 or 12 months. It is important to develop a more detailed and objective measure of sickness presenteeism in preference to a single item measure (Demerouti et al., 2009; Thun et al., 2013). Still, in some cases a single-item question may stand out as a good measure (DeSalvo et al., 2006).

The lack of established norms and validated clinical cut-off values for determining high levels of burnout and sickness presenteeism should be noted. The low alpha on the control over decision-making may also be a limitation and may affect the result. Additionally, the moderate response rate may be a limitation and makes it difficult to draw conclusions about university hospital physicians worldwide and in the countries included in the study. However, the sample size is large, the study is cross-national, and the sample is representative related to physician gender and age. We could assume that those who were truly burned out were on sick leave or absent due to other legitimate reasons, which means that those who participated are those who are still managing their daily work.

Furthermore, the Italian sample did not include medical residents, as they were employed at the university and not the university hospital. In research on burnout and sickness presenteeism it can be problematic to focus on only one occupation, because the motives of sickness presenteeism can be heterogeneous across occupations. However, Johns (2010) argues that sickness presenteeism depends upon context. Research findings show that burnout and sickness presenteeism is high irrespective of occupation (e.g. Aronsson et al., 2000; Gosselin, Lemyre, & Corneil, 2013); therefore, it is reasonable to assume that these findings are relevant to other occupations.

## **Conclusion**

The findings from this study have a practical applicability and may also contribute to development of theories within the field of work health and especially burnout. The present research contributes to the literature on employee burnout by examining the relationships between sickness presenteeism and employee burnout. In earlier

research, health problems have been linked to burnout, but more as outcome variables or consequences of burnout, not as predictors. In this study, sickness presenteeism was significantly associated with employee burnout when controlling for known contributing factors such as job control and social support. The findings, therefore, not only contribute to the literature on burnout but also to the larger body of research on sickness presenteeism.

From a theoretical view, it is important to understand burnout antecedents to fully understand how and why physicians experience burnout. From a practical standpoint, decreasing burnout is desirable because of the high psychological and organizational costs related with its occurrence (Bedi, Courcy, Paquet, & Harvey, 2013). The results of this study indicate that decreasing the high prevalence of sickness presenteeism may offer a promising avenue for future interventions directed at reducing burnout among physicians. However, this association needs to be tested in a longitudinal study. Research has shown that there exists a relationship between sickness presenteeism and burnout among nurses in the Netherlands (Demerouti et al., 2009), healthcare workers in Hungary (Dellve et al., 2011), and now among physicians in Norway, Sweden, Iceland and Italy. Therefore, it is reasonable to argue that we can generalize that sickness presenteeism and burnout have a positive association independently of healthcare occupation; however, there is a need for studies investigating this relationship outside the healthcare sector as well.

Many work environments are characterized by high and often conflicting demands, responsibilities and workload. Although the present study focuses on physicians in academic medicine, we believe that the findings from the present study could apply in work environments where high sickness presenteeism and burnout intersect. The findings are assumed to be relevant and valid across several occupations.

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#### Citation

Thun, S., Fridner, A., Minucci, D. & Løvseth, L. H. (2014). Sicknes present with signs of burnout: The relationship between burnout and sickness presenteeism among university hospital physicians in four European countries. *Scandinavian Psychologist*, *1*, e5. <http://dx.doi.org/10.15714/scandpsychol.1.e5>

#### Abstract

Research has indicated that physicians often report symptoms of burnout and have a high prevalence of sickness presenteeism, yet there are few studies of the relationship between burnout and sickness presenteeism among physicians. The present survey study investigates the association between sickness presenteeism and the two dimensions of burnout, exhaustion and disengagement, when controlling for job resources. A survey was administered both on the web and in paper format among university hospital physicians in four European countries: Norway, Sweden, Iceland and Italy (N = 2078). Sickness presenteeism was positively associated with both exhaustion and disengagement, but explained more

of the variance in exhaustion than in disengagement. The results of this study indicate that decreasing the high prevalence of sickness presenteeism may offer a promising avenue for future interventions aimed at reducing burnout among physicians. Although the study confirmed a relationship between burnout and sickness presenteeism, it is argued that the specific link between these two variables needs more attention.

**Keywords:** burnout, disengagement, exhaustion, job demand–resources model (JD-R), sickness presenteeism.

**Received:** June 6, 2014. **Accepted:** October 15, 2014. **Published:** November 8, 2014.

**Language:** English.

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**Acknowledgement:** The authors are grateful to the physicians who participated in this study. The authors thank the entire [HOUPE Study Research Group](#). The authors would like to thank Per Øystein Saksvik and Tove H. Hammer for their review of the manuscript and helpful suggestions. Special thanks to Lilja Sigrun Jónsdóttir for data collection in Iceland.

This is a peer-reviewed paper.

# Paper III



# A Health Impairment Process of Sickness Presenteeism in Norwegian Physicians: The Mediating Role of Exhaustion

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Received 4 May 2016; accepted 12 June 2016; published 15 June 2016

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## Abstract

Although work factors have been associated with both presenteeism and exhaustion among hospital physicians, we lack knowledge on the dynamic relationship between demands in the work context and presenteeism and how this can be mediated by symptoms of exhaustion when controlling for job resources. The objective of this study is to examine a health impairment process of presenteeism among university hospital physicians. A cross-sectional survey of 545 university hospital physicians in Norway was conducted. Variables included in the model were presenteeism, exhaustion, work-family conflict, role conflict, social support and control over work pace. Findings from structural equation modeling indicated that exhaustion mediates the relationship between job demands and presenteeism. Job resources had no direct effect on presenteeism in the hypothesized model. The variables in the study explained 17% of the variance in presenteeism. The study is one of the first to demonstrate that the relationship between job demands and presenteeism is mediated by exhaustion when controlling for job resources. The results highlight the importance of considering the link between health symptoms and job demands to reduce the negative effects of presenteeism.

## Keywords

Sickness Presenteeism, Exhaustion, Job Demands, Job Resources, JD-R Theory

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## 1. Introduction

A considerable number of studies show that hospital physicians worldwide both manifest high levels of exhaus-

tion as a symptom of burnout [1]-[4] and attend work despite their own ill-health, a phenomenon termed sickness presenteeism [5]-[8]. Though exhaustion and presenteeism have been associated with similar work and personal factors, only a few studies have indicated a relationship between these health behaviors [8]-[10]. We also lack studies that examine the dynamic relationship between these factors and their relative contribution to a health impairment process manifested by exhaustion and presenteeism. This knowledge is vital to initiate interventions that can reduce both exhaustion and unwanted presenteeism among physicians. An important step is to examine how exhaustion mediates the relationship between factors in the work context and presenteeism within an established model of occupational stress such as the Job-Demand-Resources (JD-R) model.

A recent meta-analysis on the correlates of presenteeism concluded that significant contributors are job demands and perceived stress, negative relational experiences, positive attitudes, and lack of personal and job resources [11]. This is concordant with studies that show a high rate of sickness presence and low sickness absence among professionals with high job demands and those who report that their skills and tasks are difficult to allocate to others [12], such as physicians in academic medicine [5] [6] [13]. Their high demands at work combined with family responsibilities can compromise sufficient self-care, restitution, and rest [14] which in turn can contribute to exhaustion and presenteeism. Work tasks in the healthcare service may also stimulate presenteeism because of high work engagement or professional obligations [11]. To understand better the dynamic relationship between work characteristics, exhaustion, and presenteeism it is vital to examine these associations in an occupation that manifests high prevalence of presenteeism such as that of hospital physicians [5] [8].

The JD-R model is a theoretical model of occupational stress that conceptualizes the relationship between employee well-being and job performance. The theory is based on the assumption that all working environments constitute job demands and job resources [15] [16]. Job resources are defined as the physical, social, and organizational features of work that can reduce job demands and are functional in achieving work goals [17]. In contrast, job demands refer to psychological, social, physical, or organizational features of the job that require sustained personal effort and are related to some psychological and/or physiological costs [18]. These include a variety of distinct variables that constitute role demands (e.g., role conflict), time demands (e.g., long hours, shift work) and relational demands (e.g., work-family conflict) [11]. The JD-R theory states that the dynamic relationship between job demands and resources triggers either a health impairment process or a motivational process. Accordingly, the current study emphasizes that job demands are the most important predictors of occupational strain such as exhaustion which in turn predict job performance whereas resources are the most important predictor of work engagement [16] [19]. In contrast to studies that have examined the direct relationship between work factors and presenteeism, the current study suggests that job demands can have an effect on well-being and indirectly influence performance. Considering the health impairment process, we examine if presenteeism as a sign of strain is directly ameliorated by job demands or indirectly through exhaustion as a mediator of presenteeism.

As emotional exhaustion may develop as a consequence of demanding cognitive, affective, and physical strain [20] it can mediate the health impairment process manifested by presenteeism among physicians. Although studies have confirmed a relationship between presenteeism and exhaustion [8] [9], research on the specific link between these two behaviors is inconclusive. One study has suggested that emotional exhaustion is an important target when the aim is to reduce presenteeism [21]. Others suggest a reciprocal relationship between presenteeism and exhaustion because exhausted employees most likely mobilize "compensation strategies" while they attend work when ill [9]. The current study examines the relative influence of different work demands on physicians' exhaustion which in turn can contribute to presenteeism.

Attending work while ill can be regarded as controversial as it can pose high health risks to the person and the patients. However, certain job demands pose high attendance pressure that contributes to presenteeism among physicians [7]. An important job demand that influences psychosocial work climate and generates job-related strain is role conflict [22]. Role conflict is the result of a lack of congruent expectations and demands from other people in the workplace and increases exhaustion [23].

Work-family conflicts are a relational demand that occurs when engaging in one role makes it difficult to engage in another [24]-[26]. Work-family conflict and presenteeism can activate each other [11]. Three types of work-family conflict (time-based, strain-based, and behavior-based) have been identified in the literature. This current study focuses on strain-based conflict and suggests that the strain experienced in one role intrudes into and interferes with participation in another [27] [28]. The interplay between work and family is associated with a range of both positive and negative outcomes and health symptoms including emotional exhaustion [24] [29].

A work-family conflict can contribute to presenteeism when work demands force work attendance on behalf of staying home to care a sick child or workers' personal need for restitution, leisure, and rest [30].

In contrast to job demands, job resources such as control over work pace are relevant factors to control for in the health impairment process of presenteeism. Control over work pace refers to the subject's perceived control of time and pace in his or her work [31]. Employees who manifest high presenteeism often work under conditions characterized by time pressure. Despite their poor health they still make a considerable effort to carry out their work duties [32]. It is important to have control over work pace [33] and to get adequate rest to recover and recharge psychologically and physically after demanding efforts at work [34] [35]. In a very demanding job, the decision to be absent or present will vary with work pace [36].

Another important resource in research on presenteeism is social support. Social support refers to perceptions that one has access to helpful relationships of varying quality or strength [37]. Presenteeism is associated with supervisor support and subjective health [38]. Support from colleagues is important for well-being and buffers the negative effects of work stress [39]. It is important to investigate the relative importance of job resources in relation to presenteeism to increase knowledge on how employees respond to the strains of being sickness present [40]. Though job control and social support are regarded as the most important job resources to counterweigh job demands in that workers who experience "being in control" and have a supportive workplace will be less likely to feel pressure to attend when ill [11]. Studies have examined the relative influence of job control and social support on presenteeism [38] [41]-[44].

The objective of this study is to examine the dynamic relationship between different job demands and presenteeism mediated by exhaustion by simultaneously controlling job resources such as control over work pace and social support. This contributes to presenteeism literature by investigating the mediating effect of the employee's health symptoms in the relationship between different job demands and presenteeism, and we control for the two most salient job resources when investigating the health impairment process. According to the JD-R model and the above-mentioned empirical work, the hypotheses of this study are (illustrated in Figure 1):

Hypothesis 1. Exhaustion is positively related to sickness presenteeism.

Hypothesis 2a. Role conflict is positively related to exhaustion and sickness presenteeism.

Hypothesis 2b. Work-family conflict is positively related to exhaustion and sickness presenteeism.

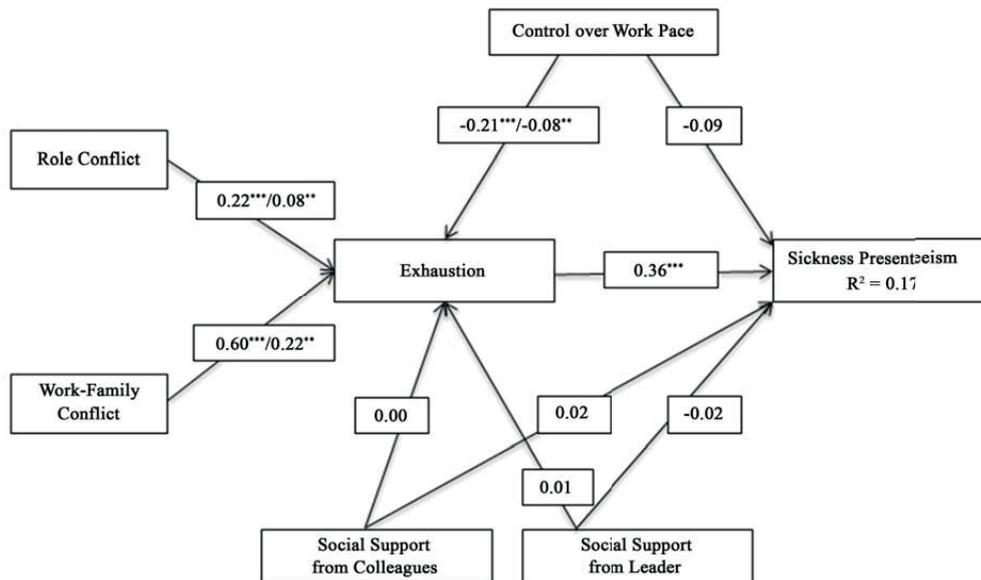


Figure 1. The hypothesized model with direct effects (standardized estimates,  $\beta$  in bold) and indirect effects ( $\beta$ ) for the structural model.  $^*p < 0.01$ ,  $^{***}p < 0.001$ . Fit Indices:  $\chi^2 = 231.23$ ,  $df = 116$ ,  $p < 0.001$ ,  $\chi^2/df = 1.99$ , GFI = 0.956, CFI = 0.964, SRMR = 0.043, TLI = 0.953, RMSEA = 0.043, PCLOSE = 0.931.

Hypothesis 3a. Exhaustion positively mediated the positive relationship between work-family conflict and sickness presenteeism when controlling for control over work pace and social support.

Hypothesis 3b. Exhaustion positively mediated the positive relationship between role conflict and sickness presenteeism when controlling for control over work pace and social support.

Hypothesis 4. Control over work pace and social support is negatively related to sickness presenteeism.

## 2. Method

### 2.1. Participants and Procedure

This study included data from all participants in a study concerning work-related health, organizational culture, and working conditions among physicians in a Norwegian university hospital conducted from February to May 2012. The participants received a letter containing a personal link to a web-based questionnaire and were asked to provide their responses anonymously. The survey was conducted in English. The inclusion criteria were employment as full-time or part-time physicians actively working at the time of data collection. The project was approved by the administration of the hospital, the union representatives of the physicians at the hospital, and the Regional Ethics Board. In addition to a short oral presentation given in organizational forums, all participants received a letter with a description of the study. All physicians voluntarily participated and completed the informed consent form that was required for participation in the study. The total response rate was 71.8% ( $N = 545/759$ ). Of these responses, 45% ( $n = 245$ ) were female physicians. A response analysis showed that the sample was representative according to age, gender, and position.

### 2.2. Measures

The questionnaire contained 123 items concerning education, work-related health, organizational culture, and working conditions. The study was based on a selection of variables relevant to the current foci and included presenteeism, exhaustion, role conflict, work-family conflict, control over work pace, social support from colleagues, and social support from supervisors.

#### 2.2.1. Sickness Presenteeism

The item “Have you gone to work with an illness in a situation where you would have recommended a patient to stay home? How often has this happened during the last 12 months?” measured sickness presenteeism [6]. The response was rated “none” (1), “once” (2), “2-4 times” (3) and “more than five times” (4).

#### 2.2.2. Exhaustion

Exhaustion was measured by a miniature version of the Oldenburg Burnout Inventory [20]. Exhaustion ( $\alpha = 0.73$ ) was measured by five items, and the response scale ranged from 1 = “totally agree” to 4 = “totally disagree”. “After my work, I now need more time to relax than in the past to become fit again” was one item measuring exhaustion. The index included both positively and negatively worded items. The positive and negative items were presented in random order, and the negatively worded items were reversed.

#### 2.2.3. Role Conflict

The three items measuring role conflict were derived from the General Nordic Questionnaire for Psychological and Social Factors at Work (QPS Nordic) [45]. The role conflict questions consisted of items about conflicts between demands and resources, conflicting requests, and conflicts between the subject’s expectations and external demands [31]. For example, “Do you receive incompatible requests from two or more people?” was measured from 1 = “very seldom or never” to 5 = “very often or always”. The alpha of this scale ( $\alpha = 0.68$ ) corresponded to the validation data on QPS Nordic [46].

#### 2.2.4. Work-Family Conflict

Three items such as “When I get home from work I am often too frazzled to participate in family activities/responsibilities” measured work-family conflict [27]. The participants were asked to provide their responses from 1 = “totally agree” to 4 = “totally disagree”. The items were reversed for the current study purpose. The alpha of this scale ( $\alpha = 0.84$ ) corresponded to a validation study [27].

### 2.2.5. Control over Work Pace

The items for the variable “control over work pace” were derived from QPS Nordic [45]. Control over work pace consisted of four items ( $\alpha = 0.83$ ), and the response ranged from “very seldom or never” (1) to “very often or always” (5). The items are about setting work pace, deciding the length and time of breaks, and setting working hours (flexitime) [31]. The alpha of the scale corresponded to the validation data on QPS Nordic [46].

### 2.2.6. Social Support

Social support was measured by the item “How much can people as listed below be relied upon for support when things get tough at work?” [47] [48]. The item was rated with references to the immediate supervisor and the physicians’ colleagues (in their work unit), respectively. Responses were on a five-point scale ranging from “not at all” (1) to “very much” (5). A high score for each item of support indicated high levels of support.

## 2.3. Analysis

A confirmatory factor analysis (CFA) using IBM SPSS AMOS version 22 evaluated the outcome data. We performed structural equation modeling (SEM) to test our hypothesized model (Figure 1) based on criteria including: 1) root-mean-square error of approximation (RMSEA) of 0.06 or less indicating good fit; 2) a comparative fit index (CFI) equal to or greater than 0.95; and 3) standardized root mean square residual (SRMR) of 0.08 or less [49].

Missing value analysis was conducted with the maximum likelihood (ML) estimation in IBM SPSS Statistics version 22. We investigated modification indices of the measurement model and co-varied some of the error terms on a theoretical basis. A bootstrapping procedure with bias-corrected intervals was conducted to test the indirect effects. This used 1000 bootstraps and a 95% confidence interval. The assumptions for performing SEM in AMOS were satisfactory. A curve estimation for all the relationships in the model showed that they were sufficiently linear. The assumption of no multicollinearity was confirmed.

## 3. Results

### 3.1. Descriptive Statistics

Table 1 shows details of the constructs and associated items. The model fits for the confirmatory factor analyses (measurement model) are reported as a note in Table 1. Physicians scored a mean of 3.09 on the question “Have you gone to work with an illness in a situation where you would have recommended a patient to stay home?”. Information on the descriptive statistics, correlation, and squared correlations ( $R^2$ ) between the variables is presented in Table 2.

### 3.2. The Measurement Model

The measurement model (Table 1) demonstrated a good fit to the data:  $\chi^2(114) = 231.16, p < 0.001$ , a goodness-of-fit index (GFI) of 0.956, a CFI of 0.963, a Tucker-Lewis Index (TLI) of 0.951, an SRMR of 0.043, and an RMSEA of 0.043 [49] [50]. As shown in Table 1, the Cronbach’s alpha and composite reliability coefficients (CR) of the multiple-item measures displayed good internal consistency. Further support for convergent validity as well as discriminant validity was indicated by composite reliability coefficients greater than the recommended 0.7 and average variance extracted (AVE) estimates meeting the critical value of 0.5 [50]. For one measure, the alpha was a little below the commonly accepted threshold of 0.70. However, this is considered acceptable for measures that have a small number of items [51]. Two variables had AVE values below the critical value of 0.5, indicating some validity concerns.

### 3.3. Results of the Testing of Hypotheses

Hypothesis 1 that exhaustion was positively related to presenteeism was confirmed ( $\beta = 0.36, p < 0.001$ ). Pearson correlational analysis confirmed Hypothesis 2, indicating a positive relationship between job demands and exhaustion, and job demands and presenteeism. Of the job demands, work-family conflict demonstrated strongest relationship with both presenteeism ( $r = 0.28, p < 0.01$ ) and exhaustion ( $r = 0.55, p < 0.01$ ) (see Table 2).

The results of the SEM analysis indicated a mediation effect from work-family conflict through exhaustion ( $\beta = 0.22, p < 0.01$ ) on presenteeism (see Figure 1). The results showed that an increase in work-family conflict by

**Table 1.** Measurement model. Result of confirmatory factor analysis for all study measures.

Construct and Indicators	Mean (M)	Standard Deviation (SD)	Standardized Beta ( $\beta$ )	Average Variance Extracted (AVE)	Composite Reliability (CR)	Cronbach's Alpha ( $\alpha$ )
Sickness presenteeism						
Have you gone to work with an illness in a situation where you would have recommended a patient to stay at home?	3.09	1.06				
How often has this happened during the last 12 months?	2.47	0.89				
Exhaustion				0.35	0.72	0.73
There are days when I already feel tired before I go to work (r)	2.69	0.75	0.63			
After my work, I now need more time to relax than in the past to become fit again (r)	2.41	0.77	0.62			
I can stand the pressure of my work very well	2.10	0.63	0.45			
After my work, I usually still feel totally fit for my leisure activities	2.54	0.71	0.60			
After my work, I usually feel worn out and weary (r)	2.55	0.76	0.63			
Role Conflict				0.41	0.68	0.68
Do you have to do things that you feel should be done differently?	2.76	0.92	0.56			
Are you given assignments without adequate resources to complete them?	2.77	1.01	0.68			
Do you receive incompatible requests from two or more people?	2.31	0.98	0.67			
Work-family Conflict				0.64	0.86	0.84
When I get home from work I am often too frazzled to participate in family activities/responsibilities (r)	2.23	0.69	0.86			
I am often so emotionally drained when I get home from work that it prevents me from contributing to my family (r)	2.03	0.72	0.79			
Because of all the pressures at work, sometimes when I come home I am too stressed to do the things I enjoy (r)	2.41	0.78	0.82			
Work Pace				0.57	0.84	0.83
Can you set your own work pace?	2.72	1.08	0.65			
Can you decide yourself when you are going to take a break?	3.06	1.09	0.89			
Can you decide the length of your break?	2.80	1.06	0.89			
Can you set your own working hours?	1.99	1.18	0.53			
Social Support Leader						
How much can people as listed below be relied on for support when things get tough at work? Immediate superior	3.59	1.23				
Social Support Colleagues						
How much can people as listed below be relied on for support when things get tough at work? Physician colleagues in your work unit	4.01	0.99				

Note: Fit Indices:  $\chi^2 = 231.16$ ,  $df = 114$ ,  $p < 0.001$ ,  $\chi^2/df = 2.028$ , GFI = 0.956, CFI = 0.963, SRMR = 0.043, TLI = 0.951, RMSEA = 0.043, PCLOSE = 0.908.

**Table 2.** Means (M), Standard Deviations (SD), and correlations (Pearson's r) for the sample (N = 545).

	Mean (M)	Standard Deviation (SD)	1	2	3	4	5	6	7
1. Sickness Presenteeism	2.47	0.89	<b>0.17</b>						
2. Exhaustion	2.21	0.68	0.30**	<b>0.62</b>					
3. Role Conflict	2.61	0.76	0.17**	0.30**	-				
4. Work-Family Conflict	2.22	0.63	0.28**	0.55**	0.32**	-			
5. Work Pace	2.46	1.05	-0.25**	-0.28**	-0.19**	-0.17**	-		
6. Social Support Leader	3.59	1.23	-0.14**	-0.23**	-0.24**	-0.29**	0.22**	-	
7. Social Support Colleagues	4.01	0.99	-0.12**	-0.24**	-0.19**	-0.32**	0.19**	0.48**	-

Note: \*\* $p < 0.01$ . R<sup>2</sup> of dependent variables in bold.

one SD increased presenteeism by 0.22 SD mediated by exhaustion. There was also an effect of role conflict on presenteeism mediated by exhaustion ( $\beta = 0.08$ ,  $p < 0.01$ ). Hypothesis 3 was supported. We examined the indirect effects based on bootstrapped confidence intervals to test the mediation hypotheses. The indirect effects were confirmed at the 95% level of significance.

There was a negative correlation between presenteeism and work pace ( $r = -0.25$ ,  $p < 0.01$ ), presenteeism and social support from leader ( $r = -0.14$ ,  $p < 0.01$ ), and presenteeism and social support from colleagues ( $r = -0.14$ ,  $p < 0.01$ ). In the SEM analysis where we controlled for job resources there was no direct association between the job resources and presenteeism (see [Figure 1](#)). In addition, control over work pace had a negative indirect effect on presenteeism; however, this was not hypothesized ( $\beta = -0.08$ ,  $p < 0.01$ ). Hypothesis 4 that job resources were negatively related to presenteeism was partly confirmed.

The health impairment process of presenteeism was confirmed, and the hypothesized model had a good fit to the data ( $\chi^2(116) = 231.23$ ,  $p < 0.001$ , GFI = 0.956, CFI = 0.964, SRMR = 0.043, TLI = 0.953, and RMSEA = 0.043). The results confirmed direct effects between exhaustion and presenteeism. In addition to mediating effects of variables in the model ([Figure 1](#)), the explained variance of presenteeism was 17% ([Table 2](#)).

#### 4. Discussion

The results of this study confirmed a positive relationship between presenteeism and exhaustion, and that exhaustion mediates the relationship between job demands and presenteeism. The results support the occurrence of a health impairment process and contribute to the existing literature by simultaneously looking at different kinds of job demands in relation to presenteeism and how this relationship is mediated by exhaustion. We found that job demands can have an indirect association with presenteeism. This indicates that a mere focus on a reduction of either job demands or exhaustion can be inadequate in the reduction of presenteeism. It is important to focus on both factors simultaneously to reduce presenteeism [9] [21] [40]. The study also highlights the importance of the JD-R model as a framework of occupational stress for understanding the process of presenteeism.

The JD-R model suggests that job demands make people exhausted and burned out, and that it is important to gain resources in demanding jobs [17] [18]. The findings of this study confirm the relation between job demands and exhaustion, and contribute to the JD-R literature by applying presenteeism as a job performance variable. Although limited by the cross-sectional design, the current results are in concordance with the existing literature that suggests a reciprocal relationship between exhaustion and presenteeism [8] [9] [21]. However, there is a need for more longitudinal studies examining this specific causal relationship.

The current results indicate an indirect effect of work-family conflict on presenteeism. This highlights how relational demands can contribute to presenteeism among professionals. Relational demands such as work-family conflict differ from other demands because they involve people and relationships within professionals' private sphere that can influence presenteeism [11]. The results show that hospital physicians are more likely to attend work when ill while experiencing work-family conflicts and exhaustion. Findings indicate that to prevent presenteeism it is important to reduce relational demands. This is particularly important when workers manifest symptoms of exhaustion. The significance of relational demands highlights the importance of extending the

scope of correlates of presenteeism beyond the typical psychosocial and structural job demands in future research. The current results also show that exhaustion mediated the relationship between role conflict and presenteeism in that role conflict through high symptoms of exhaustion increased presenteeism. Experiencing conflicting demands can cause attendance pressures which in turn increase symptoms of exhaustion and presenteeism.

Contrary to our hypothesis, the current study found no support for a relationship between job resources and presenteeism. In the literature, the effects of social support on presenteeism are contradictory [38] [41]-[43] and it remains unclear when and what aspects of presenteeism are affected by social support. However, the current study examined the health impairment process of the JD-R model, suggesting that a supportive work context would decrease presenteeism. It could be beneficial to examine a motivational path between job resources and presenteeism [11] as presenteeism has been associated with resources, work engagement, and work joy [52]. An increased understanding of the complexity of presenteeism, and the association between presenteeism and job resources, may be important for preventing long-term ill-health. Future studies should investigate if the motivational path affects presenteeism and health in the long term.

#### 4.1. Strengths and Limitations

In contrast to some studies on presenteeism the operational definition of the current study is specific and contextual. The physicians were asked to consider themselves as patients and relate to situations and conditions where they would have recommended a patient to stay home. The measure of presenteeism used in this study was defined as a period of 12 months and may be prone to recall bias. Changing the time frame of the question by asking the participants to provide their responses according to the prevalence of presenteeism at the last 3, 6, 9 and 12 months can prevent recall bias. Some scholars emphasize the development of a more detailed and objective measure of presenteeism in preference to a single item measure [9] [53] [54]. Firstly, as presenteeism is a subjective state that can be undetectable for others, studies of this phenomenon must rely on self-report, as only the individual knows if he or she attend work sickness present [30]. To prevent different definition of presenteeism it is important to define the phenomenon to participants as in the current study. Secondly, a single-item question and self-reports are shown to be a valid measure of presenteeism [55] [56]. The study confirms similar results on prevalence of presenteeism among physicians, which indicates validity of the current results for the current population of physicians [6]-[8].

The strength of the current study is its high response rate. However, the study is cross-sectional. Longitudinal data including self-reports and objective register data are better suited to confirm causal relationships between the variables in the current model. This would also enable a model that can identify a possible reciprocal relationship between exhaustion and presenteeism. In addition, the antecedents of presenteeism can be heterogeneous across occupations and reduce the generalizability of the current findings. However, many work environments are characterized by high and often conflicting demands, role conflicts, responsibilities, and workload. Although this study focuses on physicians in academic medicine, we believe that the findings are relevant for work environments and occupations that share the same characteristics of high demands and high presenteeism.

#### 4.2. Practical Implications

Contrary to intentions, organizational efforts to reduce sickness absences can potentially increase attendance pressure and decrease absence legitimacy which in turn increases presenteeism [11] [38]. This can be negative from a health perspective. Therefore, presenteeism needs to be monitored in addition to sickness absenteeism to capture the complete picture of employees' health status. Emphasizing the assumptions of the JD-R theory could aid leaders, managers, and employees in understanding more about the mechanisms of presenteeism and becoming more skilled in assisting employees to make the right balance between work commitment and concern for their own health. Additional mediation studies are needed to learn more about the health impairment process behind presenteeism. Interactions between job demands and job resources may also be prominent in research on presenteeism in both cross-sectional and longitudinal studies. Research on presenteeism should also include the beneficial aspects of presenteeism [11] [57]. In some situations, it is favorable to attend work when sick rather than be absent. However, this depends on how the workplace, the individual, and the organization make attendance possible in the light of health circumstances [36]. These questions need to be addressed in future studies.

## 5. Conclusion

A significant contribution of this study is its demonstration that the relationship between job demands and presenteeism is mediated by a health variable. The significance of relational demands highlights the importance of extending the scope of correlates of presenteeism beyond the typical job demands in future research. Job demands, exhaustion, and job resources explained 17% of the variance of presenteeism and supported the importance of looking at work characteristics mediated through exhaustion. The current study tested these assumptions in terms of the health impairment process. However, it is important to explore these relationships through a motivational path that emphasizes that presenteeism can have positive antecedents and effects on health and well-being.

## Acknowledgements

The authors are grateful to the physicians who participated in this study and to the HOUPE Study Research Group. They would also like to thank Professor Per Øystein Saksvik for his review of the manuscript and helpful suggestions.

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