Dissertations in Health Sciences

UNIVERSITY OF
EASTERN FINLAND

SARI LAINE

OCCUPATIONAL WELL-BEING IN SCHOOL COMMUNITIES

Action Research in Finnish and Estonian Schools 2009–2014

Occupational Well-being in School Communities
Communities
– Action Research in Finnish and Estonian
Schools 2009–2014

SARI LAINE

Occupational Well-being in School Communities – Action Research in Finnish and Estonian Schools 2009–2014

Author's address:	Department of Nursing Science University of Eastern Finland KUOPIO FINLAND
Supervisors:	Docent Terhi Saaranen, Ph.D. Department of Nursing Science University of Eastern Finland KUOPIO FINLAND
	Professor Kerttu Tossavainen, Ph.D. Department of Nursing Science University of Eastern Finland KUOPIO FINLAND
Reviewers:	Associate Professor Monica Carlsson, Ph.D. Department of Education University of Aarhus COPENHAGEN DENMARK
	Docent Katja Joronen, Ph.D. Faculty of Social Sciences, Health Sciences University of Tampere TAMPERE FINLAND
Opponent:	Professor Maria Kääriäinen, Ph.D. Research Unit of Nursing Science and Health Management University of Oulu OULU FINLAND

ABSTRACT

The study started with a pilot study whose purpose was to describe the promotion of occupational well-being in a Finnish school. The main purpose of the study was to describe the working community intervention in participatory action research among school staff in two countries (Finland and Estonia), and to assess the changes imposed on working community-related interaction factors and occupational well-being. Furthermore, the study included further testing and development of the original Occupational Well-being of School Staff Model (OWSS Model) from 2005 (Saaranen et al., 2007). The study was to produce practical knowledge and develop the theoretical basis for participatory promotion of occupational well-being among school staff in primary and upper secondary schools leading to change in well-being and health. Mixed method approaches and analysis methods were applied in the study.

The first phase of the study was a case study of the Finnish pilot school (2000–2009). The research data comprised five different sets of material: the Well-being at Your Work Index Questionnaire (in 2004 $n = 36$, in 2005 $n = 41$ and in 2009 $n = 34$), two group interviews (in 2006 $n = 21$) and an expert interview (in 2011 $n = 1$). Positive results from the pilot study and previous occupational well-being research projects encouraged a more extensive participatory action research project of two different countries.

In the second phase, after an initial measurement and occupational well-being development activities in the Finnish and Estonian schools, an mid-term evaluation was collected from the occupational well-being groups of the schools in the turn of the year 2011–2012 through an electronic open questionnaire. The questionnaire was used to assess school-specific development actions and the significance of the action plans for promoting occupational well-being among school staff with regard to development work. Responses were received from 16 occupational well-being groups in Finland and 38 in Estonia.

In the third phase, changes imposed on the working community-related interaction factors by the working community intervention, as well as their associations with the subjective occupational well-being of Finnish and Estonian school staff and the general occupational well-being of the working community were assessed. It was also examined whether the subjective occupational well-being and the general occupational well-being of the working community had changed. The research data consisted of an initial measurement (in 2010 Finland $n = 486$ and Estonia $n = 1\ 330$) and a final measurement (in 2013 Finland $n = 545$ and Estonia $n = 974$) by using the Well-being at Your Work Index Questionnaire. In the fourth phase, the previously developed OWSS structural equation model was further testing and development on the Finnish and Estonian data from 2010 and 2013.

The case study at the Finnish pilot school proved that schools developed versatile and innovative development activities to promote occupational well-being. As a result of the development work, positive development was seen in leadership. On the basis of the mid-term evaluation of schools in Finland and Estonia, the goals of development activities for occupational well-being at schools were particularly directed at the working community aspects but also at other aspects of occupational well-being (worker and work, working conditions and professional competence). The goals set were achieved better than planned.

Changes were observable in the working community-related interaction factors, particularly at Finnish schools. The working community-related interaction factors were found to have an association with to subjective occupational well-being as well as the working community's general occupational well-being in the Finnish and Estonian schools. In contrast, changes in subjective occupational well-being or the general occupational well-being of the working community were minor. It can be concluded from the structural equation modelling that all of the aspects of occupational well-being are still connected to occupational well-being, even though the working community seems to be most significant, particularly in Finnish schools.

The study results proved that school communities can develop occupational well-being from their own starting points through the interventions. It is particularly fruitful to invest in working community development, as the working community seems to be an important factor in explaining occupational well-being. Principals are required to be active and committed to development work because they enable the required financial and time resources, for example. The OWSS Model is still a functional model when describing and explaining the practice of developing occupational well-being. The model has been utilised and can still be utilised in promoting occupational well-being at schools. In the future, the model can also be tested and developed in different kinds of working communities.

National Library of Medicine Classification: WA 400; W 19; WY 141

Medical Subject Headings: Occupational Health; Schools; Educational Personnel; Finland; Estonia; Program Evaluation

TIIVISTELMÄ

Tutkimus käynnistyi pilottitutkimuksella, jonka tarkoituksena oli kuvata erään suomalaisen koulun työhyvinvoinnin edistämistä. Tutkimuksen päätarkoituksena oli kuvata kahden maan (Suomen ja Viron) koulujen henkilöstön osallistavan toimintatutkimuksen työyhteisöinterventiota ja arvioida sen aikaansaamia muutoksia työyhteisöllisiin vuorovaikutustekijöihin ja työhyvinvointiin. Lisäksi tutkimuksessa jatkotestattiin ja kehitettiin alkuperäistä vuoden 2005 Occupational Well-being of School Staff mallia (OWSS Model; Saaranen et al., 2007). Tutkimus tuottaa käytännön tietoa ja kehittää teoreettista perustaa osallistavasta työhyvinvoinnin edistämisestä peruskouluissa ja lukioissa, mikä johtaa hyvinvoinnin ja terveyden muutokseen. Tutkimuksessa sovellettiin monimenetelmällisiä lähestymistapoja ja analyysimenetelmiä.

Tutkimuksen ensimmäisenä vaiheena oli kyseisen suomalaisen pilottikoulun tapaustutkimus (2000–2009). Tutkimusaineisto koostui yhteensä viidestä eri aineistosta: kvantitatiivinen Työhyvinvointi-indeksikysely (vuonna 2004 $n = 36$, vuonna 2005 $n = 41$ ja vuonna 2009 $n = 34$), kaksi ryhmähaastattelua (vuonna 2006 $n = 21$) ja asiantuntijahaastattelu (vuonna 2011 $n = 1$). Pilottitutkimuksen sekä aikaisempien työhyvinvointitutkimusten myönteiset tulokset kannustivat kahden eri maan laajempaan osallistavaan toimintatutkimushankkeeseen.

Toisessa vaiheessa Suomen ja Viron koulujen alkumittauksen ja työhyvinvoinnin kehittämistoimenpiteiden jälkeen kerättiin vuodenvaihteessa 2011–2012 koulujen työhyvinvointiryhmiltä väliarviointi avoimella sähköisellä kyselyllä. Kyselyllä arvioitiin koulukohtaisia kehittämistoimenpiteitä ja koulun henkilöstön työhyvinvoinnin edistämisen toimintasuunnitelmien merkitystä kehittämistoiminnassa. Kyselyyn vastasi 16 työhyvinvointiryhmää Suomesta ja 38 Virosta.

Kolmannessa vaiheessa arvioitiin työyhteisöintervention aikaansaamia muutoksia työyhteisöllisissä vuorovaikutustekijöissä ja niiden yhteyttä Suomen ja Viron koulujen henkilöstön omaan henkilökohtaiseen ja työyhteisön yleiseen työhyvinvointiin. Lisäksi tarkasteltiin, muuttuiko henkilöstön oma henkilökohtainen ja työyhteisön yleinen työhyvinvointi. Tutkimusaineisto koostui Työhyvinvointi-indeksikyselyllä kerätystä alkumittauksesta (vuonna 2010 Suomi $n = 486$ ja Viro $n = 1\,330$) ja loppumittauksesta (vuonna 2013 Suomi $n = 545$ ja Viro $n = 974$). Neljännessä vaiheessa jatkotestattiin ja kehitettiin aiemmin kehitettyä OWSS rakenneyhtälömallia Suomen ja Viron vuosien 2010 ja 2013 aineistoilla.

Suomalaisen pilottikoulun tapaustutkimus osoitti, että koulut kehittivät monipuolisia ja innovatiivisia kehittämistoimenpiteitä työhyvinvoinnin edistämiseksi. Kehittämistyön tuloksena johtaminen kehittyi myönteisesti. Suomen ja Viron koulujen väliarvioinnin perusteella koulujen työhyvinvoinnin kehittämistoimenpiteiden tavoitteet kohdistuivat erityisesti työyhteisö osa-alueeseen, mutta myös kaikkiin muihin työhyvinvoinnin osa-alueisiin (työntekijään ja työhön, työoloihin ja ammatilliseen osaamiseen). Laaditut tavoitteet toteutuivat suunniteltua paremmin.

Työyhteisöllisissä vuorovaikutustekijöissä oli havaittavissa muutoksia, etenkin Suomen kouluissa. Työyhteisöllisten vuorovaikutustekijöiden todettiin olevan yhteydessä sekä

henkilökohtaiseen työhyvinvointiin että työyhteisön yleiseen työhyvinvointiin Suomen ja Viron kouluissa. Sen sijaan omassa henkilökohtaisessa tai työyhteisön yleisessä työhyvinvoinnissa muutokset olivat vähäisiä. Rakenneyhtälömallinnuksen perusteella voidaan johtopäätöksenä todeta, että kaikki työhyvinvoinnin osa-alueet ovat edelleen yhteydessä työhyvinvointiin, vaikka työyhteisöllä näyttää olevan eniten merkitystä, etenkin Suomen kouluissa.

Tutkimustulokset osoittivat, että kouluyhteisöt voivat kehittää työyhteisönsä työhyvinvointia omista lähtökohdistaan interventioiden avulla. Etenkin työyhteisön kehittämiseen kannattaa investoida, koska työyhteisö näyttää olevan tärkeä tekijä työhyvinvointia selitettäessä. Johtajien aktiivisuutta ja sitoutumista kehittämistyöhön tarvitaan, koska he esimerkiksi mahdollistavat tarvittavat taloudelliset ja ajalliset resurssit. OWSS malli on edelleen toimiva malli kuvattaessa ja selitettäessä työhyvinvoinnin kehittämisen käytäntöä. Mallia on hyödynnetty, ja sitä voidaan jatkossa hyödyntää edistettäessä koulun työhyvinvointia. Tulevaisuudessa mallia voidaan myös testata ja kehittää erilaisissa työyhteisöissä.

Luokitus: WA 400; W 19; WY 141

Yleinen suomalainen asiasanasto: työhyvinvointi; koulu; peruskoulu; lukio; työyhteisöt; vuorovaikutus; Suomi; Viro; toimintatutkimus; interventiotutkimus

Acknowledgements

List of the original publications

This dissertation is based on the following original publications:

I   Laine S, Saaranen T, Ryhänen E and Tossavainen K. Occupational well-being and leadership in a school community. *Health Education*, 117(1): 24-38, 2017.

II   Laine S, Saaranen T, Pertel T, Hansen S, Lepp K and Tossavainen K. Significance of action plans in the development of occupational well-being in the schools of Finland and Estonia. *Evaluation and Program Planning*, 54: 74-81, 2016.

III Laine S, Saaranen T, Pertel T, Hansen S, Lepp K, Krystiine L and Tossavainen K. Working community-related interaction factors building occupational well-being – learning based intervention in Finnish and Estonian schools (2010–2013). *International Journal of Higher Education*, 7(2): 1-14, 2018.

IV   Laine S, Tossavainen K, Pertel T, Lepp K, Isoaho H and Saaranen T. Occupational well-being: a structural equation model subjected to long-term testing and development in the context of Finnish and Estonian schools. *Submitted*.

The publications were adapted with the permission of the copyright owners.

Contents

Abbreviations

CFI	Comparative Fit Index
MMR	Mixed Methods Research
NFI	Normed Fit Index
NIHD	National Institute for Health Development
OWSS Model	Occupational Well-being School Staff Model
PAR	Participatory Action Research
RMSEA	Root Mean Square Error of Approximation
SD	Standard Deviation
SEM	Structural Equation Models
SHE	Schools for Health in Europe
WHO	World Health Organization
WYWI Questionnaire	Well-being at Your Work Index Questionnaire

1 Introduction

The central focus of this study was to promote school staff's occupational well-being in Finland and in Estonia in 2009–2014. This long-term health study applied the methodological approach of multidisciplinary participatory action research (PAR), which developed occupational well-being in a concrete way and produced evidence-based information on occupational well-being and on factors influencing it in school context. This type of study is appropriate as it is well known that a good level of occupational well-being among school staff members helps them support children's and adolescents' health, growth and learning in collaboration with families and health and social service staffs in our modern competitive society. Changes in working life, such as globalisation, an ageing demography and digitalisation change the number of jobs and the nature of work (Dufva et al., 2017). There have also been changes in the substance of a primary school teacher's work during the last decades due to revised curricula and amendments to relevant legislation (Hieta et al., 2015). Transition to new common basic curricula in Finland (Finnish National Agency for Education, 2014) and in Estonia (Estonian Ministry of Education and Research, 2014) has posed additional challenges to teaching work. These changes build up pressure to develop school staff's occupational well-being and to help teaching staff cope better. In this process, support received from the working community is increasingly important.

Another justification for studies on occupational well-being is that promoting health and occupational well-being has been made a top priority in several national political programmes. Promoting health is a key objective also in Finland's current government programme (Sipilä's Government, 2015). In the earlier government programme 2011–2014 (Katainen's Government, 2011) the objective of promoting occupational well-being was defined even more explicitly; the aim was set on development of occupational well-being and coping in work in collaboration with staffs and management at work places. Finnish Working Life Development Strategy to 2020 emphasises occupational well-being and health (Ministry of Economic Affairs and Employment, 2012), which is a central focus in international political programmes and legislations (National Health Plan 2009–2020, 2008; Eurofound, 2012). For example, decent and safe working conditions and a better skilled workforce has been defined as one of the targets in the Strategic Plan of the European Commission 2016–2020 (European Commission, 2016). Developing European Union into smart, sustainable, and inclusive economy, which can deliver high level of employment, social cohesion and productivity is one of the Europe 2020 goals (European Commission, 2010).

Work and occupational well-being in Finland is also connected with several obligations laid down in legislation, which control such areas of occupational safety (Occupational Safety and Health Act, 23.8.2002/738) as equality between men and women (Act on Equality Between Women and Men, 8.8.1986/609), working hours (Working Hours Act, 9.8.1996/605), annual holidays (Annual Holidays Act, 18.3.2005/162), and accidents at work and occupational diseases (Workers' Compensation Act, 24.4.2015/459). In addition, Occupational Health Care Act (21.12.2001/1383; 12 §) obligates employers to organise statutory preventive health protection at work. In practise, however, responsibility for promoting occupational well-being lies with both the worker and the employer. Thus, promoting occupational well-being at work

places is carried out in collaboration with workers and management, in which case the central actors supporting such development are the staff responsible for work protection, union representatives and occupational health care. Occupational health care acts as a partner in maintaining working ability, occupational health, and occupational well-being. (Finnish Institute of Occupational Health, 2018.)

It has been widely recognised that occupational well-being or the lack thereof has an impact on human health and well-being. In Finnish working life, for example, deficiencies causing ill-health, and at worst, illness and invalidity have been identified. Bullying and psychological abuse at workplaces and even threat of physical violence has increased. Moreover, there seems to be a decline in employee autonomy over the last years. (Ministry of Economic Affairs and Employment, 2017.) Similarly, it has been internationally recognised that workplace stress is one of the major challenges to European health and occupational safety (European Agency for Safety and Health at Work, 2009).

Stress at work constitutes a notable burden not only to human health and well-being but also to national economies through for example loss of work days (European Agency for Safety and Health at Work, 2009). The cost of lost labour input (e.g. sickness absences, disability pensions, occupational accidents, and occupational diseases) amounts to approximately 24 billion euros per year (Ministry of Social Affairs and Health, 2014). According to an estimate made by the Finnish Institute of Occupational Health, costs related to deficient occupational well-being, which could be reduced by promoting occupational well-being, may be even higher, over 40 billion euros (Finnish Institute of Occupational Health, 2013). Accordingly, occupational well-being could be a productivity enhancing factor at individual, corporate and social levels (Schulte & Vainio, 2010). General opinion supports the view that happy and healthy individuals are productive also at work places (Juniper, 2011). It follows then that from the perspectives of productivity, health and well-being, studies on occupational well-being play an important role.

Promotion of occupational well-being particularly in school context is important because work at schools is straining. This is caused by such as indoor air problems (Ervasti et al., 2012), time use (Philipp & Kunter, 2013), bullying at work place (Fahie & Devine, 2014), voice use (Lyberg-Åhlander et al., 2015), and ergonomic factors (Cheng et al., 2016). School staff´s occupational well-being has been defined in several studies comprehensively in particular through the perspective of illness, problems or strain factors as stress or burnout (Skaalvik & Skaalvik, 2009; McCormick & Barnett, 2011; Elder et al., 2014; Skaalvik & Skaalvik, 2015; De Nobile, 2016; Gluschkoff et al., 2016).

By promoting occupational well-being, an effort is made to address these above mentioned challenges. In the study by Söderlund and Joronen (2013), students have assessed that they have a good relation with their teacher. However, interaction between students and teachers should be developed to make it possible to utilise the student viewpoint in developing working conditions at school. The problems perceived by students in school communities are similar to working community problems experienced by adults. (Savolainen, Taskinen & Viitanen, 2001.) In particular, it should be noted that occupational well-being for example affects students' achievements (McLean & Connor, 2015) and regulation of students' physiological stress (Oberle & Schonert-Reichl, 2016). Moreover, investing in school staffs' occupational well-being is of major importance to society, because it has been found to have an effect on for example teachers' job retention (Skaalvik & Skaalvik, 2011) and prevention of sick leaves (Ervasti et al., 2012).

In this study, occupational well-being is approached comprehensively from a positive perspective of health promoting resources. The starting point here is the notion that resources help to reduce work demands and increase achievement of set goals, and thus building up well-being and professional learning in work. From the perspective of working community and worker, communal reinforcement of resources is often easier and more realistic than attempting to have an effect on job demands (Hakanen, 2009). It has been found that communality in particular has an impact on school staff's occupational well-being and health (Saaranen et al., 2015), therefore, attempts have been made to define it for example from the perspective of social capital (Hyyppä, 2010).

For communality of a working community to thrive, it is of essence that there is reciprocity with both workers and the leader, as Marja-Liisa Manka and Marjut Manka (2016) point out. Based on previous studies (e.g. Nieminen et al., 2013; Nieminen et al., 2015; Sakuraya et al., 2017), development of factors relating to social capital such as trust and networks supports well-being and health. Occupational well-being at work places can be promoted by different interventions (e.g. Kanste et al., 2010; Czabała, Charzyńska, & Mroziak, 2011; Randelin et al., 2013; Figl-Hertlen et al., 2014) or by means of action research (e.g. Zehetmeier et al., 2015). There is a need for studies where feasibility and effectiveness of interventions at work places is evaluated because the lack of high quality intervention studies on occupational health and safety is widely recognised (European Agency for Safety and Health at Work, 2014).

In this study, promotion of occupational well-being in a Finnish pilot school and working community intervention of school staffs' PAR in two countries (Finland and Estonia) was investigated, and their meaning to occupational well-being and working community-related interaction factors were evaluated. The study generates information and develops a theoretic basis for promoting school staff's occupational well-being in primary and upper secondary schools. The study was to produce practical knowledge and develop the theoretical basis for participatory promotion of occupational well-being among school staff in primary and upper secondary schools leading to change in well-being and health.

In the first phase, the pilot study was reported as a case study, in which the promotion of occupational well-being in a Finnish school in 2000–2009 was described (Phase 1). In particular, innovative measures for promoting occupational well-being developed by school staffs, and development of leadership and committing leader to promoting occupational well-being were described. In the second phase, the goals and realisation of school specific development measures within a long-term PAR, and the significance of action plans in promoting occupational well-being, were evaluated (Phase 2). In the third phase, changes caused by working community intervention in working community-related interaction factors, and their connection to the subjective occupational well-being and to general occupational well-being in working communities among Finnish and Estonian school staffs, were examined and evaluated. In addition, it was examined whether there were any changes in school staff's subjective occupational well-being and working community's general occupational well-being (Phase 3). In the fourth phase, the original structural equation model from 2005, Occupational Well-being of School Staff Model (OWSS Model; Saaranen et al., 2007), was further tested and developed with Finnish and Estonian data (Phase 4).

2 Occupational well-being as a basis in a school community

2.1 OCCUPATIONAL WELL-BEING OF A SCHOOL STAFF AND ITS ASPECTS

This chapter examines first the nature of the concept of occupational well-being and promotion of occupational well-being, with an emphasis on the perspective of positive promoting of health. Next, the following aspects of school staff's occupational well-being are examined: 1) worker and work, 2) working conditions, 3) professional competence and 4) working community (including leadership). The aspect of worker and work comprises such as personal qualiates of the worker and workloads. The aspect of working conditions includes such factors as physical environment (e.g. indoor air and acoustic environment). Professional competence comprises from occupational skills and training opportunities, while the aspect of working community includes working community-related interaction factors (e.g. support from collagues and principal, collaboration, and time use). Examination of these four aspects helps to work out the overall structure of school staff's occupational well-being.

2.1.1 Occupational well-being and its promotion

According to the established definition by World Health Organization, health is a state of complete physical, mental and social well-being, not merely the absence of disease or infirmity (WHO, 2018a). Health promotion can be conceived as the process of enabling people to increase control over, and to improve, their health (WHO, 2018b). It may also be defined as activities and interventions which enable people better to control their health (Naidoo & Wills, 2016). In this regard, behaviour of individuals, social and environment-related interventions (WHOb), and activities, which may be targeted at individuals, families, communities, or at the whole population (Naidoo & Wills, 2016).

Traditionally, occupational well-being has been approached from the perspective of workplace stress and burnout. Workplace stress and burnout are not synonymous, however, because burnout is the outcome of a long-standing workplace stress (Manka & Manka, 2016). Well-being, however, is a positive emotion (Naidoo & Wills, 2016), which as a concept defines health and well-being at work and in life (Schulte & Vainio, 2010). Occupational well-being is perceived as a subjective (Juniper, 2011) and multi-dimensional concept (Horn, et al., 2004; Juniper, 2011; European Agency for Safety and Health at Work, 2013). This multi-dimensional structure consists of emotional, cognitive, occupational, social and psycho-social items and dimensions (Horn et al., 2004).

In several European countries, occupational well-being has not been officially defined, and it seems that occupational well-being, as a concept, has very different meanings and weightings (e.g. physical well-being or social well-being) in different organisations and countries. This may be partly explained by cultural and social processes and restrictions, and by how the concept has evolved over years. (European Agency for Safety and Health at Work, 2013.) The definition of occupational well-being often includes physical and mental well-being, psycho-social issues and working environment (European Agency for Safety and Health at Work, 2013), occupational safety, and health (Finnish Institute of Occupational Health, 2018). It can also be defined as a mental and physical state, which is based on the overall structure of work, working environment and leisure (Vocabulary of Safety and Health

at Work, 2006). It can also be perceived as a summative concept which defines working life's quality and occupational health, also encompassing aspects of occupational safety on (Schulte & Vainio, 2010). Occupational well-being is described with many different terms that are used both as parallel concepts and related concepts. There is no clear coherent practice of application of the concepts. For example, in Europe, the most commonly used are job satisfaction, health at work, quality of work and good/fair working conditions (European Agency for Safety and Health at Work, 2013).

The above provides a general background for occupational well-being and its promotion. Next, the occupational well-being of school staff will be considered in four aspects: worker and work (Chapter 2.1.2), working conditions (Chapter 2.1.3), professional competence (Chapter 2.1.4) and the working community (including leadership) (Chapter 2.1.5). These aspects are based on literature and research data (Saaranen et al., 2006) and have been used in the Content Model for the Promotion of School Community Staff's Occupational Well-being that has also been tested with structural equation modelling (Saaranen et al., 2007). Existing research data in these aspects was surveyed by searching the databases PubMed, PsycINFO, ERIC and Scopus for the years 2010–2017. Several different search words (e.g. "occupational well-being", "occupational health", "job satisfaction", "staff" and "teacher") and their combinations were used. The searches were first directed at the occupational well-being of school staff and teachers, as well as the parallel concepts of this, after which the search was focused on the aspects of occupational well-being of school staff, as well as manual searches. The criterion for further examination was that an article must be in English and deal with the occupational well-being of school staff or its aspects. Preliminary screening of research articles was based on the title and abstract, followed by reading the article in full. Subsequently, the contents, weaknesses and strengths of the study were assessed. Only trustworthy research articles were accepted for the review. Their content was categorised in accordance with the aspects of occupational well-being.

2.1.2 Worker and work as aspects of occupational well-being

It has been established that gender affects occupational well-being (Erick & Smith, 2011; Bogaert et al., 2014; Vedovato & Monteiro, 2014; Kourmousi et al., 2015; Tran, 2015). Female teachers experience more stress than men (Kourmousi et al., 2015). In additional, women report their own state off health as weaker than men, and they are reported to have more absences than men (Bogaert et al., 2014). According to several studies, age has an impact on teachers' working ability as well (Erick & Smith, 2011; Yue, Liu, & Li, 2012; Vedovato & Monteiro, 2014). The study of Kourmousi et al. (2015), for example, pointed out that older age protects from workplace stress.

Teachers' lifestyles and personal qualities influence occupational well-being also. Teachers seldom smoke, but they can be overweight or obese, and their alcohol consumption or length of sleep does not deviate from the non-teaching population (Gilbert, Adesope, & Schroeder, 2015). Instead, nearly half of teachers practise regular physical activity too little (Santana et al., 2012), although physical leisure activity improves self rated health (Bogaert et al., 2014). Intrinsic motivation factors, such as personal qualities and notion of a profession's attractiveness are factors, which draw teachers into the profession. Teachers' personal qualities influence strongly their attraction and intent to retain the profession. Among these personal qualities were ability to enjoy working with children, intellectual stimulation of teaching, involvement in society through teaching, and congeniality of the content of teaching.

Intrinsic motivation is a factor, which teachers retain throughout their career. (Ashiedu & Scott-Ladd, 2012.)

Excessive amount of work and high job requirements are factors, which are connected to teachers' musculoskeletal symptoms and disorders (Erick & Smith, 2011). Work amount is another factor causing dissatisfaction among teachers (Chen, 2010). Absences may also be associated with great workload of work (Vedovato & Monteiro, 2014). In Tran's (2015) study, male teachers correlated better with job satisfaction than women because male teachers had usually higher perceptions of school level environment (e.g. appropriateness of resources). In addition to work amount and job requirements, there were also other work-related factors affecting teachers' occupational well-being (Tran, 2015). Anticipation of a stressful day increases the risk of taking sick leave (Hultin et al., 2011). A summary of school staff's occupational well-being factors related to worker and work has been compiled in Table 1.

Table 1. Occupational well-being factors relating to school staff's worker and work in previous studies

Occupational well-being factors relating to worker and work	Studies
Personal qualities of the worker (e.g. gender, age, personality, lifestyles, and intrinsic motivation)	Erick & Smith, 2011; Ashiedu & Scott-Ladd, 2012; Santana et al., 2012; Yue et al., 2012; Bogaert et al., 2014; Vedovato & Monteiro, 2014; Gilbert et al., 2015; Kourmousi et al., 2015; Tran, 2015
Work content, workload, and requirements	Chen, 2010; Erick & Smith, 2011; Hultin et al., 2011; Vedovato & Monteiro, 2014; Tran, 2015

2.1.3 Working conditions as aspects of occupational well-being

Working environment factors, such as classroom conditions (e.g. excessive noise) are risk factors for voice disorders. Voice disorders are notably more prevalent in teachers compared with other professions. (Martins et al., 2014.) Working in noisy classrooms increases the risk of voice disorders. Particularly teachers of physical education and teachers who tend to speak loudly have a higher risk for developing occupational voice disease. (Cutiva, Vogel, & Burdorf, 2013.) The more voice ergonomic risk factors (e.g. indoor air, stress and noise) in the classroom, the more voice disorders are reported (Rantala et al., 2012). Teachers who suffer from voice problems tend to react more strongly to strain factors in the teaching environment and pay more attention to acoustics (Lyberg-Åhlander et al., 2015). Problems with voice usage correlate with working capacity and, finally, may even jeopardise the teacher's chances to continue work (Giannini et al., 2015).

Indoor air quality issues have long been and continue to be concerns in many schools. Self rated indoor air issues have been found to correlate with teachers' short sick absences (Ervasti et al., 2012). They are also connected with children's (Madureira et al., 2015) and school staff's respiratory symptoms (Rantala et al., 2012; Kielb et al., 2015; Angelon-Gaetz et al., 2016). For example, the study by Angelon-Gaetz et al. (2016) points out that long-term exposure to either too high or too low relative humidity in the classroom slightly correlated with respiratory symptoms in teachers. Indoor air issues have increased not only occurrence of laryngitis in teachers (Rantala et al., 2012) but also sinusitis, headache, allergies, congestion and throat irritation (Kielb et al., 2015).

Musculoskeletal symptoms are common in teachers, and their occurrence varies. Occurrence of self-reported musculoskeletal symptoms in teachers varies in different studies

by 39–95%. (Erick & Smith, 2011.) For example, of the 388 special teachers and classroom assistants who participated in the study by Cheng et al. (2016), 86% suffered from musculoskeletal disorders. Physical symptoms are caused by for example sitting for long periods (Yue et al., 2012; Bogaert et al., 2014; Mohseni Bandpei et al., 2014), standing or working at the computer (Yue et al., 2012; Mohseni Bandpei et al., 2014). On the other hand, for example low back aches could be prevented by breaks in sedentary work, exercise breaks, ergonomic working conditions (e.g. ergonomic chairs) and regular physical activity (Mohseni Bandpei et al., 2014). Physical well-being of teachers could to some extent be promoted by ergonomic mappings and individual physiotherapeutic health programs, which include ergonomics and stress management training (Figl-Hertlein et al., 2014). By improving working conditions, job satisfaction can be increased and teachers' retraining reduced (Cha & Cohen-Vogel, 2011). A summary of school staff's occupational well-being factors related to working conditions has been compiled in Table 2.

Table 2. Occupational well-being factors relating to school staff's working conditions in previous studies

Occupational well-being factors relating to working conditions	Studies
Voice ergonomics	Rantala et al., 2012; Cutiva et al., 2013; Martins et al., 2014; Giannini et al., 2015; Lyberg-Åhlander et al., 2015
Indoor air	Ervasti et al., 2012; Rantala et al., 2012; Kielb et al., 2015; Angelon-Gaetz et al., 2016
Physical ergonomics	Cha & Cohen-Vogel, 2011; Erick & Smith, 2011; Yue et al., 2012; Bogaert et al., 2014; Figl-Hertlein et al., 2014; Mohseni Bandpei et al., 2014; Cheng et al., 2016

2.1.4 Professional competence as an aspect of occupational well-being

Teachers' professional competence, in other words their professional knowledge, skills, beliefs and motivation predict their well-being and success (Lauermann & König, 2016). For example, Carlsson (2016) has studied formulating the concept of professional competence in terms of promoting health in the whole school. In this study, five core competency domains were defined: policy development; organisational development; professional development; development of students' learning; and development of health promotion activities (Carlsson, 2016).

Satisfied teachers have opportunities for professional development (Cha & Cohen-Vogel, 2011). Teachers should therefore be provided appropriate professional development possibilities in classroom management, in student commitment and in the use of effective teaching strategies (Tran, 2015). Competence in work is a fundamental human need, while professional incompetence is a significant cause of work stress. With introduction of new technology, teachers are under a lot of pressure to make use of the new equipment. (Yang et al., 2011.) In the study of Rytivaara and Kershner (2012), it was found that dialogue in co-teaching (multiple teachers counselling the same group) was a key factor in professional development. If teachers are provided with sufficient time resources for collaboration beyond classroom, it may have a favourable impact on professional development. In appropriate circumstances, teachers' professional development may be woven into the fabric of daily life. (Rytivaara & Kershner, 2012.)

Recently graduated teachers have a strong sense of agency in classroom work, when it comes to developing new pedagogic methods and integrating them into teaching. Nevertheless, they require multi-professional, collegial and principals support in order to exercise such agency. The school principal is an important resource to a novice teacher and at the same time, a factor restricting professional development. When principal is referred to as a resource, he/she is portrayed as encouraging, professional and eager to develop the school. Should the principal restrict professional development, he/she is described as rigid or particular in regard of his leadership, not providing the required support. (Eteläpelto, Vähäsantanen, & Hökkä, 2015.) The study by Buchanan et al. (2013) suggests that teacher training programmes and principals should focus on helping new teachers at the onset of their careers and on developing the qualities of professional learning. The better and more qualified young teachers become during their early years in the profession, the better the likelihood that they will retain the profession (Buchanan et al., 2013). A summary of occupational well-being factors relating to school staff's professional competence has been compiled in Table 3.

Table 3. Occupational well-being factors relating to school staff's professional competence

Occupational well-being factors relating to school staff's professional competence	Studies
Opportunity to develop professional competence	Cha & Cohen-Vogel, 2011; Yang et al., 2011; Rytivaara & Kershner, 2012; Buchanan et al., 2013; Eteläpelto et al., 2015; Tran, 2015; Carlsson, 2016
Good quality professional competence (e.g. IT-skills)	Cha & Cohen-Vogel, 2011; Yang et al., 2011, Tran, 2015; Lauermann & König, 2016
Support from colleagues and principal helping to develop professional competence	Rytivaara & Kershner, 2012; Buchanan et al., 2013; Eteläpelto et al., 2015

2.1.5 Working community and leadership as aspects of occupational well-being

Collegial support increases job satisfaction among teachers (You, Kim, & Lim, 2017). Respectively, work place bullying in school communities has wide reaching psychological (restlessness, self-destructive thoughts etc.), physical (insomnia, nausea etc.), financial (relocation, terminating employment relationship etc.), as well as social (exclusion, isolation etc.) impacts (Fahie & Devine, 2014).

Support given in online forums is an essential form of peer support. It has been found that teachers help each other online in everyday work issues, trying to help each other in finding practical working methods. Surprisingly, very little of reflection, feedback and adaptation of practises seem to occur in the online peer support forums. (Kelly & Antonio, 2016.) Receiving support from colleagues is particularly important among young and novice teachers (Long et al., 2012; Buchanan et al., 2013). New teachers require help and support at the onset of their teaching careers, but an open and positive environment and rewarding collaboration between school community members is of equal importance (Aspfors & Bondas, 2013).

Apart from colleague support, young teachers also need multi-professional collaboration to enhance their professional development (Eteläpelto et al., 2015). Effective co-operation between teachers and classroom assistants requires mutual and equal appreciation and respect of other's work input (Devecchi et al., 2012). Lack of respect has been found to be the biggest concern among classroom assistants. They feel that they have not been perceived as members of the group, they have been treated badly and their insights and information concerning students have not been accounted for in decision making. (Fisher & Pleasants,

2012.) Although teachers seem more content when working with classroom assistants, there is limited evidence to show that teachers have the required skills to build a positive professional relationship with them (Jones et al., 2012). It has been found that lack of resources and time is one of the key reasons preventing multi-professional collaboration. Leaders should therefore provide common multi-professional time resources for planning and dialogue. (Devecchi et al., 2012.) In general, effective targeting of resources is needed for teachers to be able to cope in their work and stay healthy, in particular as it is known that teachers as a professional group invest a lot of time in their work (Philipp & Kunter, 2013).

Leadership style, which supports and encourages teachers in their work, also increases job satisfaction among them (You et al., 2017). Leaders should provide collegiality among the staff (Long et al., 2012). Expressions of sympathy from teacher colleagues and leaders had a positive effect on teachers' mental activity, to the organisation's commitment and to job satisfaction. Relation between sympathy bestowed on the teacher and work results was stronger when sympathy was expressed by the principal rather than by teacher colleagues. (Eldor & Shoshani, 2016.) Novice teachers in particular need a leader who cares and works against formation of unfavourable power games and cliques. In addition, the principal has an important role because in Finland schools bear the sole responsibility for tutoring new teachers in their work. (Aspfors & Bondas, 2013.) Novice teachers need support from the principal to help them in their professional development (Eteläpelto et al., 2015).

On the other hand, principals too have need of support, for it is known that they face substantially more emotional demands than rest of the population, and this is connected with their psycho-social health (Maxwell & Riley, 2017). At the onset of their career, principals find the actual responsibilities to come as a shock, caused by the sheer volume, multiplicity and unpredictable nature of practical tasks (Spillane & Lee, 2014). Results of Darmody and Smyth's study (2016) indicated that a notable share of principals in Irish primary schools were not content in their work and experienced stress caused by work. Job satisfaction and occupational stress correlated with complex combinations of personality factors, working conditions and ambience among teachers (Darmody & Smyth, 2016). The study by Chong et al. (2010) established that principals in particular experience need of collective feedback and support throughout organisational changes. In these situations principals should collaborate and work together with those schools, where changes have been successfully carried out. This would provide them with practical experiences of what one should do in order to carry out a successful change. (Chong et al., 2010.) A summary of school staff's occupational well-being factors relating to working community and leadership has been compiled in Table 4.

Table 4. Occupational well-being factors relating to school staff's working community and leadership in previous studies

Occupational well-being factors relating to working community	Studies
Support from colleagues, social relations and peer support	Long et al., 2012; Aspfors & Bondas, 2013; Buchanan et al., 2013; Fahie & Devine, 2014; Eteläpelto et al., 2015; Eldor & Shoshani, 2016; Kelly & Antonio, 2016; You et al., 2017
Multi-professional collaboration	Devecchi et. al., 2012; Fisher & Pleasants, 2012; Jones et al., 2012; Eteläpelto et al., 2015
Work management and time use	Devecchi et al., 2012; Philipp & Kunter, 2013
Factors relating to school principal (e.g. personality) and leadership skills (e.g. management of change) and support and appreciation from principal, and relations to principal	Chong et al., 2010; Long et al., 2012; Aspfors & Bondas, 2013; Spillane & Lee, 2014; Eteläpelto et al., 2015; Darmody & Smyth, 2016; Eldor & Shoshani, 2016; Maxvell & Riley, 2017; You et al., 2017

2.2 RESOURCE MODELS DESCRIBING OCCUPATIONAL WELL-BEING

In this chapter occupational well-being is addressed from the perspective of resource models, school's well-being models and occupational well-being models. This subject is approached, according the study, from a positive empowerment perspective, and therefore traditional models describing work stress and work exhaustion are not necessary. These models describe relations between symbolic concepts and variables (Polit & Beck, 2014). They represent a method of presenting theories, whereas theories themselves systematically provide a coherent and comprehensive explanation of a phenomenon (Hair et al., 2010). For example, health promotion models facilitate theoretical thinking and provide a tool for developing new strategies and approaches (Naidoo & Wills, 2016).

2.2.1 Models emphasising resources as promoters of occupational well-being

The Job Demands-Resources model by Demerouti et al. (2001) examines resources in relation to job demands. Resource factors such as feedback, sense of control over one's work, participation in decision making, support from colleagues and leaders, help one to achieve goals, to cope and to develop in work. Job demands such as challenging tasks or great amount of work come from physical, social or organisational sources. Resources help to reduce demands set by work and facilitate achievement of goals, learning and development. Resources can also help to cope with job demands. (Demerouti et al., 2001; see also Hakanen, Bakker, & Schaufeli, 2006; Bakker & Demerouti, 2007.)

Ilmarinen (2006) describes working ability multi-dimensionally as a four-storey building, which is glued together by balancing worker's resources and job demands. The three lower storeys describe individual resources in other words health and ability to function, education and skills, values, attitudes and motivation. The fourth floor describes work itself and related factors such as leadership and working conditions. In this model all storeys are mutually supportive. (Ilmarinen, 2006.) Marja-Liisa Manka and Marjut Manka (2016) describe A Resource Based Occupational Well-being Model, which has psychological capital, i.e. the actual worker at its core. In this model, structural capital is formed by culture of the organisation, practises and work management. Social capital, in turn, is affected both by

management style, working community and working community related factors e.g. open interaction. (Manka & Manka, 2016.)

At the core of Rauramo's (2004) Steps of Occupational Well-being Model lie psychological needs (e.g. health care, rest and recovery) and need for safety (e.g. working community, work environment and remuneration), on which a strong foundation for occupational well-being is built. This foundation of occupational well-being is complemented by next steps, namely, need of affiliation (e.g. leading and teams) and need for respect (e.g. values, culture and rewarding). Need for self-actualisation (e.g. management of learning and skills, and career development) is the top step, which cannot be reached without first conquering the lower levels. (Rauramo, 2004.)

Another model describing Finnish occupational well-being is Kuoppala, Lamminpää and Husman's (2008) The Job Well-being Pyramid, a hierarchical model on working environment's relation to worker's health. This model, presented in the form of a pyramid, contains three independent sides (work and working environment, working ability and activities). It has five levels, with leadership at the lowest level and illnesses and occupational accidents at the top level. The assumption is that the major problems on top level could be prevented by first dealing with the lower level issues. (Kuoppala et al., 2008.)

In Schulte and Vainio's (2010) Relationship Between Workforce Well-being, Productivity (individual, enterprise, national), and Population Well-being: A Heuristic Model, well-being of work force is perceived as consisting of health, environment-related, occupational accidents, workplace employees, socio-economic status, productivity (worker, business and nation) and population factors (Schulte & Vainio, 2010). In The Situationally-sensitive Occupational Well-being Management Model developed by Sinisammal et al. (2011), observation of changes is essential. In this model, management's task is to balance change processes connected with work, workers and working community so that the positive effects of external factors can be benefited from, and the negative factors be kept under control (Sinisammal et al., 2011).

In Utriainen, Ala-Mursula and Kyngäs' (2015) model named Well-being at Work of Hospital Nurses: A Theoretical Model, occupational well-being consists of patient-rated quality care, collegial support, good management and professional competence. These include such as practical work organisation, challenging and meaningful work, freedom to express diverse emotions in working community, proper carrying out of work, fair and encouraging leadership, opportunity for professional development and fluent communication with other professional fields. (Utriainen et al., 2015.)

2.2.2 Models of well-being and occupational well-being in school context

In Konu and Rimpelä's (2002) study, The Schools Well-being Model has been developed from the student's perspective. This model divides the concept of well-being in school in four aspects: 1) having (school conditions: e.g. environment and organisation of teaching), 2) loving (social relations: e.g. management and co-operation with home and school), 3) being (opportunities for self-realisation: e.g. meaning and valuing of work), and 4) health status (status of health: e.g. psychosomatic symptoms and long-term illnesses) (Konu & Rimpelä, 2002). Scott and Dinham's (2003) The Satisfaction Model, consecutively, is based on the idea that professional well-being is a wider concept covering more areas than merely stress or workload. These are for example professional motivation and satisfaction. In this study, four separate research teams in Australia, England, New Zealand and the United States gathered

the data. The models included different aspects of job satisfaction in schools, such as workload, collegiality, leadership and development of professional skills. (Scott & Dinham, 2003.)

Bermejo-Toro, Prieto-Ursúa and Hernández (2016) in The Structural Equations Model of Demands, Personal Resources and Job Resources in Teacher Well-being describe teachers' well-being from the perspective of burnout and commitment, which reflect as well as professional resources and job demands but also personal resources (self-efficacy and cognitive and behaviouristic resources). Job resources were perceived as autonomy, diversity, social support and feedback from colleagues and supervisor. Resources obtained through work do not have an impact on burnout but they do correlate with work commitment. (Bermejo-Toro et al., 2016.)

Saaranen et al. (2007) Occupational Well-being of School Staff Model (OWSS Model) describes occupational well-being in a school community. In this model occupational well-being consists of four aspects: worker and work, working conditions, professional competence and working community. School staff's subjective occupational well-being and general occupational well-being of the working community from the four aspects are explained by the following factors: working spaces, postures and equipment (working conditions), workload (worker and work), working atmosphere and appreciation of others' work (working community) and substantive competence and interaction (professional competence). (Saaranen et al., 2007.)

This current study further tests and develops the original OWSS Model from 2005. The OWSS Model was developed from the viewpoint of comprehensive occupational well-being and health of school staff. In comparison to other models, the OWSS Model only includes the aspects of occupational well-being that the school community can develop among themselves, starting from their own development needs. These starting points and the context of the OWSS Model are particularly well-suited for this study that developed the well-being and health of school staff by means of PAR.

The above presented theories and models have been utilised in the planning phases of the current study. They are often based on either individual characteristics, or on work and on resource and load factors relating to it. There are several models which seek to define links between working environment and worker's well-being. In these models, different starting points and perspectives to occupational well-being are emphasised and also perspectives of burnout have been taken into account. In several models, community based and social factors have an effect on occupational well-being. On the basis of these models, the key aspects of occupational well-being are communality and social support, work and worker-related factors, professional competence and career development, organisation and leadership, and structures of organisation and society. A summary of the key aspects affecting occupational well-being on the basis of previous models has been compiled into Table 5.

Table 5. Summary of key aspects explaining occupational well-being on the basis of occupational well-being models

Key aspects	Content	Sources
Communality and social support	Working community and social support	Demerouti et al., 2001; Konu & Rimpelä, 2002; Scott & Dinham, 2003; Rauramo, 2004; Ilmarinen, 2006; Saaranen et al., 2007; Kuoppala et al., 2008; Schulte & Vainio, 2010; Sinisammal et al., 2011; Utriainen et al., 2015; Bermejo-Toro et al., 2016; Manka & Manka, 2016
Work-related factors	Work demands, work load and amount of work	Demerouti et al., 2001; Konu & Rimpelä, 2002; Scott & Dinham, 2003; Rauramo, 2004; Ilmarinen, 2006; Saaranen et al., 2007; Kuoppala et al., 2008; Bermejo-Toro et al., 2016; Manka & Manka, 2016
	Working conditions, work safety and physical environment	Konu & Rimpelä, 2002; Rauramo, 2004; Ilmarinen, 2006; Saaranen et al., 2007; Kuoppala et al., 2008; Schulte & Vainio, 2010; Sinisammal et al., 2011; Manka & Manka, 2016
	Job resources and management, diversity of work and reasonable challenges	Demerouti et al., 2001; Rauramo, 2004; Ilmarinen, 2006; Saaranen et al., 2007; Kuoppala et al., 2008; Utriainen et al., 2015; Bermejo-Toro et al., 2016; Manka & Manka, 2016
Worker-related factors	Worker, individual resources, occupational health, physical needs, values attitudes and motivation	Scott & Dinham, 2003; Rauramo, 2004; Ilmarinen, 2006; Saaranen et al., 2007; Kuoppala et al., 2008; Schulte & Vainio, 2010; Sinisammal et al., 2011; Bermejo-Toro et al., 2016; Manka & Manka, 2016
Professional competence and career development	Professional competence, learning and career development	Scott & Dinham, 2003; Rauramo, 2004; Ilmarinen, 2006; Saaranen et al., 2007; Sinisammal et al., 2011; Utriainen et al., 2015; Manka & Manka, 2016
Organisation and leadership	Feedback, rewards, appreciation	Demerouti et al., 2001; Scott & Dinham, 2003; Rauramo, 2004; Bermejo-Toro et al., 2016; Manka & Manka, 2016
	Good leadership	Demerouti et al., 2001; Konu & Rimpelä, 2002; Scott & Dinham, 2003; Rauramo, 2004; Ilmarinen, 2006; Saaranen et al., 2007; Kuoppala et al., 2008; Sinisammal et al., 2011; Utriainen et al., 2015; Bermejo-Toro et al., 2016; Manka & Manka, 2016
	Professional resources, quality work and productivity	Scott & Dinham, 2003; Saaranen et al., 2007; Schulte & Vainio, 2010; Utriainen et al., 2015; Bermejo-Toro et al., 2016
	Worker's possibility to influence and decision making in the organisation	Demerouti et al., 2001; Scott & Dinham, 2003; Manka & Manka, 2016
	Well-being of the whole community (e.g. students)	Konu & Rimpelä, 2002; Scott & Dinham, 2003
Structures of organisation and society	Infrastructure and socio-economic structure of organisation and society	Konu & Rimpelä, 2002; Scott & Dinham, 2003; Ilmarinen, 2006; Kuoppala et al., 2008; Schulte & Vainio, 2010; Sinisammal et al., 2011

2.3 COMMUNALITY AS A RESOURCE OF OCCUPATIONAL WELL-BEING IN SCHOOLS

In this study, communality is seen as a resource of occupational well-being in schools. The focus of examination in the following will be on the notions determining the basis of communality: social capital as the source of occupational well-being and development of occupational well-being as collaborate learning.

2.3.1 Social capital as the source of occupational well-being

Social capital, a widely studied subject, has been found to be one of the factors increasing well-being and health (Nieminen et al., 2013; Nieminen et al., 2015; Sakuraya et al., 2017). From the perspectives of working community (Farag et al., 2017; Sakuraya et al., 2017) and leadership (Farag et al., 2017) and school community (Minckler, 2014; Belfi, et al., 2015; Fox & Wilson, 2015; Mason & Matas, 2016) studies focusing on social capital have increased over the last years.

In this study communality is defined in terms of social capital. The concept of capital has been widely studied and recognised in many contexts, cultural and human for example (Bourdieu, 1986). Occupational well-being capital is a recently introduced concept, which combines functionality of a community and social capital (social support and principal-subordinate relationships), individual human capital (psychological capital and other meta skills, attitudes, knowledge, skills and competence) and structural capital of an organisation (information and management systems, investments in development and organisation culture) (Larjovuori, Manka, & Nuutinen, 2015; Manka & Manka, 2016).

Definition of social capital is not without its problems; major theoreticians of the concept, Bourdieu (1986), Coleman (1988) and Putnam (1993), define it in slightly different ways. According to Bourdieu (1986), its key characteristic is the similarity of group members or the significance of networks consisting of mutually appreciative people or organisations, which create appreciation and trust. Coleman's (1988) definition underlines cohesion of social networks, which enables maintaining trust and norms. This is possible only if sanctions are applied in case of violation against them. However, Putnam (1993) perceived it as the community's property, and refers to social capital as a combination of trust, norms and networks.

The accumulating research data and literature have broadened the scope of interpretations on social capital. For example, Nieminen et al. (2015) examine the concept through three dimensions, which are 1) social support, 2) social networks and participation, and 3) trust and reciprocity. According to Hyyppä (2013), it refers to a group's, a population's or a nation's intangible, or social, reserves, which manifest as social participation and occur in confidential relations between people. It is connected with cohesion and trust between people (Hyyppä, 2010; Hyyppä, 2013). On the other hand, Belfi et al. (2015), apply the concept of school-based social capital, by which they refer to mutual relations between students, parents and teachers.

Measuring a workplace's social capital is a challenging task. If it is defined as stability of an employment relationship and as support from colleagues, abundance of social capital is indirectly connected with workers' good health. Conversely, deterioration of mutual trust within working community and sociability leads to deterioration of health. (Hyyppä, 2013.) High level of social capital in teachers has been found to have a positive connection to teachers' achievements, quality of teaching and job satisfaction. Among teachers in particular, it is enhanced by leadership of change, which has a decisive role in development of physical (e.g.

timetables) and cultural (e.g. norms of collegiality) structures, which again provide teachers with opportunities to create and use social capital. (Minckler, 2014.) Social network between teachers promotes teachers' self-efficacy and commitment to organisation and students (De Jong et al., 2016).

Study by Belfi et al. (2015) indicated that social relations between parents, students and teachers affected teachers' efficacy, or collective efficacy. Moreover, Mason and Matas's (2016) study points out that social capital has a significant impact on job satisfaction. Teachers should have opportunities to create contacts in school and thus build up social capital. Employers should focus on creating a positive working community which encourages and supports its members to cope in work. (Mason & Matas, 2016.)

On the other hand, social capital may have some negative connotations. For example, overly tight social relations may increase bullying, jealousy and formation of cliques (Manka & Manka, 2016). Be it as it may, if a work place lacks sociability and mutual trust, workers will not thrive, and as a consequence, work productivity most probably diminishes (Hyyppä, 2013).

Figure 1 describes formation of school staff's social capital on the basis of previous literature. The figure summarises the definition of social capital concepts and their similarities (e.g. trust and networks) as well as differences (e.g. norms and sanctions). According to previous researchers, trust and networks in particular are crucial for the formation of social capital. Action based on trust between employees, open interaction, participation and learning can promote social capital and health in school communities (Saaranen & Tossavainen, 2009).
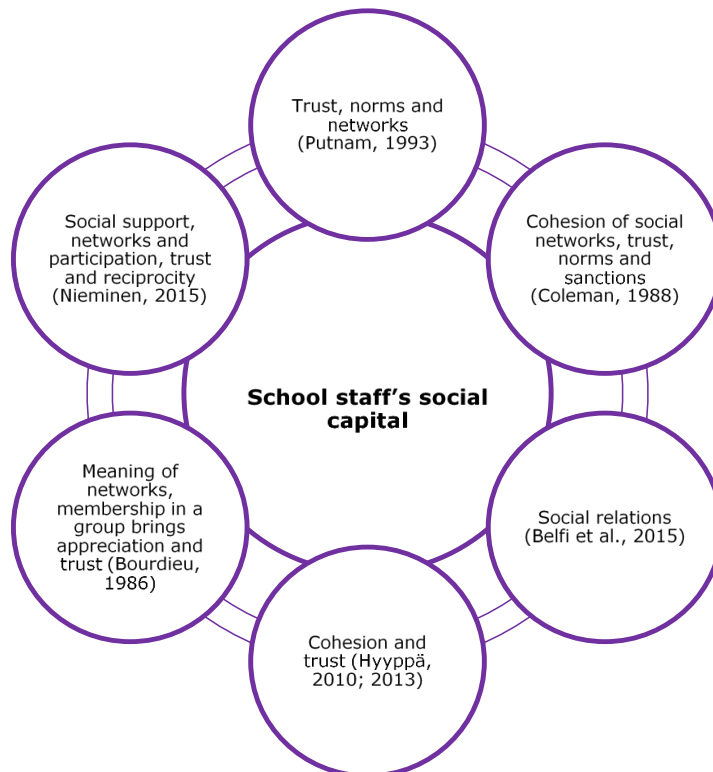
Figure 1. Formation of school staff's social capital.

2.3.2 Development of occupational well-being as collaborative learning

By development initiatives based on collaborative learning, school communities have increased social capital (Kempen & Steyn, 2017). Theoretically, at the core of the framework of collaborative learning lies the significance of social interaction in learning, and it leans on ideas presented especially by Vygotsky. He emphasises the communal aspect, where social interaction is a prerogative for learning and development (Vygotsky, 1978). The notion of collaborative learning has no commonly accepted definition. In this study, it refers to action, in which learners (= school staff) by means of social interaction, seek to build meanings, information, ideas and common understanding on the subject to be learned (= development of occupational well-being) (see e.g. Roschelle & Teasley, 1995; Dillenbourg, 1999; Strijbos, 2016).

Characteristic of collaborative learning is commitment to common goals and problem solving, which leads to a common notion of aims and means with which they can be reached (Dillenbourg, 1999). Several studies have found that individuals benefit from collaborative learning. It is noteworthy, however, that there are also reports on studies, where an individual's performance in a group is weaker in comparison to working alone. (Nokes-Malach, Richey & Gadgil, 2015.) In the study by Fransen, Weinberger and Kirschner (2013), it was established that learning teams based on collaborative learning benefited from the variability in knowledge and skills so that the teams could complement mutual learning resources and challenge their own ideas, finally achieving a more wide ranging understanding. How the students perform and achieve their goals, can be affected, apart from the knowledge and skills of the team members, by how much time and effort the learning community invests in the various phases of the team work by developing a common perception of the task, the goal and the strategy. By working together, the team's common perception develops. (Fransen et al., 2013.)

Collaborative learning can occur in both physical and virtual environments (Strijbos, 2016). Researchers have lately been particularly interested in the new collaborative learning opportunities in school contexts created by virtual environment (Liu, 2016; Wilson & Narayan, 2016). There is little research data from the perspective of developing working community's or occupational well-being, although it has brought positive results in school communities, such as developed professional competence (Owen & Davis, 2010; Kempen & Steyn, 2017), quality of teaching, mutual communication, and enriched teachers' understanding concerning their own work and created a culture of peer learning (Park & So, 2014). For example, in Kempen and Steyn's (2017) study, development program based on collaborative learning may affect teachers' professional competence, learning results and development of the whole school. Professional competence developed in several areas. Moreover, teachers felt that they were effective in their work and their competence increased, which boosted inner motivation throughout the development program. (Kempen & Steyn, 2017.)

Collaborative learning is quite a new viewpoint to the development of occupational well-being. Figure 2 describes development of school staff's occupational well-being and working community-related interaction factors through collaborative learning on the basis of literature. The key elements of collaborative learning are seen as crucial elements also in collaborative promotion of occupational well-being. In this study, school staff developed occupational well-being and the interaction factors of the working community through collaboration. The community shares ideas, defines the goals for developing its occupational well-being and solves these problems together. This also builds social capital. The development process

proceeds to a new kind of enriched learning, with the objective being even further developed occupational well-being in the working community.
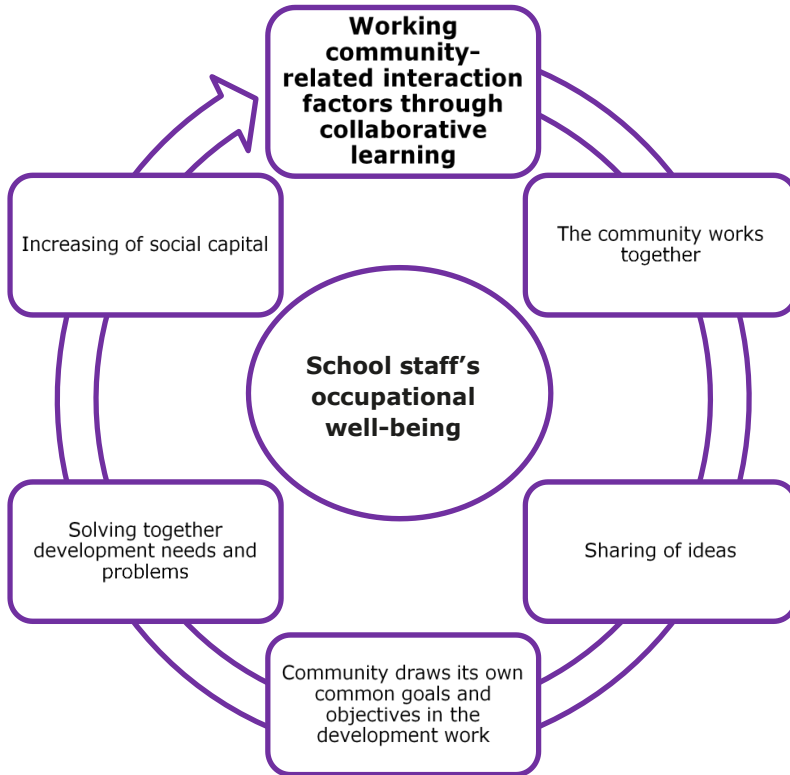
Figure 2. Development of school staff's occupational well-being and working community-related interaction factors through collaborative learning.

2.4 SUMMARY OF THE STUDY'S THEORETIC FRAMEWORK

This study examines school staff's occupational well-being. While the positive concept of occupational well-being has not been unequivocally defined, it is associated with several different interpretations, notions and related concepts. Moreover, several studies continue to approach occupational well-being from the traditional negative framework, such as perspectives of burnout or stress. Attempts have been made to explain occupational well-being and aspects related to it through various models. In these models, occupational well-being is described in terms of e.g. communality and social support, factors related to work and worker, professional competence and career development, organisation and leadership, and structures of organisation and society. Factors related to social capital, such as trust and networks, are important for the community's well-being. Social capital may be increased for instance through collaborative learning, which enables a community to work together towards common goals and solves challenges and problems through interaction.

In this study the concept of school staff's occupational well-being includes those factors, which a working community is able to address. These aspects are worker and work, working conditions, professional competence and working community (Saaranen et al., 2007). In other

words, the key challenge is how and by what means can measures aimed at improving health and promoting occupational well-being among school staffs which focus on worker and work, working conditions, professional competence and working community be created. This study focuses particularly on working community-related interaction factors contained in the aspect of working community, which are working atmosphere and appreciation of others' work, co-operation and information, and work management and time use. This study is based on the background approach of social capital and its development which can promote occupational well-being of the whole school staff. Development of occupational well-being is collaborative learning, where collaboration is based on trust and appreciation of others. Through common interaction, occupational well-being and in particular working community-related interaction factors can be promoted.

The number of studies focusing on occupational well-being has significantly increased over the last years. This is due to the recognition of the challenging working environment in schools, burden of teaching work as well as their connection to individuals and communities. Nevertheless, from the perspective of the whole school staff, there is need for studies on development of resources and health promotion. Although several different profession groups work in schools (e.g. primary school teachers, subject teachers, classroom assistants and cleaners), the previous studies predominantly focus on teachers' perspective despite of the fact that occupational well-being is an issue concerning the whole school staff. Intervention or action research has likewise been little applied in this field.

This study aims at tangible development of occupational well-being through means and methods of PAR. When developing occupational well-being, it is impossible to derive benefit from existing knowledge or action models in a straightforward manner simply because each school is unique. These models however provide a framework for the development actions. Development of occupational well-being required communal problem solving and dialogue, which enables working community intervention based on collaborative learning. Moreover, as there are very few studies focusing development of occupational well-being from the perspective of collaborative learning, this study provides a new viewpoint for development of occupational well-being. A summary of study premises is described in Figure 3.

The figure has three different levels. It is centered on the core idea of the aspects of school staff's occupational well-being applied in this study: worker and work, working conditions, professional competence and working community, all of which can be developed by the school community itself. The intermediate part of the figure illustrates the key aspects of occupational well-being in general. The outermost level places the study in the context of more extensive background thinking where social capital and the development of occupational well-being as collaborative learning are crucial.

Logic behind promoting occupational well-being

Key aspects of occupational well-being

Aspects of school staff's occupational well-being

Working community
(e.g. support from colleagues, social relations, multi-professional collaboration, work management and time use, principal, and principal's support)

Worker and work
(e.g. personal qualities, work content and workload, requirements)

Working conditions
(e.g. voice ergonomics, indoor air, physical ergonomics)

Occupational well-being in school communities

Professional competence
(e.g. opportunity to develop professional competence, good quality professional competence, support from colleagues and principal helping to develop professional competence)

Professional competence and career development

Factors relating to work and worker

Organisation and leadership

Structures of organisation and society

Community and social support

Development of school staff's occupational well-being as collaborative learning e.g. sharing ideas, community draws its own common goals and objectives in the development work and, solving together development needs and problems

School staff's social capital e.g. trust and networks

Figure 3. Summary of theoretical premises of the study.

3 Purpose of the study and objectives

The study started with a pilot study whose purpose was to describe the promotion of occupational well-being in a Finnish school. The main purpose of the study was to describe the working community intervention in participatory action research (PAR) among school staff in two countries (Finland and Estonia), and to assess the changes imposed on working community-related interaction factors and occupational well-being. Furthermore, the study included further testing and development of the original OWSS Model (Occupational Well-being of School Staff Model) from 2005 (Saaranen et al., 2007). The study was to produce practical knowledge and develop the theoretical basis for the participatory promotion of occupational well-being among school staff in primary and upper secondary schools leading to change in well-being and health. The specific research objectives were as follow:

1. To describe what kinds of development activities did the Finnish pilot school develop to promote occupational well-being, and how did occupational well-being and leadership develop between 2000 and 2009 (Phase 1; Original publication I).

2. To describe how did the occupational well-being groups in the Finnish and Estonian schools describe the goals of promoting occupational well-being and the realised development activities, and assess the significance of action plans in developing occupational well-being in the turn of the year 2011–2012 (Phase 2; Original publication II).

3. To examine which changes occurred in working community-related interaction factors and how are they associated with subjective occupational well-being and to general working community occupational well-being. Also, were there any changes as a result of the working community intervention as evaluated by the staff of the Finnish and Estonian schools (2010−2013) (Phase 3; Original publication III).

4. To examine which are the constituent aspects of school staff's occupational well-being, based on further testing and development of the 2005 OWSS Model using the data from Finland and Estonia in 2010 and 2013 (Phase 4; Original publication IV).

4 Data and methods

4.1 PARTICIPATORY ACTION RESEARCH

Action research aims to gather practical knowledge that leads to the economic, political, psychological and mental well-being of individuals and communities, and promotes fair and sustainable relations in a broader ecologic society context. Solutions to practical problems are expected to result in immediate positive effects on the community and its members. Characteristics of action research include systematicality, cyclical nature, flexibility, collection of several data sources as well as planning of actions or interventions. (Ivankova, 2015.) Snoeren, Niessen and Abma (2011) describe it as an inclusive and democratic process that promotes the empowerment of the research participants. Inclusion and commitment are promoted through open and reciprocal relations, the aim being that all participants operate actively in the different phases of the study (Snoeren et al., 2011). The intention is to detach from traditional relations of power, at least to some extent, in order to provide an opportunity for the research participants to be heard and have their ideas implemented (Fricke, 2011).

The methodological approach of this study relating to health, education and nursing science is participatory action research (PAR). The objective of action research is a change in practices and actions, so the starting point for this study in terms of the philosophy of science is pragmatism. The pragmatic approach emphasises the practical substance of knowledge, participation, the exchange of experience and ideas, as well as collaboration (Johansson & Lindhult, 2008).

PAR objective is to promote health and reduce health inequalities, enabling the individuals participating in the research to improve their own health. The most crucial factors of PAR are inclusion, empowerment, life experiences and critical reflection. Research is therefore planned so that it will empower the participants in their own lives. The foundation for this research is partnership, and the researchers actively participate in the process. Furthermore, the researchers work together with the communities, and this also calls for the participants' commitment to improving the practices. (Baum, MacDougall & Smith, 2006.) In this study based on these aims and starting points, the application of PAR is also justified in the promotion and of school staff's health and well-being.

This study combined quantitative and qualitative methods, and can thus be called mixed methods research (MMR) (Sormunen et al., 2013a; Polit & Beck, 2014; Creswell, 2015). The combination of multiple methods is characteristic of case study (= pilot study) (Yin, 2014) and action research (Baum et al., 2006; Ivankova, 2015). MMR provides a more systematical approach to the implementation of an action or intervention through combining qualitative and quantitative data sources (Ivankova, 2015). The purpose of combining different methods is to produce practical and diverse information (Sormunen et al., 2013a), and the collective strength of the methods provides a better understanding of the research problem than any of the materials alone (Creswell, 2015). In health research, it opens opportunities for responding to current challenges and has been used in a wide range of health studies (Sormunen et al., 2013a), for example in promoting the health of school communities (e.g. Tossavainen et al., 2004; Sormunen, Tossavainen, & Turunen, 2013b) and studies of occupational well-being (Saaranen et al., 2012).

The aim of this PAR has been a collaborative learning process that promotes the creation of new information and practices. MMR has been used to comprehensively study occupational well-being in depth, in order to achieve more detailed knowledge of the phenomenon being studied. The participatory viewpoint has enabled the school community to take part in the different phases of the research process. The cyclic nature of the process has flexibly contributed to the surveying of real-life challenges and made it possible to create change. The school communities and the research team have jointly surveyed the challenges to occupational well-being, solved them and assessed the results of development actions. On this basis, actions have been re-aimed. This has required the research team to collaborate closely with the communities taking part in the study.

4.2 STUDY DESIGN

The study is related to a more extensive long-term research project at the University of Eastern Finland, Promoting the Occupational Well-being of School Staff—Action Research Project in Finland and Estonia, 2009–2014 (Phases 2–4; Original publications II–IV). This PAR project aims to identify and develop the resources of a working community and to study the occupational well-being of staff from a positive, health promotion viewpoint. The PAR project was preceded by several different studies into occupational well-being (e.g. Saaranen et al., 2007; Saaranen et al., 2013), and the initial phases of this doctoral research included a long-term case study (pilot study) from 2000 to 2009 (Phase 1; Original publication I). The study design is illustrated in Figure 4.

The study is a part of the research programme of the Schools for Health in Europe (SHE) network (until 2008, the European Network of Health Promoting Schools). Estonia has been a member of the network since its establishment (in 1992), and Finland joined a year later (1993). The network currently includes 45 European countries, and it is supported by the WHO Regional Office for Europe, the Council of Europe and the European Commission (SHE, 2017). The common foundation for the network is the health-promoting school (Turunen, Tossavainen, Vertio, 2004), which refers to a school implementing a systematical and structured plan for developing well-being, health and social capital together with students and the entire school staff. The network has defined shared pillars that support the promotion of health at school. This study particularly emphasises the pillars of participation (by students, staff and parents), quality (a healthy staff works better) and evidence (development and study of new practices) (see Young, St Leger, & Buijs, 2013). In the following, the phases of the study (Phases I–IV), as well as the collection and analysis of material are described in more detail.

PHASE 1 Case study at a Finnish pilot school **2000–2009**	**Purpose:** To describe development activities to promote school staff's occupational well-being and development of leadership.	**Method and sample:** WYWI Questionnaire (in 2004 $n = 36$, in 2005 $n = 41$ and in 2009 $n = 34$). Group interviews (in 2006 $n = 21$). Expert interview (in 2011 $n = 1$).	**Data analysis:** Descriptive statistical analysis, inductive content analysis and factual analysis.
PHASE 2 Development of occupational well-being in Finnish and Estonian schools **turn of the year 2011–2012**	**Purpose:** To evaluate realisation of development activities to promote occupational well-being in Finnish and Estonian schools and the significance of action plans in promoting occupational well-being.	**Method and sample**: Electronic open questionnaire (turn of the year 2011–2012 Finland $n = 16$ and Estonia $n = 38$).	**Data analysis:** Inductive-deductive and inductive content analysis.
PHASE 3 Changes resulting from working community intervention in Finnish and Estonian schools **2010–2013**	**Purpose:** To examine the changes in working community-related interaction factors and how they correlated with occupational well-being and how occupational well-being changed.	**Method and sample:** WYWI Questionnaire (in 2010 Finland $n = 486$ and Estonia $n = 1\,330$, in 2013 Finland $n = 545$ and Estonia $n = 974$).	**Data analysis:** Descriptive statistical analysis, Mann-Witney test, one-way analysis of variance and Spearman correlation coefficient.
PHASE 4 Structural equation modelling of the occupational well-being of the school staff **2010–2013**	**Purpose:** To further test and develop the original OWSS Model from 2005 (Saaranen et al., 2007).	**Method and sample:** WYWI Questionnaire (in 2010 Finland $n = 486$ and Estonia $n = 1\,330$, in 2013 Finland $n = 545$ and Estonia $n = 974$).	**Data analysis**: Structural Equation Modelling.

Figure 4. Study design.

4.3 PHASE 1: CASE STUDY AT A FINNISH PILOT SCHOOL (ORIGINAL PUBLICATION I)

The first phase of the research was a case study at a Finnish pilot school, examining the development activities for promoting occupational well-being among school staff and the development of leadership. In 2000, many of the teachers suffered from varying degrees of fatigue and sick absence. This study was triggered by the school staff's own need for change. This also made it possible to test the WYWI Questionnaire (the Well-being at Your Work Index Questionnaire) and develop it jointly with the community. This empirical study examined the phenomenon in its own environment and in a real-life situation using a versatile range of data obtained using many means, which is typical in a case study (Yin, 2014).

This Finnish pilot school has belonged to the SHE network since 1994. The objective of the SHE group at the pilot school was the promotion of occupational well-being. The actions became systematical in 2003 when the school joined the first Comenius project funded by the Center for International Mobility. In 2017, the Finnish National Board of Education and the Center for International Mobility merged to form a new agency called the Finnish National Agency for Education (Finnish National Agency for Education, 2017). After the Comenius project ended, the development of occupational well-being continued as a pilot school for the Finnish Centre for Health Promotion, and later in a new Comenius project. A more detailed process description is included in original publication I.

Researchers of the University of Kuopio (currently University of Eastern Finland) implemented the first WYWI Questionnaire for the project in 2004, a second one in 2005 and the last one in 2009. Group interviews were carried out in 2006. In 2011, the process and the development of occupational well-being were further assessed through a retrospective expert interview of a key person at the school. (Figure 4; Original publication I.)

4.3.1 The WYWI Questionnaire, data gathering and analysis

The Well-being at Your Work Index Questionnaire (WYWI Questionnaire) was developed earlier in collaboration with occupational health nurses, primary school staff and the research group. It has been previously used in several national and international studies (Saaranen et al., 2006; Saaranen et al., 2007; Saaranen et al., 2012; Saaranen et al., 2013) and it has also been translated into Estonian and English.

The question form included ten questions on background variables. With regard to occupational well-being and activities promoting it, four questions were presented on a Likert scale (1 = very poor, 2 = quite poor, 3 = moderate, 4 = quite good and 5 = very good). The same scale was used to ask for the respondent's opinion and need for development (the latter starting in 2009) on the four aspects of occupational well-being, worker and work (12 questions, for example on mental strain and voluntary self-help and maintenance), working conditions (12 questions, for example on the audible environment, ergonomics and air conditioning), the working community (20 questions, for example on a fair play spirit and trust), as well as professional competence (7 questions, for example on substantial knowledge of one's profession and the sufficiency of training). After the questions concerning each aspect, the respondent had the opportunity to provide additional information with two open questions related to the previous propositions, or to identify other factors that affect occupational well-being. (Appendix I.)

The material from the Finnish school in 2004 and 2005 was collected on a paper form, and subsequently on an electronic form since 2009. The responses to the electronic questionnaire

were saved in an electronic form at the University of Kuopio (currently the University of Eastern Finland). The respondents also had the option of using a paper form if desired. The contact person at the school mailed the paper forms to the research group. The time frame for responding to the questionnaire was two weeks, and there was no need for a repeat questionnaire as the response rate was very good. The materials were analysed using the SPSS (Statistical Package for the Social Sciences) statistical software package. The data sets from the Finnish pilot school were small so they were only analysed using descriptive variables (percentages, mean and standard deviation or SD).

4.3.2 Group interview, data gathering and analysis

The purpose of the qualitative, thematically proceeding group interview material was to efficiently gather information on the measures developed by the school for promoting occupational well-being and how they were used (Appendix II). In the group interview, data was gathered from several people simultaneously. The group interview enabled interaction within the group, and this was expected to enrich the description of the phenomenon being studied (Turunen et al., 1996). In 2006, the group interview material was gathered from the teachers, principal, vice principal and school assistants of the Finnish pilot school through two interviews (n = 21). There were two interviewers, the duration of the interviews was approximately 60 minutes, and they were recorded.

   Data analysis was started by getting familiar with the study materials and transcribing the recorded interview. The group interview material was analysed using inductive content analysis. It allows material to be analysed systematically and objectively (Kyngäs et al., 2011). Inductive content analysis proceeds in a straightforward manner, as a multi-staged process; however, returning to the previous stage is always involved. It is crucial for inductive content analysis that material is categorised and the categories are named, and the final outcome is the interpretation of the results. (Mayring, 2000.)

   The analytical unit was a concept or statement that contained one or more sentences. The original meaningful statements were collected from the material and simplified. The simplified statements were grouped by similarities or differences. 24 sub-categories were formed of the simplified statements and named by content. The sub-categories were combined to make 11 different main categories that were also named. Finally, the main categories were combined into united categories, the number of which was two.

4.3.3 Expert interview, data gathering and analysis

In 2011, a retrospective expert interview (n = 1) was gathered from a teacher in the Finnish pilot school who had been a key person in developing occupational well-being. In the expert interview, data gathering and analysis took place in parallel and were intertwined. The purpose of the interview was to gather knowledge of a phenomenon (Alastalo & Åkerman, 2010). The aim was to reveal facts of the process during the interview. Before the interview, a written process description was prepared on the basis of different documents, and this also marked the start of factual analysis. The documents included several papers prepared in connection with the development work, an expert lecture and various kinds of information communicated by the research group, and a process description was prepared on the basis of these. The written process description guided the interview, with the expert filling in gaps and commenting on the description, as well as denying or correcting some things. The foundation for joint production of facts is that the researcher brings the then-current interpretation of

process progress to the interview (Alastalo & Åkerman, 2010). The recorded interview lasted for 120 minutes. On the basis of the interview, a new process description was prepared. After this, the analysis was further complemented with the expert's comments, changing and supplementing the description. The factual analysis of the process description of the expert interview is illustrated in Figure 5.
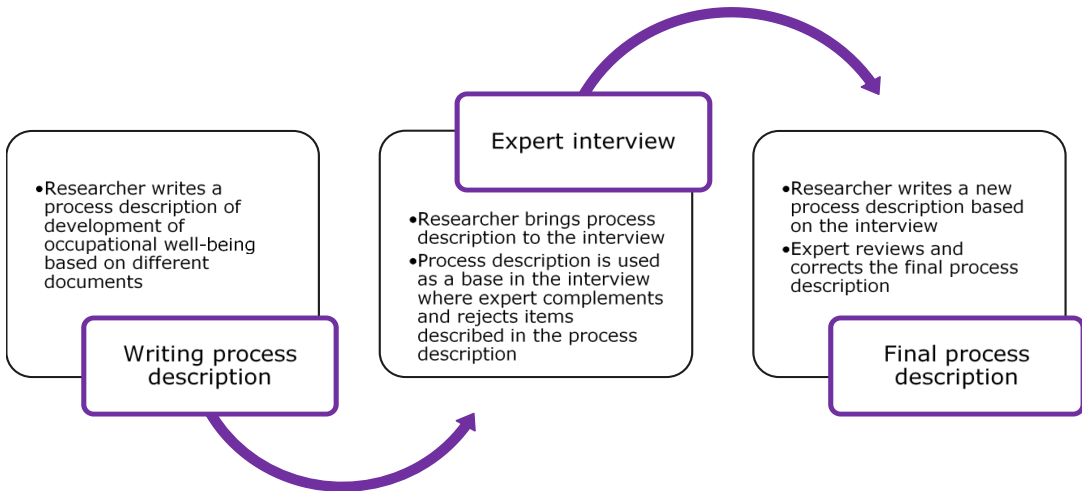
Figure 5. Factual analysis process of retrospective expert interview.

4.4 PHASE 2: DEVELOPMENT OF OCCUPATIONAL WELL-BEING IN FINNISH AND ESTONIAN SCHOOLS (ORIGINAL PUBLICATION II)

The positive research results and experiences from the first phase contributed to this project for promoting occupational well-being in the schools of two different countries, built on long-term working community intervention on the basis of collaborative learning (Phases 2–4). The research collaboration started in Finland and Estonia in 2009 with the preparation of a project plan together with the planning group (consisting of researchers at the University of Eastern Finland and their partners in Estonia, from the National Institute for Health Development (NIHD) and the Foundation for School Health Care in Tallinn). This PAR project involved an international research group and other important parties from the participating school communities.

The research was directed by Professor Kerttu Tossavainen of the University of Eastern Finland, the researcher in charge was Docent Terhi Saaranen, and the other members of the research group were doctoral researcher Sari Laine and Professor Hannele Turunen, Head of Department. In addition to the University of Eastern Finland, the research group included the Estonian partners: Tiia Pertel (NIHD), Siivi Hansen (NIHD), Kädi Lepp (Tallinn University Haapsalu Collage/Foundation for School Health Care in Tallinn Development), Karin Streimann (NIHD), Liana Varava (NIHD) and Krystiine Liiv (NIHD). The Finnish Federation for Social Affairs and Health (until 2011 the Finnish Centre for Health Promotion) is the leading and supporting organisation for the SHE network in Finland, and the NIHD is the corresponding organisation in Estonia. Both organisations have collaborated closely with the research group in organising the PAR project in the school communities. The project was planned and implemented with committed partners.

The initial measurement data was collected from the staffs of the schools in Finland and Estonia in the turn of the years 2009–2010. This turn of the year is referred to as the year 2010. The results of the initial survey were discussed under the leadership of the University of Eastern Finland at occasions including the research group meeting in Rakvere, Estonia, in June 2010 (with the coordinators of the SHE network/teachers from Estonia also in attendance at Rakvere). In 2010, regional training for occupational well-being groups in schools was also arranged in Finland.

The contents of the Promotion of School Community Staff's Occupational Well-being Action Plans among school staff were prepared in the research group but were developed and assessed for functionality together with the Finnish and Estonian schools during regional training. It was requested that the action plans describe resources and development needs in occupational well-being, as well as consider the background factors of these. On the basis of the four aspects of occupational well-being (worker and work, working conditions, professional competence and working community), the most important goals for development in each school and the concrete activities required were established in the action plans. Furthermore, the action plans specified a target time, budget, person in charge and time for assessing the realisation of the activities.

Occupational well-being promotion group (3 to 6 people) established at the schools prepared occupational well-being action plans together with school staff on the basis of each school's WYWI Questionnaire results, which were previously provided to the schools. The schools submitted the occupational well-being plans to the research group, and they were discussed at a training event arranged jointly by the University of Eastern Finland and The Finnish Federation for Social Affairs and Health in 2011. The preparation of action plans enabled a process promoting occupational well-being, in which the entire community identified its own needs for development and goals and determined the activities to make the goals true.

The goals of the school-specific development activities in the study were to develop the occupational well-being of school staff starting from the schools' own resources and needs for development. The contents of the development activities were determined on the basis of the aspects of occupational well-being among school staff. The occupational well-being group jointly with the entire staff implemented long-term development activities specified in the action plans (between 2010 and 2013). An international meeting of researchers was arranged at the University of Eastern Finland in May 2011, discussing the project's then-current state and planning the mid-term evaluation of the project jointly with Estonian and Finnish researchers.

In the second phase of the study, the goals of activities for developing the promotion of occupational well-being among Finnish and Estonian school staff and their realisation were assessed, together with the significance of action plans in occupational well-being development work. The mid-term evaluation was implemented as an electronic open questionnaire at the turn of the year 2011–2012 simultaneously in Finland and Estonia (Figure 4; Original publication II).

4.4.1 Open questionnaire, data gathering and inductive-deductive analysis

An electronic open questionnaire was developed jointly with the Finnish-Estonian research group. The purpose of the questionnaire was to assess the goals of the development activities specified in the action plans for the schools and their realisation, and to assess the significance

of the action plans in the development of occupational well-being. Through open questions on an electronic form, the occupational well-being groups were requested to describe the goals specified in the action plans and assess the realisation of activities, as well as potential reasons for failing to achieve the goal. Furthermore, they were requested to assess the significance of the action plans in development work. (Appendix III.) A link to the questionnaire was sent to contact persons at the schools, and the questionnaires were stored in the electronic form of the University of Eastern Finland. The time frame for responses was two weeks but it was extended with another two weeks to get the best possible coverage.

The analysis of the electronic open questionnaire started with getting familiar with the material, after which the significant statements were collected specific to each country. The goals for occupational well-being and the development activities were analysed separately. The statements were simplified and grouped inductively in categories. The starting point for categorisation in deductive content analysis is theory and the theoretical frame of reference which determine the formation of categories. Deductive content analysis determines the theoretical starting points for the progress of analysis. On the basis of theory, the material is categorised and the results are interpreted. (Mayring, 2000.)

In this study, after inductive categorisation, the categorisation of the material continued from a theoretical basis (deductively) in accordance with the aspects of promoting occupational well-being among school staff (worker and work, working conditions, professional competence and working community). Deductive categorisation was used in order to find out how the goals and realised activities were distributed country-specifically between the aspects of the Content Model for the Promotion of School Community Staff's Occupational Well-being (Saaranen et al., 2007).

After deductive categorisation, the material was quantified, meaning the calculation of how often a thing included in a concept occurs in the material or how many participants indicate that thing. In practice, categorisation continued by counting the goals and realised goals by aspect. Furthermore, the number of occurrences of the same factual content in goals and realised goals was calculated (f = the number of schools where the occupational well-being group has mentioned the factual content). The process of inductive-deductive analysis is described in Figure 6.
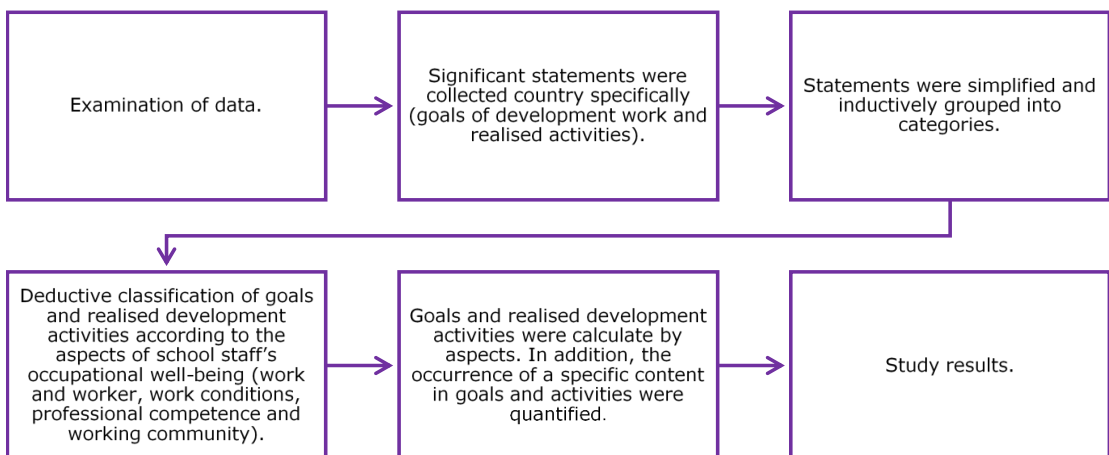
Figure 6. The process of inductive-deductive analysis.

4.4.2 Inductive analysis of the electronic open questionnaire

The significance of the action plans was analysed using inductive content analysis, combining the materials from Finland and Estonia. The meaningful statements were collected from the material, and after simplification, identical and similar simplifications were combined and sub-categories were formed of these. The sub-categories were named by their factual content and compared with each other. Sub-categories with similar content were combined into main categories and named by their content. An example of inductive content analysis is in Figure 7.

Simplified statement	Sub-category	Main category
New working methods to reduce noise Illumination is good School facilities are clean Interior design has modernised Noise level has been decreased Noise isolating ceiling has been installed Investments have been made in the working environment Functional and comfortable work environment created	Staff's working conditions have improved (8)	
Occupational health care has been made visible Health checks have increased health awareness More people eat a healthy school lunch Many participate and form a view of their own well-being School meals are now mostly healthy Teachers and studenrs are more calm at recess Employees are mentally and physically more balanced Everyone's coping and well-being is taken care of Teachers with better working capacity are a benefit for students Mentoring takes place	More attention has been paid to staff's health and well-being (10)	Action plans have a positive impact on school staff's occupational well-being
Staff has participated in meetings Professional competence has improved Timetable and school rules have been studied In-house training is no longer perceived as a duty Trainings are organised more often Staff is better informed Working in computer class is noted in planning Development discussions are experienced as refreshing	Development of professional skills and competence is taken care of and considered important (8)	
Field trips Volley ball workouts Joint events Sport activities Recreational events	Workplace health promotion has been organised (5)	
Better working mood Teachers are happier Better atmosphere Kinder human relations Staff involved in necessary development work Staff respects collaboration and development Teachers have a healthy and positive attitude to life Staff orientated according to school values Shared activities increase cohesion among employees Management supports well-being of staff More open climate of debate More familiar with colleagues	Subjective and communal empowerment of employees (12)	

Figure 7. Meaning of action plans in the context of developing occupational well-being in Finnish and Estonian schools – an example of inductive content analysis.

4.5 PHASE 3: CHANGES RESULTING FROM WORKING COMMUNITY INTERVENTION IN FINNISH AND ESTONIAN SCHOOLS (ORIGINAL PUBLICATION III)

The third phase examined the changes in the working community-related interaction factors and their associations with occupational well-being, and how the subjective occupational well-being and general occupational well-being of the working community of school staff in Finland and Estonia changed as a result of the working community intervention. The assessment of change was made possible with a final measuring questionnaire implemented on Finnish and Estonian school staff in the turn of 2012–2013 using the same WYWI Questionnaire as in the initial measurement. This turn of the year is referred to as the year 2013. (Figure 4; Phases 3–4; Original publications III–IV.) In 2013, the University of Eastern Finland jointly with The Finnish Federation for Social Affairs and Health arranged a training event for the Finnish schools participating in the project, discussing the results of the final measurement among other things.

4.5.1 The WYWI Questionnaire and data gathering
The material was gathered using the WYWI Questionnaire described previously. A link to the electronic questionnaire was sent to the schools in Finland and Estonia through their contact persons who forwarded the link to the entire staff of their schools. The questionnaires for 2010 and 2013 were stored in the electronic form of the University of Eastern Finland. The participants also had the option to fill in a paper questionnaire, which was then entered into the electronic form by a researcher. The time frame for responses was two weeks for each questionnaire but this was extended by another two weeks to get the best possible response rates. Communication with the contact persons at the schools was conducted by email and telephone.

4.5.2 Analysis of the quantitative data
The Finnish and Estonian schools' self-assessment of subjective occupational well-being and the general working community's occupational well-being was analysed using descriptive variables (percentage, mean and SD). The Mann-Whitney test was used to test the change in subjective occupational well-being and the general working community's occupational well-being after the working community intervention.

The individual variables describing the working community-related interaction factors (working community aspect) were combined int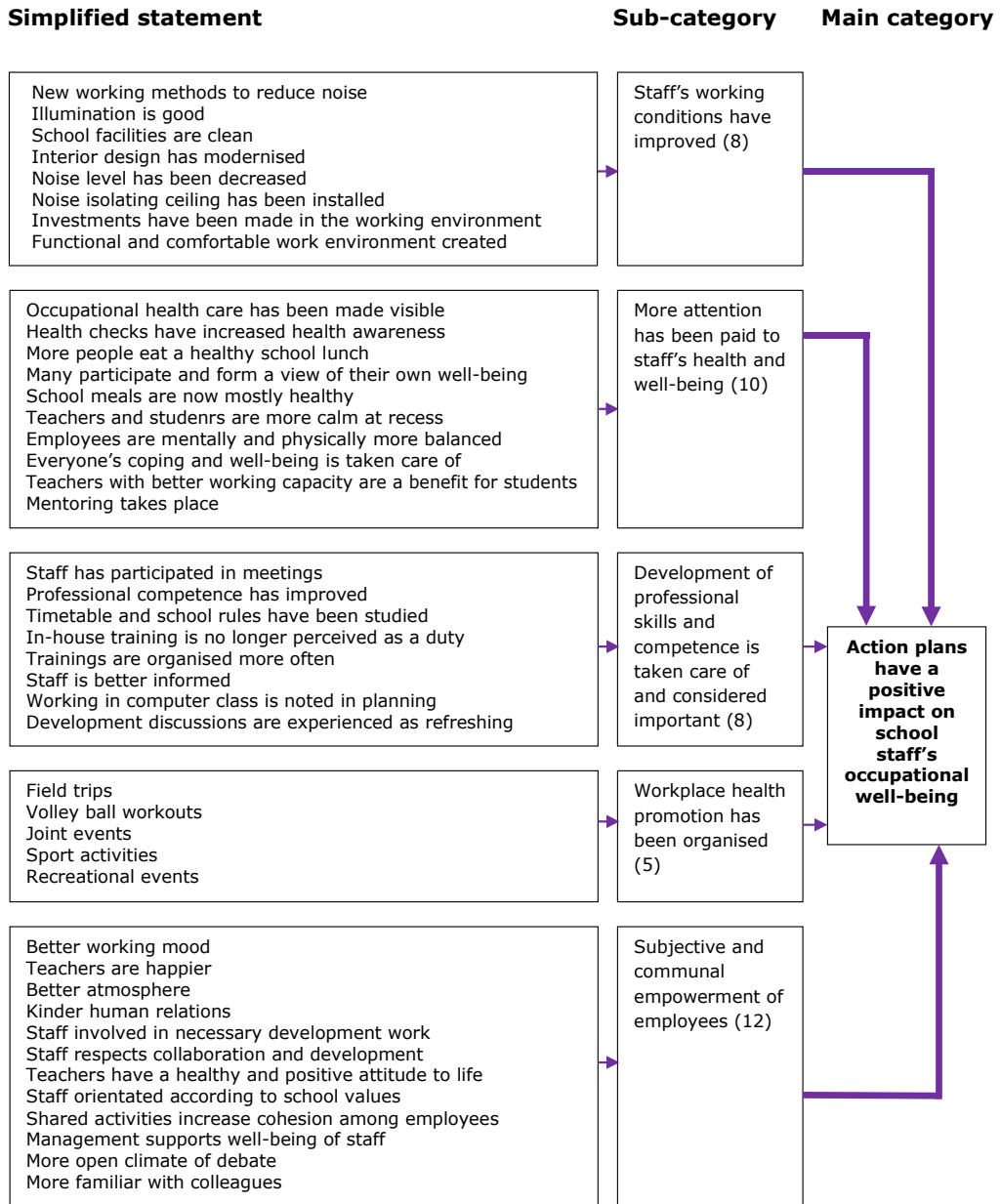o sum variables based on previous factoring (Saaranen et al., 2006). Factor analysis compresses the data in order to put a large number of variables into a form that is easier to process (Polit & Beck, 2010). These individual variables and sum variables were analysed as descriptive variables (percentage, mean and SD). Furthermore, country-specific changes in the working community-related interaction factors in Finland and Estonia between the initial and final measurements were tested using one-way analysis of variance.

The association between the sum variables for the working community-related interaction factors and subjective occupational well-being and general working community's occupational well-being was tested using one-way analysis of variance and Spearman's correlation. In all tests, the limit for statistical significance was $p < 0.001$. Spearman's correlation was considered to be weak if $r = 0.1–0.3$, moderate if $r = < 0.5$ and strong if $r = > 0.5$

(Grove et al., 2013). The materials were analysed using the NCSS (Number Cruncher Statistical System) statistical software package.

4.6 PHASE 4: STRUCTURAL EQUATION MODELLING OF THE OCCUPATIONAL WELL-BEING OF THE SCHOOL STAFF (ORIGINAL PUBLICATION IV)

The fourth phase involved further testing and development of the OWSS Model originally developed in 2005 (Saaranen et al., 2007) on the basis of the Finnish and Estonian data from 2010 and 2013 (Figure 4; Original publication IV). After PAR, the schools in Finland and Estonia continued to develop occupational well-being by updating and implementing the action plans in their own school communities.

4.6.1 Description of the modelling of structural equation models

Structural equation models (SEM) have long been popular (Hair et al., 2010) particularly in social sciences (Hooper, Coughlan, & Mullen, 2008) and health sciences (e.g. Kemppainen et al., 2006; Halme et al., 2014). The method is advantageous in that the models can be applied widely, complex relations can be modelled (Keith, 2015), and the method is aimed at statistically describing the relations of several individual variables. It is characteristic of SEM that there is 1) a measurement model and 2) a structural model serving as a path from an independent factor to a dependent variable. It is a model that describes the interrelations of a number of variables and examines the interrelations of variables occurring in equations. (Hair et al., 2010.) The theory of promoting the occupational well-being of school staff and the structural equation model has been developed and tested empirically using the action research approach since 2002 (Saaranen et al., 2015).

Development of the model was initiated in the Finnish school context in 2002 (Step 1) by creating the inductive-deductive hypothetic Content Model for the Promotion of School Community Staff's Occupational Well-being, which was based on telephone interviews with school nurses and group interviews with school staff. This hypothetic model was also supported by previous studies and literature. This model contains the four aspects of school staff's occupational well-being: 1) worker and work, 2) working conditions, 3) professional competence and 4) working community. In 2002–2004 (Step 2), based on this hypothetic model, the WYWI Questionnaire was created in collaboration with school nurses and the research group. The data were collected by using a WYWI Questionnaire in 2002 and 2004. Based on the data obtained from the WYWI Questionnaire, the structural equation model (OWSS Model) was formulated in two phases in 2005.

In the first phase, the OWSS Model was formulated by means of structural equation modelling based on data from 2002 (Step 3), and in the second phase, the model was tested and developed with data from 2004 (Step 4). Once the OWSS Model was established (Step 5), a preliminary theory on promoting school staff's occupational well-being was constructed. This model continues to be tested and developed both in Finnish and international school contexts.

4.6.2 Description of the testing of structural equation models

The model was tested using the endogenous variables of the original OWSS Model, which were the working community's general occupational well-being in the worker's working

community and the school staff member's subjective occupational well-being at this workplace compared with the best level (Likert scale 1–5). Also the exogenous variables were the sum variables of the original model which were formed previously (Saaranen et al., 2006). These sum variables were working space, postures and equipment, workload, working atmosphere and appreciation of others work and substantive competence and interaction. The consistency between the factors was examined using Cronbach's alpha, the range of which was 0.53–0.89 in the Estonian and Finnish data from 2010 and 2013. Acceptable values were considered to be in the range of 0.60–0.70 (Hair et al., 2010).

Statistical modelling was done using the AMOS (Analysis of Moment Structures) software that was also used to create the original model. Effects between the estimates of the models were minor if < 0.10, moderate at an estimate value of 0.30 and substantial if > 0.50 (Kline, 1998). The Finnish data worked well in the original model in 2010 as well as in 2013 but the Estonian model had to be improved because the coefficient of determination as well as the measurements of the fit and goodness of the model were weak. The fit of the Estonian model was improved by adding a connection from the variable working space, postures and equipment to the variable subjective occupational well-being at this workplace compared to the best level. The fit of the structural equation models was assessed using several different criteria, including the chi-squared test of the model's sufficiency in describing the data. If the ratio between the X^2 value and the degrees of freedom is less than 2, the model is acceptable. Indicators of fit also included the Comparative Fit Index CFI (> 0.95) and the Normed Fit Index NFI (> 0.95) (Schreiber et al., 2006; Schreiber, 2017), as well as the Root Mean Square Error of Approximation RMSEA statistics and acceptable values were 0.06–0.08 (Schreiber et al., 2006).

5 Results

The study consists of four different phases. The results of the first phase (Original publication I) concern the promotion of occupational well-being and development of leadership in the Finnish pilot school, and are described in chapter 5.1. The results of the second phase, chapter 5.2 (Original publication II) describe the goals set for promoting occupational well-being among school staff in Finland and Estonia and the realised development activities, as well as the significance of action plans in developing occupational well-being. The third phase (Original publication III) in chapter 5.3 addresses the changes that the working community intervention created in the working community-related interaction factors, and how the interaction factors were associated with to the school staffs' subjective occupational well-being and the working community's general occupational well-being. Changes imposed by the working community intervention on the school staffs' subjective occupational well-being and general working community's occupational well-being are also discussed here. The fourth phase (Original publication IV) in chapter 5.4 examines the constituent aspects of occupational well-being among school staff, based on the OWSS (Saaranen et al., 2007) structural equation modelling. The final chapter 5.5 presents a summary of the results.

5.1 PHASE 1: PROMOTION OF OCCUPATIONAL WELL-BEING AT THE PILOT SCHOOL (ORIGINAL PUBLICATION I)

The universe at the Finnish pilot school consisted of the entire staff (principal, teachers, school nurses, occupational health nurses and other staff such as cleaners and cooks). Responses to the Finnish pilot school's WYWI Questionnaire were received from 36 staff members in 2004 ($N = 38$; $n = 36$), 41 in 2005 ($N = 44$; $n = 41$) and 34 in 2009 ($N = 42$; $n = 34$). The response rates were excellent (95% in 2004, 93% in 2005 and 81% in 2009).

The majority of the respondents were 35 years of age or younger but the age distribution was quite even. Most were primary school teachers or subject teachers by profession. In 2004, only a few other staff members responded, but in 2009 total of 27% of the respondents were school assistants, 3% principals and 6% other occupational groups. More than one-half of the respondents were permanent employees. The mean of years worked in one's profession ranged between 3 and 10 years. The data from the group interview conducted in 2006 consisted of a total of 21 ($n = 21$) interviewees. A total of 9 people participated in the first interview and 12 people in the second interview. The expert interview conducted in 2011 consisted of one interviewee ($n = 1$). (Phase 1; Table 6; Original publication I.)

Table 6. Background variables at the Finnish pilot school in the Occupational Well-being Index Questionnaires (year 2004 *n* = 36, year 2005 *n* = 41 and year 2009 *n* = 34)

Background variables	Finland 2004		Finland 2005		Finland 2009	
	n	%	n	%	n	%
Age						
−35	14	40	14	34	12	35
36 – 50	10	29	14	34	12	35
51 –	11	31	13	32	10	30
Total	35	100	41	100	34	100
Profession						
Subject/special teacher	14	39	12	30	5	15
Primary school teacher	21	58	28	70	16	49
Primary school principal	0	0	0	0	1	3
School assistant	0	0	0	0	9	27
Other occupational group	1	3	0	0	2	6
Total	36	100	40	100	33	100
My contract type						
Permanent	20	56	22	54	23	68
Temporary	16	44	19	46	11	32
Total	36	100	41	100	34	100
Total number of years in this profession						
−2	5	15	15	38	4	12
3 – 10	11	33.5	17	44	18	55
11 – 20	6	18	1	3	5	15
21 –	11	33.5	6	15	6	18
Total	33	100	39	100	33	100

In the case study at the Finnish pilot school, school staff developed collaborative activities for promoting occupational well-being in the long term. The development of occupational well-being and leadership were assessed through the WYWI Questionnaire, group interviews and an expert interview. Drawing from the results, school staff had developed versatile activities aimed at occupational well-being on the basis of collaborative work. Many collaborative development activities were based on interaction, such as conversation cafés. The conversation cafés were described as positive moments that allowed one to be each heard. Another significant event was the fatigue-fighting afternoon for teachers, which was subsequently expanded to a well-being afternoon. The afternoons consisted of introductions into different themes, for example the indicators of burnout. After the introduction, the themes were discussed in small groups. Finally, the discussions were summarised on a flip chart for everyone to read and complement. (Original publication I.)

The principal was systematically made to show commitment to the promotion of occupational well-being. Commitment was created, for example, through the flip chart work described above, and the community also processed the results of the WYWI Questionnaire using this method. Through flip chart work, the principal received good and visible feedback as satisfaction towards leadership developed. The principal's role was minor at first, but as the project proceeded, the principal's role as a leader of change became stronger, and factors related to leadership improved from 2004 to 2009. (Original publication I.)

The opinion on the functionality of principal-employee relationships improved from 2004 (50%) to 2009 (67%). Satisfaction to the principal's communication of information about expectations concerning employees work also improved from 2004 (30%) to 2009 (73%). Support provided by the principal when needed also improved from 2004 (47%) to 2009 (70%), a positive change of 23 percentage points. (Table 7; Original publication I.)

Table 7. Development of leadership in the Finnish pilot school (year 2004 *n* = 36, year 2005 *n* = 41 and year 2009 *n* = 34)

Individual variables	Finland 2004			Finland 2005			Finland 2009		
	Disagree	Neither agree nor disa- gree	Agree	Disagree	Neither agree nor disa- gree	Agree	Disagree	Neither agree nor disa- gree	Agree
	%	%	%	%	%	%	%	%	%
Principal–employee relationships are fine at my workplace	25	25	50	13	13	74	21	12	67
My closest principal gives me enough information about the expectations concerning my work performance	39	31	30	19	12	69	21	6	73
My principal gives me help and support when I need it	22	31	47	14	12	74	24	6	70

Participation in the study as such had developed occupational well-being. For example, staff expressed their desire to develop their own occupational well-being and considered it important that work is staff-focused. The study made the crucial development needs, goals of development and the direction of development operations visible. The study made development work more systematic, goal-oriented and comprehensive compared to the previous fragmented information. On the other hand, participation in study caused fatigue over continuous development and uncertainty on which part of development has been the result of study-related development work. (Original publication I.)

5.2 PHASE 2: DEVELOPMENT OF OCCUPATIONAL WELL-BEING AMONG SCHOOL STAFF (ORIGINAL PUBLICATION II)

After the initial measurement and preparation of action plans for the Finnish and Estonian PAR project, the occupational well-being groups at the schools assessed the goals of the action plans and the realised activities, as well as the significance of the action plans in the development of occupational well-being. An electronic open questionnaire was sent to 18 (*N* = 18) occupational well-being groups (= schools) in Finland and 39 (*N* = 39) occupational well-being groups in Estonia. Responses were received from 16 (*n* = 16) occupational well-being groups in Finland and 38 (*n* = 38) in Estonia. The results indicated that in their action plans, the occupational well-being groups at schools had identified goals belonging to all of the aspects of occupational well-being (worker and work, working conditions, professional competence and working community). (Original publication II.)

Finnish occupational well-being groups (*n* = 16 schools) identified a total of 31 different goals to develop the working community aspect. In Estonia (*n* = 38 schools), a total of 54 different goals were identified for developing the working community aspect. The goals of the occupational well-being groups in Finnish and Estonian schools were related to increasing communality and open interaction, communications and improvement of information flows,

adding efficiency to work organisation and to the time management, development of leadership, increased occupational well-being activities and motivation improvement (the goals of motivation improvement was only shown in the Estonian data). The goals of the working community aspect in Finnish and Estonian schools are illustrated in Figures 8 and 9.
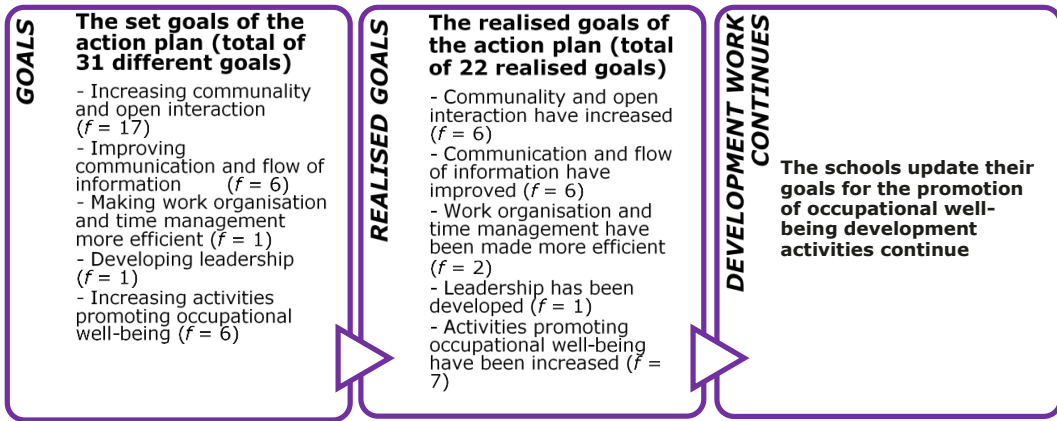
GOALS	REALISED GOALS	DEVELOPMENT WORK CONTINUES
The set goals of the action plan (total of 31 different goals) - Increasing communality and open interaction (f = 17) - Improving communication and flow of information (f = 6) - Making work organisation and time management more efficient (f = 1) - Developing leadership (f = 1) - Increasing activities promoting occupational well-being (f = 6)	**The realised goals of the action plan (total of 22 realised goals)** - Communality and open interaction have increased (f = 6) - Communication and flow of information have improved (f = 6) - Work organisation and time management have been made more efficient (f = 2) - Leadership has been developed (f = 1) - Activities promoting occupational well-being have been increased (f = 7)	**The schools update their goals for the promotion of occupational well-being development activities continue**

Figure 8. Goals and realised goals in the working community aspect in Finnish schools (f = number of occupational well-being groups which have mentioned the content in question).

The goals for development activities were realised well in Finland as well as in Estonia. The total number of realised development activities in Finland was 22 and in Estonia 66. Only the goals related to communality and open interaction were not completely realised (goals: Finland f = 17 and Estonia f = 18, and realisation: f = 6 and Estonia f = 3; Figures 8 and 9). Concrete realised development activities included, for example, discussions in small groups, weekly meetings, appraisal discussions and rewards to employees. The goals and realised development activities for other aspects of occupational well-being are described in the original publication II.

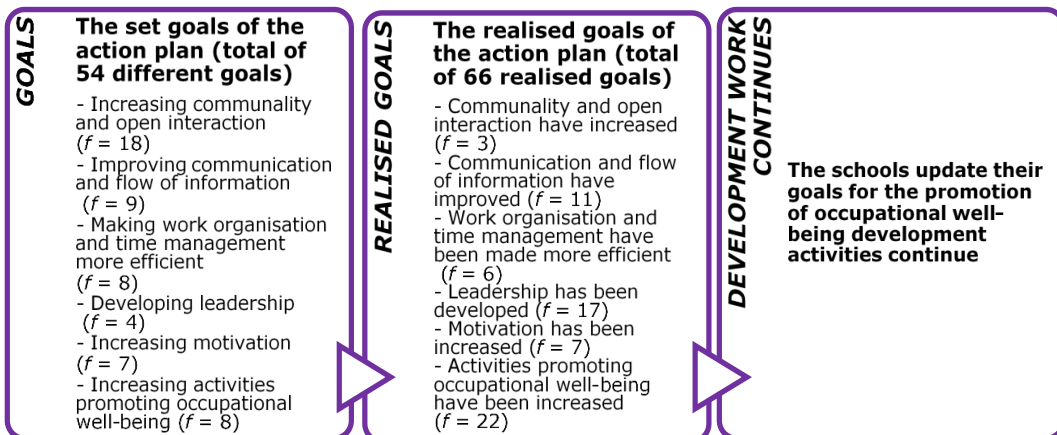| GOALS	REALISED GOALS	DEVELOPMENT WORK CONTINUES
The set goals of the action plan (total of 54 different goals) - Increasing communality and open interaction (f = 18) - Improving communication and flow of information (f = 9) - Making work organisation and time management more efficient (f = 8) - Developing leadership (f = 4) - Increasing motivation (f = 7) - Increasing activities promoting occupational well-being (f = 8)	**The realised goals of the action plan (total of 66 realised goals)** - Communality and open interaction have increased (f = 3) - Communication and flow of information have improved (f = 11) - Work organisation and time management have been made more efficient (f = 6) - Leadership has been developed (f = 17) - Motivation has been increased (f = 7) - Activities promoting occupational well-being have been increased (f = 22)	**The schools update their goals for the promotion of occupational well-being development activities continue**

Figure 9. Goals and realised goals in the working community aspect in Estonian schools (f = number of occupational well-being groups which have mentioned the content in question).

School-specific action plans for promoting occupational well-being helped the school staff in planning occupational well-being and setting concrete and clear goals. Through the action plans, staff was able to consider the goals more profoundly, work on them and concentrate on the challenges faced by each school. As an example, school staff indicated that action plans facilitate the organisation of joint functions. The action plans provided concrete tools and a framework for developing occupational well-being, as issues are recorded and compiled in one place. Furthermore, the action plans allowed occupational well-being to be monitored, and the development work was more continuous. (Original publication II.)

The action plans mostly provided positive support for the development of occupational well-being, but they were also criticised for being unnecessary or not suitable for their purpose. For example, school staff were of the opinion that the action plan supports a good work spirit, which was described as an important value for a well-functioning school. All in all, the action plans had a positive effect on the occupational well-being of subjective, and through them, the health and well-being of staff, as well as subjective and communal empowerment improved as the staff was a part of necessary development work. (Original publication II.)

5.3 PHASE 3: CHANGES IN OCCUPATIONAL WELL-BEING AMONG SCHOOL STAFF (ORIGINAL PUBLICATION III)

In 2010, 486 people responded to the WYWI Questionnaire in Finland (N = 879) from 21 schools and 1 330 people (N = 1 978) in Estonia, from 40 schools. The response rates were 55% in Finland and 67% in Estonia (Phases 3–4; Tables 8–9; Original publications III–IV). The final measurement in 2013 had 545 respondents in Finland (N = 961) from 21 schools. At that time the response rate was 57%. Most of the Finnish school staff members responding to the questionnaire in 2013 were from 36 to 50 years old. In 2013, most of the respondents were teachers, and 4% were principals. Most respondents (82%) were permanent employees in 2013. The smallest number of respondents had worked in their profession for less than two years (8% in 2013). The share of those who had worked from three to more than 21 years was quite evenly distributed in 2013. Three Finnish schools that had participated in the initial measurement dropped out of the project due to more urgent work and thus did not participate in the final measurement. Three other Finnish schools joined the project later, and for this reason only responded to the final measurement. (Phases 3–4; Table 8; Original publications III–IV.)

In Estonian schools, 974 people (N = 1 871) from 38 schools responded to the final measurement in 2013. At that time the response rate was 52%. Among Estonian school staff in 2013, the fewest respondents were found in the group under 35 years of age. Most of the respondents in 2013 were teachers. (Phases 3–4; Table 9; Original publications III–IV.)

Table 8. Background variables of school staff members in the years 2010 (*n* = 486) and 2013 (*n* = 545) in Finland

| Background variables	Finland 2010		Finland 2013	
	n	*%*	*n*	*%*
Age				
− 35	110	23	110	20
36 – 50	227	48	257	48
51 –	139	29	173	32
Total	476	100	540	100
Profession				
Subject/special teacher	299	63	316	59
Primary school teacher	87	18	101	19
Primary school principal	17	4	23	4
School nurse	3	1	8	1
Other support staff	37	8	60	11
Other occupational group	30	6	30	6
Total	473	100	538	100
My contract type				
Permanent	361	76	437	82
Temporary	113	24	98	18
Total	474	100	535	100
Total number of years in this profession				
− 2	39	8	40	8
3 – 10	142	30	136	26
11 – 20	140	30	187	35
21 –	149	32	165	31
Total	470	100	528	100

Principals made up 8% of the respondents. Most of the staff (89%) were permanently employed in 2013. Most of Estonian school staff had worked in their profession for more than 21 years (36%), and the share of those who had worked from three to 20 years was quite evenly distributed in 2013. (Phases 3−4; Table 9; Original publications III−IV.)

Table 9. Background variables of school staff members in the years 2010 (*n* = 1 330) and 2013 (*n* = 974) in Estonia

Background variables	Estonia 2010		Estonia 2013	
	n	*%*	*n*	*%*
Age				
− 35	289	22	176	18
36 - 50	541	42	400	41
51 -	458	36	391	41
Total	1288	100	967	100
Profession				
Subject/special teacher	572	44	493	52
Primary school teacher	282	22	202	21
Primary school principal	92	7	72	8
School nurse	8	1	2	0
Other support staff	116	9	65	7
Other occupational group	217	17	119	12
Total	1287	100	953	100
My contract type				
Permanent	1155	90	855	89
Temporary	133	10	105	11
Total	1288	100	960	100
Total number of years in this profession				
− 2	108	8	88	9
3 – 10	436	34	269	28
11 – 20	302	23	259	27
21 –	446	35	338	36
Total	1292	100	954	100

After the working community intervention, changes in the working community-related interaction factors (working atmosphere and appreciation of others' work, co-operation and information, and work management and time use) were assessed. Also, the associations between the working community-related interaction factors and subjective occupational well-being and general working community's occupational well-being among the school staffs in Finland and Estonia were examined.

According to the results, changes were observable in the working community-related interaction factors. In Finland, work management and time use showed a statistically significant improvement ($p < 0.001$), but the corresponding figure weakened slightly in Estonian schools ($p < 0.034$). Figure 10 illustrates with mean how work management and time use improved in Finnish schools and declined in Estonian schools. Changes were observable in the percentages of other working community-related interaction factors: working atmosphere and appreciation of others' work and co-operation and information, but these were not statistically significant. (Original publication IV.)
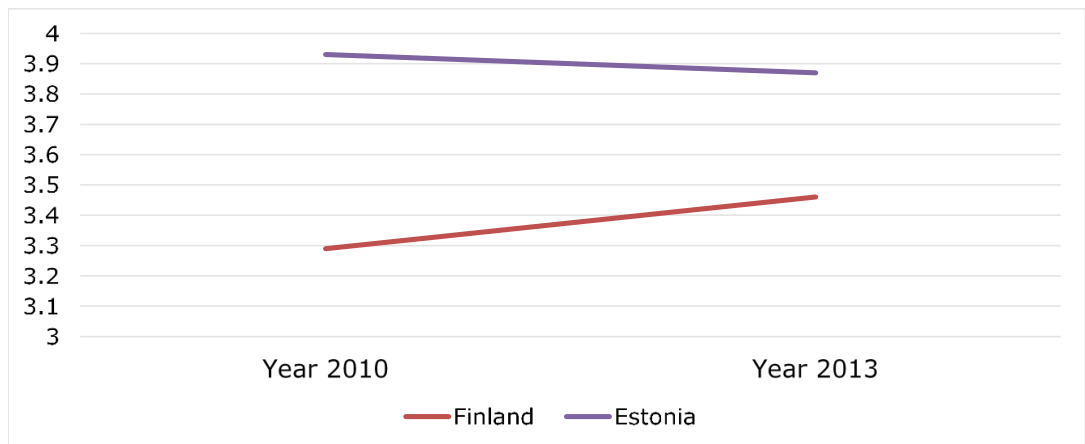
Likert 1−5: 1 = very poor, 2 = quite poor, 3 = moderate, 4 = quite good and 5 = very good

Figure 10. The development of work management and time use (SD) in Finland (year 2010 $n = 486$ and year 2013 $n = 545$) and Estonia (year 2010 $n = 1\ 330$ and year 2013 $n = 974$).

The working community-related interaction factors were associated with the subjective occupational well-being of school staff in Finland and Estonia in 2010 and 2013 ($p < 0.001$). Correlations were moderate. For example, work management and time use correlated moderately in Finland (year 2010 $r = 0.361$ and year 2013 $r = 0.414$) as well as in Estonia (year 2010 $r = 0.366$ and year 2013 $r = 0.408$). (Original publication III.)

The working community-related interaction factors were also associated with general working community's occupational well-being of the school staff with regard to the work community ($p < 0.001$). Correlations were strong/moderate. For example, working atmosphere and appreciation of others' work correlated strongly with well-being of the working community in Finland (year 2010 $r = 0.576$ and year 2013 $r = 0.587$), and moderately in Estonia (year 2010 $r = 0.395$ and year 2013 $r = 0.403$). (Original publication III.)

The subjective level of occupational well-being among staff in Finnish schools was almost unchanged after the working community intervention. In 2013, 18% of Finnish school staff considered their subjective occupational well-being to be very good, and there was 2%

positive development. More than one-half of the respondents (53%) considered their subjective occupational well-being to be quite good (a decline of 2%). (Table 10; Original publication III.)

The level of general working community's occupational well-being in the working communities of Finnish schools also remained almost unchanged. In 2013, general working community's occupational well-being was assessed as very good by 6% and quite good by 47% (both developed positively by 2%). (Table 10; Original publication III.)

Table 10. Changes in subjective occupational well-being and general working community's occupational well-being in Finnish schools (year 2010 *n* = 486 and year 2013 *n* = 545)

Variables	Finland 2010						Finland 2013						
	Very poor	Quite poor	Mode-rate	Quite good	Very good	Mean/ SD	Very poor	Quite poor	Mode-rate	Quite good	Very good	Mean/ SD	p value
	%	%	%	%	%		%	%	%	%	%		
Subjective occupational well-being	1	3	25	55	16	3.81 0.77	1	7	21	53	18	3.82 0.84	0.566
General well-being of the staff in my working community	1	9	41	45	4	3.42 0.77	2	12	33	47	6	3.44 0.85	0.339

SD = standard deviation. P value = Mann-Whitney test (*p* < 0.001 statistically significant)

The level of subjective occupational well-being remained almost unchanged in Estonian schools. In 2013, the share of Estonian school staff who perceived their subjective occupational well-being as very good was 10% (a decline of 2%), and the share of quite good was 50% (a decline of 1%). (Table 11; Original publication III.)

There were also no changes in the level of general occupational well-being in Estonian school working communities as a result of the working community intervention. In 2013, 5% of the staff assessed the general occupational well-being of the working community as very good, and 50% as quite good. (Table 11; Original publication III.)

Table 11. Changes in subjective occupational well-being and general working community's occupational well-being in Estonian schools (year 2010 *n* = 1 330 and year 2013 *n* = 974)

Variables	Estonia 2010						Estonia 2013						
	Very poor	Quite poor	Mode-rate	Quite good	Very good	Mean/ SD	Very poor	Quite poor	Mode-rate	Quite good	Very good	Mean/ SD	p value
	%	%	%	%	%		%	%	%	%	%		
Subjective occupational well-being	0	2	35	51	12	3.71 0.71	1	2	37	50	10	3.68 0.71	0.331
General well-being of the staff in my working community	0	1	42	51	6	3.61 0.63	0	2	43	50	5	3.58 0.62	0.297

SD = standard deviation. P-value = Mann-Whitney test (*p* < 0.001 statistically significant)

5.4 PHASE 4: SCHOOL STAFF STRUCTURAL EQUATION MODELS OF OCCUPATIONAL WELL-BEING (ORIGINAL PUBLICATION IV)

The Occupational Well-being of School Staff Model (OWSS Model) from 2005 (Saaranen et al., 2007) was tested on material collected from staff in Finland and Estonia at two different times (years 2010 and 2013). In the examination of occupational well-being among school staff, the endogenous variables were the working community's general staff well-being in the worker's working community and the school staff member's subjective occupational well-being at this workplace compared with the best level, and these were explained through the sum variables 1) working space, postures and equipment (working conditions), 2) workload (worker and work), 3) working atmosphere and appreciation of others' work (working community) and 4) substantive competence and interaction (professional competence).

On the basis of structural equation modelling (Figure 11), the Finnish data from 2010 and 2013 worked well in the original model of 2005, so there was no need for further development of the model. General occupational well-being of the working community was best explained by working atmosphere and appreciation of others' work, both in 2010 (0.50) and in 2013 (0.56). Working space, postures and equipment (year 2010; 0.13 and year 2013; 0.10) and workload (year 2010; 0.08 and year 2013; 0.11) were also related with the general occupational well-being of the working community. (Figure 11; Original publication IV.)

The subjective occupational well-being of Finnish school staff were explained by working atmosphere and appreciation of others' work (year 2010; 0.25 and year 2013; 0.36) and workload (year 2010; 0.26 and year 2013; 0.25). Substantive competence and interaction were also related to subjective occupational well-being in 2010 (0.13) as well as in 2013 (0.12). (Figure 11; Original publication IV.)

In the Finnish models, all sum variables were intercorrelated. With regard to the coefficient of determination in the Finnish model, 35% in 2010 and 43% in 2013 was related to the general occupational well-being of the working community. The coefficients of determination for subjective occupational well-being were 25% in 2010 and 34% in 2013. Tests for the fit of the model supported it. (Figure 11; Original publication IV.)
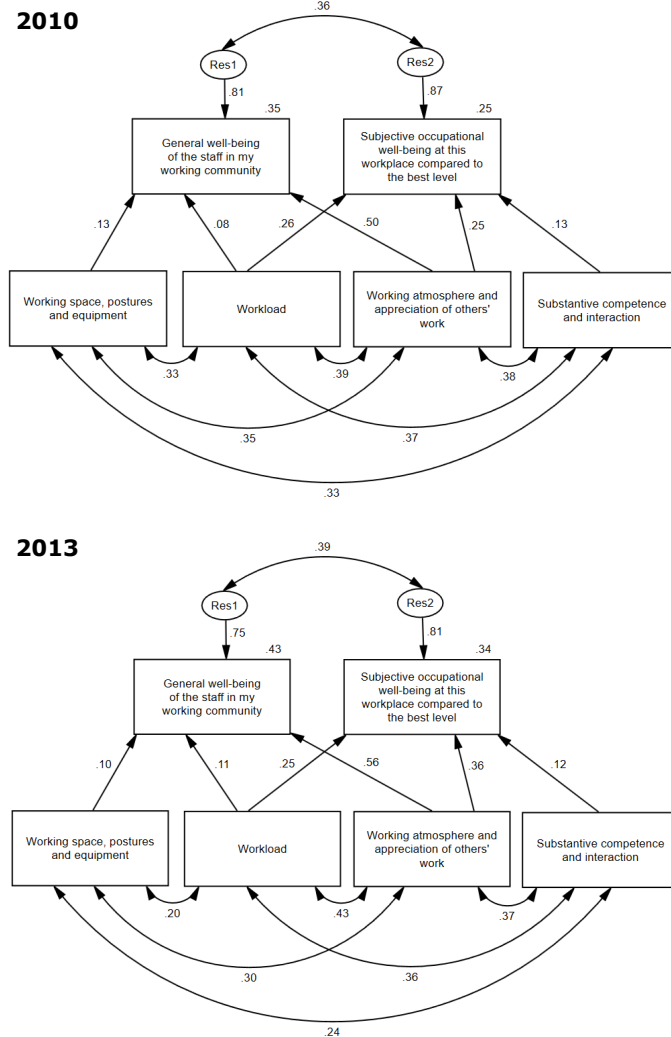
Figure 11. Finnish OWSS structural equation models further tested in 2010 and 2013 (standard estimate).

On the basis of the Estonian materials, the model was improved in relation to the original model (Figure 12). However, the main structures of the model remained the same. In the Estonian models, working atmosphere and appreciation of others' work (year 2010; 0.27 and year 2013; 0.27), as well as working space, postures and equipment (year 2010; 0.23 and year 2013; 0.29) explained the general working community's occupational well-being best. Workload had a minor effect on the general working community's occupational well-being in 2010 (0.09) and a moderate effect in 2013 (0.10). (Figure 12; Original publication IV.)

Subjective occupational well-being was explained by all sum variables in both models. The variables with the greatest effect on subjective occupational well-being were working atmosphere and appreciation of others' work (year 2010; 0.24 and year 2013; 0.23), as well as working space, postures and equipment (year 2010; 0.28 and year 2013; 0.33). The effects of workload (year 2010; 0.10 and year 2013; 0.09), as well as substantive competence and interaction (year 2010; 0.04 and year 2013; 0.09) on subjective occupational well-being were minor or moderate. (Figure 12; Original publication IV.)

All sum variables were intercorrelated both in 2010 and in 2013. In 2010, 22% of the coefficient of determination of the model was related to the general occupational well-being of the working community, while in 2013 the corresponding coefficient of determination was 27%. In 2010, the coefficient of determination for subjective occupational well-being was 25% and in 2013 it was 30%. Tests for the fit of the model supported it. (Figure 12; Original publication IV.)
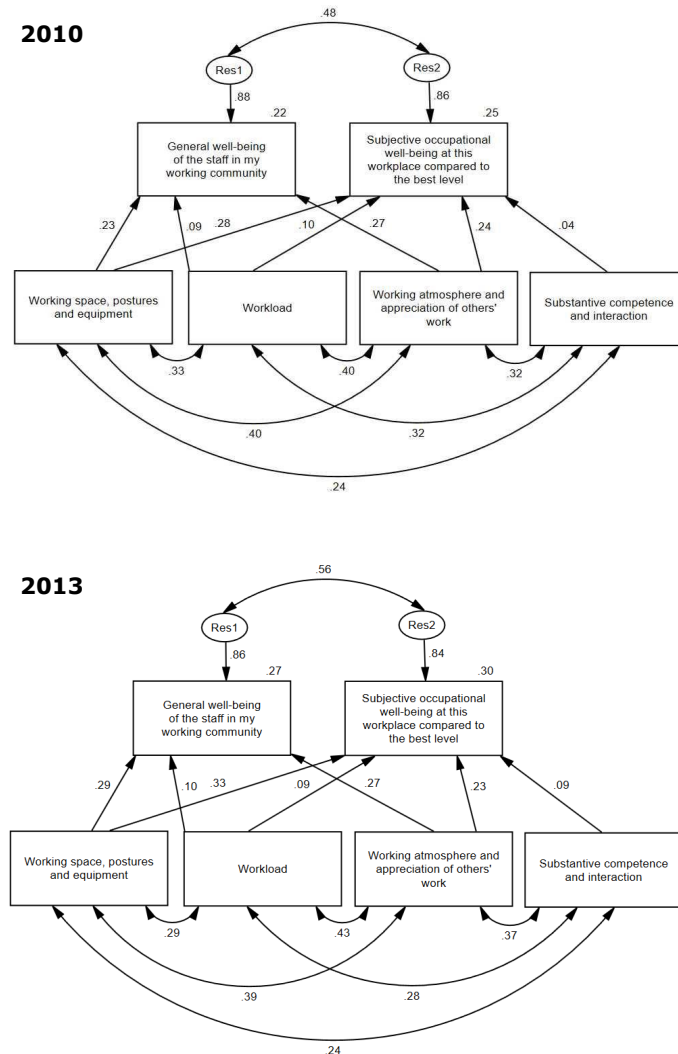

Figure 12. Estonian OWSS improved structural equation models in 2010 and 2013 (standard estimate).

5.5 SUMMARY OF THE RESULTS

The first phase of the study examined the promotion of occupational well-being in a Finnish pilot school. After this, the goals for promotion of occupational well-being among school staff in Finland and Estonia and the realised activities were described, as well as the significance of

action plans in development work. At the next step, the changes in the working community-related interaction factors as a result of the working community intervention were assessed, as well as the associations between the working community-related interaction factors and subjective occupational well-being and the general occupational well-being of the working community among Finnish and Estonian school staff. Finally, the study included further testing and development of the original OWSS Model dating back to 2005 (Saaranen et al., 2007).

In summary, the study revealed that the staff of the Finnish pilot school, as well as the staffs of the schools in Finland and Estonia, developed versatile activities in order to promote occupational well-being in their communities. The development activities were aimed at all aspects of occupational well-being among school staff (worker and work, working conditions, professional competence and working community). Schools in Finland and Estonia developed occupational well-being using action plans for the promotion of occupational well-being, and these were perceived to be a good tool for planning and implementing occupational well-being.

After the work community intervention, the working community-related interaction factors of Finnish and Estonian school staff improved, particularly in Finnish schools. All working community-related interaction factors (working atmosphere and appreciation of others' work, co-operation and information, and work management and time use) were associated to subjective occupational well-being and that of the working community in general both in Finnish and Estonian schools at all times assessed (year 2010 and 2013). In contrast, there were no significant changes in subjective occupational well-being or the general occupational well-being of the working community among Finnish or Estonian school staff.

The original OWSS structural equation model of 2005 was tested using the materials from Finland and Estonia in 2010 and 2013. Further testing indicated that all of the aspects of occupational well-being (worker and work, working conditions, professional competence and working community) are connected to the occupational well-being of school staff even though working community aspects (including leadership) seemed to be most significant for well-being particularly in Finnish schools.

6 Discussion

6.1 DISCUSSION OF THE STUDY RESULTS

The study examined the occupational well-being of school staff, which was developed through concrete activities in a dialogue between theory and practice. The study was to produce practical knowledge and develop the theoretical basis for participatory promotion of occupational well-being among school staff in primary and upper secondary schools leading to change in well-being and health. Next, the results of the study will be examined and considered in accordance with the specific study objectives. At first (Chapter 6.1.1), the promotion of occupational well-being and the promotion of occupational well-being and development of leadership in a Finnish school will be considered. After that (Chapter 6.1.2), extensive development of occupational well-being in Finnish and Estonian schools follows. Subsequently (Chapter 6.1.3), occupational well-being is discussed from the viewpoint of interaction factors related to the working community. Finally (Chapter 6.1.4), the occupational well-being of school staff as a whole is examined through structural equation modelling.

6.1.1 Promotion of occupational well-being and development of leadership
The case study at the Finnish pilot school describes the promotion of occupational well-being and development of leadership between 2000 and 2009. Educational sectors are challenging and versatile operating environments that also challenge the occupational well-being of staff. The study proved that a working community is able to respond to these well-being and health challenges itself and to promote occupational well-being and leadership starting from the community's own resources and development needs.

The development activities prepared by the school staff were collaborative and versatile activities to promote occupational well-being, and were based on the staff's participation and involvement. Points of emphasis in the collaborative activities included interaction factors, networking, and trust, which developed leadership-related factors among other things. An increase in social capital seemed to be a substantial factor in the positive development of well-being. This conclusion is reinforced by the fact that communality and social capital have also been verified to promote well-being and health in previous study (Nieminen et al., 2013; Minckler, 2014; Nieminen et al., 2015; Saaranen et al., 2015).

In addition to social capital, the schools staff also developed other immaterial capital such as human capital (e.g. professional competence) and structural capital (e.g. work management), so occupational well-being capital (Larjovuori et al., 2015; Manka & Manka, 2016) became crucial also in this study. It is justified to apply the wide concept of occupational well-being capital, which also includes social capital, to the development of occupational well-being in communities.

The results of the study emphasised the principal's significant role as a promoter and enabler of occupational well-being. The principal's role was minor at first, but as the project proceeded, the principal's role as a leader of change became stronger. Leadership of change has been noted to increase social capital, which also has a link to job satisfaction (Minckler, 2014). Had the principal not committed to the development of occupational well-being during the process, this might have hampered the staff's possibilities of promoting their own

occupational well-being. The principal's role is particularly emphasised as an enabler of development work, which means that the principal's must provide time and financial resources for the development of occupational well-being. An encouraging style of leadership improves teachers' job satisfaction in general (You et al., 2017). If the principal does not have time to participate in development work in person, he or she must designate people who have been delegated decision-making power and who shall be responsible for the development of well-being.

The principal is a part of the working community, and the principal's occupational well-being cannot be ignored. This is particularly true as previous study has indicated that work is stressful for principal's (Spillane & Lee, 2014; Darmody & Smyth, 2016; Maxwell & Riley, 2017). From the principal's viewpoint, it is important that the study results are also communicated to the principal; as in this study, where the school community compiled objects for development on a flip chart and discussed the study results in joint events. As leadership developed, positive feedback towards the principal increased as well. Previous study has also indicated that school principals need collective feedback, particularly in organisational changes (Chong et al., 2010). Positive feedback probably leads to a positive circle, and motivates the principal to develop even further and commit to the development work.

In this study, factors related to leadership developed particularly well. In addition to positive study results, the results indicated that continuous development was a burden on the staff's resources. Previous study, such as Park and So (2014) also indicates that lack of time was a factor restricting development work, as there was not enough time for long discussions. This could also mean that it is easy for staff to invoke lack of time when they actually lack the motivation for development work. If individual employees are not genuinely interested in developing their own work, this will lead to decreased job satisfaction. The core of development work is a desire to invest in one's own work and the working community, and this creates an active and caring collaborative atmosphere. The development of occupational well-being is time-consuming and may also momentarily increase the workload of individuals. Development work cannot be done at the expense of basic work so that the total would be more of a burden than a source of empowerment for staff. This viewpoint shall be taken better into account in the planning and implementation of study, and staff shall be allowed more time for development work. It would be good to integrate development work more tightly as a part of everyone's basic work, requiring staff and management to jointly and interactively manage the use of time and resources for development work. The vulnerable point of development work may be the development meetings if they are inefficient. Meetings related to development work require good meeting practices, such as planning in advance and making clear and documented decisions.

In the beginning of the study, the starting point for the development work and activities was the teacher, but as the study proceeded, the development activities became wider in scope, covering the entire school staff. Distributing responsibility for development work among staff may also be a factor that reduces extra work. Furthermore, a school is a workplace for many different professional groups and it must support everyone's well-being. Multi-professional collaboration is important in schools (Eteläpelto et al., 2015) and is also associated with challenges such as the lack of appreciation (Fisher & Pleasants, 2012) and lack of resources (Devecchi et al., 2012). Collaboration within the scope of development work helps people to get familiar with their colleagues, and this may also lead to positive development in multi-professional collaboration. In the following, the results of the PAR project in Finland

and Estonia, which developed occupational well-being from the entire staff's viewpoint are examined.

6.1.2 Extensive development of occupational well-being in Finnish and Estonian schools

The promotion of occupational well-being was evaluated through mid-term evaluation. After the initial measurement, the school staff in Finland and Estonia prepared an action plan for the promotion of occupational well-being, and on this basis the communities started to develop occupational well-being among their staff. The goals set in the action plans, the concrete development activities to promote occupational well-being, as well as the significance of the action plans in development work were evaluated through mid-term evaluation. The main result indicated that the staff at the Finnish and Estonian schools had prepared versatile goals to promote occupational well-being in all of its aspects (worker and work, working conditions, professional competence and the working community), and the goals had been achieved well, even better than planned.

Goals had particularly been set by schools staff for working community-related interaction factors (the working community aspect). According to previous study, stress at schools is particularly caused by working community factors such as time management challenges (Devecchi et al., 2012; Philipp & Kunter, 2013; Park & So, 2014), lack of appreciation (Fisher & Pleasants, 2012), teachers' atmosphere factors (Darmody & Smyth, 2016), and the schools staff had taken these problems particularly in focus. Differences between the countries could be seen in this aspect. Staff in Estonia had set goals for increasing motivation, unlike staff in Finnish schools. Motivation had been increased mainly through various reward systems (such as nominating "good colleague" titles). Kelly and Antonio (2016) stated that the amount of feedback given in teachers' online peer support was minor. The culture of rewarding, giving feedback and increasing motivation should be intensified also in school communities where it is quite foreign. This view is supported by the fact that rewarding, feedback and appreciation are also among the factors affecting well-being in occupational well-being models (Scott & Dinham, 2003; Rauramo, 2004; Bermeji-Toro et al., 2016; Manka & Manka, 2016). Small rewards may have great significance on an individual employee's feeling of appreciation and the entire working community's work motivation.

The action plans made the school staff´s development work visible, and the planning for promotion of occupational well-being was concrete and helped to set clear goals. The action plans made it possible to base development work on the community's own resources and needs. The school staff engaged in development work quite extensively across all aspects of occupational well-being: the worker and work, working conditions, professional competence and the working community, even though the schools had been instructed to focus their development work on the aspects that most needed to be developed. The work could have been prioritised even more on the aspect that urgently requires more development. This could have made the development work even more concrete, and the resources available, for example in terms of money and time, would have been utilised even more efficiently.

In the future, the work for developing occupational well-being among school staff should also efficiently utilise virtual environments. It seems that the work for developing occupational well-being has not yet been migrated to virtual environments to any larger extent but they are efficiently utilised in measuring occupational well-being; for example, the School Well-being profile by the Finnish National Agency for Education (2004) at (http://www10.edu.fi/hyvinvointiprofiili/) enables real-time knowledge-based decision

making. The School Well-being profile has been developed on the basis of The Schools Well-being Model (see Konu & Rimpelä, 2002). Communication on social media is a substantial part of the community feeling of a school community, and provides opportunities for peer support, among other things (Kelly & Antonio, 2016). The utilisation of virtual environments may also contribute to solving the challenges of time use in development work that were mentioned previously, as virtual environments provide the opportunity for worker to work independent of place and time. In the future, social media operating environments should be taken better into account as a factor affecting occupational well-being capital as well. Community services make it possible to increase the efficiency of communication among a working community, but this also provides a new channel for bullying, for example. Bullying at work has been noted to have far-reaching impacts on primary school teachers and principals, as seen in Fahie and Devine (2014).

The identification and reinforcement of community resources are starting points for research in health science and nursing science. With the help of their resources, employees and organisations can be successful in good and difficult times alike (Hakanen, 2009). The identification of resources and solution-oriented thinking give empowerment to the workers and boost the promotion of occupational well-being. It would be important for every school community to develop its occupational well-being from the basis of its own communal development needs, as was done in this study. Leadership, the organisation and society should support communities' own innovations for developing occupational well-being, as this increases the efficiency of development and, above all, makes it feel more relevant and meaningful. It is possible that the working communities would not have implemented so many development actions if the substance of development was determined from the outside, for example by the researchers or the principal. PAR makes it possible for staff to no longer be the object of operation but developers of their own occupational well-being.

Action plans made the development work of school staff visible, and the evaluation and updating of action plans boosted new development activities, which made it possible to learn new things and guided the actions of school staff towards the overall purpose of the project. Next, the changes imposed by the working community intervention are examined.

6.1.3 Working community-related interaction factors building occupational well-being

After the final measurement of the PAR project, changes in the working community-related interaction factors (working atmosphere and appreciation of others' work, co-operation and information, and work management and time use) as a consequence of the working community intervention were examined. Also, the associations between the working community-related interaction factors and subjective occupational well-being and the general working community's occupational well-being among the school staffs in Finland and Estonia were examined. Finally, the significance of the working community interventions on subjective occupational well-being and the general working community's occupational well-being among the school staffs in Finland and Estonia was examined.

The working community-related interaction factors developed positively, particularly among Finnish school staff. Above all, work management and time use improved by a statistically significant figure in Finnish schools and declined slightly in Estonian schools, but the latter was not statistically significant. The same phenomenon was quite evident in other working community-related interaction factors as well; the changes in Finnish schools were slightly more intense and positive in comparison with Estonia.

However, positive changes could also be seen in individual variables at the Estonian schools. It was interesting that staff in Estonian schools were still more satisfied with working community-related interaction factors compared to Finnish schools. This study result was surprising because preventive occupational health care, for example, is only statutory in Finland (Occupational Health Care Act, 21.12.2001/1383). Generally speaking, not much attention had been paid to occupational well-being in Estonian school communities before this PAR, so it is natural that criticism may increase with learning and deeper knowledge. Changes (such as closing down schools and reforming the schooling system) have also caused increased uncertainty, and activities taken in the PAR may have mitigated this. Thus the working community intervention may have resulted in greater positive significance in addition to the results reported here. It also seems that at the start of the project, there was more need for developing occupational well-being among Finnish school staff compared to their Estonian counterparts, so on the other hand, it is not surprising that more positive development was seen in Finnish schools.

One of the substantial results of the study was that all working community-related interaction factors (working atmosphere and appreciation of others' work, co-operation and information, and work management and time use) were associated with the subjective occupational well-being and general occupational well-being of the working community both in Finnish and Estonian schools. Working community-related interaction factors can be developed, for example, through a working community intervention based on the ideas behind collaborative learning. Programmes based on collaborative learning have brought positive results in school communities also in previous study (Owen & Davis, 2010; Park & So, 2014; Kempen & Stey, 2017). In the working community intervention, school staff developed their own occupational well-being, solved their school community's challenges and problems and set shared goals in order to solve the development needs. Thus the school staff jointly promoted health and well-being in their own cultural environment through social interaction and learning, with a shared goal of developing occupational well-being.

No clear changes were visible in the subjective occupational well-being of school staff or the general occupational well-being of the working community after the working community intervention even though changes had occurred in the individual variables of the interaction factors. The activities to develop occupational well-being were targeted at all aspects of occupational well-being, even though this study focused on examining the working community-related interaction factors. In any case, some of the development activities were targeted at solving indoor air problems, for example (Original publication II). Previous study has shown that indoor air problems are a health and well-being factor for school staff (Ervasti et al., 2012; Rantala et al., 2012). Resolving and correcting indoor air problems take time and may even have a momentary detrimental effect on occupational well-being, for example if the school community has to relocate to temporary premises for the duration of repairs. The results of correcting such serious disadvantages may not necessarily be visible during this working community intervention.

On the other hand, it can be questioned whether changes would have been more intense if the available resources were initially focused on the aspect requiring most change; this would have resulted in a large volume of clearly focused development actions in one particular aspect. The study provided indications that working community-related interaction factors are particularly associated with to occupational well-being. It seems that more development would possibly have taken place in occupational well-being if development activities had first

been focused more clearly on the working community aspect and after that to the other aspects of school staff's occupational well-being. However, the operating environment of schools is multiform and under continuous change, which makes it challenging to develop working community intervention and measure the changes; there is no certainty on which change is a result of the working community intervention and which is caused by other factors. In addition to working community-related interaction factors, occupational well-being is affected by several other aspects of occupational well-being. In the following, the factors that build up overall occupational well-being among school staff will be examined more extensively on the basis of structural equation modelling.

6.1.4 Building of occupational well-being among school staff

Finally, occupational well-being among school staff is viewed as a whole. The study included further testing and development of the original OWSS Model (Occupational Well-being of School Staff Model) from to 2005 (Saaranen et al., 2007) on the Finnish and Estonian data collected in 2010 and 2013. Testing and developing the model is a continuous process that has started already in 2002. The Finnish data from 2010 and 2013 were well suited to the original OWSS Model but the Estonian model required improvement. In all models, all of the sum variables from all aspects of occupational well-being affected the occupational well-being of school staff, and indirect connections could also be perceived between the sum variables. The Finnish and Estonian models explained better general occupational well-being of the working community than subjective occupational well-being. Further testing of the original model with new data (2010 and 2013) reinforces the understanding that the occupational well-being of school staff is affected by all aspects of occupational well-being: worker and work, working conditions, professional competence and working community. In spite of improvements to the Estonian models, the connection to the variable substantive competence and interaction remained weak. This may be due to the fact that the questionnaire form has few variables related to this, which will impose a challenge for the development of the WYWI Questionnaire from this viewpoint. All in all, the questionnaire should be tested and developed further. In particular, the questionnaire form should be developed to the present day so that it would account for issues such as virtual reality, as well as information ergonomics and neuroergonomics, which are challenges to today's working life. For example, professional competence has gained new characteristics in the information society through new learning methods and means.

The working community seemed to have particularly great significance in explaining occupational well-being, especially at Finnish schools. The result was the same also when testing the original model (Saaranen et al., 2007). Communality and social support are also emphasised in many other occupational well-being models (e.g. Rauramo, 2004; Utriainen et al., 2015; Manka & Manka, 2016). It should be noted that the OWSS Model does not account for factors external to the school community or the effects of the environment. Occupational well-being is also related to everyday life such as family and leisure time. Previous occupational well-being models have accounted for these factors more clearly, such as organisational and social structures (e.g. Ilmarinen, 2006; Kuoppala et al., 2008; Sinisammal et al., 2011) and factors related to students (Konu & Rimpelä, 2002; Scott & Dinham, 2003). However, the model is used particularly for promoting occupational well-being among staff, so it is justified that the model only accounts for factors that the working community is able to influence.

Occupational well-being is manifold (Horn, et al., 2004; Juniper, 2011; European Agency for Safety and Health at Work, 2013), and this also brings challenges to the modelling of occupational well-being. However, the model that has now been under further testing contributes to supporting the conceptualisation of occupational well-being and the formulation of theory. It can be used to identify factors related to school staff's occupational well-being, thus also serving as a theoretical frame of reference for understanding the phenomenon of occupational well-being. The model has now been tested over a long term in two different countries, and these study results reinforce the earlier understanding that these structural equation models can be utilised in the practical work of promoting occupational well-being in school communities.

6.2 ETHICAL CONSIDERATIONS

The study is based on scientifically acceptable practice, which is also the foundation for the ethicality of research (Finnish Advisory Board on Research Integrity, 2012). The ethicality of study has been crucial throughout the research process: from the research idea to the publication of results (Grove et al., 2013). The material for this study has been collected using ethically sound data collection methods, and reporting is in compliance with the requirements set for scientific knowledge (Finnish Advisory Board on Research Integrity, 2012).

The study was designed on the principles of participatory action research, with partnership between the researchers and the research subjects in focus (Baum et al., 2006). During the study, the researchers engaged in genuine collaboration with the communities. Dialogue was aimed at equality but in many cases, it has actually emerged from the researchers' viewpoint; however, the aim has been to actively support development work at schools. The opinions of school staff were heard in planning and implementation of the study; for example, the action plan forms were prepared together with school staff. The study has been a joint effort to reach common goals, and responsibility has been shared between school staff engaged in development work and the researchers. In accordance with the principles of participatory action research, the participants themselves developed their working community from their own starting points. The task of the research group was, jointly with school staff, to direct actions towards the overall goals of the project. As is characteristic of action research, the research group was flexible and put effort into responding to the participants' needs.

The basis for the ethicality of research is that the subject is scientifically justified and provides new knowledge on the phenomenon being researched. When collecting the research materials, the research subjects have been treated with respect, taking ethical principles into account. The rights of participants and their realisation have been important. The study complies with the general ethical principles: respect for autonomy, privacy and data protection (Grove et al., 2013). Participation in the study has been voluntary, and withdrawal has been possible at any stage. The participants have been guaranteed protection of anonymity, and no individual respondents can be identified in the research reporting. However, it must be kept in mind that the protection of confidentiality and anonymity in this action research is not completely flawless. It is possible that participants within the school communities could have identified other participants even though data collection and analysis has been confidential.

Preventing harm to the research subjects is an important ethical principle (Grove et al., 2013). In accordance with the principles of action research, solutions to problems are expected to have a positive effect on the participants (Ivankova, 2015). The study did not cause any actual harm to the participants; the aim of action research was to empower school communities to promote their occupational well-being. However, one may consider the effect of the action research on the atmosphere of the working community and the relationships between the principal and staff, for example in situations where the principal did not allocate sufficient resources to the development of occupational well-being. Themes associated with relationships of power (such as those between research subjects and researchers) are generally considered challenges to action research (Baum et al., 2006). On the other hand, relationships of power between the research subjects can also be considered. The main responsibility for promoting occupational well-being was carried by the occupational well-being groups formed of school staff, and these groups have had power over the school community development process. It is possible that the actions developed by such a group have not been accepted by all employees, and this may have affected relationships among staff.

In the first phase of the study, written permission for participation in the study was requested from the principal of the Finnish pilot school before each WYWI Questionnaire. The quantitative questionnaires were preceded by a cover letter in 2004 and 2005, and each participant signed an informed consent on participating in the study. In connection with the electronic questionnaire in 2009, the participants were informed of the study through an Information to the research subject attachment. The participant gave his or her informed consent by responding to the electronic questionnaire. Before the qualitative thematic group interview, the participants were told about the ethicality of research (including informed consent, confidentiality, anonymity, the voluntary nature of participation and the right to refuse or interrupt the interview). Before the expert interview, the interviewee was provided with the above information concerning the study, both by email in advance and orally immediately before the interview. Giving the interviews served as informed consent.

The PAR project Promotion of School Community Staff's Occupational Well-being – Action Research Project in Finland and Estonia, 2009–2014 received a favourable opinion from the Research Ethics Committee of the Kuopio University Hospital District in Finland in September 2009. The project also has written research permits from the participating organisations. One or more contact persons were designated for each school. The contact person was informed of the study, and provided information to the participants at the schools. The participants to the study were also able to get additional information directly from the research group. In the second phase of the study, an electronic open questionnaire was implemented, and in this connection, appropriate information on the research and its ethical aspects was provided. Responding to the electronic questionnaire served as informed consent. In the third and fourth phases, material collected through the WYWI Questionnaire was used. The participants were informed using an Information to the research subject attachment, and responding was based on informed consent. All documents related to the study and the actual research materials have been and will be kept confidential and stored appropriately in accordance with instructions issued by the University of Eastern Finland.

6.3 DISCUSSION OF THE RELIABILITY AND VALIDITY OF THE STUDY

In assessing the reliability of research, both the reliability of the research process and the reliability of the research results must be taken into account (Grove et al., 2013). The theoretical background of the study has been described as topically, extensively and reliably as possible, treating other parties' publications with respect. The people participating in the study have been selected appropriately so that they know the phenomenon being studied and are able to respond to the questions presented in the study.

The MMR approach of the study (wide triangulation of methods and materials) adds to the reliability of research. The choice of a MMR approach is justified for the very reason that this study of health, education and nursing sciences was directed towards practical actions. Branches of science with a practical orientation in particular gain the most benefit from MMR (Sormunen et al., 2013a). Furthermore, this made it possible to examine the phenomenon deeply and comprehensively and obtain a rich set of data, which also adds to credibility and validity by combining quantitative and qualitative data sources (Ivankova, 2015).

A crucial factor affecting the reliability of the study is the quantitative WYWI Questionnaire. The study must be valid; that is, an indicator must measure what it is intended to, so that the results will allow the appropriate conclusions to be drawn. Furthermore, the indicator must examine whether it measures a concept coherently and precisely (Ivankova, 2015). The indicator used in this study has been used in several previous studies (Saaranen et al., 2006; Saaranen et al., 2007; Saaranen et al., 2012; Saaranen et al., 2013) and has previously been found reliable (Saaranen et al., 2006). Research must also take into account the challenges brought by foreign language and culture; for example, the query forms were implemented in the native languages of both countries, and the common language in the research group was English. It is a prerequisite for a research group's work that they have a common language and a shared commitment and interest in conducting MMR (Sormunen et al., 2013a).

External validity can be evaluated by examining the ratio of sample to nonresponse. The quantitative surveys were implemented as complete enumeration. The response rates of staff at the Finnish pilot school were excellent, and the response rates of staff at the Finnish and Estonian schools were good in both the initial and the final measurements. Excellent and good response rates indicate that the subject was important to the participants.

The quantitative research data from the Finnish pilot school was small, and reliable testing of statistical significance was impossible. This can be considered a factor weakening the reliability of the study. Quantitative data was supplemented by qualitative interviews that produced a rich set of material. The reliability of the group interview analysis is the description and reporting of the analysis, which have been carried out with utmost care. The categorisation of inductive content analysis is congruent and formed of the material.

Preparations for the expert interview at the pilot school were good. The interview carries the risk that the expert may remember past events incorrectly even though a process description prepared in advance supported the interviewee in recalling memories. Another method could have been selected for analysing the expert interview (e.g. narrative analysis) because the analysis cannot be considered fully reliable. However, the expert interview and its material constituted only a small part of the entire study. The reliability of the expert interview is improved by the fact that the interviewee was allowed to verify the correctness of the results. The results from this Finnish pilot school can be generalised to this case, so

external validity can be considered valid. The results only cover this single school, and these results cannot be generalised to apply to other Finnish school communities.

The material from the electronic open questionnaire was very representative and rich. Credibility of the study is improved by the fact that the participants are active promoters of occupational well-being in schools. The aim was to conduct the survey in a fully uniform manner in Finland and Estonia but this did not proceed fully as planned. In Finland, the survey was only sent to schools that had returned the action plan, but in Estonia, it was sent to all of the schools. In Finland, the schools that did not return the action plan were no longer actively involved in the project, but this phenomenon did not exist in Estonia. Also the schools that did not return the action plans continued to be active participants in the PAR. The categorisations of the analysis were congruent and formed of the material without pre-expectations. The results from the survey cannot be transferred to all work communities because the development of occupational well-being activities produced by the schools are unique.

The quantitative materials from the Finnish and Estonian schools were not identified on the individual level because the intention was to examine changes on the school-specific level. The possibility of incorrect conclusions was minimised by defining $p < 0.001$ as the limit for statistical significance; thus, differences in content with a minor significance do not show as statistically significant. Furthermore, the initial measurement included three Finnish schools that dropped out of the project due to more urgent work. Correspondingly, the final measurement included three Finnish schools that only participated in the project after the initial measurement. In the initial phase, school-specific initial measurements were conducted at these schools to serve as the basis for planning the promotion of occupational well-being at the particular school. Also, natural changes of staff happened within the schools (such as retirement, family leave or change of workplace). However, these changes are minor in total and this may not significantly affect reliability.

The research data can be considered sufficient and suitable for the structural equation model. The data is larger than the data used for constructing and testing the original OWSS Model, and the response rates were quite good in both countries. The alpha values of the factors vary between 0.53 and 0.89, giving good certainty of their functionality. When evaluating the fit of the Finnish and Estonian models with the data, the chi-squared values were small, and on this basis, the zero hypotheses of the models remained valid. RMSEA, which is a test of model compatibility, indicated that the models fit the data well. The same was indicated by the compatibility indices CFI and NFI (Original publication IV).

6.4 CONCLUSIONS AND RECOMMENDATIONS

This study produced knowledge for school staff and health promotion professionals for the purpose of promoting occupational well-being among school staff. A well-being school staff has the resources to support the health, growth and learning of children and young people in co-operation with families as well as the health and social services system in today's competitive society. Structural equation models are suitable for promoting occupational well-being among school staff. They serve the entire staff, taking school-specific characteristics into account. The model can be utilised in school communities, making development work more systematic and evidence-based than before. Professionals in nursing, education and health,

school staff and administration, as well as educators and researchers in the sector can utilise the research results and operating models in health promotion work.

The following conclusions and recommendations are presented on the basis of the results:

1. The school staff can maintain and improve occupational well-being and occupational well-being capital themselves through different development interventions and development activities. The action plan for promoting occupational well-being among school staff described in the study can be modified by each working community to suit their needs and use it as a tool for the planning and implementation of occupational well-being. This makes the promotion of occupational well-being collaborative, systematic and goal-oriented, and it also motivates school communities to develop occupational well-being even more than planned.

   Recommendation: Each school community can systematically and continuously develop occupational well-being within the community in order to maintain and develop occupational well-being in spite of changes and requirements in working life.

2. Occupational well-being is developed from the viewpoint of the entire school staff because a well-being work community is a shared interest. Factors related to leadership are mostly associated with the working community aspect of occupational well-being, and the interaction factors in the working community particularly contribute to building occupational well-being.

   Recommendation: The role of leadership as both members of the working community and developers of occupational well-being needs to be recognised, and this role to be reinforced. The principal of the school should be an enabler of occupational well-being and to be committed to the development of occupational well-being, particularly by providing time and financial resources for development work.

3. In addition to working community-related interaction factors, the occupational well-being of school staff is affected by worker and work, working conditions and professional competence. School-specific development needs can be very different, for which reason the identification of various challenges is the starting point for developing occupational well-being and promoting health. In practical life, the resources for development work are limited, so it is also important to identify the factors that should be in primary focus. Action research in well-being and health promotion are a good means for supporting development action in different communities and directing development towards the desired goal and a better future.

   Recommendation: Occupational well-being is recommended to be promoted on a wide scope, and specific attention should be paid to working community-related interaction factors and school-specific development needs in particular.

4. The models provide a valuable tool for both practice and the formation of theory. The structural equation models for the occupational well-being of school staff, which have

been further tested, can be applied into practical promotion of occupational well-being in a school community. The model helps in analysing the phenomenon of occupational well-being, making it easier to focus development activities on the right issues.

Recommendation: The structural equation model for the Occupational Well-being of School Staff Model (OWSS Model) should be used to guide research as well as the planning, implementation and assessment of practical occupational well-being.

6.5 SUBJECTS FOR FURTHER RESEARCH

The study produced information on the promotion of occupational well-being among school staff. In the future, it is justified to continue the identification of internal resources within working communities and the study of operating methods used to promote occupational well-being. Research knowledge on occupational well-being should be reinforced further, and practical tools (e.g. action plans and models) to promote occupational well-being needs to be developed.

The implementation of long-term interventions and the practical realisation of health promotion will still face challenges in the future, and action research can be one of the means of responding to these. In the future, occupational well-being should be studied as an even more extensive entity, not separating the well-being of staff from that of the students. This more extensive study of well-being in a school community requires additional research and, for example, further development of the WYWI Questionnaire to take occupational health care, students and parents into account.

7 References

Act on Equality Between Women and Men (in Finnish: Laki naisten ja miesten välisestä tasa-arvosta). 8.8.1986/609. Available at: http://www.finlex.fi/fi/laki/ajantasa/1986/19860609

Alastalo, M., & Åkerman, M. 2010. Asiantuntijahaastattelun analyysi: Faktojen jäljillä (Tracing the facts: The analysis of expert interviews). In J. Ruusuvuori, P. Nikander, & M. Hyvärinen (eds.) Haastattelun analyysi (pp. 372-392). Tampere: Vastapaino.

Angelon-Gaetz, K. A., Richardson, D. B., Marshall, S. W., & Hernandez, M. L. 2016. Exploration of the effects of classroom humidity levels on teachers' respiratory symptoms. International Archives of Occupational and Environmental Health, 89(5), 729-737.

Annual Holidays Act (in Finnish: Vuosilomalaki). 18.3.2005/162. Available at: http://www.finlex.fi/fi/laki/alkup/2005/20050162

Ashiedu, J. A., & Scott-Ladd, B. D. 2012. Understanding teacher attraction and retention drivers: Addressing teacher shortages. Australian Journal of Teacher Education, 37(11), 17-35.

Aspfors, J., & Bondas, T. 2013. Caring about caring: Newly qualified teachers' experiences of their relationships within the school community. Teachers and Teaching, 19(3), 243-259.

Bakker, A. B., & Demerouti, E. 2007. The Job Demands-Resources model: State of the art. Journal of Managerial Psychology, 22(3), 309-328.

Baum, F., MacDougall, C., & Smith, D. 2006. Participatory action research. Journal of Epidemiology & Community Health, 60(10), 854-857.

Belfi, B., Gielen, S., De Fraine, B., Verschueren, K., & Meredith, C. 2015. School-based social capital: The missing link between schools' socioeconomic composition and collective teacher efficacy. Teaching and Teacher Education, 45, 33-44.

Bermejo-Toro, L., Prieto-Ursúa, M., & Hernández, V. 2016. Towards a model of teacher well-being: Personal and job resources involved in teacher burnout and engagement. Educational Psychology, 36(3), 481-501.

Bogaert, I., De Martelaer, K., Deforche, B., Clarys, P., & Zinzen, E. 2014. Associations between different types of physical activity and teachers' perceived mental, physical, and work-related health. BMC Public Health, 14:534.

Bourdieu, P. 1986. The forms of capital. In J. G. Richardson (ed.) Handbook of theory and research for the sociology of education (pp. 241-258). New York: Greenwood Press.

Buchanan, J., Prescott, A., Schuck, S., Aubusson, P., Burke, P., & Louviere, J. 2013. Teacher retention and attrition: Views of early career teachers. Australian Journal of Teacher Education, 38(3), 112-129.

Carlsson, M. 2016. Conceptualizations of professional competencies in school health promotion. Health Education, 116(5), 489-509.

Cha, S-H., & Cohen-Vogel, L. 2011. Why they quit: A focused look at teachers who leave for other occupations. School Effectiveness and School Improvement, 22(4), 371-392.

Chen, J. 2010. Chinese middle school teacher job satisfaction and its relationships with teacher moving. Asia Pacific Education Review, 11(3), 263-272.

Cheng, H-Y., Wong, M-T., Yu, Y-C., & Ju, Y-Y. 2016. Work-related musculoskeletal disorders and ergonomic risk factors in special education teachers and teacher's aides. BMC Public Health, 16:137.

Chong, W. H., Klassen, R. M., Huan, V. S., Wong, I., & Kates, A. D. 2010. The relationships among school types, teacher efficacy beliefs, and academic climate: Perspective from Asian middle schools. The Journal of Educational Research, 103(3), 183-190.

Coleman, J. S. 1988. Social capital in the creation of human capital. American Journal of Sociology, 94, S95-S120.

Creswell, J. W. 2015. A concise introduction to mixed methods research. Thousand Oaks: Sage Publications.

Cutiva, L. C. C., Vogel, I., & Burdorf, A. 2013. Voice disorders in teachers and their associations with work-related factors: A systematic review. Journal of Communication Disorders, 46(2), 143-155.

Czabała, C., Charzyńska, K., & Mroziak, B. 2011. Psychosocial interventions in workplace mental health promotion: An overview. Health Promotion International, 26(S1), i70-i84.

Darmody, M., & Smyth, E. 2016. Primary school principals' job satisfaction and occupational stress. International Journal of Educational Management, 30(1), 115-128.

De Jong, K. J., Moolenaar, N. M., Osagie, E., & Phielix, C. 2016. Valuable connections: A social capital perspective on teachers' social networks, commitment and self-efficacy. Pedagogía Social. Revista Interuniversitaria, 28, 71-83.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. 2001. The Job Demands-Resources model of burnout. Journal of Applied Psychology, 86(3), 499-512.

De Nobile, J. 2016. Organisational communication and its relationships with occupational stress of primary school staff in Western Australia. The Australian Educational Researcher, 43(2), 185-201.

Devecchi, C., Dettori, F., Doveston, M., Sedgwick, P., & Jament, J. 2012. Inclusive classrooms in Italy and England: The role of support teachers and teaching assistants. European Journal of Special Needs Education, 27(2), 171-184.

Dillenbourg, P. 1999. What do you mean by collaborative learning? In P. Dillenbourg (ed.) Collaborative-learning: Cognitive and computational approaches (pp. 1-19). Oxford: Elsevier.

Dufva, M., Halonen, M., Kari, M., Koivisto, T., Koivisto, R., & Myllyoja, J. 2017. Kohti jaettua ymmärrystä työn tulevaisuudesta (Toward a shared understanding of the future of work). Publications of the Govenrment´s Analysis, Assessment and Research Activities 33/2017.

Elder, C., Nidich, S., Moriarty, F., & Nidich, R. 2014. Effect of transcendental meditation on employee stress, depression, and burnout: A randomized controlled study. The Permanente Journal, 18(1), 19-23.

Eldor, L., & Shoshani, A. 2016. Caring relationships in school staff: Exploring the link between compassion and teacher work engagement. Teaching and Teacher Education, 59, 126-136.

Erick, P. N., & Smith, D. R. 2011. A systematic review of musculoskeletal disorders among school teachers. BMC Musculoskeletal Disorders, 12:260.

Ervasti, J., Kivimäki, M., Kawachi, I., Subramanian, SV., Pentti, J., Oksanen, T. et al. 2012. School environment as predictor of teacher sick leave: Data-linked prospective cohort study. BMC Public Health, 12:770.

Estonian Ministry of Education and Research. 2014. National curricula 2014. Available at: https://www.hm.ee/en/national-curricula-2014

Eteläpelto, A., Vähäsantanen, K., & Hökkä, P. 2015. How do novice teachers in Finland perceive their professional agency? Teachers and Teaching, 21(6), 660-680.

Eurofound (European Foundation for the Working Conditions). 2012. Health and wellbeing at work: A report based on the fifth European working conditions survey, Dublin. Available at: https://www.eurofound.europa.eu/publications/report/2013/working-conditions/health-and-well-being-at-work

European Agency for Safety and Health at Work. 2009. European risk observatory report. OSH in figures: Stress at work − Facts and figures. Available at: https://osha.europa.eu/en/node /6862 /file_view

European Agency for Safety and Health at Work. 2013. Well-being at work: Creating a positive work environment. Available at: https://osha.europa.eu/en/tools-and-publications/pub lications/literature_reviews/well-being-at-work-creating-a-positive-work-environment

European Agency for Safety and Health at Work. 2014. Priorities for occupational safety and health research in Europe for the years 2013–2020, summary report. Available at: https://osha.europa.eu/en/tools-and-publications/publications/reports/summary-priorities-for-osh-research-in-eu-for-2013-20/view

European Commission. 2010. Europe 2020: A Strategy for smart, sustainable and inclusive growth. Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:520 10DC2020&from=en

European Commission. 2016. Strategic plan 2016−2020 − Employment, social affairs and inclusion dg. Available at: https://ec.europa.eu/info/publications/strategic-plan-2016-2020-employment - social-affairs-and-inclusion_en

Fahie, D., & Devine, D. 2014. The impact of workplace bullying on primary school teachers and principals. Scandinavian Journal of Educational Research, 58(2), 235-252.

Farag, A., Blegen, M., Gedney-Lose, A., Lose, D., & Perkhounkova, Y. 2017. Voluntary medication error reporting by ED nurses: Examining the association with work environment and social capital. Journal of Emergency Nursing, 43(3), 246-254.

Figl-Hertlein, A., Horsak, B., Dean, E., Schöny, W., & Stamm, T. 2014. A physiotherapy-directed occupational health programme for Austrian school teachers: A cluster randomised pilot study. Physiotherapy, 100(1), 20-26.

Finnish Advisory Board on Research Integrity. 2012. Responsible conduct of research and procedures for handling allegations of misconduct in Finland. Available at: http://www.tenk. fi/sites/tenk.fi/files/HTK_ohje_2012.pdf

Finnish Institute of Occupational Health. 2013. Työ ja terveys Suomessa 2012. Seurantatietoa työoloista ja työhyvinvoinnista (Work and health in Finland in 2012. Follow-up information on working conditions and occupational well-being). Tampere: Tammerprint Oy.

Finnish Institute of Occupational Health. 2018. Työhyvinvointi (Occupational well-being). Available at: https://www.ttl.fi/tyoyhteiso/tyohyvinvointi/

Finnish National Agency for Education. 2004. Koulun hyvinvointiprofiili (School well-being profile). Available at: http://www10.edu.fi/hyvinvointiprofiili/

Finnish National Agency for Education. 2014. Perusopetuksen opetussuunnitelman perusteet 2014 (National core curriculum for basic education 2014). Available at: http://www.oph.fi/ download/163777_perusopetuksen_opetussuunnitelman_perusteet_2014.pdf

Finnish National Agency for Education. 2017. Available at: http://www.cimo.fi/ohjelmat /eras musplus/yleissivistavalle_koulutukselle/ota_yhteytta

Fisher, M., & Pleasants, S. L. 2012. Roles, responsibilities, and concerns of paraeducators: Findings from a statewide survey. Remedial and Special Education, 33(5), 287-297.

Fox, A. R. C., & Wilson, E. G. 2015. Networking and the development of professionals: Beginning teachers building social capital. Teaching and Teacher Education, 47, 93-107.

Fransen, J., Weinberger, A., & Kirschner, P. A. 2013. Team effectiveness and team development in CSCL. Educational Psychologist, 48(1), 9-24.

Fricke, W. 2011. Innovatory qualifications and democratic participation: Experiences and reflexions stimulated by an action research project. International Journal of Action Research, 7(2), 139-159.

Giannini, S. P. P., Latorre, M. R. D. O., Fischer, F. M., Ghirardi, A. C. A. M., & Ferreira, L. P. 2015. Teachers' voice disorders and loss of work ability: A case-control study. Journal of Voice, 29(2), 209-217.

Gilbert, F., Richard, J-B., Lapie-Legouis, P., Beck, F., & Vercambre, M-N. 2015. Health behaviors: Is there any distinction for teachers? A cross-sectional nationwide study. PLOS One.

Gluschkoff, K., Elovainio, M., Kinnunen, U., Mullola, S., Hintsanen, M., Keltikangas-Järvinen, L. et al. 2016. Work stress, poor recovery and burnout in teachers. Occupational Medicine, 66(7), 564-570.

Grove, S. K., Burns, N., & Gray, J. R. 2013. The practice of nursing research: Appraisal, synthesis, and generation of evidence. Saint Louis: Elsevier.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. 2010. Multivariate data analysis: A global perspective. Upper Saddle River: Pearson.

Hakanen, J. J., Bakker, A. B., & Schaufeli, W. B. 2006. Burnout and work engagement among teachers. Journal of School Psychology, 43(6), 495-513.

Hakanen, J. 2009. Työn imua, tuottavuutta ja kukoistavia työpaikkoja? – Kohti laadukasta työelämää (Work engagement, productivity and thriving work places? – Towards quality of working life). Available at: https://www.tsr.fi/tsarchive/files/Selvityksia/TSR_Tata_on_ tutkittu2009.pdf

Halme, N., Kanste, O., Nummi, T., & Perälä, M-L. 2014. Rakenneyhtälömallin kehittäminen ja arviointi – Tutkimuksen kohteena avun antaminen lasten ja perheiden palveluissa (Developing and evaluation of structural equation model – Supporting the services for

children and families as the subject of research). Sosiaalilääketieteellinen aikakauslehti, 51, 272-288.

Hieta, P., Hietanen O., Karlsson, B., Parkkali, E., & Rautiainen, A. 2015. Opetusjärjestelyiden kehittäminen (Tomorrow's comprehensive school). In N. Ouakrim-Soivio, A. Rinkinen, & T. Karjalainen (eds.) Tulevaisuuden peruskoulu (pp. 84-93). Ministry of Education and Culture Publications.

Hooper, D., Coughlan, J., & Mullen, M. 2008. Structural equation modelling: Guidelines for determining model fit. Electronic Journal of Business Research Methods, 6(1), 53-60.

Horn, J. E., Taris, T. W., Schaufeli, W. B., & Schreurs, P. J. G. 2004. The structure of occupational well-being: A study among Dutch teachers. Journal of Occupational and Organizational Psychology, 77(3), 365-375.

Hultin, H., Hallqvist, J., Alexanderson, K., Johansson, G., Lindholm, C., Lundberg, I. et al. 2011. Work-related psychosocial events as triggers of sick leave – Results from a Swedish case-crossover study. BMC Public Health, 11:175.

Hyyppä, M. T. 2010. Healthy ties: Social capital, population health and survival. Dordrecht: Springer.

Hyyppä, M. T. 2013. Kulttuuri pidentää ikää (Culture prolongs life). Helsinki: Duodecim.

Ilmarinen, J. 2006. Towards a longer worklife! Ageing and the quality of worklife in the European Union. Helsinki: Finnish Institute of Occupational Health. Ministry of Social Affairs and Health. Jyväskylä: Gummerus Kirjapaino Oy.

Ivankova, N. V. 2015. Mixed methods applications in action research: From methods to community actions. Thousand Oaks: Sage Publications.

Johansson, A. W., & Lindhult, E. 2008. Emancipation or workability? Critical versus pragmatic scientific orientation in action research. Action Research, 6(1), 95-115.

Jones, C. R., Ratcliff, N. J., Sheehan, H., & Hunt, G. H. 2012. An analysis of teachers' and paraeducators' roles and responsibilities with implications for professional development. Early Childhood Education Journal, 40(1), 19-24.

Juniper, B. 2011. Defining employee wellbeing. Occupational Health, 63(10), 25.

Kanste, O., Lipponen, K., Kääriäinen, M., & Kyngäs, H. 2010. Effects of network development on attitudes towards work and well-being at work among health care staff in northern Finland. International Journal of Circumpolar Health, 69(4), 394-403.

Katainen's Government. 2011. Pääministeri Jyrki Kataisen hallituksen ohjelma (Programme of prime minister Jyrki Katainen's government). Available at: http://valtioneuvosto.fi/documents /10184/147449/Kataisen+hallituksen+ohjelma/81f1c20f-e353-47a8-8b8f-52ead83e5f1a

Keith, T. Z. 2015. Multiple regression and beyond: An introduction to multiple regression and structural equation modeling. New York: Routledge.

Kelly, N., & Antonio, A. 2016. Teacher peer support in social network sites. Teaching and Teacher Education, 56, 138-149.

Kempen, M. E., & Steyn, G. M. 2017. An investigation of teachers' collaborative learning in a continuous professional development programme in South African special schools. Journal of Asian and African Studies, 52(2), 157-171.

Kemppainen, U., Tossavainen, K., Vartiainen, E., Jokela, V., Puska, P., Pantelejev V. et al. 2006. Environmental factors as predictors of smoking among ninth-grade adolescents in Pitkäranta (Russian Karelia) and in Eastern Finland. Research in Nursing & Health, 29(6), 543-555.

Kielb, C., Lin, S., Muscatiello, N., Hord, W., Rogers-Harrington, J., & Healy, J. 2015. Building-related health symptoms and classroom indoor air quality: A survey of school teachers in New York State. Indoor Air, 25(4), 371-380.

Kline, R. B. 1998. Principles and practice of structural equation modeling. New York: Guilford Press.

Konu, A., & Rimpelä, M. 2002. Well-being in schools: A conceptual model. Health Promotion International, 17(1), 79-87.

Kourmousi, N., Darviri, C., Varvogli, L., & Alexopoulos, E. C. 2015. Teacher stress inventory: Validation of the Greek version and perceived stress levels among 3,447 educators. Psychology Research and Behavior Management, 8, 81-88.

Kuoppala, J., Lamminpää, A., & Husman, P. 2008. Work health promotion, job well-being, and sickness absences – A systematic review and meta-analysis. Journal of Occupational and Environmental Medicine, 50(11), 1216-1227.

Kyngäs, H., Elo, S., Pölkki, T., Kääriäinen, M., & Kanste, O. 2011. Sisällönanalyysi suomalaisessa hoitotieteellisessä tutkimuksessa (Content analysis in Finnish nursing research). Hoitotiede, 23(2), 138-148.

Larjovuori, R-L., Manka, M-L., & Nuutinen, S. 2015. Inhimillinen pääoma, työhyvinvointia, tuloksellisuutta, pidempiä työuria? (Human capital. Well-being at work, improved performance, longer working careers?). Reports and memoranda of the Ministry of Social Affairs and Health 2015:5.

Lauermann, F., & König, J. 2016. Teachers' professional competence and wellbeing: Understanding the links between general pedagogical knowledge, self-efficacy and burnout. Learning and Instruction, 45, 9-19.

Liu, S-H. 2016. The perceptions of participation in a mobile collaborative learning among pre-service teachers. Journal of Education and Learning, 5(1), 87-94.

Long, J. S., McKenzie-Robblee, S., Schaefer, L., Steeves, P., Wnuk, S., Pinnegar, E. et al. 2012. Literature review on induction and mentoring related to early career teacher attrition and retention. Mentoring & Tutoring: Partnership in Learning, 20(1), 7-26.

Lyberg-Åhlander, V., Rydell, R., Löfqvist, A., Pelegrin-García, D., & Brunskog, J. 2015. Teachers' voice use in teaching environment. Aspects on speakers' comfort. Energy Procedia, 78, 3090-3095.

Madureira, J., Paciência, I., Rufo, J., Ramos, E., Barros, H., Teixeira, J. P. et al. 2015. Indoor air quality in schools and its relationship with children's respiratory symptoms. Atmospheric Environment, 118, 145-156.

Manka, M-L., & Manka, M. 2016. Työhyvinvointi (Occupational well-being). Helsinki: Talentum Pro.

Martins, R. H. G., Pereira, E. R. B. N., Hidalgo, C. B., & Tavares, E. L. M. 2014. Voice disorders in teachers. A review. Journal of Voice, 28(6), 716-724.

Mason, S., & Matas, C. P. 2016. Social capital: A vital ingredient for retaining foreign language teachers. Asian-Pacific Journal of Second and Foreign Language Education, 1:3.

Maxwell, A., & Riley, P. 2017. Emotional demands, emotional labour and occupational outcomes in school principals: Modelling the relationships. Educational Management Administration & Leadership, 45(3), 484-502.

Mayring, P. 2000. Qualitative content analysis. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 1(2).

McCormick, J., & Barnett, K. 2011. Teachers' attributions for stress and their relationships with burnout. International Journal of Educational Management, 25(3), 278-293.

McLean, L., & Connor, C. M. 2015. Depressive symptoms in third-grade teachers: Relations to classroom quality and student achievement. Child Development, 86(3), 945-954.

Minckler, C. H. 2014. School leadership that builds teacher social capital. Educational Management Administration & Leadership, 42(5), 657-679.

Ministry of Economic Affairs and Employment. 2012. Työelämän kehittämisstrategia vuoteen 2020 (Working life development strategy to 2020). Available at: http://www.tyoelama 2020.fi/files/35/tyoelaman_kehittamisstrategia_final.pdf

Ministry of Economic Affairs and Employment. 2017. Työolobarometri syksy 2016 (Worklife barometer autumn 2016). Available at: http://julkaisut.valtioneuvosto.fi/bitstream/handle /10024/80549/TEMrap_34_2017_verkkojulkaisu.pdf

Ministry of Social Affairs and Health. 2014. Cost of lost labour input. Available at: http://stm.fi/ documents/1271139/1332445/Cost+of+lost+labour+input_en.pdf/d5790088-8e3e-4d13-a5cd 56c23b67de0c

Mohseni Bandpei, M. A., Ehsani, F., Behtash, H., & Ghanipour, M. 2014. Occupational low back pain in primary and high school teachers: Prevalence and associated factors. Journal of Manipulative and Physiological Therapeutics, 37(9), 702-708.

Naidoo, J., & Wills, J. 2016. Foundations for health promotion. Elsevier.

National Health Plan 2009–2020. 2008. The Estonian national health strategy. Available at: http://www.sm.ee/sites/default/files/content-editors/eesmargid_ja_tegevused/Tervis/Aruan ded/rta_2009-2020_2012_eng.pdf

Nieminen, T., Prättälä, R., Martelin, T., Härkänen, T., Hyyppä, M. T., Alanen, E. et al. 2013. Social capital, health behaviours and health: A population-based associational study. BMC Public Health, 13:613.

Nieminen, T., Härkänen, T., Martelin, T., Borodulin, K., & Koskinen, S. 2015. Social capital and all-cause mortality among Finnish men and women aged 30–79. The European Journal of Public Health, 25(6), 972-978.

Nokes-Malach, T. J., Richey, J. E., & Gadgil, S. 2015. When is it better to learn together? Insights from research on collaborative learning. Educational Psychology Review, 27(4), 645-656.

Oberle, E., & Schonert-Reichl, K. A. 2016. Stress contagion in the classroom? The link between classroom teacher burnout and morning cortisol in elementary school students. Social Science & Medicine, 159, 30-37.

Occupational Health Care Act (in Finnish: Työterveyshuoltolaki). 21.12.2001/1383. Available at: http://www.finlex.fi/fi/laki/ajantasa/2001/20011383

Occupational Safety and Health Act (in Finnish: Työturvallisuuslaki). 23.8.2002/738. Available at: http://www.finlex.fi/fi/laki/ajantasa/2002/20020738

Owen, S., & Davis, G. 2010. Law graduate attributes in Australia: Leadership and collaborative learning within communities of practice. Journal of Learning Design, 4(1), 15-24.

Park, M., & So, K. 2014. Opportunities and challenges for teacher professional development: A case of collaborative learning community in South Korea. International Education Studies, 7(7), 96-108.

Philipp, A., & Kunter, M. 2013. How do teachers spend their time? A study on teachers' strategies of selection, optimisation, and compensation over their career cycle. Teaching and Teacher Education, 35, 1-12.

Polit, D. F., & Beck, C. T. 2010. Essentials of nursing research: Appraising evidence for nursing practice. Philadelphia: Lippincott Williams & Wilkins.

Polit, D. F., & Beck, C. T. 2014. Essentials of nursing research: Appraising evidence for nursing practice. Philadelphia: Lippincott Williams & Wilkins.

Putnam, R. D. (with Leonardi, R., & Nanetti, R. Y.). 1993. Making democracy work: Civic traditions in modern Italy. New Jersey: Princeton University Press.

Randelin, M., Saaranen, T., Naumanen, P., & Louhevaara, V. 2013. Towards sustainable well-being in SMEs through the web-based learning program of ergonomics. Education and Information Technologies, 18(1), 95-111.

Rantala, L. M., Hakala, S. J., Holmqvist, S., & Sala, E. 2012. Connections between voice ergonomic risk factors and voice symptoms, voice handicap, and respiratory tract diseases. Journal of Voice, 26(6), 819.e13-819.e20.

Rauramo, P. 2004. Työhyvinvoinnin portaat (Steps to occupational well-being). Helsinki: Edita.

Roschelle, J., & Teasley, S. D. 1995. The construction of shared knowledge in collaborative problem solving. Computer Supported Collaborative Learning, 128, 69-97.

Rytivaara, A., & Kershner, R. 2012. Co-teaching as a context for teachers' professional learning and joint knowledge construction. Teaching and Teacher Education, 28(7), 999-1008.

Saaranen T., Tossavainen K., Turunen H., & Naumanen, P. 2006. Development of occupational wellbeing in the Finnish European Network of Health Promoting Schools. Health Education, 106(2), 133-154.

Saaranen, T., Tossavainen, K., Turunen, H., Kiviniemi, V., & Vertio, H. 2007. Occupational well-being of school staff members: A structural equation model. Health Education Research, 22(2), 248-260.

Saaranen T., & Tossavainen, K. 2009. Empowerment orientation and social capital as a basis for occupational well-being in school communities − Research and development project in Finland. In G. Tripp, M. Payne & D. Diodorus (eds.) Social capital (pp. 49-65). Nova Science Publishers: New York.

Saaranen, T., Sormunen, M., Pertel, T., Streimann, K., Hansen, S., Varava, L. et al. 2012. The occupational well-being of school staff and maintenance of their ability to work in Finland and Estonia − Focus on the school community and professional competence. Health Education, 112(3), 236-255.

Saaranen, T., Tossavainen, K., Ryhänen, E., & Turunen, H. 2013. Promoting the occupational well-being of teachers for the Comenius program. International Journal of Higher Education, 2(2), 159-174.

Saaranen, T., Tossavainen, K., Sormunen, M., Laine, S., & Turunen, H. 2015. Developing and testing a health promotion theory—An example of creating a model of school staff's occupational well-being. In V. Simovska, & P. Mannix-McNamara (eds.) SHE research book: schools for health and sustainability, (pp. 405-422). Dodrecht: Springer.

Sakuraya, A., Imamura, K., Inoue, A., Tsutsumi, A., Shimazu, A., Takahashi, M. et al. 2017. Workplace social capital and the onset of major depressive episode among workers in Japan: A 3-year prospective cohort study. Journal of Epidemiology and Community Health, 71(6), 606-612.

Santana, Â. M. C., De Marchi, D., Junior, L. C. G., Girondoli, Y. M., & Chiappeta, A. 2012. Burnout syndrome, working conditions, and health: A reality among public high school teachers in Brazil. Work, 41(S1), 3709-3717.

Savolainen, A., Taskinen, H., & Viitanen, E. 2001. Kouluyhteisöjen ehdotukset työn ja työolojen kehittämiseksi koulussa (Proposals by school communities to develop work and working conditions at school). Kasvatus: Suomen kasvatustieteellinen aikakauskirja 32(2), 154-172.

Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. 2006. Reporting structural equation modeling and confirmatory factor analysis results: A review. The Journal of Educational Research, 99(6), 323-337.

Schreiber, J. B. 2017. Update to core reporting practices in structural equation modeling. Research in Social and Administrative Pharmacy, 13(3), 634-643.

Schulte, P., & Vainio, H. 2010. Well-being at work – Overview and perspective. Scandinavian Journal of Work, Environment & Health, 36(5), 422-429.

Scott, C., & Dinham, S. 2003. The development of scales to measure teacher and school executive occupational satisfaction. Journal of Educational Administration, 41(1), 74-86.

SHE. 2017. SHE schools for health in Europe 2017 in focus. Available at: http://www.schools-for-health.eu/uploads/files/SHE_folder_2017(1).pdf

Sinisammal, J., Belt, P., Autio, T., Härkönen, J., & Möttönen, M. 2011. Tilanneherkkä työhyvinvoinnin johtamismalli (Situationally-sensitive Occupational Well-being Management Model). Premissi, 4, 28-35.

Sipilä's Government. 2015. Ratkaisujen Suomi. Pääministeri Juha Sipilän hallituksen strateginen ohjelma 29.5.2015 (Finland, a land of solutions. Strategic programme of prime minister Juha Sipilä's government 29.5.2015). Government publications 10/2015. Available at: http://valtioneuvosto.fi/documents/10184/1427398/Ratkaisujen+Suomi_FI_YHDISTETTY_ netti.pdf/801f523e-5dfb-45a4-8b4b-5b5491d6cc82

Skaalvik, E. M., & Skaalvik, S. 2009. Does school context matter? Relations with teacher burnout and job satisfaction. Teaching and Teacher Education, 25(3), 518-524.

Skaalvik, E. M., & Skaalvik, S. 2011. Teacher job satisfaction and motivation to leave the teaching profession: Relations with school context, feeling of belonging, and emotional exhaustion. Teaching and Teacher Education, 27(6), 1029-1038.

Skaalvik, E. M., & Skaalvik, S. 2015. Job satisfaction, stress and coping strategies in the teaching profession – What do teachers say? International Education Studies, 8(3), 181-192.

Snoeren, M. M. W. C., Niessen, T. J. H., & Abma, T. A. 2011. Engagement enacted: Essentials of initiating an action research project. Action Research, 10(2), 189-204.

Sormunen, M., Saaranen T., Tossavainen, T., & Turunen, H. 2013a. Monimenetelmätutkimus terveystieteissä (Mixed methods research in health sciences). Sosiaalilääketieteellinen aikakauslehti, 50, 312-321.

Sormunen, M., Tossavainen, K., & Turunen, H. 2013b. Finnish parental involvement ethos, health support, health education knowledge and participation: Results from a 2-year school health intervention. Health Education Research, 28(2), 179-191.

Spillane, J. P., & Lee, L. C. 2014. Novice school principals' sense of ultimate responsibility: Problems of practice in transitioning to the principal's office. Educational Administration Quarterly, 50(3), 431-465.

Strijbos, J-W. 2016. Assessment of collaborative learning. In G. T. L., Brown, & L. R., Harris (eds.) Handbook of human and social conditions in assessment (pp. 302-318). New York: Routledge.

Söderlund, E., & Joronen, K. 2013. Vanhempi-lapsisuhteen läheisyys ja kouluyhteisön sosiaaliset suhteet (Parent-child closeness and social relationships in the school community). Sosiaalilääketieteellinen aikakauslehti, 50, 300-311.

Tossavainen, K., Turunen, H., Jakonen, S., & Vertio, H. 2004. Health promotional education: Differences between school nurses' health counselling and teachers' health instruction in the Finnish ENHPS. Children & Society, 18(5), 371-382.

Tran, V. D. 2015. Effects of gender on teachers' perceptions of school environment, teaching efficacy, stress and job satisfaction. International Journal of Higher Education, 4(4), 147-157.

Turunen, H., Paukkunen, L., Tossavainen K., & Taskinen, H. 1996. Ryhmähaastattelu aineistonkeruumenetelmänä – Osallistujien näkemyksiä haastattelujen toteutumisesta (Group interview as a data gathering method – Participants´views from the realisation of interviews). Hoitotiede, 8(4), 194-202.

Turunen, H., Tossavainen, K., & Vertio, H. 2004. How can critical incidents be used to describe health promotion in the Finnish European Network of Health Promoting schools? Health Promotion International, 19(4), 419-427.

Utriainen, K., Ala-Mursula, L., & Kyngäs, H. 2015. Hospital nurses' wellbeing at work: A theoretical model. Journal of Nursing Management, 23(6), 736-743.

Vedovato, T. G., & Monteiro, I. 2014. Health conditions and factors related to the work ability of teachers. Industrial Health, 52, 121-128.

Vocabulary of Safety and Health at Work. 2006. Arbetarskyddsordlista – Vocabulary of safety and health at work – Arbeitsschutzglossar – Vocabulaire de la sante et de la securite au travail. Helsinki: Finnish Terminology Centre.

Vygotsky, L. S. 1978. Mind in society: The development of higher psychological processes. Cambridge: Harvard University Press.

WHO. 2018a. Constitution of WHO: Principles. Available at: http://www.who.int/about/ mission /en/

WHO. 2018b. Health topics. health promotion. Available at: http://www.who.int/topics/ health _promotion/en/

Wilson, K., & Narayan, A. 2016. Relationships among individual task self-efficacy, self-regulated learning strategy use and academic performance in a computer-supported collaborative learning environment. Educational Psychology, 36(2), 236-253.

Workers' Compensation Act (in Finnish: Työtapaturma- ja ammattitautilaki). 24.4.2015/459. Available at: http://www.finlex.fi/fi/laki/alkup/2015/20150459

Working Hours Act (in Finnish: Työaikalaki). 9.8.1996/605. Available at: http://www. finlex.fi/fi/laki/ajantasa/1996/19960605

Yang, X., Wang, L., Ge, C., Hu, B., & Chi, T. 2011. Factors associated with occupational strain among Chinese teachers: A cross-sectional study. Public Health, 125(2), 106-113.

Yin, R. K. 2014. Case study research: Design and methods. Thousand Oaks: Sage publications.

You, S., Kim, A. Y., & Lim, S. A. 2017. Job satisfaction among secondary teachers in Korea: Effects of teachers' sense of efficacy and school culture. Educational Management Administration and Leadership, 45(2), 284-297.

Young, I., St Leger, L., & Buijs, G. 2013. School health promotion: Evidence for effective action. Background paper SHE factsheet, 2. Available at: http://www.schools-for-health.eu/uploads /files/SHE%20Factsheet_2_Background%20paper_School%20health%20promotion_Evidence. pdf

Yue, P., Liu, F., & Li, L. 2012. Neck/shoulder pain and low back pain among school teachers in China, prevalence and risk factors. BMC Public Health, 12:789.

Zehetmeier, S., Andreitz, I., Erlacher, W., & Rauch, F. 2015. Researching the impact of teacher professional development programmes based on action research, constructivism, and systems theory. Educational Action Research, 23(2), 162-177.

APPENDICES (I-III)

APPENDIX I. The Well-Being at Your Work Index Questionnaire.

Background information
1. My sex is: 1) male, 2) female
2. My age is: 1) −35, 2) 36–50, 3) 51–
3. Family relations A) My family background: 1) married, 2) co-habiting, 3) divorced, 4) single/widow/other
B) Children: 1) has a child/children, 2) no children, C) Single parent: 1) is a single parent, 2) is not a single parent
4. My job title: 1) subject/special teacher, 2) primary school teacher, 3) school principal, 4) school nurse, 5) other support staff, 4) other occupational group
5. My workplace: 1) pre-school, 2) primary school, 3) secondary school, 4) other
6. My home is xxx km away from my workplace: 1) −1.0, 2) 1.1–15.0, 3) 15.1–30.0, 4) 30.1–
7. The number of staff (including all occupational groups): 1) −20, 2) 21–40, 3) 41–
8. I have been working at this school for xxx years: 1) −2, 2) 3–10, 3) 11–20, 4) 21–
9. The total number of years I have been working in this job is xxx years: 1) −2, 2) 3–10, 3) 11–20, 4) 21–
10. My contract type is: 1) permanent, 2) temporary

Occupational well-being and occupational well-being actions
Well-being here means your ability to work in your working community, your subjective ability to work and the quality of your life. The activities undertaken to maintain the staff's ability to work refer to promotion of general health and well-being in the human sphere of activities, the working community, the working environment and the professional community. Likert scale 1–5: 1 = very poor, 2 = quite poor, 3 = moderate, 4 = quite good and 5 = very good.

11. Subjective occupational well-being at this workplace compared to the best possible level
12. General well-being of the staff in my working community
13. Satisfaction with the occupational well-being activities available in my working community
14. Satisfaction with the occupational well-being activities available for myself
15. More information to the questions 13–14 (e.g. indicate briefly how well-being has been attained in your working community or how/why it has not been attained?)

The aspects of occupational well-being
Likert 1–5: Opinion (1 = very poor, 2 = quite poor, 3 = moderate, 4 = quite good and 5 = very good), need for development (1 = very much needed, 2 = much needed, 3 = somewhat needed, 4 = hardly needed, 5 = not at all needed).

QUESTIONS CONCERNING WORKING CONDITIONS
16. Uncomfortable working postures have been considered
17. Ergonomics when working with a screen are satisfactory
18. Air conditioning of the workplace is satisfactory
19. No draught in the workplace
20. I have access to my own quiet and comfortable working space when needed
21. Noise level of the workplace is not too high
22. Lighting of the workplace is good
23. Temperature at the workplace is suitable
24. The equipment and devices needed for my work are appropriate
25. My working site is permanent, and I don't need to walk long distances from one site to another (e.g. a teacher or a cleaner moving to another school during the workday)
26. Exposure to harmful chemical substances at work is not possible
27. Exposure to harmful biological substances at work is not possible
Open questions:
28. Additional information concerning the previous questions:
29. What other factors in your working conditions affect your well-being at work? How should they be developed?

QUESTIONS CONCERNING WORK COMMUNITY
30. I am satisfied with my working time arrangements
31. Organisation of work and time use are good in my working community
32. In my working community people can openly discuss things related to work
33. There is sufficient co-operation between the colleagues teaching the same field/subject
34. Introduction of new workers to their work and the working community has been satisfactory
35. I get help and support from my colleagues when needed
36. I have received enough support to manage changes at my workplace
37. I regard my own work in the working community as important and significant

38. There is sufficient co-operation between the different occupational groups (e.g. co-operation between the cook, teachers, school nurse, etc.)

39. Information about changes in the working community has been sufficient

40. There are enough meetings/common discussions in my working community

41. Personal relationships between workers at my workplace are fine

42. There is a spirit of 'fair play' at my workplace, and there is no harassment of workers

43. My closest superior gives me enough information about the expectations concerning my work performance

44. My superior gives me help and support when I need it

45. Superior-subordinate relationships are fine at my workplace

46. There is mutual understanding of colleagues' work/tasks in my working community

47. There is trust in others' work input in my working community

48. My work is appreciated in my working community

49. There are enough colleagues' meetings outside the working hours

Open questions:

50. Additional information concerning the previous questions:

51. What other factors in your working community affect your well-being at work? How should they be developed?

QUESTIONS CONCERNING WORKER AND WORK

52. The mental workload of my work is suitable

53. The physical workload of my work is suitable

54. I am satisfied with my workload

55. My workload is divided evenly, so that there is no rush to do work

56. I am able to finish my work at my workplace within the working hours (= no evening/weekend work or overtime)

57. I am able to have breaks and moments of rest in my work

58. There have been enough activities to support well-being at work and mental resources (e.g. control over stress)

59. There have been enough activities that encourage physical and other self-care (e.g. tickets to gym/swimming pool, recreational activities)

60. There has been a sufficient amount of mentoring (either personal or group mentoring)

61. Possibilities to receive rehabilitation based on occupational health care assessment

62. Health check-ups have been regular

63. Health check-ups have supported my health

Open questions:

64. Additional information concerning the previous questions:

65. What other factors affect your well-being at work? How should they be developed?

QUESTIONS CONCERNING PROFESSIONAL COMPETENCE

66. I have received sufficient education/training for the tasks I carry out at my work

67. I have sufficient readiness when acting as a group leader and when the group needs to communicate

68. I have sufficient readiness to face special situations (e.g. problematic people/customers)

69. There has been enough education/training related to well-being at work

70. There has been enough education/training related to the development of professional competence

71. I have had a possibility to efficiently utilise my own skills and competence at my work

72. I am satisfied with my IT skills

Open questions:

73. Additional information concerning the previous questions:

74. What other factors affect your professional competence? How should they be developed?

APPENDIX II. Qualitative group interview − Themed interview frame.

1) School health and well-being program
- How did each of you participate in the planning process, and how did you contribute in it?
- How was the development of the programme organised?

2) What is the situation at the moment? (Give the chosen plan for the program)
- How were the different parts chosen for the plan, (i.e. the contents of the plan)?
- What are the values underlying the development of this plan, including the principles and values advancing health issues?
- Are the values taken down and explained in detail? If so, by whom?
- How were the aspects be selected on the model?
- What kind of value background (including the basics and values of health promotion) governs the construction of this model?
- Is the value background written open, if so, by who/whom?

3) Teaching and education
- How is this area seen a) in teachers' classroom work, and b) in health care work done by other members of the school staff?
- What concrete forms does education, especially concerning health care, take a) in a teacher's work, and b) in the work of other members of the staff?
- You have named the occupational well-being of teachers and other members of the staff in this aspect. Why?
- What further plans do you have for the development of teaching and education and for turning it into concrete action?

4) Operational culture/Working together
- What concrete practices and approaches are used in the project? Give examples.
- Is there a written action plan for the school? If there is, what is it like? Who was it written by? How is it used? Is it generally known to everybody, including students and parents?
- What concrete ways of working together as a community are there? Is everybody involved and committed in it, including students and parents?
- What further plans are there to develop ways of working together in school?

5) Structures and services
- How is safety and the concrete school environment seen as something to develop and to work in?
- What is meant by student welfare and remedial services? What is the role of school health services compared with the rest?
- How can the providing of school lunches be developed further?
- What further plans are there to develop structures and remedial services? Who are the persons involved?

6) Collaboration
- How do you see the collaboration between home, school and the surrounding community? Which of these is in an active role: school or home /the surrounding community?
- How do you plan to develop further the collaboration between these parties?

7) How important do you find this kind welfare program for improving the health of your school community?
- Is it a concrete, usable tool a) for planning the work, b) for carrying out the work, or c) for the evaluation?

8) Significant experiences
- What have been successful and positive experiences during this development process?
- Mention the experiences which you may have found negative. Were there any failures?
- What have you learned from these two experiences as a school community?
- How are you going to make further use of your experiences when planning the health and welfare program for your school?

APPENDIX III. Open questions in the mid-term evaluation.

I. Which goals in your action plan are aimed to promote occupational well-being?

II. How would you evaluate the realisation and results of the goals and actions that you had set? If the goal was not reached, what might be the reason for it?

    A. How does the action plan for promoting the occupational well-being of the staff support reaching the goals? What might be the reasons for this?

    B. How would you evaluate the effectiveness of teamwork concerning the occupational well-being of the school?
- From the perspective of the group advancing occupational well-being.
- From the perspective of the whole staff.

    C. Is there any need to update the action plan for occupational well-being before the questionnaire for the well-being index in 2012? If so, how should this be done?

    D. What kind of support would you like from the coordinators/research team of the SHE network to reach the goals?

    E. What else would you like to say?

III. How does the occupational health service at school support the well-being of the individual and the well-being of the school community? (Information only from Finnish schools)

    A. What specific occupational health services are there to promote the well-being of the individual or the school community level (give examples)?

SARI LAINE

———————————

This long-term participatory action research describes the promotion of occupational well-being among Finnish and Estonian school staff. The results show that school communities can improve their own occupational well-being based on their own needs. The occupational well-being of the school staff was connected to all the aspects of occupational well-being: worker and work, working conditions, professional competence and working community. Particularly working community-related interaction factors seemed to contribute to building occupational well-being.

UNIVERSITY OF
EASTERN FINLAND

uef.fi