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AIIJA KOIVU

*Clinical Supervision
and Well-being at Work*

*A Four-year Follow-up Study on Female
Hospital Nurses*

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AIJA KOIVU

*Clinical Supervision
and Well-being at Work*

A Four-year Follow-up Study on Female Hospital Nurses

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ABSTRACT

Clinical supervision, originally a method for learning and teaching professional conduct and communication, has become a common method for promoting well-being at work in social and health care. The scientific evidence base for the effectiveness of clinical supervision is weak. Most studies have been qualitative and, even if quantitative, methodologically flawed. The aim of this study was to investigate the impact of clinical supervision on well-being at work by employing a quasi-experimental study design.

The data were collected in 2003 and 2007 via two questionnaire surveys implemented in fourteen medical and surgical units of Kuopio University Hospital. Only female hospital nurses providing direct patient care were included. In statistical analyses, those nurses who attended clinical supervision were compared with the nurses who did not attend. The nurses giving higher evaluations of their clinical supervision were compared with those giving lower evaluations. Differences between groups, changes within groups and differences between groups concerning the changes within groups were analysed by non-parametric statistical tests.

Involvement in clinical supervision in the surgical units was associated with good mastery at work as well as high work orientation, commitment and motivation. In the medical units, in contrast, the uptake of clinical supervision was linked to impaired mastery at work and symptoms of distress and exhaustion. On follow-up, well-being at work was on a higher level in the group having the experience of successful clinical supervision than in the two comparison groups. The perceptions of work and health of this group improved during four years, whereas they remained unchanged or worsened in the comparison groups. The factors at work most influenced by clinical supervision were feedback and control at work, whereas the positive changes in health were most prominent in relation to increased professional efficacy and decreased psychological distress.

According to the results of this study, clinical supervision can maintain and promote well-being at work, although the promotion of well-being is often not the main reason for the uptake of clinical supervision. On the other hand, a small number of nurses do not seem to benefit from critical self-reflection practised in clinical supervision, and some of these are at risk of burnout and mental health problems.

In the turbulent working life of today, nurses are concerned about the quality of the care they provide. They are willing to critically reflect and creatively develop their practice if supported by the health care organization. Well-being at work is maintained and promoted by clinical supervision when it succeeds in improving the quality of the care by upgrading the performance of individual nurses.

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Koivu, Aija

Työnohjaus ja työhyvinvointi, sairaalan naishoitajiin kohdistuva neljän vuoden seurantatutkimus
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TIIVISTELMÄ

Työnohjaus on ammatillisen vuorovaikutuksen oppimiseen ja opettamiseen alun perin kehitetty menetelmä, joka nytemmin on yleistynyt sosiaali- ja terveydenhuollossa yhtenä työhyvinvoinnin edistämiskeinona. Tieteellistä tutkimusnäyttöä työnohjauksen vaikuttavuudesta on vähän. Tutkimus on ollut pääosin kvalitatiivista ja kvantitatiivinen tutkimus metodisesti puutteellista. Tämän tutkimuksen tarkoitus oli selvittää työnohjauksen vaikutuksia työhyvinvointiin käyttämällä kvasiekspérimentaalista tutkimusasetelmaa.

Kyselytutkimuksen aineisto kerättiin vuosina 2003 ja 2007 Kuopion yliopistollisen sairaalan konservatiivisen ja operatiivisen alueen neljästätoista työyksiköstä. Tutkimus rajattiin koskemaan naispuolista, suoraan potilastyöhön osallistuvaa hoitohenkilökuntaa. Tilastanalyseissa verrattiin toisaalta työnohjaukseen hakeutuneita ja sen ulkopuolelle jääneitä, toisaalta paremmin ja huonommin onnistuneeseen työnohjaukseen osallistuneita. Ryhmien välisiä eroja, ryhmissä tapahtuneita muutoksia ja muutosten erilaisuutta testattiin non-parametrisin menetelmin.

Monissa työyksiköissä, erityisesti operatiivisella alueella, työnohjaukseen hakeutuminen oli yhteydessä hyvään työnhallintaan ja työmotivaatioon. Muutamissa työyksiköissä, erityisesti konservatiivisella alueella, työnohjaukseen hakeutuminen liittyi puutteelliseen työnhallintaan, psyykkiseen rasittuneisuuteen ja uupumusasteiseen väsymykseen. Seurantavaiheessa työhyvinvointi arvioitiin hyvin onnistuneessa työnohjauksessa olleiden ryhmässä paremmaksi kuin kahdessa vertailuryhmässä. Neljän seurantavuoden aikana tapahtui hyvin onnistuneen työnohjauksen ryhmässä työhyvinvoinnin paranemista, jota ei ollut havaittavissa vertailuryhmissä. Työnohjauksen myönteiset vaikutukset ilmenivät selkeimmin työstä saadun palautteen ja omien vaikutusmahdollisuuksien lisääntymisenä, ammatillisen itsetunnon kohenemisena ja psyykkisen rasittuneisuuden vähenemisena.

Tutkimustulosten mukaan hoitotyön työnohjaus näyttäisi toimivan työhyvinvoinnin ylläpitämisen ja edistämisen keinona, vaikka suuri osa hoitajista hakeutuu työnohjaukseen muista syistä. Toisaalta jotkut hoitajat eivät hyödy työnohjauksen kaltaisesta kriittiseen itsereflektioon perustuvasta työskentelystä. Lisäksi osa heistä näyttäisi olevan altis työuupumuksen kehittymiselle.

Terveydenhuollon jatkuvassa muutoksessa hoitohenkilökuntaa huolettava potilaiden saamien palvelujen säilyminen korkeatasoisina ja tuloksekkaina. Työntekijät ovat valmiita kehittämään omaa toimintaansa, mikäli organisaatiossa annetaan siihen mahdollisuus. Työnohjaus ylläpitää ja edistää hoitajien työhyvinvointia, kun sen avulla parannetaan potilaiden hoitoa kehittämällä kunkin hoitajan henkilökohtaista osaamista ja työpanosta hoito-organisaatiossa.

Yleinen Suomalainen asiasanasto: hoitohenkilöstö – naiset; osaaminen; seurantatutkimus; työhyvinvointi; työmotivaatio; työnohjaus; yliopistosairaalat

To two Lauras, my mother and daughter, and to Santtu and Riina, the dearest of all

Grandma (moaning): "At home I haven't got anyone to look at a picture book with."

Santtu, 3 years (comforting): "But you can read your own book, which has lots of numbers in it" (probably meaning letters like in the books mum is used to reading).

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Kuopio, September 2013

Aija Koivu

List of original publications

This dissertation is based on the following original publications referred to in the text by their corresponding Roman numerals (I–IV). In addition, some unpublished results are presented.

- I Koivu, A., Hyrkäs, K. and Saarinen, P.I., 2011. Who attends clinical supervision? The uptake of clinical supervision by hospital nurses. *Journal of Nursing Management*, 19 (1), pp. 69–79.
- II Koivu, A., Saarinen, P.I. and Hyrkäs K., 2011. Stress relief or practice development: varied reasons for attending clinical supervision. *Journal of Nursing Management*, 19 (5), pp. 644–654.
- III Koivu, A., Saarinen, P.I. and Hyrkäs, 2012. Who benefits from clinical supervision and how? The association between clinical supervision and the work-related well-being of female hospital nurses. *Journal of Clinical Nursing*, 21 (17), pp. 2567–2578.
- IV Koivu, A., Saarinen, P.I. and Hyrkäs, K., 2012. Does clinical supervision promote nurses' well-being at work? A quasi-experimental four-year follow-up study. *Journal of Nursing Management*, 20 (3), pp. 401–413.

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Abbreviations

AN	Assistant Nurse
BACP	British Association for Counseling and Psychotherapy
CFS	Chronic fatigue syndrome
COR	Conservation of resources theory
CORE Net	A web-based mental health clinical management system
CS	Clinical supervision
DOT	Department of Transportation (USA)
ERI	Effort-Reward Imbalance model
EU	European Union
EU-OSHA	European Agency for Safety and Health at Work
GHQ	General Health Questionnaire
JCQ	Job Content Questionnaire
JDC(S)	Job Demand-Control (-Support) model
JD-R	Job Demand–Resources model
JDS	Job Diagnostic Survey
MBI (- GS)	Maslach Burnout Inventory (General Survey)
MCSS	Manchester Clinical Supervision Scale
NEGD	Nonequivalent Groups Design
NHS	National Health Service (UK)
QPSNordic	General Nordic Questionnaire for Psychological and Social Factors at Work
RCT	Randomized controlled trial
RN	Registered Nurse
SHR	Self-rated health
SRD	Stress-related disorder
SuPreNet	Supervision Practitioner Research Network

1 Introduction

Mental health has been described as: “... a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (WHO, 2001a, p. 1). One of the most important issues in the field of mental health promotion and mental disorder prevention in future will be to maintain peoples' mental health at work. ‘Mental health in workplace settings’ was chosen as one of the five priorities in the implementation of the European Pact for Mental Health and Well-being (2008). In the work environment context, no other subject at present is of such immense interest as mental health (Sockoll and Kramer, 2010). The growing globalization of the economy and the development of new technologies have produced an unprecedented acceleration of change in working life (Schabracq and Cooper, 2000). Restructurings, technical innovations, mergers, outsourcing, lay-offs and job mobility expose employees to frequent changes in tasks, technical equipment, managers, colleagues, working arrangements, and service delivery models. Constant reorientation and adaptation both at the organizational and individual level are needed to prevent the detrimental effects of these rapid and frequent changes in employees’ well-being and health, as well as on organizational outcomes such as low productivity, poor morale, high turnover and sickness absence. In view of these new work-related risks, scientific research in this area has become a priority (Sockoll and Kramer, 2010).

Health, social services and education are the sectors most at risk for work-related stress (Parent-Thirion, Fernández Macías, Hurley and Vermeylen, 2007). Work-related psychosocial risk factors that are typical for the health care sector include high expectations combined with insufficient time, skills and social support; confrontation with pain; dealing with dying people; emergencies; exposure to traumatic events; and complaints and litigation (Jettinghoff and Houtman, 2009). Moreover, violence and harassment are psychosocial hazards in the health care sector. Violent behaviour can come from patients, visitors or colleagues (EU-OSHA, 2007). Health care workers also have a high risk of substance abuse (Trinkoff and Storr, 1998). Today, most member states of the WHO have reported nurse resource difficulties (Kingma, 2007). While international migration of nurses has increased the ‘skills drain’ in many developing countries, developed countries are faced with the double challenge of having an ageing nurse workforce and an increasing demand for nursing care from an ageing population (Buchan and Sochalski, 2004). In Europe, there are trends towards a more flexible, more highly skilled and more mobile workforce in nursing at the same time as it is becoming difficult to recruit and retain staff (Kirpal, 2004). Kirpal (ibid.) has argued that organizational conflicts between cost efficiency and quality of care, and individual conflicts between the core activity of caring for patients and the increasing demands of non-nursing work have had negative effects in terms of staff turnover and job (dis)satisfaction. The individual nurse is often left alone to find a balance between caring and efficiency demands. Consequently, dealing with psychological stress is a major field where nurses do not feel sufficiently supported in their work context (Kirpal, ibid.).

Since the society of today and tomorrow – with a knowledge-based economy and the global market – needs organizations that are productive, innovative, flexible and good places to work, planned efforts are needed to engage workplaces in organizational development (Høyrup, 2004; also Jasper, 2010). In order to keep up with the new developments, organizations must pay attention to further education and training of their employees. In addition to technical skills, more general abilities must be trained such as social skills, creativity and emotional competence, skills to deal with or implement change, skills needed in self- and time management, and stress management skills (Schabracq and

Cooper, 2000). These skills are related to the process of reinventing or redesigning one's own professional identity. Considering the rationale and espoused goals, clinical supervision could be just what is needed in the turbulent working life of today. Critical reflection offers the potential for coping with the challenges of change and of differing contexts of action by helping to re-orientate professional action in a world where change is continuous (Karvinen-Niinikoski, 2009). In clinical supervision, the practitioner has the opportunity *"to synchronize or accommodate his/her knowledge and expertise with the challenge his/her work is offering him/her"* (Žorga, 2003). Synchronizing challenges and skills in clinical supervision enables practitioners to maintain a feeling of professional competence and growth.

At Kuopio University Hospital, the psychiatry department has since the 1980s invested in psychiatric consultation-liaison¹ implemented by a multi-disciplinary team in medical, surgical, paediatric, and obstetrical units of the hospital. In addition to patient consultations, other modes of support and education, among them clinical supervision, have been used to support the medical and nursing staff in their work. The role of the clinical supervisor has most frequently been adopted by psychiatric nurses and allied health professionals such as clinical psychologists and social workers. Considering specifically consultation-liaison nursing, Peplau, the prominent pioneer of nursing theory and research, set an agenda that addressed the response of the general nurse to the psychological needs of the patient, and the potential for the mental health nurse to facilitate this (Roberts, 1997). Even today, however, nurses working in non-psychiatric settings often do not believe that they are adequately prepared to meet the mental health needs of their patients (e.g., Sharrock and Happell, 2007). According to a consortium of the world's leading mental health researchers, advocates and clinicians, one of the 25 'Grand Challenges in Global Mental Health until 2020' is *"to strengthen the mental-health component in the training of all health-care personnel"* (Collins et al., 2011).

Clinical supervision is a method for facilitating professional growth traditionally used in the training of psychotherapists. Since the 1980s, clinical supervision has been increasingly employed in social and health care as a method for managing stress and preventing burnout. However, there has been a lot of confusion about the essence of clinical supervision. For example, when Alfred Kadushin, one of the pioneers of clinical supervision, listed thirteen reasons for maintaining interminable social work supervision, only one of them related to its supportive function (Kadushin, 1992). Moreover, many experienced Finnish clinical supervisors (e.g., Keski-Luopa, 2001) do not recommend clinical supervision for burned-out practitioners. Karvinen-Niinikoski (2007) has referred to the dearth of empirical research on the effects of clinical supervision. She raised the question of whether clinical supervision actually does live up to all of its promises, i.e. foster work-based learning and development of learning organization, increase innovativeness and the capacity for self-renewal of employees, enhance the quality of the work, increase commitment to organizations, and last but not least, promote well-being of employees. The purpose of this study was to address these questions, specifically exploring the role of clinical supervision in promoting nurses' well-being at work.

¹ The scope of practice of consultation-liaison psychiatry includes "participation in the care of patients with psychiatric syndromes, signs, and symptoms that occur in patients being cared for in outpatient and inpatient medical, surgical, paediatric, and obstetrical settings. This can be consultative, collaborative, or integrated as a core feature of the care of patients being treated in the non-mental health setting. The scope necessarily includes psychiatric collaboration or integration in support of mental health care services provided in primary care and specialty care settings" (Leentjens et al., 2011).

2 Literature review

2.1 WELL-BEING AT WORK

2.1.1 On the concept of well-being

According to the famous WHO definition, health is the state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (WHO 2001b). Thus, health and well-being are overlapping, almost identical concepts. According to the *Oxford English Dictionary*, well-being is “the state of being or doing well in life; happy, healthy, or prosperous condition; moral or physical welfare (of a person or community).” The common criteria of external, objectively judged quality of life are wealth or income, educational attainment, occupational prestige, and the health status or longevity. In subjective well-being, people evaluate for themselves the degree to which they experience a sense of ‘wellness’ (Deci and Ryan, 2008). Cowen (1994, 2000) introduced this concept of wellness more than twenty years ago as an alternative focus on mental health promotion in contradiction to the concept of sickness that is the common focus of preventive interventions (on wellness in connection with clinical supervision, see Lenz and Smith, 2010; also Howard, 2008). Premised on the dual continuum model of mental health and illness,² Keyes (2002) has described the presence of mental health as ‘flourishing’ and the absence of mental health as ‘languishing.’

The recent upsurge of ‘happiness studies’ mostly represents the tradition named ‘hedonic’ by Aristotle in which subjective well-being is interpreted to mean a high level of positive affect and/or a low level of negative affect (Deci and Ryan, 2008). A second ‘eudaimonic’ tradition maintains that well-being is not so much “an outcome or end state as it is a process of fulfilling or realizing one’s ‘daimon’ or true nature—that is, of fulfilling one’s virtuous potentials and living as one was inherently intended to live” (Deci and Ryan 2008, p. 2).³ Actually, the eudaimonic tradition is aligned with many concepts of humanistic psychology of the 1960s, such as the criteria of mental health (Jahoda, 1958) and the concepts of self-actualization (Maslow, 1968), full functioning (Rogers, 1961), maturity (Allport, 1961), and successful adult development that results in the realization of virtues (Erikson, 1959).

According to Ryan, Huta and Deci (2008), well-being can be characterized in terms of four *motivational* concepts:

- (1) pursuing intrinsic goals and values, including personal growth, relationships, community, and health, rather than extrinsic goals and values, such as wealth, fame, image and power;
- (2) behaving in autonomous, volitional or consensual ways, rather than heteronomous or controlled ways;
- (3) being mindful and acting with a sense of awareness; and
- (4) behaving in ways that satisfy basic psychological needs for competence, relatedness and autonomy.

The need for *autonomy* refers to a sense of choice and volition in the regulation of behaviour. The need for *competence* concerns the sense of efficacy one has with respect to both internal and external environments. The need for *relatedness* refers to feeling connected to and cared about by others. Satisfaction of these basic needs fosters well-being, and

² This model suggests that mental health and mental illness are two correlated but distinct dimensions.

³ Ryan, Huta and Deci (2008) have pointed out a paradox: the more directly one aims to maximize pleasure and avoid pain (i.e., achieve hedonic well-being), the more likely one is to instead produce a life bereft of depth, meaning and community (i.e., achieve eudaimonic well-being).

support for and satisfaction of each is a necessary condition for a person's growth, integrity and well-being, both within and across different domains of life.

2.1.2 Concepts related to empirical research on well-being at work

Issues related to well-being at work have most commonly been empirically investigated in terms of '*job (or work) satisfaction*' or '*job (or work) stress*' and '*(job or occupational) burnout*'.⁴ Job satisfaction is an evaluative state that expresses contentment with and positive feelings about one's job (Judge and Kammeyer-Mueller, 2012). The definition of stress varies, depending on the academic background of the researcher (Clegg 2001; for a short review of the history of the concept, see Hobfoll, 1989). Perhaps most cited in the literature is the definition by Lazarus and Folkman (1984, p. 19), according to which *psychological stress* is "*a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being.*" In place of or parallel to the term '*work stress*', some researchers, including those of nursing (e.g., Lambert and Lambert, 2001; Chang et al., 2005; Riahi, 2011), prefer the term '*role stress*', defining it as any physical or psychological strain that is "*the consequence of disparity between an individual's perception of the characteristics of a specific role and what is actually being achieved by the individual currently performing the specific role*" (Lambert and Lambert, 2001, p. 161). Role stress emerges from the impact of environmental factors (*role ambiguity, role conflict*) on an individual's ability to fulfil *role expectations*.

According to the dominant view of today, *burnout* refers to a negative consequence of chronic job stress. There is, however, no consensus on the conceptual and operational definition of burnout. Interpersonal models of burnout (e.g., Leiter and Maslach, 1988) emphasize the emotional strain from interactions with demanding or difficult clients and co-workers as the cause of burnout, while the organizational approach stresses the role of the work environment (e.g., Golembiewski and Munzenrider, 1988). Maslach and Leiter (1997) have expanded their initial views of burnout as an interpersonal problem. Perceiving that burnout develops as a result of a chronic imbalance between the person and the job in the organizational context, the authors identified six areas of working life in which these mismatches mostly occur: workload, control, reward, community, fairness and value.

Most commonly, the concept of burnout seems to concur with the Maslach Burnout Inventory (MBI), and vice versa (Schaufeli, Leiter and Maslach, 2009), in which burnout is operationalized as consisting of three core dimensions: (emotional) exhaustion, cynicism (depersonalization) and reduced professional efficacy (personal accomplishment).⁵ Exhaustion is closest to the orthodox stress reaction, whereas cynicism and inefficacy go beyond the individual stress experience, adding the employee's attitude towards work (cynicism) and towards the self (inefficacy). Burnout has gradually expanded from a psychological phenomenon to encompass *a medical diagnosis* in some European countries such as the Netherlands and Sweden. Shirom (2009a) has raised the question of whether burnout and the *chronic fatigue syndrome (CFS)* are indicators of the same underlying medical condition, whose core content is the depletion of one's energetic resources (for more, see Leone et al., 2011).

Recently, there has been an upsurge of new stress concepts delineating the impact of the high interactional and emotional demands on health care providers. These have also been adopted in nursing "*to replace the outdated notion of burnout*" because it "*does not truly depict the result of the longitudinal workplace ramifications of sadness and despair on nursing staff*" (Aycock and Boyle, 2009, p. 183; also Pereira, Fonseca and Carvalho, 2011). These include concepts such as '*moral (di)stress*' (Lütznén, Cronqvist, Magnusson and Andersson, 2003;

⁴ The prefixes (job, work, occupational) vary in different countries, the prefix 'job' being common in North America and the prefix 'work' in the European contexts. The prefix preferred by each author is used in the text.

⁵ The concepts differ slightly in different versions of the MBI.

Cronqvist, 2004; Cronqvist and Nyström, 2007; Rice et al., 2007; Schluter, Winch, Holzhauser and Henderson, 2008), '*stress of conscience*' (Glasberg, Eriksson and Norberg, 2008; Gustafsson, Eriksson, Strandberg and Norberg, 2010), '*compassion fatigue*' (Aycock and Boyle, 2009; Austin, Goble, Leier and Byrne, 2009; Yoder, 2010; Hooper et al., 2010; Burtson and Stichler, 2010), '*vicarious or secondary traumatic stress*' (Beck, 2011) and many others (see Austin, Goble, Leier and Byrne, 2009).

Following the trend towards 'positive psychology', which pays attention to human strengths, optimal functioning and positive experiences (Seligman and Csikszentmihalyi, 2000), a new concept of *work engagement* has lately been introduced (Bakker, Schaufeli, Leiter and Taris, 2008) and established as a construct separate from the older constructs such as *job involvement* and *organizational commitment* (Hallberg and Schaufeli, 2006), burnout and *workaholism* (Schaufeli, Taris and van Rhenens, 2008), as well as job satisfaction (Alarcon and Lyons, 2011). Work engagement is defined as a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication and absorption, and measured by a new instrument, the Utrecht Work Engagement Scale (Schaufeli, Salanova, González-Romá and Bakker, 2002). Alternatively, (job) engagement has been defined as the opposite of burnout and measured by the MBI, the exhaustion subscale assessing respondents' *energy* in terms of its absence, the cynicism subscale their lack of *involvement*, i.e., their inability to invest energy, attention or emotion in a person, object or activity, and the *efficacy* subscale assessing respondents' positive self-evaluations (Leiter, Gascón and Martínez-Jarreta, 2010).

In addition, there have been interesting developments in empirical research around the positive concept of '*well-being at work*' and its synonyms. In 2008, the Finnish Institute of Occupational Health (Anttonen and Räsänen, 2008) coordinated the Well-Being at Work project of the European Union (EU), which arrived at the following definition: "*Well-being at work means safe, healthy, and productive work in a well-led organization by competent workers and work communities who experience their job as meaningful and rewarding and see work as an element that supports their life management.*" This definition summarizes the results of traditional stress research. In nursing, Utriainen and her co-workers have adopted this concept, contrasting it with the old concept of job satisfaction (Utriainen, Kyngäs and Nikkilä, 2009; Utriainen and Kyngäs, 2011). Yet another recent conceptualization of well-being at work is the construct of *thriving at work*, defined as a psychological state composed of the joint experience of vitality and learning leading to both the development and health of the employee (Spreitzer et al., 2005).

2.1.3 Empirical models of work stress

Empirical models of work stress selectively reduce the complexity and variation of work-related factors that may explain direct or indirect effects of the work environment on health and well-being. Several empirical models have been developed and empirically tested, with two models receiving particular attention in recent years: the Job Demand-Control (-Support) model (Karasek, 1979; Karasek et al., 1998) and the Effort-Reward Imbalance model (Siegrist, 1996). Influenced by these two dominant models, Bakker and Demerouti (2007) have recently introduced their Job Demands-Resources model.

2.1.3.1 Job Demand-Control (-Support) model (JDC, JDCS)

The Job Demand-Control model focuses on two dimensions of the work environment: job demands and job control (van der Doef and Maes, 1999). *Job demands* refer to the workload, and have mainly been operationalized in terms of time pressure and role conflict. Job demands have sometimes been classified as quantitative or qualitative (e.g., decisional or learning) demands, or alternatively as physical, cognitive and emotional demands. *Job control*, which is sometimes called *decision latitude*, refers to a person's ability to control his or her work activities. Decision latitude includes two components: skill discretion and

decision authority. According to the so-called *strain hypothesis*, employees working in a high-strain job (characterized by high demands and low control) experience the lowest well-being. The *buffer hypothesis* states that job control can moderate the negative effects of high demands on well-being. Translating these hypotheses to the expanded Job Demand-Control-Support (JDCS) model, the *iso-strain hypothesis* predicts the most negative outcomes among workers in an iso-strain job (high demands, low control and low social support, i.e. isolation), whereas the buffer hypothesis states that social support can also moderate the negative impact of high strain on well-being.

In 1999, van der Doef and Maes reviewed 63 studies on the JDC(S) model in relation to psychological well-being published in 1979–1997. Although the literature gave considerable support for both the strain and iso-strain hypotheses, support for the moderating influence of job control and social support was less consistent. Conceptualization of the concepts of demands and control appeared to be a key factor in discriminating supportive from non-supportive studies. For example, only those aspects of job control that correspond to the specific demands of a given job (e.g., time pressure and control of pacing) moderate the impact of high demands on well-being. Häusser, Mojzisch, Niesel and Schulz-Hardt (2010) updated and extended van der Doef and Maes's review, covering research from 83 studies published between 1998 and 2007. Their review revealed three major results: First, support for the *additive effects* of demands, control and social support on general psychological well-being was almost always found if the sample size was sufficient. Second, support rates were lower in longitudinal data than in cross-sectional studies. The authors suggested that reciprocal or reversed causation might account for part of the association between JDC/JDCS dimensions and work-related well-being. For instance, in a longitudinal study on nurses' well-being at work, Gelsema et al. (2006) found support for both normal causal relationships (i.e., the influence of job conditions on health and well-being) and reversed causal relationships (i.e., the influence of health and well-being on perceived job conditions). Thus, stressors and stress outcomes appeared to mutually influence each other, emphasizing the importance of intervening early in the process to prevent nurses from a negative spiral.

Lastly, Häusser, Mojzisch, Niesel and Schulz-Hardt (2010) noted that evidence for *interactive effects* as predicted by the buffer hypotheses of the JDC/JDCS model was very weak overall. However, the authors suggested that buffering effects might depend on whether demands and control are based on qualitatively identical JDC/JDCS dimensions (*matching principle*). Indeed, de Jonge, Le Blanc, Peeters and Noordam (2008) showed among health care employees that *emotional* job resources moderated the relation between *emotional* job demands and health outcomes. Moreover, in a recent longitudinal test of Karasek's strain hypothesis among 267 health care employees (de Jonge et al., 2010), significant demand/control interactions were found for mental and emotional demands, but not for physical demands. In addition, the relation between job demands and psychosomatic health symptoms/sickness absence was negative in the case of high job control and positive in the case of low control.

In a longitudinal study with an exceptionally long period of follow-up (11 years), Dalgard et al. (2009) managed to replicate the original findings of the JDC model while testing the normal, reversed and reciprocal relationships between work characteristics and mental health using a sample of 439 Norwegian employees of different occupations. Low job control, and in particular low control in combination with high demands, had a negative effect on mental health, whereas job demands alone were not significantly associated with mental health. The reversed relationship hypothesis was supported for job demands, but not for job control. In addition, the interaction between demands and control emerged as a strong buffering effect, with almost no increase in psychological distress when high demands were combined with high control, in contrast with when high demands were combined with low control. With reference to the JDCS model, Bambra et al.

(2007) systematically reviewed the health and psychosocial effects of changes to the work environment (among them some nursing studies addressing the implementation of primary nursing) and found that task-restructuring interventions that increased demands and reduced control tended to have an adverse effect on health, whereas those that reduced demands and increased control resulted in improved health, although some effects were minimal. However, increases in workplace support did not appear to mediate this relationship. Moreover, the results of Akerboom and Maes (2006) demonstrated that assessing *organizational risk factors* (e.g., communication, training opportunities) in addition to JDCS constructs provides a more valid and complete measure of the quality of work and its effects on psychological well-being.

In nursing, Browning et al. (2007) examined the relationship between perceived control and burnout among three nursing specialties: nurse practitioners, nurse managers and emergency nurses. The findings indicated that emergency nurses had the least control and the highest burnout, whereas nurse practitioners had the most control and the least burnout. The authors concluded that that emergency nurses often deal with an overload of patients and nurse managers must negotiate the concerns of staff and management, whereas nurse practitioners may be able to concentrate more fully on patient care. The opportunities to spend additional time with patients may help reduce work-related stressors, increase control, and ultimately decrease burnout. While analysing survey data on 854 RNs in 46 inpatient units at five Finnish university hospitals, Tervo-Heikkinen, Kiviniemi, Partanen and Vehviläinen-Julkunen (2009) found that the possibility of nurses to control their practice and the quality of care mediated the association between the work load (patient-to-RN ratio) and nurses' job satisfaction and stress, as well as their intent to leave.

2.1.3.2 Effort-Reward Imbalance (ERI) model

According to the *Effort-Reward Imbalance* (ERI) model, the imbalance between high effort and low reward at work increases the susceptibility to illness as a result of continued strain reactions (Siegrist, 1996). People who are characterized by a motivational pattern of excessive work-related commitment and a high need for approval are at increased risk of strain. This kind of '*over-commitment*' can be considered a psychological risk factor on its own, although the strongest effects on health and well-being are expected to occur if structural and personal conditions act in concert (Siegrist et al., 2004).

The study of Bakker, Killmer, Siegrist and Schaufeli (2000) revealed that those nurses who experienced ERI reported higher levels of emotional exhaustion and depersonalization than those who did not experience such an imbalance. Moreover, significant interaction effects indicated that emotional exhaustion and reduced personal accomplishment were particularly prevalent among those nurses who experienced ERI *and* put relatively high intrinsic effort into their jobs, as reflected by their strong tendency to be personally in control over job conditions. Weyers et al. (2006) found that psychosocial work stress was associated with poor self-rated health in Danish nurses (n = 367). Elevated risks were observed in nursing staff characterized by high effort in combination with low reward. Effects were enhanced in those respondents who additionally exhibited a high level of work-related over-commitment.

Comparing hospitals (n = 12) with low versus high nurse turnover, Stordeur, D'Hoore and the NEXT-Study Group (2007) found differences in ERI and the meaning of work, in favour of attractive hospitals. Schreuder et al. (2010) observed among Dutch nurses (n = 291) that high frequency absentees perceived poorer health, had lower over-commitment scores and reported higher ER ratios than low frequency absentees. Esteem rewards were related to sickness absence, whereas monetary rewards were not. Feeling respect from the superior was associated with fewer short sickness absence episodes, and respect from co-workers was associated with fewer long sickness absence episodes. Jolivet et al. (2010)

analysed the association between the organizational work environment and depression in 3316 female RNs and nursing aids working in 190 work units in seven French university hospitals. The findings demonstrated that poor relations between workers within work units were associated with higher depression scores, independently of perceived ERI. A low level of communication between workers in the unit was associated with individual perceptions of ERI and indirectly associated with depressive symptoms. Understaffing and non-respecting of planned days off and vacations were associated with perceived ERI, but these organizational constraints were not associated with depressive symptoms.

2.1.3.3 Job Demand–Resources Model (JD-R)

The Job Demand-Resources Model (Bakker and Demerouti, 2007) proposes two relatively independent pathways to employee well-being: *the energy-driven (health impairment) process* from high job demands to exhaustion, and *the motivation-driven process* from high job resources to work engagement. *Job demands* refer to those physical, psychological, social or organizational aspects of the job that require sustained physical and/or psychological effort or skills and are therefore associated with certain physiological and/or psychological costs. *Job resources* refer to those physical, psychological, social or organizational aspects of the job that are (1) functional in achieving work goals, (2) reduce job demands and the associated physiological and psychological costs or (3) stimulate personal growth, learning and development. Job demands (e.g., work overload, role ambiguity, job insecurity) are likely to result in different strain reactions (stress, impaired health and well-being), whereas a lack of resources (e.g., lack of social support, lack of job control) hinders goal accomplishment, resulting in feelings of frustration and failure. Hence, resources are not only necessary to deal with job demands, but they are also important in their own right. Crawford, LePine and Rich (2010) further refined and extended the model with a theory regarding the appraisal of stressors. Using meta-analytical structural modelling, these authors showed that demands that employees tend to appraise as *hindrances* are negatively associated with engagement, whereas demands that employees tend to appraise as *challenges* are positively associated with engagement.

According to Bakker and Demerouti (2007), their JD-R model agrees with the influential job characteristics theory (Hackman and Oldham, 1980), which emphasizes the motivational potential of job task characteristics such as autonomy, feedback, and task significance. In addition, the model also agrees with the *conservation of resources* (COR) theory proposed by Hobfoll (1989), which has frequently been used to explain the mechanisms of burnout and/or engagement (Hobfoll and Freedy, 1993). In the COR theory, a threat to valued resources (i.e., objects, personal characteristics, conditions, or energies) is seen as a stressor; the continued loss or threat to resources, particularly after a great deal of resource investment in work, is thought to lead to burnout (Lee and Ashfort, 1996). Positive experiences or resources are likely to accumulate, creating a *positive spiral* of resource gains, which, in turn, is likely to have positive health-promoting effects. On the other hand, individuals who lack resources are vulnerable to the cycles of resource depletion, and those suffering from burnout may be caught in a negative spiral of losses that further exacerbate those losses.

Results of a recent meta-analysis (Alarcon, 2011) revealed that higher demands, lower resources, and lower adaptive organizational attitudes are associated with burnout. Even stronger associations were evidenced than a previous meta-analysis by Lee and Ashforth (1996) suggested. In a longitudinal study investigating work engagement among Finnish healthcare personnel (Mauno, Kinnunen and Ruokolainen, 2007), only the positive effect of job control on dedication (i.e., the positive opposite of cynicism) remained statistically significant after controlling for the baseline level of work engagement. Using cross-lagged analysis based on two waves over a 3-year period and a full panel design in a representative sample of Finnish dentists (N = 2555), Hakanen, Schaufeli and Ahola (2008)

demonstrated that job resources influenced future work engagement, which in turn predicted organizational commitment; on the other hand, job demands predicted burnout over time, which in turn predicted future depression. In addition, job resources had a weak negative impact on burnout. Home demands and home resources did not influence the motivational or health impairment processes over time. Using the same data, Hakanen, Perhoniemi and Toppinen-Tanner (2008) found positive and reciprocal cross-lagged associations between job resources and work engagement and between work engagement and personal initiative. In addition, personal initiative had a positive impact on work-unit innovativeness over time.

In the study of Peterson et al. (2008) focusing on Swedish health care workers ($n = 3729$), access to versus a lack of relevant resources at work (fair and empowering leadership, a positive social climate at the workplace, control over decisions and support from superiors) were crucial to whether a respondent was classified as burnt out. Jourdain and Chênevert (2010) tested the JD-R model on cross-sectional data collected in 2005 from 1636 RNs working in Canadian hospitals. Demands were the most important determinants of emotional exhaustion and indirectly induced depersonalization via emotional exhaustion, whereas job resources mainly predicted depersonalization. Moreover, emotional exhaustion and depersonalization were linked to psychosomatic complaints and professional commitment, which were in turn associated with intentions to leave the profession. Cross-sectional data from 508 Spanish nurses working in general hospitals (Garrosa, Moreno-Jiménez, Rodríguez-Munõz and Rodríguez-Carvajal, 2011) showed that both role stress and personal resources were related to burnout and engagement dimensions, although role stress was more closely related to burnout, and personal resources to engagement. In a descriptive correlational study designed to test the JD-R model in a sample of newly graduated nurses ($n = 420$) working in acute care hospitals in Ontario, Canada, Laschinger, Grau, Finegan and Wilk (2012) found that job demands (workload and bullying) predicted burnout and, subsequently, poor mental health. Job resources (supportive practice environment and job control) predicted work engagement and, subsequently, lower turnover intentions. Burnout also was a significant predictor of turnover intent (a crossover effect). In addition, it was found that personal resources significantly influenced both burnout and work engagement.

2.1.3.4 Other models related to well-being at work

Organizational justice. Organisational justice, that is, the extent to which employees perceive that their superior considers their viewpoints, shares information concerning decision making and treats individuals fairly, has also been linked to employee health outcomes. Elovainio, Kivimäki and Helkama (2001) showed that job control affected job strain through organizational justice evaluations. Next, Elovainio, Kivimäki and Vahtera (2002) examined the relationship between levels of perceived justice and self-rated health, minor psychiatric disorders and recorded absences due to sickness in a cohort of 506 male and 3570 female hospital employees aged 19 to 63 years. The study revealed that low organizational justice is a risk to the health of employees. Using the same hospital personnel sample in a longitudinal design, Kivimäki, Elovainio, Vahtera and Ferrie (2003) demonstrated that the extent to which people are treated with justice in workplaces predicts their health. Recently, using a prospective longitudinal design among 25 459 public sector employees working in 2551 work units, Elovainio et al. (2010) showed that fair organizational and managerial procedures buffered the negative health effects of psychosocial health risks that occurred *outside work*. In a recent systematic review, Ndjaboué, Brisson and Vézina (2012) found robust evidence that that procedural justice and relational justice are associated with the mental health of employees, and can be considered a different and complementary model to the JDCS and ERI models.

Greenberg (2006) demonstrated among 467 nurses working at four hospitals the buffering effects of fair treatment on reactions to underpayment. At two of these hospitals, a change in the pay policy resulted in reduced pay for all nurses, whereas nurses' pay was unchanged at the other two hospitals. Nursing superiors at one hospital in each group received training in promoting interactional justice, whereas no training was provided at the other two hospitals. Reflecting the stressful nature of underpayment, insomnia was significantly greater among nurses whose pay was reduced than among those whose pay remained unchanged. However, the degree of insomnia was significantly lower among nurses whose superiors were trained in interactional justice, both immediately after training and 6 months later.

'Magnet Hospital Movement'. 'Magnet hospital' designation developed by nurses in the 1980s in the USA recognizes hospitals that have created excellent patient care environments and support the professional practice of nursing. As part of the Magnet Hospital Movement, eight attributes of a satisfying and productive work environment have been confirmed by staff nurses: 1) work with other nurses who are clinically competent; 2) collegial/collaborative nurse-physician and interdisciplinary relationships; 3) autonomy in clinical decision making; 4) supportive nurse managers; 5) control of nursing practice; 6) support for education; 7) the perception that staffing is adequate; and 8) a culture in which concern for patients is paramount (Kramer and Schmalenberg, 2008; Kramer, Maguire and Brewer, 2011). These attributes have also been found to be associated with nurses' job satisfaction in many European hospitals (Stordeur, D'Hoore and the NEXT-Study Group, 2007; Chen and Johantgen, 2009; Tervo-Heikkinen, Partanen, Aalto and Vehviläinen-Julkunen, 2008). Aiken, Buchan, Ball and Rafferty (2008) demonstrated that acquiring the Magnet status may be a transformative process that creates an environment more supportive of professional nursing practice. In a pilot initiative in England, improvements in the organization of care and nursing culture were associated with improved nurse outcomes and improvements in indicators of quality of care, although the workloads remained about the same. The 'Magnet journey' was associated with a significant decrease in nurse job dissatisfaction and intent to leave, both important precursors of voluntary nurse turnover.

2.1.3.5 The changing nature of work and stress

The work stress approach has treated work as a relatively stable entity, and problems of well-being at work have consequently been addressed as negative features, indicating a need to restore the previous harmonious relationship between the individual and the work environment (Mäkitalo, 2005). However, change in modern work is not exceptional but continuous due to the adoption of new technologies, changing organizational structures and the overall higher complexity of work systems (Engeström, 2000, 2001; Schabracq and Cooper, 2000). Launis and Pihlaja (2007) have argued that the dynamics of recent workplace transformations are not sufficiently understood by occupational health and safety experts from the perspective of everyday work. Considering work activity as a historically and culturally developing phenomenon (Engeström 2000, 2001), Mäkitalo (2005) has delineated well-being at work as a developmental process rather than a state. Promoting well-being at work is thus characterized by advancing development and not as returning to a previous state of homeostasis.

Common stress models focus on the level of job demands and/or on the characteristics of the employee. In a demanding situation, the options are to lower demands or/and to enhance the resources of employees. According to Mäkitalo (ibid.), the development of work activities opens up a third possibility: employees may learn to control the situation better by developing new tangible or non-tangible (e.g., concepts, theories) tools and new forms of co-operation within the work community to better match the changing conditions. Naturally, the development of work activities is not straightforward but usually proceeds

through contradictions that show in everyday work life as disturbances in the smooth flow of everyday work, and occasionally lead to an increase in the physical and psychological demands of the work. However, emotional distress is not something to be avoided at all costs if it is seen as an indispensable phase in the continuous development of work processes. From this perspective, promotion of work-related well-being coincides with the challenges for organizational learning and change. For example, Kerosuo (2008) recently demonstrated how individually experienced and expressed strain became a starting point for collective change in the surgery unit of a university hospital in Finland.

In contemporary healthcare settings, recurrent changes have become a normal characteristic of nurses' work environment. Changing working conditions, including strategies to increase productivity and minimize operating costs while at the same time maintaining the quality of the care, increase the necessity to investigate the impact of these activities on nurses' stress and burnout. These changes, from the subjective point of view of a nurse, may influence the meaning of work, professional orientation, work attitudes, learning patterns, commitment, and ultimately, work identity, in that elements of identification with work are questioned, re-defined or stabilized (Kirpal, 2004). According to Ferrie et al. (2008), most published research documents adverse effects on health of organizational changes. There is evidence that major downsizing is associated with poor mental health, medically certified sickness absence, and poor physical health, including cardiovascular disease mortality, among the survivors of downsizing. Recent research suggests that repeated exposure to personnel expansion also predicts sickness absence and hospitalization.

In Canada, hospital restructuring resulted in greater stress and job insecurity as well as increased burnout (Greenglass, Burke and Fiksenbaum, 2001; Greenglass and Burke, 2002). Stressors, particularly a high workload, contributed to emotional exhaustion, while individual resources contributed to professional efficacy and resulted in lower burnout. In Norway, during a 30-month period with two comprehensive reorganizations and downsizing, experienced cancer nurses (n = 46) showed a significant and unexpectedly rapid development of burnout (Nordang, Hall-Lord and Farup, 2010). Verhaeghe et al. (2006) investigated the impact of recurrent changes in the work environment on nurses' psychological well-being and sickness absence (2094 RNs in 10 general hospitals in Belgium). Nurses who had been confronted with changes scored statistically significantly higher for distress. Changes appraised as *threatening* were negatively related to job satisfaction and eustress, and positively to distress and sickness absence (both frequency and duration). However, changes appraised as *challenging* were positively related to job satisfaction and eustress and had no impact on distress and sickness absence.

2.1.4 Individual factors as moderators⁶ in the stress process

Empirical research has almost exclusively focused on the role of work characteristics on stress and burnout (Halbesleben and Buckley, 2004). Only recently, an increased number of researchers have addressed the intriguing question of why some employees report high levels of stress and burnout, whereas others working in the same environment do not (e.g., Langelaan, Bakker, van Doornen and Schaufeli, 2006; Gustafsson et al., 2009). Recent research has demonstrated that the source of job burnout may come as much from within individuals as from outside of them (e.g., Conard and Matthews, 2008; Alarcon, Eschleman and Bowling, 2009; Swider and Zimmerman, 2010). Individual differences matter, whether they are present in *personality traits*, *resilience* (i.e., the ability to positively adjust to adversity; Jackson, Firtko, and Edenborough, 2007) or in the use of *coping mechanisms* (i.e.,

⁶ A moderator variable, in statistics, is a qualitative or quantitative variable that affects the direction and/or strength of the relation between dependent and independent variables.

in efforts to prevent or diminish threat, harm and loss, or to reduce associated distress; Carver and Connor-Smith, 2010).

Concerning socio-demographic factors, gender has sometimes been shown to have a significant impact on stress and burnout (e.g., Ahola, 2007), but other socio-demographic factors (e.g., age, marital status, children, level of education) seem to have much less if any impact on well-being at work (e.g., Lu, While and Barriball, 2005; Burke, Matthiesen, and Pallesen, 2006; Gillespie, Chaboyer and Wallis, 2009; Jenaro, Flores, Orgaz and Cruz, 2011). A meta-analysis by Ford, Heinen and Langkamer (2007) suggested that a considerable amount of variability in job satisfaction is explained by family domain-specific variables, whereas a considerable amount of variability in family satisfaction is explained by work domain-specific variables. Van der Heijden et al. (2008) found among nurses that the higher the job demands were, the higher was the level of work-home interference and the more likely was general health deterioration over time. This in turn gave rise to higher job demands and work-home interference, which may even aggravate the nurses' general health, and so on (also Cortese, Colombo and Ghislieri, 2010).

2.1.5 Job attitudes as mediators in the stress process

According to a meta-analytical review by Parker et al. (2003), individual perceptions of work are significantly related to performance and well-being at work, often mediated⁷ by job attitudes such as job satisfaction or commitment to the organization. *Job (work) attitudes* are evaluations of one's job that express one's feelings toward, beliefs about, and attachment to one's job (Judge and Kammeyer-Mueller, 2012). In a comprehensive meta-analytical summary, Humphrey, Nahrgang and Morgeson (2007) integrated motivational, social and work context characteristics, demonstrating that work design has a large impact on worker attitudes and behaviours, explaining on average 43% of the variance in these outcomes. The two best predictors of job satisfaction were autonomy and social support. In a systematic review and meta-analysis of 485 studies, Faragher, Cass and Cooper (2005) found that job satisfaction was most strongly associated with mental/psychological well-being, whereas the correlation with subjective physical health was more modest.

2.1.5.1 Job satisfaction

There is currently a growing interest in nurses' job satisfaction based on recent worldwide problems in the recruitment and retention of qualified nurses. Aiken et al. (2001) found that job dissatisfaction among nurses was highest in the United States (41%), followed by Scotland (38%), England (36%), Canada (33%) and Germany (17%). The level of satisfaction among Finnish RNs is comparable to these results. In a survey consisting of 451 RNs in 34 inpatient units at the five Finnish university hospitals, every third RN was unsatisfied with her present job (Tervo-Heikkinen, Partanen, Aalto and Vehviläinen-Julkunen, 2008).

There have been several systematic reviews and meta-analyses addressing job satisfaction in nurses (e.g., Lu, While and Barriball, 2005; Zangaro and Soeken, 2007; Utriainen and Kyngäs, 2009; Hayes, Bonner and Pryor, 2010; Lu, Barriball, Zhang and While, 2012). Lu, While and Barriball (2005) reviewed the most relevant high quality studies out of the fast growing literature on nurses' job satisfaction published between 1985 and 2004. They found a substantial to very strong relationship of job satisfaction with job stress (also Zangaro and Soeken, 2007), organizational commitment, depression, and cohesion of the ward team. A moderate to substantial relationship was found with the following: affectivity; role ambiguity; professional commitment; routinization; superior/co-worker support; collaboration with medical staff (also Zangaro and Soeken, 2007); job

⁷ In statistics, a mediation model is one that seeks to identify and explicate the mechanism or process that underlies an observed relationship between an independent variable and a dependent variable via the inclusion of a third explanatory variable, known as a mediator variable.

performance; hostility; staff organization; autonomy (also Zangaro and Soeken, 2007); recognition; fairness; the locus of control; and communication with the supervisor/peers. Only a slight relationship was evidenced with role conflict, job involvement, age, and years of experience, educational level, professionalism, anxiety and superior satisfaction.

Utriainen and Kyngäs (2009) identified 21 articles on job satisfaction among hospital nurses published between 1997 and 2006. Two themes seemed to be most significant to nurses' job satisfaction: *interpersonal relationships* (relationships with co-workers, feeling of togetherness, interaction and communication, team work, social climate and ethicality, peer support) and *patient care* (significance of patient care to nurses, opportunity for high quality care, good human connection with patients). In addition, different *ways of organizing work* were relevant (work family relationship, supportive leadership, work environment, manageable and suitable workload, system of nursing practice, salary and benefits, autonomy, professionalism and professional development). Adams and Bond (2000) highlighted the importance of organizational features of acute hospital wards as predictors of job satisfaction in nurses, over and above the importance of individual nurse characteristics, but the authors also pointed to the importance of exploring subjective perceptions of elements of the physical work environment, work processes and job design, rather than purely relying on objective measures.

In a literature search from January 2004 to March 2009, Hayes, Bonner and Pryor (2010) identified 44 intra-, inter- and extra-personal factors that influence job satisfaction for nurses in acute hospitals. The most important factors included coping strategies, autonomy, co-worker interaction, direct patient care, organizational policies, resource adequacy and educational opportunities. In their recent new review on job satisfaction, Lu, Barriball, Zhang and While (2012) noted that despite somewhat varying levels of job satisfaction across studies, sources and effects of job satisfaction are similar. However, the absence of a robust *causal model of job satisfaction* incorporating organizational, professional and personal variables is undermining the development of interventions to improve nurse recruitment and retention.

2.1.5.2 Organizational commitment

'*Organizational commitment*' can be defined as an individual's psychological bond with the organization, as represented by an affective attachment to the organization (*affective commitment*), a feeling of loyalty towards it (*normative commitment*), and an intention to remain as part of it (*continuance commitment*) (Judge and Kammeyer-Mueller, 2012; also Meyer and Maltin, 2010). Commitment to a specific collective (e.g., organization) may be influenced by identities with other, possibly multiple foci (e.g., profession, team, union). Research has confirmed that commitment towards the employing organization correlates with desirable outcomes such as the loyalty and motivation of employees, workforce stability, improved work morale and better performance results (Kirpal, 2004). Although a great deal is known about the implications of employee commitment for organizations, less attention has been paid to its ramifications for employees themselves. The most consistent findings pertain to the positive links between affective commitment and employee well-being (Meyer and Maltin, 2010).

Commitment is closely connected to the identity of a person. Kirpal (2004) distinguishes between three different dimensions of *occupational identity*. The *structural dimension* accounts for the fact that concepts of work, training systems and patterns of employment are culturally embedded and influenced by national contexts and historical developments. The *social dimension* underlines that occupational identities are in the first place understood as collective identities. They develop in interaction with other individuals (i.e., colleagues, supervisors, clients and patients), groups (i.e., working teams, communities of practice) or institutional bodies (i.e., institutions of training systems, companies, trade unions). The *individual-psychological dimension* depends on an individual's career history and professional

development, as well as the individual's perception of the work context and her or his work attitudes. Moreover, an occupational identity may just be one of a number of other possible identities that make up the overall identity of an individual.

According to Kirpal (ibid.), nurses generally do not develop a strong identification with, or attachment towards, the employer, whereas the field of specialisation and the immediate (team) and broader professional community (nurse association) are key elements of nurses' occupational identity. Another source of occupational identity stems from the direct interaction with patients and the ethics of the profession itself: *"Placing the patient at the heart of the nursing profession is an attitude that evolves gradually over time with work experience. Probationary and newly-qualified nurses expressed a general interest in medicine as the key motivating factor for becoming or being a nurse. In contrast, nurses with a longer employment record put direct patient care in the centre of the work context. Emphasising the caring aspect was typically linked to a certain set of values and work ethics. Patient-oriented nurses preferred to be horizontally mobile and work directly with the patient instead of assuming administrative or managerial functions. The combination of assuming high levels of responsibility in connection with nurses' relative autonomy in direct patient care leads to a strong commitment towards their work and the ethics of their profession."* (Kirpal, ibid., p. 297)

2.1.6 Health outcomes related to stress and burnout

Melamed et al. (2006) presented evidence supporting several potential mechanisms linking burnout with ill health, including the metabolic syndrome, dysregulation of the hypothalamic–pituitary–adrenal axis along with sympathetic nervous system activation, sleep disturbances, systemic inflammation, impaired immunity functions, blood coagulation and fibrinolysis, and poor health behaviours. The association of burnout and vital exhaustion with these disease mediators suggests that their impact on health may be more extensive than currently indicated (also Shirom 2009a, 2009b). Accelerated cellular aging has also been proposed as one possible mechanism linking chronic stress to adverse health outcomes. In a representative sample of the Finnish working-age population (the Health 2000 Study), Ahola et al. (2012) recently demonstrated that work-related exhaustion is associated with accelerated biological aging, as indicated by shorter leukocyte telomeres.

In a large French national sample (n = 24 486), psychosocial work factors were found to be strong risk factors for health outcomes (Niedhammer, Chastang and David, 2008). In two Nordic large-scale studies, burnout was also found to be associated with a variety of physical health impairments (Honkonen et al., 2006; Peterson et al., 2008). Vinokur, Pierce and Lewandowski-Romps (2009) studied the effects of burnout on health by viewing self-rated health (SRH) as a health-related outcome impacted by burnout. Based on a longitudinal design and using structural equation modelling, they were able to demonstrate that across time, perceived health predicted a decrease in burnout, but burnout also predicted a decrease in perceived health. The effect of perceived health on burnout was stronger than the effects of burnout on perceived health, demonstrating that individuals' initial health status impacted their feelings of burnout. Using the data from the Health 2000 Study, Ahola (2007) showed that burnout is related to an increased prevalence of depressive and anxiety disorders and alcohol dependence among men and women, to musculoskeletal disorders among women and cardiovascular diseases among men independently of socio-demographic factors, and also to the physical strenuousness of work, health behaviour and depressive symptoms. However, since burnout did not seem to be totally redundant with respect to ill health, the author suggested that burnout symptoms could possibly be used as a marker of health-impairing work stress.

A meta-analysis following a search of seven databases from 1994–2005 by Stansfeld and Candy (2006) provided robust consistent evidence that (combinations of) high demands and low decision latitude, as well as (combinations of) high efforts and low rewards are prospective risk factors for common mental disorders identified by screening

questionnaires and standardized psychiatric interviews, that is, for mild-to-moderate depressive and anxiety disorders that are frequent in the general population (also Couser, 2008). Nieuwenhuijsen, Bruinvels, and Frings-Dresen (2010) systematically reviewed the contribution of work-related psychosocial risk factors to stress-related disorders (SRDs).⁸ From the 2426 studies identified, seven prospective studies were included in their review. Strong evidence was found that high job demands, low job control, low co-worker support, low supervisor support, low procedural justice, low relational justice and a high effort–reward imbalance predict the incidence of SRDs. Using a large survey sample (13 423 Danish public service employees) and data from the Danish Central Psychiatric Research Register, Jensen et al. (2010) showed that working in a dissatisfying psychosocial environment increases the risk of subsequent mental health disorders. Based on data from a birth cohort followed from childhood to adulthood, Melchior et al. (2007) found robust evidence that work stress precipitates diagnosable depression and anxiety in previously healthy young workers. In the prospective Cardiovascular Risk in Young Finns Study, Hintsanen et al. (2010) showed that deficient maternal nurturing attitudes in childhood might affect sensitivity to work stress and selection into stressful work conditions in adulthood. Among the participants of the prospective Whitehall II cohort study (n = 7934; 31.5% women, mean age 44.5 years at baseline) who were followed from 1985 to 2006 with data collected in 7 study phases, self-reported psychological distress became more persistent over time (Jokela et al., 2010).

In a population-based, nested, case–control study carried out to quantify the risk of affective and stress-related disorders according to occupation in the entire Danish workforce, Wieclaw, Agerbo, Mortensen and Bonde (2005) found that the risks were highest for the teaching and health professions. In Finland, Virtanen et al. (2008) showed that overcrowding in hospital wards (n = 203) had an adverse effect on the mental health of staff (6699 nurses and 641 physicians). Exposure over 6 months to an average bed occupancy rate over 10% in excess of the recommended limit was associated with new antidepressant treatment in hospital personnel. This association followed a dose-response pattern, with increasing bed occupancy associated with an increasing likelihood of antidepressant use. Hazard ratios were adjusted for sex, age, occupation, the type and length of employment contract, hospital district, specialty and calendar year. Concerning psychiatric morbidity among Spanish nurses, Jenaro, Flores, Orgaz and Cruz (2011) found that 49% of nurses met the criteria for somatic symptoms, 65.5% for anxiety and insomnia, 4.6% for social dysfunction and 10% for severe depression. There were no effects of the length of service or professional category. Nurse managers scored significantly higher in several job stressors compared with other groups.

2.2 CLINICAL SUPERVISION

Across different continents and countries, organizations and professions, there exists no unified concept of ‘*clinical supervision*.’⁹ In 2005, Bush stated that despite having been prominent in health care in the United Kingdom (UK) for well over a decade, clinical supervision remains one of the most misunderstood practices in modern nursing. The term itself has often been critiqued to be misleading, not readily providing associations to depict

⁸ When distress, an unpleasant subjective stress response, reaches the level of clinical relevancy, it may be described as a stress-related disorder (SRD). This term can be applied to many overlapping stress-related concepts and diagnoses such as neurasthenia, adjustment disorders and burnout (Nieuwenhuijsen, Bruinvels, and Frings-Dresen, 2010).

⁹ This search term does not exist in the PubMed, the most common research database in the health sciences.

what it is all about (e.g., Bond and Holland, 1998; Kilcullen, 2007).¹⁰ Moreover, different terms are used for the same activity in different contexts. For example, in psychotherapy, counselling and psychology, the term is shortened to ‘*supervision*.’ This term, however, denotes a managerial function in social work as well as in nursing, particularly in North America (Jones, 2005; Cutcliffe and Lowe, 2005). Because of this, the differentiation between ‘*managerial supervision*’ and ‘*non-managerial supervision*’ was widely discussed in the 1990s in the United Kingdom (UK), when clinical supervision was for the first time extensively introduced in nursing (Yegdich, 1999; Bush, 2005).

In addition to the prefix ‘clinical’, other prefixes have been used such as ‘consultative’, ‘facilitative’ or ‘professional.’ In distinction to *training supervision*, which is commonly a part of the ongoing educational training into the helping professions, *consultative supervision* is an arrangement between two (or more) qualified professionals where one offers the other(s) professional help that is “characterized by mutuality, less formal evaluation, and more of an ad hoc nature than training supervision” (Carroll, 1996, p. 7). *Professional supervision* is considered as incorporating any aspect of a professional role, not only learning psychotherapeutic or other clinical skills¹¹ (e.g., Carroll, 2007; for more about the clinical vs. professional supervision continuum, see Morgan and Sprengle, 2007). In many contexts, clinical supervision for practicing professionals is a novelty. For example, in the nursing context in the USA, Canada and New Zealand, clinical supervision usually refers to the supervised practice of student nurses on clinical placements (Jones, 2005; Driscoll and O’Sullivan, 2007). In fact, this question (i.e., whether clinical supervision is for students and novice practitioners only) has been incorporated in the most well-known evaluation instrument of clinical supervision in nursing, the Manchester Clinical Supervision Scale (Winstanley and White, 2003, 2011).

In counselling and psychotherapy practice, supervision has become the cornerstone of continuing professional development, particularly in Europe (Wheeler and Richard, 2007), whereas in the USA, only trainees routinely participate in supervision (Carroll, 2007). Other practices resembling clinical supervision have emerged to complement or replace it, such as preceptorship,¹² mentorship¹³ or coaching.¹⁴ Lately, clinical supervision has become a profession in its own right, with many supervisors trained not only in clinical supervision but also in coaching and organizational consultancy, and the boundaries between these practices have been blurred (Busse, 2009; Carroll, 2010). This is also clearly to be seen in the similarity of the definitions (see the footnotes below). The present study solely focused on clinical supervision for experienced practitioners. The term ‘clinical supervision’ (hereafter also CS) will be used. While referring to CS in psychotherapy, counselling or psychology, the traditional term ‘supervision’ is used, and sometimes the discipline in question will replace the prefix ‘clinical’, i.e., psychotherapy supervision, social work supervision, nursing supervision.¹⁵

¹⁰ Carroll (2010, p.13) has made an attempt to extract some associations “*Supervision is... a process about ... how with supervision—new eyes, new perceptions, new visions—we can see things differently. Supervision is about a new way of looking, a super way of visioning...*”

¹¹ For example, a definition of *professional supervision* included in the Code of Ethics of the Occupational Therapy Board of New Zealand: “A structured intentional relationship within which a practitioner reflects critically on her/his work, and receives feedback and guidance from a supervisor, in order to deliver the best possible service to consumers. Professional supervision may incorporate any aspect of a professional role e.g., clinical, managerial, or cultural, and be one to one, one to group, or take the form of peer review.”

¹² Preceptorship is formal support and in-service education for newly qualified staff in practice (Driscoll and O’Sullivan 2007, p. 7).

¹³ A mentor facilitates personal and professional growth in an individual by sharing the knowledge and insights that have been learned through the years. (DOT Mentoring Handbook, 2012)

¹⁴ “Coaching is partnering with clients in a thought-provoking and creative process that inspires them to maximize their personal and professional potential” (International Coach Federation ICF, 2012).

¹⁵ Elisabeth Severinsson has coined the term ‘clinical nursing supervision’, but it has not become commonly used.

2.2.1 The functions of clinical supervision

In his classic book on social work supervision first published in 1976, Kadushin elaborated the notion of the three functions of CS presented for the first time by John Dawson as early as in 1926 (Kadushin, 1992). In *administrative supervision*, the primary goal is to ensure adherence to agency policy and procedures; in *educational supervision*, the primary goal is to dispel ignorance and upgrade skill by encouraging reflection on, and exploration of the work; and in *supportive supervision*, the primary goal is to improve morale and job satisfaction, as job-related stresses can lead to a less than satisfactory service to the client. Proctor (1987) introduced in nursing the same basic split as Kadushin, only in different terms, namely normative (administrative), formative (educative) and restorative (supportive). This so-called 'Proctor model' has become very popular in nursing. Recently, it has also been adopted into psychotherapy supervision (Milne, 2007). Next, these functions (or dimensions) of CS are presented separately although in practice, they intertwine with each other.

2.2.1.1 The normative function

The normative function of CS has perhaps been most prominent in social work supervision. Social work is often considered as the 'mother country' of supervision, and it has been argued that the history of social work supervision is actually initially the history of social work (Busse, 2009; also Tsui, 1997; and Karvinen-Niinikoski, 2004). Supervision emerged in social work in the USA towards the end of the 19th century, when voluntary workers in American charities ('friendly visitors') were placed in the context of 'case work', first under the control and surveillance, and then also under the instruction of full-time workers ('paid agents'). Supervision was a central method for early social work teachers, researchers and practitioners in their efforts to construct relevant practices and describe a theory of social work (Karvinen-Niinikoski, 2004). In North America, an enduring feature in the conceptualization and definition of social work supervision reflects its organizational purpose: to offer the agency's service to the client in an efficient and effective manner (Bogo and McKnight, 2006). Supervisors, often located at mid-level in the organization's hierarchy, oversee the work of front-line staff. Workers are accountable to the supervisor for their practice with clients. The supervisor evaluates the worker's performance and participates in decisions about the supervisee's career advancement and salary increases. In this capacity, the supervisor is accountable to the public to ensure that competent practice and effective service is delivered.

In psychotherapy supervision, the normative element is connected not only with the protection of clients but also with the protection of the profession, as can be seen in the most common definition of CS in North America (Bernard and Goodyear 2009, p. 7), according to which CS is "... an intervention provided by a more senior member of a profession to a more junior member or members of that same profession. This relationship is evaluative and hierarchical, extends over time, and has the simultaneous purposes of enhancing the professional functioning of the more junior person(s); monitoring the quality of professional services offered to clients that she, he, or they see; and serving as a gatekeeper for those who are to enter the particular profession." In the UK, Milne (2007, p. 439) has presented a new empirical definition of CS, singling out evaluation as the defining characteristic of CS: "[T]he formal provision, by approved supervisors, of a relationship-based education and training that is work-focused and which manages, supports, develops and evaluates the work of colleagues. The main methods that supervisors use are corrective feedback on the supervisee's performance, teaching, and collaborative goal-setting. It therefore differs from related activities, such as mentoring and coaching, by incorporating an evaluative component... Supervision's objectives are 'normative' (e.g., quality control), 'supportive' (e.g., encouraging emotional processing) and 'formative' (e.g., maintaining and facilitating supervisees' competence, capability and general effectiveness)..." Again, the

normative, evaluative and corrective function of CS is emphasized, reflecting the use of CS for students and trainees.

In Europe today, supervision in counselling and psychotherapy practice is widely promoted as an essential aspect of ethical and effective therapy (Wheeler and Richard, 2007; Carroll, 2007). For example, in the UK, the British Association for Counselling and Psychotherapy (BACP) requires all accredited therapists to have supervision throughout their career, and other organizations representing counsellors and psychotherapists also strongly recommend supervision. In Finland, CS for practicing psychotherapists is obligatory for two years after accreditation, but continued CS is common in both the public and private sector. The above training supervision definitions can be contrasted with the definition of CS by Inskipp and Proctor (2001, p. 1), which is more suited for practicing professionals: “[A] working alliance between the supervisor and counselor in which the counselor can offer an account or recording of her work; reflect on it; receive feedback and where appropriate, guidance. The object of this alliance is to enable the counselor to gain in ethical competence, confidence, compassion and creativity in order to give her best possible service to the client.”

In nursing, CS became in the 1990s in the UK an important part of clinical governance that is a framework of continuous quality improvement, lifelong learning and continuing professional development (Butterworth and Woods, 1999). Within clinical governance, CS was viewed as a key ingredient in improving the quality of care and ensuring safe and accountable practice. The advent of CS in the National Health Service (NHS) has its roots in certain significant failures of care in the 1990s, the most damaging of which to the nursing profession was the case of a nurse who deliberately harmed the paediatric patients in her care (Bush, 2005). One of the reactions of the health service system to this and other failures was the introduction of greater managerial control over nursing practice.¹⁶ Moreover, analogically to supervision in social work, it was thought that CS in nursing would not only improve patient care but also further establish nursing as a profession on its own right (Yegdich and Cushing, 1998). In the nursing literature, the most cited is probably the definition included in a document issued by Department of Health (DoH) for England and Wales Midwifery and Health Visiting (1993, p. 13), according to which CS is a “... formal process of professional support and learning, enabling practitioners to develop knowledge and competence, assume responsibility for their own actions and enhance consumer protection and the safety of care in complex situations. It is central to the process of learning and the expansion and scope of practice and should be a means of self-assessment, analytical and reflective skills.”

2.2.1.2 The formative function

At around the same time as the concept and practice of supervision was introduced in social work, CS emerged as an educative method in psychoanalytic circles. From the year 1902 onwards, a number of young doctors gathered around Freud with the express intention of learning, practicing and spreading knowledge of the new profession of psychoanalysis. CS became a formal part of the education of a psychoanalyst in the early 1920s (Fleming and Benedek, 1983). The method of supervision, however, remained undefined, the subject of the supervisor as a clinical teacher was little discussed and the standards for CS expressed only in quantitative terms. In 1957, the didactic goals for psychoanalytic supervision were stated clearly as: (1) to instruct the student in the use of the psychoanalytic methods; (2) to aid him in the acquisition of therapeutic skills based upon the understanding of the analytic material; (3) to observe his work and determine how fully his personal analysis has achieved its aim; and (4) to determine his maturity and stability over an extended period of time.

¹⁶ Bush (2005) has noted that, in retrospect, it seems naïve to assume that individuals such as Ms Allitt would have been compliant with CS that relies on cooperation, compliance and voluntary participation to achieve any success.

In their classic book on psychoanalytic supervision originally published in 1966, Fleming and Benedek (*ibid.*) based their philosophy of psychoanalytic education and their theory of supervision on three assumptions: (1) an psychoanalyst's education is more experiential than cognitive, (2) the basic objective of his educative experiences is the development of himself as an analytic instrument and (3) each phase of his training contributes in different ways in this basic objective. The authors (*ibid.*, p. 238) summarized that "*the educational process can be seen in its totality as integrated experiential process of teaching and learning, where learning-by-experience in training analysis is coupled with learning-about-experience in studying theory and becomes learning-from-experience in supervision.*" Supervision is "*a retrospective scrutiny of [psychoanalytic] interactions and their reciprocal effects.*" Supervision ought to be "*a creatively productive experience*" for both the supervisee and the supervisor and "*make inquiry a constant element of this experience.*"

In the 1950s and 1960s, with the introduction of other counselling and psychotherapy orientations in addition to the traditional psychoanalytic approach, new 'counselling-bound' or 'psychotherapy-bound' models of supervision emerged (Bernard, 2005, Carroll, 2007). As in psychoanalysis, their theory and interventions in supervision were allied to the counselling and psychotherapy orientation they espoused. First in the USA and later in the UK and other western countries, supervision was seen as an integral part of training of practitioners. According to Carroll (2007, p. 34), a major shift in supervision theory and practice took place in the 1970s as supervision became centred on practice, "*the actual work done with a view to using that work to improve future work.*" The rightful subject of supervision then was whatever impacted on that practice (e.g., the person of the practitioner or the impact of the organisations involved).

In social work supervision, the developments in Europe after World War II consolidated the educative element of CS, while extensively neutralizing the explicit controlling element, and social work supervision also drew on the classic therapy schools (Busse, 2009). For example, in Germany, social work supervision became involved in the methods training of social workers as practice orientation and anchored in educational institutions (*ibid.*). In North America, administratively centred social work supervision is contrasted with CS that is not necessarily agency-based and that mainly focuses on the dynamics of the client situation and the social worker's interventions (Bogo and McKnight, 2006; see also McTighe, 2011; and Franklin, 2011). The Position Statement on CS of the American Board of Examiners in Clinical Social Work in 2004 drew the distinction between an agency employed supervisor in an organization that confers authority and accountability on the role and a consultant who is not given authority as a supervisor, but rather provides education and expert opinions (Bogo and McKnight, 2006).

In nursing, apart from the administrative rationales, another push to develop CS during the 1980s and 1990s was the emphasis on individualized care¹⁷ that led to a change in the role of a nurse from one characterized by professional distance to one in which interpersonal involvement is seen as central (e.g., Benner, Tanner and Chesla, 1999). Consequently, new patterns in learning to care were required to enable nurses to cope better with the emotional demands of their work (Phillips, 2001; Fowler, 1996). In nursing, the ideas of reflective practice and transformative learning became influential (e.g., Johns and Freshwater, 1998; Bond and Holland, 1998; Maggs and Biley, 2000; Driscoll (2007). This emphasis is clearly included in the definition of CS by Bond and Holland (1998, p. 12), according to which CS is "*regular, protected time for facilitated, in-depth reflection on clinical*

¹⁷ Radwin and Alster (2002) have presented an empirically generated definition of individualized care based on the perspectives of both nurses and patients. According to them, individualized care results when the nurse: (1) knows the patient as a unique individual, and (2) tailors nursing care to a patient's experiences (including events associated with illness, home, work and leisure); behaviours (including physical indicators and preferred coping strategies); feelings; and perceptions (including meanings ascribed to experiences and interpretations of event).

practice. It aims to enable the supervisee to achieve, sustain and creatively develop a high quality of practice through the means of focused support and development. The supervisee reflects on the part she plays as an individual in the complexities of the events and the quality of her practice. This reflection is facilitated by one or more experienced colleagues who have expertise in facilitation and the frequent, ongoing sessions are led by the supervisee's agenda. The process of clinical supervision should continue throughout the person's career whether they remain in clinical practice or move into management, research or education."

2.2.1.3 The restorative function

The restorative (supportive) function of CS seems to be more pronounced in nursing than in other disciplines.¹⁸ In the 1980s, it was observed that a more holistic approach to nursing care, although positive, might also lead to increased vulnerability because of the blurred boundaries between the personal and the professional in nurses' relationships with patients (McVicar, 2003). CS was found to be a legitimate forum for such 'boundary negotiations' (Playle and Mullarkey, 1998). In his concept analysis of CS, Lyth (2000) pointed to the difficulty of clarifying the concept due to the variations in nursing practice and decided on the following definition (ibid., p. 728): *"CS is a support mechanism for practicing professionals within which they can share clinical, organizational, developmental and emotional experiences with another professional in a secure, confidential environment in order to lead to an increased awareness of other concepts including accountability and reflective practice."* In nursing, the restorative element of CS is associated with the support of personal well-being through the reflective management of work-related stress, helping nurses to make sense of and cope with their stressful work environment (Clegg, 2001). In CS sessions, nurses can actively participate in improving patient care and in strengthening their personal resilience to reduce their vulnerability to workplace adversity (Jackson, Firtko and Edenborough, 2007).

Alarmed by the prominent role given to the supportive function of CS in nursing, Yegdich and Cushing (1998, p.18) noted that *"the common area of agreement and, perhaps, the only one amongst different 'helping professions', including [mental health] nursing, is that CS is a form of teaching,"* and warned against *"confusing teaching with treating."* In psychoanalyst training, there had been obstinate disagreement about whether supervision should be patient-centred only or should also help the student gain insights into his or her own problems as they arise in relation to his case (Fleming and Benedek, 1983). In the late 1950s, this 'teach or treat' problem was settled by viewing *"psychoanalytic education as an integrated experience in which the [personal] training analysis initiates and supervision continues the development of the student's personality as an instrument of his professional work"* (ibid., p. 19). Ekstein and Wallerstein (1958, p. 262) formulated the supervisory process as a *"new experience of growth"* that *"is analogous to the psychotherapeutic process"* in aiming at *"independence and new insights."*

The relative unimportance of the supportive function in psychotherapy (training) supervision is reflected in the notion of CS by Falender and Shafranske (2008), according to which the functions of CS are first, to ensure the integrity of clinical services provided to the client and second, to develop competence in the supervisee. Although the supportive function is not mentioned at all, their definition of CS points out the encouragement of supervisee self-efficacy (ibid., p. 3): *"Supervision is a distinct professional activity in which education and training aimed at developing science-informed practice are facilitated through a collaborative interpersonal process. It involves observation, evaluation, feedback, the facilitation of supervisee self-assessment, and the acquisition of knowledge and skills by instruction, modeling, and mutual problem solving. In addition, building on the recognition of the strengths and talents of the supervisee, supervision encourages self-efficacy. Supervision ensures that clinical consultation is*

¹⁸ For example, when Kadushin (1992) listed 13 reasons for maintaining interminable social work supervision, only one of them related to the supportive function (see also, Tsui and Ho, 2008).

conducted in a competent manner in which ethical standards, legal prescriptions, and professional practices are used to promote and protect the welfare of the client, the profession and the society at large."

2.2.1.4 Clinical supervision in Finland

To Finland, the idea of CS was imported from the USA before World War II. After the war, CS was implemented in the education of health visitors, in social case work in medical settings and in pastoral and family counselling of the Finnish Lutheran Church (Ahteenmäki-Pelkonen 2006; Karvinen-Niinikoski, Rantalaiho and Salonen, 2007). The Finnish Lutheran Church has been a pioneer in Finland in promoting and organizing CS among its employees. Their first clinical supervisor training already began in 1972. The breakthrough of CS for practising professionals in social and health care as well as in education took place in the early 1980s. A Finnish supervisors' association was founded in 1982 by teacher supervisors. A memorandum was published by the CS work group of the Ministry of Social Affairs and Health (Työnohjaustyöryhmän muistio, 1983). Clinical supervisor training expanded, several books on CS were published (e.g., Aalto et al., 1983; Hyypä 1983; Siltala et al., 1983; Niskanen, Sorri and Ojanen, 1988) and the first studies on CS were implemented (e.g., Ojanen, 1985; Sava, 1987; Paunonen, 1989; Kaltiala and Sorri, 1989). Since 1991, mental health legislation in Finland (Mielenterveyslaki 14.12.1990/1116, 4 §) has stated that CS must be available for health care providers working in the mental health sector. Recently, the Finnish supervisors' association set guidelines for the training of supervisors. The training ought to be a process lasting at least two years and consisting of different theoretical and practical modules.

In Finland, CS has from the beginning developed as an inter-professional endeavour and the psychoanalytic influences have been considerable (Keski-Luopa, 2001; Ahteenmäki-Pelkonen, 2006). CS is usually conceived as a process of professional growth in a confidential relationship with a trained supervisor coming from outside the organization (for a review, see Hyrkäs 2002; Hyrkäs, Koivula and Paunonen, 1999). Karvinen-Niinikoski (2004) has argued that CS is now also becoming important in organizational learning and development. She has introduced a model of 'developmental supervision' incorporating some ideas of expansive learning (Engeström, 2001) as a background theory for CS (Karvinen, 1993; Karvinen-Niinikoski, Rantalaiho and Salonen, 2007).

The type of CS implemented as part of liaison-consultation at Kuopio University Hospital has much in common with the '*consultee-centred mental health consultation*' delineated by Gerald Caplan, who was a psychoanalyst devoted to psychiatric prevention (Caplan, 1964). Caplan and Caplan (1999, p. 17) emphasize that "*the primary goal of consultation is increased effectiveness in the work setting,*" and "*the consultation discussions focus on the client's problem and the professional task dealing with it,*" since "*the purpose is to improve professional functioning*" as well as "*to educate the consultee using his problems with the current client as a lever and learning opportunity*" (ibid., p. 20). The relationship between the consultant (supervisor) and consultee (supervisee) is that of "*the two professional colleagues working together on a case and personal matters are equally excluded by both*" (ibid, p. 17.) The main attention of the consultant (supervisor) is focused on trying to understand the consultee's (supervisee's) difficulty with the case and to help him or her remedy this. However, "*effective consultation will be helpful not only to the client but also to the consultee,*" since "*the negative reactions of anxiety, frustration, shame and guilt, which may have been evoked by the work impasse, will give way to feelings of gratification, confidence, and happiness*" (ibid, p. 17). In addition, "*in certain cases where the work problem was linked with the consultee's personal problem, his experience of success with his dealings with the client may have a reflexive meaning for his own life. In these cases, a secondary result of the consultation is an increased state of psychological well-being in the consultee, and this may amount to a very real personality growth and development*" (ibid, p. 17).

2.2.2 Clinical supervision as adult education

CS provided for practicing professionals has often been conceived as a form of adult education (e.g., Keski-Luopa, 2001; Žorga, 2002, 2003; Carroll, 2007, 2010; Shohet, 2011), namely as work-based learning that has the potential to change practice. The ideas of reflective practice and transformative learning have been incorporated in the conceptualizations of CS in many disciplines (e.g., Fleming and Benedek 1983; Neufeldt, Karno and Nelson, 1996; Rønnestad and Skovholt, 2003; Carroll, 2007, 2010; Scaife 2010; Orchowski, Evangelista and Probst, 2010; Young, Lambie, Hutchinson and Thurston-Dyer, 2011; Shohet, 2011), and they have been central to the theory of CS in nursing (e.g., Johns and Freshwater 1998, Driscoll 2007), although also subject to some controversy (Fowler and Chevannes, 1998; Gilbert, 2001; Heath and Freshwater 2000; Rolfe and Gardner 2006). According to Williams (2010), in work-based learning, learning how to learn and critical reflection are key features. For effective work-based learning, nurses need to take control of their own learning, receive support to critically reflect on their practice and be empowered to make changes to that practice. Carroll (2010, p.1) delineates transformational (or transformative) learning in CS as follows: *“The heart of supervision is learning—the learning of the supervisee ... The medium of learning in supervision is ... critical reflection. The focus of learning in supervision is ...the practice of the supervisee. The supervisor is or becomes a facilitator of supervisee-learning-from-practice (reflective practice).”*

2.2.2.1 Transformative learning

The persistent question of ‘what is CS?’ (Carroll, 2007) probably has to do with the fact that CS does not resemble any other educative activity most people have become acquainted with. In essence, as an educative activity, CS is not about transferring knowledge ‘from one head to another’, but rather about creating knowledge together (see Paavola, Lipponen and Hakkarainen, 2004). According to Engeström (2001, pp. 137–139), *“[i]n important transformations of our personal lives and organizational practices, we must learn new forms of activity which are not yet there, and in attempting to do so, standard theories of learning are not enough”*. In CS sessions, novel ideas are often arrived at that have not been anticipated before they actually show themselves in dialogue. This feature found in most complex systems is called ‘emergence’ (Goldstein, 1999), a phenomenon earlier conceptualized as ‘insight’ in psychoanalytic thinking (Juntumaa, 2008) and as ‘perspective transformation’ in the theory of transformative learning (Taylor, 1998, 2007).

Transformative learning continues to be the most researched and discussed theory in adult education (Taylor, 2007). Since first introduced by Jack Mezirow in 1978, it has evolved *“into a comprehensive and complex description of how learners construe, validate, and reformulate the meaning of their experience”* (Cranton, 1994, p. 22). Transformative learning is based on the assumption that one’s values, beliefs, and assumptions compose the lens through which personal experience is mediated and made sense of. *“Perspective transformation is the process of becoming critically aware of how and why our assumptions have come to constrain the way we perceive, understand, and feel about our world; and changing these structures of habitual expectation to make possible a more inclusive, discriminating, and integrating perspective; and, finally, making choices or otherwise acting upon these new understandings”* (Mezirow 1991, p. 167).

Transformative learning has been criticized for being too rationalistic, minimizing the role of feelings and overlooking transformation through the unconscious development of thoughts and actions (Taylor, 2001; Merriam, 2004; van Voerkom, 2010). In nursing, too, Yorks and Sharoff (2001) have argued that the transformation from traditional nursing practice to holistic nursing requires the recognition of multiple ways of knowing. A view of transformative learning as an intuitive, creative, emotional process has recently emerged in the literature (Taylor, 2007). This view is primarily based on the work of Robert Boyd, who

developed a theory of *transformative education* based on analytical (or depth) psychology. For Boyd, transformation is a "fundamental change in one's personality involving conjointly the resolution of a personal dilemma and the expansion of consciousness resulting in greater personality integration" (Boyd 1989, p. 459, cited in Taylor 1998, p. 13). The process of discernment, which is central to transformative education, is composed of the three activities of receptivity, recognition and grieving. First, an individual must be receptive or open to receiving "alternative expressions of meaning," and then recognize that the message is authentic. Grieving, the most critical phase of the discernment process, takes place when an individual realizes that old patterns or ways of perceiving are no longer relevant, moves to adopt or establish new ways, and finally, integrates old and new patterns.

2.2.2.2 Reflective practice

Reflection, and in particular critical reflection, has been widely recognized as a crucial element in the learning processes of individuals and organizations and as a pivotal practice in developing learning organizations (Høyurup, 2004; van Woerkom and Croon 2008; van Woerkom, 2010; in nursing, e.g. Gustafsson and Fagerberg, 2004; Williams, 2010). Nevertheless, there is no single consistent theory of critical reflection, nor there is much consistency in the definitions of the concept of critical reflection and in the terminology that is used (van Woerkom, 2010). Where some speak of reflection, others speak of critical reflection, reflexivity, critical self-reflection or critical thinking (in nursing literature, see Price, 2004). Brookfield (2000) has identified four intellectual traditions that inform the usage of the term 'critical reflection.' In *the tradition of ideology critique* (i.e., the so-called Frankfurt School), critical reflection refers to challenging dominant ideology. In *the tradition of analytic philosophy and logic*, critical thinking means the disciplined mental activity of evaluating arguments or propositions, and making judgments that can guide the development of beliefs and actions (e.g., Huitt, 1998). In *the psychotherapeutically inclined tradition*, critical reflection is an important element in transformative learning (e.g. Mezirow 1991, 1998). Finally, in *the tradition of pragmatist constructivism*, criticality concerns constructing and deconstructing one's own experiences and meanings on the basis of dialogue and multiple lenses provided by others and rejecting universal and generalizable truths (e.g., King and Kitchener 1994; in the nursing literature, e.g., Crowe and O'Malley, 2006).

Donald Schön (1983) was one of the first authors who brought reflection to the centre of an understanding of what professionals do.¹⁹ He defined '*reflective practice*' as thoughtfully considering one's own experiences in applying knowledge to practice. Reflection is a kind of meta-thinking, where the relationships between our thoughts and actions are considered in a context. Reflection looks inwards at our experiences, feelings and conceptual frames of reference, and outwards at the situation in which we are going to act (van Woerkom, 2010). Recently, van Woerkom and Croon (2008, p. 319) have undertaken an endeavour to operationalize '*critically reflective work behaviour*', which they have defined as "*examining one's work experiences both in and after action in order to assess one's effectiveness and to improve performance.*" They have distinguished six dimensions of reflective working, all of which closely relate to CS:

¹⁹ In the nursing literature, Kinsella (2010) has considered the epistemology of reflective practice through an examination of five major philosophical perspectives in Schön's work. These include: (1) *critique of technical rationality* by Habermas and a call for the acknowledgement of an *epistemology of practice*; (2) the notion of an *artistry of practice* drawn from the philosophical legacy of John Dewey; (3) *the constructivist assumptions* of the theory, revealed through ideas drawn from Nelson's Goodman's consideration of 'Ways of Worldmaking'; (4) the emphasis on *tacit knowledge* drawn from Michael Polanyi; and (5) a consideration of Gilbert Ryle's call for ways of knowing beyond propositional knowledge, i.e. *knowing-how*, and the implications of conceptions of knowledge that see it as revealed in intelligent action.

(1) *Openness about mistakes* may help to correct false assumptions, to break down premature or inadequate routinization, and stimulate exploration and new discoveries;

(2) *Asking for feedback* is an important aspect of critically reflective work behaviour, as reflection can be operationalized as an interactive, dialogical action, in which feedback from others is an important learning source;

(3) *Experimenting* means learning by trying out new ways of working, exploring and imagining alternatives and personal initiative;

(4) *Critical opinion-sharing* refers to an examination of "taken-for-granted" in the work and organization;

(5) *Challenging groupthink* refers to the competency to express disagreement, even when everyone else is in agreement;

(6) *Career awareness* means asking oneself fundamental questions about one's own identity as a member of the community of practice and about the need for self-change, aimed at self-realization and development.

2.2.2.3 Reflectivity in clinical supervision

As part of an effort to form an integrated theory of reflectivity (i.e., critical self-reflection) as it occurs in CS, Neufeldt, Karno and Nelson (1996) interviewed a panel of five experts in reflective practice: Donald Schön, whose work is the basis for considerable thinking and writing about reflective practice; Thomas Skovholt and Michael Helge Rønnestad, who without knowledge of Schön's work developed a very similar concept of reflection as the mechanism for practitioner development; and Willis Copeland and Elisabeth Holloway, who have provided insights into the application of Schön's and Skovholt and Rønnestad's ideas in teacher training (Copeland) and in supervision (Holloway).

Reflectivity in supervision was construed by all these theorists as sequential. First, the "trigger events" for reflection are the supervisee's feelings of uncertainty that signal a problem ripe for reflectivity – a "dilemma" about how to proceed (Schön) – and may include "surprise" (Skovholt), "confusion" (Schön), and "being stuck" (Copeland and Schön). Second, *the intervening conditions* influential in the occurrence of the reflective process are supervisee personality (in particular, the ability to tolerate ambiguity) and cognitive capacities (such as imagination), as well as the supervisory environment (the atmosphere of the total learning environment along with the safeness of a good supervisory relationship). Third, *the reflective process* consists of a search toward a more profound understanding of something. Fourth, *the consequences* of reflection are changes in perceptions and behaviour, and in the long term, professional growth.

The properties of the reflective process are: 1) a specific locus of attention; 2) a reflective stance; 3) multiple sources of understanding; and 4) depth (Neufeldt, Karno and Nelson, 1996). *Attention* is focused on interactions, and particularly on emotions in interactions, in order to direct attention to a type of information that might be ignored. Maintaining *a reflective stance* of 'not-knowing' is characterized by intention, active inquiry, openness, and vulnerability. *Intention* means a deliberate determination to examine one's action in the light of its purposes; *active inquiry* refers to critical inquiry; *openness* denotes a process of allowing oneself to be surprised and puzzled as well as openness to a variety of alternatives; *vulnerability* refers to both the humility of the searcher who recognizes what is not known and the willingness to become vulnerable and try out a new idea, even though the idea might turn out to have little merit. *Sources of understanding* include theory, personal and professional experiences, and the experience of the self (i.e., one's emotional reactions to the events as a source of understanding). *A reflection having depth* means that it is about issues of consequence, usually issues of moral dimensions, i.e., seeing things as *true* for oneself.

Skovholt, Rønnestad and Jennings (1997, pp. 361–369) have summarized the role of reflection in professional development as follows: "*Continuous professional reflection consists*

of a focused enquiry aimed toward attaining a comprehensive and nuanced understanding of the phenomena encountered in one's professional work...It presupposes an exploratory stance and a supportive environment which encourages openness to the client's reality. This processing of professional experience appears to be a central activity in producing ... development rather than ... stagnation ... The practitioner must get constant feedback – called reflection – via introspection, supervision, client feedback, and colleague consultation... Stagnation and pseudo-development occur when the individual is not open to understanding and grappling with the complexity inherent in the world of practice. Instead, the practitioner wards off the confusion and ambiguity by finding security in a restrictive practice routine."

2.2.3 The models of clinical supervision

Given that theories of psychotherapy have proven strategies for explaining human behaviour and promoting change, their presence in CS is essential (Pearson, 2006). On the other hand, CS entails a different relationship, a different emphasis and different skills compared to clinical work (e.g., Morgan and Sprenkle, 2007; Tsui and Ho, 2008). Psychotherapy supervision models²⁰ developed to date can be divided into (1) *psychotherapy-based*²¹ models that apply their theory of therapy to supervision and (2) *supervision-specific models* that focus on the unique aspects of supervisee-supervisor interactions (Morgan and Sprenkle, 2007; Townend, 2008; for a brief summary of supervision models, see e.g., Smith, 2009, or Orchowski, Evangelista and Probst, 2010). Added to these, there are (3) *integrative* models, that is, models combining aspects of the two kinds of models (*unified* models), models based on seeking common factors underlying all models (*common factors* models), and lastly, purely *eclectic* models. Many of these supervision models have also been transferred to nursing supervision (Sloan, White and Coit, 2000; Sloan and Watson, 2002; Shanley and Stevenson, 2006; Fowler, 2007; Townend, 2008).

Supervision-specific models include *developmental models* (e.g., Loganbill, Hardy and Delworth, 1983; Skovholt and Rønnestad, 1992; Stoltenberg, 2005) and *social-role models* (e.g., Holloway, 1995; Hawkins and Shohet, 2000; Bernard and Goodyear, 2009). The former suggest that supervisees pass through a number of predictable, universal stages in their growth as clinicians, as well as in their supervisory relationships; the latter attempt to provide a schema for organizing the various things that supervisors do. One of the social role models, Holloway's (1995) Systems Approach to Supervision (SAS), has been empirically tested and received partial support in large samples of supervisees among different professional groups (including nurses) in Australia (Johnston, 2006).

Comprehensive theories of CS have been formulated by unifying different models. For example, Pearson (2006) has advocated the blending of psychotherapy-based approaches with role-based models. Recently, Young, Lambie, Hutchinson and Thurston-Dyer (2011) introduced a clinical supervisory approach grounded in combining reflective (e.g., Neufeldt 1997) and developmental supervision (e.g., Stoltenberg, 2005). Tsui and Ho (2008) have constructed a new comprehensive model of social work supervision emphasizing the role of the cultural context. Aten, Strain and Gillespie (2008) have applied the trans-theoretical therapy model to CS. The trans-theoretical therapy model is based on common factors of psychotherapies (Norcross, Krebs and Prochaska, 2011).

Morgan and Sprenkle (2007) have explored the range of existing supervision models, and suggested a rationale for seeking factors common across various models. According to

²⁰ A model is a package of integrated ideas or techniques that helps to understand the process of supervision in a holistic manner. It is more specific and flexible than theories, and easier to test and modify (Tsui and Ho, 2008).

²¹ Although most practice-based models are based on some school of psychotherapy or counseling, there are supervision models based on practices, such as 'the casework model of supervision' by Kadushin in social work (for a review on social work supervision models, see Tsui and Ho, 2008).

them, CS may vary in its *emphasis* (from a focus on clinical competence to professional competence issues) and in its level of *specificity* (from the idiosyncratic clinical and professional needs of each supervisee to the professional and clinical mandates of the field at large). Based on these two continua, the authors have suggested four central roles underlying supervisor activities, i.e., 'Coach', 'Teacher', 'Mentor' and 'Administrator.' While performing these roles, the nature of the supervisor/supervisee *relationship* can vary from a collaborative to a more directive relationship. Alternatively, Milne, Aylott, Fitzpatrick and Ellis (2008) have suggested the 'best evidence synthesis' review of the empirical research literature as a promising strategy to construct an *empirically based common factors model of CS*. Their model featured 32 contextual variables of successful supervision (e.g., administrative support), 26 supervision interventions (e.g., corrective feedback) and 28 outcomes (e.g., how supervisees learned from supervision).

Eclectic models allow supervisors to draw from a wide range of techniques and applications. Norcross and Halgin (1997) have posited that supervisors develop their own, personal style of supervision over time, combining techniques from various models. Bernard and Goodyear (2009) also believe that the development of an integrationist perspective on CS is probably inevitable for most clinical supervisors (in nursing, see Berg and Kisthinos, 2007). Ellis (2010, p. 106), the senior researcher in the field, has even argued that "*good supervision is about the relationship, not the specific theory or techniques used in supervision.*"

2.2.4 Research on clinical supervision

2.2.4.1 Research on psychotherapy and social work supervision

The first empirical efforts to investigate CS can be traced back to the 1950s (Watkins, 2011), although only within the past 30 years have supervision scholarship and study truly exploded (Bernard, 2005). The questions concerning the efficacy of CS have on the one hand focused on the effects of CS on supervisees, and on the other hand on the effects on supervisees' patients/clients. Research thus far suggests that CS has a beneficial effect on supervisees (e.g., on their enhanced self-awareness, enhanced treatment knowledge, skill acquisition and utilization, enhanced self-efficacy, and strengthening of the supervisee-patient relationship). Research that examines the impact on patient outcomes has proven more of a challenge.

Wheeler and Richards (2007) found eighteen studies on the effects of psychotherapy supervision, but only two out of them met the criteria to be classified as very good. The authors interpreted this as an indication of the inherent complexity of this research area. Moreover, since many studies were undertaken with trainees, other factors during psychotherapy supervision may have influenced the development of supervisees. The authors concluded that psychotherapy supervision does seem to offer opportunities for supervisees to improve practice and gain in confidence, which raises the likelihood that the client outcome will be improved as a result of supervision. However, the majority of studies examined impacts over relatively short periods of time; consequently, the longer term impact of psychotherapy supervision is unknown (also Proctor 2010). In surveying the last 30 years of supervision outcome research, Watkins (2011) noted that any conclusions about effects on patient outcomes seem premature. However, three recent high-quality studies (Bambling et al., 2006; Bradshaw, Butterworth and Mairs. 2007; White and Winstanley, 2010b) do "*provide with substantive examples, exciting possibilities, and charted directions for further research on patient/client outcomes of psychotherapy supervision*" (Watkins 2011, p. 252). It is noteworthy that the two last mentioned studies were conducted in nursing science.

In an extensive review of the empirical studies on social work supervision for professional staff, Bogo and McKnight (2006) concluded that the development of an

empirical body of knowledge for social work supervision has been slow, with most approaches solely supported by anecdotal accounts. The recent studies they found were largely descriptive and exploratory, yielding limited knowledge for evidence-based supervision.²² Recently, Mor Barak, Travis, Pyun and Xie (2009) offered a state-of-the-art review of the literature and meta-analysis of research on the relationship of supervision with worker outcomes in social and human service organizations. The findings linked effective supervision to positive worker outcomes such as a sense of competence and sense of personal accomplishment in workers, and well-being, empowerment and job satisfaction, as well as organizational citizenship behaviour, organizational commitment and retention. Effective supervisory relationships were also linked to reduced levels of stress and burnout, as well as to a reduced intention to leave. The authors concluded that the various dimensions of supervision may have protective, proactive or preventive roles in ensuring a positive work environment that can contribute to worker effectiveness and potentially to quality service delivery.

2.2.4.2 Research on clinical supervision in nursing

As Yegdich and Cushing (1998) have noted, CS is by no means a new phenomenon in nursing. The American nursing literature has integrated the psychoanalytically informed ideas of supervision into the mental health nursing since the 1920s.²³ However, prior to 1996, few substantial studies had been published on the topic in nursing publications (Faugier, 1996). Since then, the preponderance of research and clinical articles related to CS in connection with the nursing profession have come from the United Kingdom, Australia and New Zealand, and the Nordic countries (Jones, 2005). In addition to a couple of older reviews of nursing literature on CS (Hyrkäs, Koivula and Paunonen, 1999; Williamson and Dodds, 1999), several recent reviews have been published (Butterworth, Bell, Jackson and Pajnkihar, 2008; Brunero and Stein-Parbury 2008; Buus and Gonge 2009; Francke and de Graaff, 2011). Nevertheless, only the two most recent reviews satisfy the established criteria for a systematic review, including evaluation of the methodological rigour of the studies concerned.

Butterworth, Bell, Jackson and Pajnkihar (2008) performed a literature review to offer an analysis of themes and trends arising from the literature on CS for nurses. The authors evaluated the literature within four main thematic groups: (i) levels of engagement; (ii) the usefulness of CS as an educational and supportive device; (iii) ethical debate, personal and organizational challenges; and (iv) effects on the patient outcome and staffing disposition. Two new messages arose from the literature: first, the responsibility of health care organizations to sustain and develop CS; and second, the potentially beneficial effect of CS on patient outcomes. Out of the 22 studies reviewed by Brunero and Stein-Parbury (2008), only four were comparative studies and three had a one-group pretest-posttest design. All three of Proctor's functions – normative, formative, and restorative – were evident as outcomes of CS, the restorative effects being reported marginally more often than other functions. Since most research has focused on mental health or dementia care, more research is needed to evaluate the effectiveness of CS in other specialties of nursing.

²² The same applies to research on social work supervision in Scandinavian countries (Karvinen-Niinikoski, 2007).

²³ Although CS has been more common in mental health than other areas of nursing, its content and modes have been varied. Nicholls and Mitchell-Dawson (2002) refer to those who see CS as a form of overseeing of the practice of a clinician. This kind of supervision involves a lengthy description of a 'patient case history' and resembles a case conference, or case management meeting. The approach to CS in mental health nursing introduced by the authors themselves proceeds from the perspective of the clinician, who stands in a relationship with the client. It emphasizes that reflection should be based on a detailed and careful description of interactive processes and on the mutual support of all the participants, including the supervisor.

In their systematic literature review on empirical studies of CS in psychiatric nursing, Buus and Gonge (2009) reached the conclusion that although CS is commonly perceived as beneficial, there is limited empirical evidence supporting this claim. In general, the studies they found were relatively small scale, used relatively new and basic methods for data collection and analysis, and did not include sufficient strategies for identifying confounding factors. As the most serious obstacle for developing the field, they considered the general lack of consensus regarding which definitions and models should guide empirical research of CS. However, there was some overall agreement on which phenomena are relevant to examine in relation to CS. These were typically work-related phenomena, such as burnout, stress and job satisfaction.

Francke and Graaff (2011) reviewed original research publications that described supervision programmes directed at nurses, used a control group or a pretest-posttest design, and provided information on the effects of group supervision on nurse or patient outcomes. Eight studies with control references, eight studies with a control group and nine with a pretest-posttest design were included. Most of these studies included serious methodological limitations, but four Swedish publications in the field of dementia care had high methodological quality. All pointed to positive effects of CS on nurses' attitudes and skills and/or nurse-patient interactions. However, these four publications concerned sub-studies of one 'sliced' research project using the same study sample and combined a group supervision intervention with the introduction of individual care planning, which hampers conclusions about the effectiveness of group supervision alone. Francke and Graaff (*ibid.*) arrived at the same overall conclusion as two reviews at the end of the previous century (Hyrkas, Koivula and Paunonen, 1999; Williamson and Dodds, 1999) that the empirical evidence on the effects of CS is still limited.

In order to evaluate the effects of an intervention, it is useful to ascertain that the intervention has been implemented successfully enough to produce the desired effects. Most of the few earlier quantitative studies on the effects of CS on nurses' work-related well-being have been cross-sectional, comparing supervised and unsupervised nurses without exploring the effectiveness of CS (e.g. Koivula, Paunonen and Laippala, 2000; Teasdale, Brocklehurst and Thom, 2001; Bégat, Ellefsen and Severinsson, 2005). A search of some common databases (CINAHL, PubMed, PsycInfo) revealed only a few nursing studies that have assessed the impact of the efficacy of CS on its restorative outcomes (Edwards et al., 2005, 2006; Hyrkäs, 2005; Hyrkäs, Appelqvist-Schmidlechner and Haataja, 2006; White and Winstanley 2010b). These studies have employed the only internationally acknowledged nursing CS evaluation tool, the Manchester CS Scale (MCSS, Winstanley and White, 2003, 2011). Edwards et al. (2006) found that higher total scores on the MCSS were associated with lower levels of emotional exhaustion and depersonalization in the MBI. Hyrkäs, Appelqvist-Schmidlechner and Haataja (2006) observed that nurses who evaluated their CS as efficient were 1.8 times more likely to have better scores than median for emotional exhaustion, and 0.5 times more likely to score highly for reduced personal accomplishment. Among mental health and psychiatric nurses, efficient CS was clearly related to a lower level of burnout (Hyrkäs, 2005).

Since this study focused on CS in medical, surgical, paediatric and obstetrical nursing,²⁴ the research literature on CS implemented in these settings in 1991–2007 was explored using some common databases (CINAHL, PubMed, and PsycInfo). Out of the 35 studies found, 14 used quantitative, 19 qualitative and 6 action research methods, some of them in combination (Appendix I).²⁵ In addition to some large-scale research projects consisting of several hospital and community settings and concerning both psychiatric and non-

²⁴ Shortly referred to in this study as 'medical-surgical nursing'.

²⁵ One study was excluded because the practice area of the study subjects (psychiatric or somatic nursing) was not specified (Ohlson and Arvidsson 2005).

psychiatric nursing (Butterworth et al., 1997; Bowles and Young 1999; Teasdale, Brocklehurst and Thom; 2001, Hyrkäs, Appelqvist-Schmidlechner and Haataja, 2006), there were qualitative studies describing how CS may work in orthopaedic care (e.g., Segesten, 1993), cancer care (e.g. Pålsson, Hallberg, Norberg and Isovaara, 1994), neurological care (e.g., Elmcróna and Winroth, 1997), palliative care (e.g., Jones 2001, 2003), intensive care (e.g., Lindahl and Norberg, 2002), paediatric care (e.g., Hadfield, 2000) and internal medicine (e.g., Bégat, Severinsson and Berggren, 1997; Kilcullen, 2007). Some studies focused on practice development using new and innovative approaches (e.g., Titchen and Binnie, 1995; Blackford and Street, 1999; Lantz and Severinsson, 2001; Alleyne and Jumaa, 2007), whereas others have mainly been concerned with enhancing nurses' skills (e.g., Berggren and Severinsson, 2000; Landmark, Strom Hansen, Bjones and Böhler, 2003) or their well-being at work (e.g., Severinsson and Kamaker 1999; Bégat and Severinsson 2006; Hyrkäs, Appelqvist-Schmidlechner and Haataja, 2006). More recent research (e.g., Vittner, 2009; Wallbank, 2010; Wallbank and Hatton, 2011; O'Connell et al., 2011; Bergdahl, Benzein, Ternstedt, and Andershed, 2011) appears to essentially confirm the results of these earlier studies. Overall, however, the evidence base for CS in medical-surgical nursing is weak. If two older quasi-experimental studies that combine results from both psychiatric and non-psychiatric nursing (Paunonen 1991; Butterworth et al. 1997) are ignored, there have been no randomized controlled trials and only one quasi-experimental study focusing on district nurses in cancer care (Pålsson, Hallberg, Norberg and Isovaara, 1996). In that study, no significant effects of CS were found on burnout, empathy or sense of coherence.

3 Aims of the study

The aim of this study was to examine whether CS functions as a method of mental health promotion by maintaining and enhancing well-being at work among medical-surgical nurses.

The research questions were:

1. Who attends CS? Is the work-related well-being of those nurses who engage in CS different from that of their peers who decide not to participate? More specifically, is well-being at work differently associated with the uptake of CS according to:
 - a. age (≤ 40 years or > 40 years) or professional group (registered or assistant nurses) (Study I); or
 - b. specialty (medical or surgical units) (Study II)?
2. Does clinical supervision promote well-being at work among medical-surgical nurses?
 - a. Are those nurses who, according to their own evaluation, received effective CS healthier and more satisfied with their work on follow-up than their colleagues working in the same units? (Study III)
 - b. Does well-being at work develop more positively during four years among those nurses who, according to their own evaluation, received effective CS than among their colleagues working in the same units? (Study IV)

Table 1. Timeline of the clinical supervision research and development project

Time/Year	Milestone of the project
Spring 2002	The decision by the Planning Committee to integrate research into the forthcoming clinical supervisor training.
Autumn 2002	Clinical Supervisor Training: start of the training of twenty-two (22) experienced health care providers representing different professions.
Spring 2003	Review of the study proposal by the director of the hospital. Baseline data collection: the baseline data were collected among all staff in the medical and surgical units of the university hospital.
Spring 2004 and Spring 2005	Clinical Supervision groups: fifteen (15) newly trained clinical supervisors start nineteen (19) CS groups among the nursing staff in fourteen (14) medical and surgical inpatient or outpatient units of the hospital (intervention units).
Spring 2007	Follow-up data collection: the follow-up data collection among the nursing staff in the intervention units.
Autumn 2007	Review of the study by the Ethical Committee.
Spring 2008 – present	Data Analysis - three data sets: (I) Baseline data (= female nursing staff providing direct patient care in the intervention units in 2003, n = 328) (II) Follow-up data (= female nursing staff providing direct patient care in the intervention units in 2007, n = 304) (III) Cohort data (= female nursing staff providing direct patient care in the intervention units and who responded to questionnaires both at baseline and on follow-up, n = 166)

4 Methods and materials

4.1 THE SETTING

This study was based on the conditions of a ‘natural experiment’ that materialized when it was known that several newly trained clinical supervisors would soon begin their practice at the study hospital (see the timeline of the project, Table 1, p. 31). In the spring of 2002, a group of experienced supervisors (four nurse managers and three psychologists²⁶) was planning training for local clinical supervisors. It was decided that in 2004, after 18 months of training, the newly trained clinical supervisors could contact those medical, surgical, paediatric and obstetric units of the hospital²⁷ where there is a demand for clinical group supervision. Demand for CS was surveyed annually as part of the consultation-liaison services provided by the psychiatric department of the hospital. There had been difficulties in finding clinical supervisors, which was the main reason for starting the three-year clinical supervisor training in the autumn of 2002. Fifteen (15) out of twenty-two clinical supervisor trainees decided to contact one or two of the units recommended. The trainees were experienced health care providers representing different professions (ten registered nurses, two physicians, two psychologists and one art therapist) and specialties (psychiatry, oncology and occupational medicine); two were males and thirteen females. Having the same training, the clinical supervisors knew how to practice CS in a way that is conventional at the hospital.

It was decided that the CS group processes should run as normally as possible. The actual implementation of CS was entirely delegated to the clinical supervisors. The selection of the units was based on the need for CS identified by the nurse manager, who invited a clinical supervisor to the unit. All staffs were informed that group-format CS was available for anyone interested in participating. After an initial discussion with the nurse manager, the clinical supervisor met with the staff. She/he provided information about CS and left a list that those who were interested in participating could sign. In some units, two groups were formed. The nurses who wanted to participate in CS negotiated a CS contract with the clinical supervisor. Nineteen (19) CS groups in fourteen (14) units (hereafter, *intervention units*) started in 2004 and 2005. CS was mostly provided in groups of four to eight persons. The groups comprised both registered and assistant nurses and had one 1.5-hour session every 3 or 4 week for 1–3 years.

4.2 STUDY DESIGN AND DATA COLLECTION

This study was part of an evaluation of a CS intervention²⁸ (i.e., an effectiveness study, see Dahler-Larsen, 2005) and used some basic methods of classic quantitative research. As an evaluation study, this was an *outcome evaluation* attempting to pinpoint the benefits of clinical supervision to nurses’ well-being at work in comparison with no intervention. This study had a panel design with all outcome variables measured twice within a time interval of four years. The CS processes were also evaluated (*process evaluation*), but only by the supervisees to determine whether the intervention was successful.

²⁶ The author of this study was the head of the clinical supervisor training programme.

²⁷ These are shortly referred to as medical and surgical units, since at the time of the first data collection all these units belonged to either medical (conservative) or surgical (operative) departments of the hospital.

²⁸ Other research material was gathered as well, but is not presented in this study.

Figure 1. Formation of datasets: The study groups compared in studies I and II (light grey), III (medium grey) and IV (dark grey)

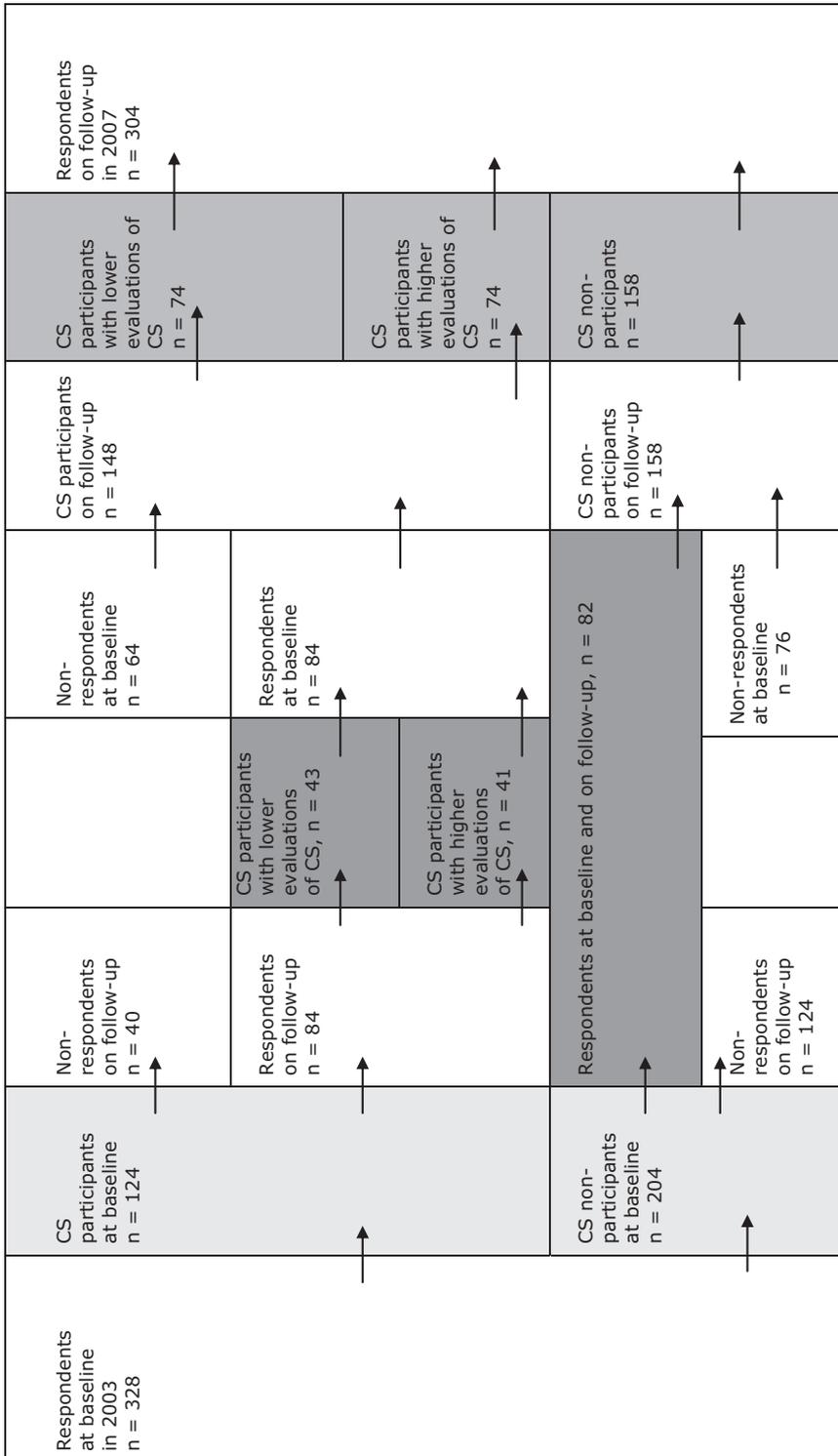


Figure 1. Formation of the datasets: The study groups compared in studies I and II (light grey), III (medium grey) and IV (dark grey)

In the cohort data, a quasi-experimental design sometimes called the Nonequivalent Groups Design (NEGD) was used (Shadish, Cook and Campbell, 2002; Reichardt, 2011). The study was structured like a pretest-posttest randomized experiment, but it lacked the random assignment of study subjects to the study groups. Quasi-experimental evaluations cannot prove that an observed change in outcomes is *caused* by the intervention. Nonetheless, they can inform discussions of cause and effect by providing information on who is being served by an intervention programme; whether anticipated changes are occurring over time; whether these changes are occurring in some subgroups and not others; and whether some outcomes are changing while others are not (Dahler-Larsen, 2005; Moore, 2008).

The study design and the selection of research instruments were planned and *the first data collection* was conducted by a research group²⁹ under the supervision of Dr Kirsi Honkalampi, who at that time was an adjunct professor in mental health research at the University of Joensuu. In the spring of 2003, before the introduction of the CS programme, a questionnaire survey on working conditions and work-related health was conducted among 1415 employees in the medical and surgical units of the hospital. *The second data collection* was conducted by the author of this study in the spring of 2007. This study thus consists of three datasets: two cross-sectional samples (the baseline data and the follow-up data) and the longitudinal cohort data consisting of baseline respondents who also responded on follow-up. The formation of the datasets of this study is depicted in Figure 1 (p. 33). In the baseline data, those nurses who attended CS (hereafter the *CS participants*) were compared with their co-workers who did not attend (hereafter the *non-participants*). In the follow-up data and the cohort data, those nurses who attended CS and gave higher evaluations of their CS comprised the generic experimental group (hereafter the *HIGH CS group*), which was compared with two comparison groups, one consisting of the CS participants with lower evaluations of their CS (hereafter the *LOW CS group*) and the other consisting of the nurses who did not attend CS (hereafter the *NO CS group*).

4.3 ETHICAL CONSIDERATIONS

At the time of the first data collection, the study proposal was presented to the director of the hospital to obtain permission to collect data from among the hospital personnel. Permission for the survey at the hospital was given by the Director of Kuopio University Hospital in April 2003. An ethical review of the study proposal was not considered necessary, because the study did not focus on patients. Despite this, all procedures that are commonly applied in patient research were adhered to. The questionnaires with a return envelope were sent to the respondents. Anonymity, confidentiality and the voluntary nature of the survey were emphasised in the cover letter. Return of the questionnaire implied consent. By the time of the second data collection in 2007, the research ethical policy of the hospital had changed. Consequently, a retrospective ethical review was performed to assess whether the study had been conducted properly and ethically enough to be acceptable for international scientific papers. The Northern Savo Ethical Committee reviewed the research proposal and gave it an affirmative statement (number 75//2007/dated 28 August 2007).

4.4 STUDY SUBJECTS

The baseline data of this study consisted of the questionnaires returned by the *female* nursing

²⁹ The research group consisted of three psychologists, Dr Kirsi Honkalampi, Kaarina Savolainen, LicSc, and the author of this study, who was the head of the clinical supervisor training programme. For research ethical reasons, Kirsi Honkalampi and Kaarina Savolainen did not continue in a researcher role after the first data collection, because they participated in the clinical supervisor training.

staff working in the intervention units in 2003 (response rate 81.2%). Male nursing staff were excluded because of their minor participation in CS ($n = 3$), to secure confidentiality and reduce confounding factors relating to gender. To reduce confounding factors relating to differences in working conditions, only female nursing staff who in the questionnaire reported providing *direct patient* care were included. The final sample size of the baseline data became 328. At baseline, study subjects were registered nurses (hereafter RNs, $n = 257$) and assistant nurses (hereafter ANs, $n = 71$) working in five medical ($n = 96$) and nine surgical ($n = 232$) units of the hospital. Out of these baseline participants, 124 nurses (90 RNs and 34 ANs) undertook CS, while 204 nurses (167 RNs and 37 ANs) decided not to undertake it. The rate of CS participation was 37.8%. A total of 44 nurses (45.8%) in the medical units and 80 nurses (34.5%) in the surgical units were involved in CS in 2004–2007.

The Follow-up data consisted of the questionnaires returned by the female nursing staff working in the intervention units in 2007 ($n = 304$, response rate 67.2%). Only 318 (68.8%) out of the female nurses who were working in the intervention units in 2003 were still working in these units in 2007, and 216 (67.9%) participated in the follow-up study. The nurses who had entered the workforce of the units after the baseline assessment were also eligible for participation in the follow-up survey. On follow-up, the respondents were RNs ($n = 234$) and ANs ($n = 70$) working in five medical ($n = 95$) and nine surgical units ($n = 209$) of the hospital. Altogether, 148 nurses (48.7%) had participated in CS, 66.9% of them in the groups provided by the CS programme.

The cohort data consisted of the nurses who responded to both the baseline and follow-up questionnaires and fulfilled the inclusion criteria (female gender, involvement in direct patient care at baseline, $n=166$). In the cohort data, the respondents were RNs ($n = 119$) and ANs ($n = 47$) working in five medical ($n = 51$) and nine surgical ($n = 115$) units of the hospital. Altogether, 84 nurses (50.6%) had participated in CS. The background characteristics of study subjects in the three data sets are presented in Table 2.

Table 2. Background characteristics of the study subjects in the three data sets

Background variable	Baseline data n = 328	Cohort data at baseline n = 166	Cohort data on follow-up n = 166	Follow-up data n = 304
Age, years, mean (SD)	40.3 (9.6)	41.8 (8.4)	45.7 (8.3)	42.5 (9.7)
Years in the profession, mean (SD)	14.0 (9.9)	15.7 (9.1)	19.6 (9.1)	15.7 (10.0)
Years in current position, mean (SD)	9.5 (8.8)	11.3 (8.7)	14.2 (9.4)	10.5 (9.9)
Registered nurse/midwife, %	78.4	71.0	72.2	77.0
Work setting: surgical unit, %	70.7	71.0	71.6	68.8
Three-shift work, %	78.7	79.6	70.8	72.9
Tenured employee, %	69.1	79.5	92.5	72.3
Superior position, %	5.9	5.7	7.4	5.3
Married/cohabiting, %	68.3	65.4	72.0	70.0
Have children, %	64.3	67.3	71.0	72.9

4.5 INSTRUMENTS

The instruments used in *both data collections* were the following:

4.5.1 The QPSNordic

The General Nordic Questionnaire for Psychological and Social Factors at Work (QPSNordic), which has been validated in four Nordic countries, is designed for the assessment of social, organizational and psychological working conditions with the following goals: (1) to provide a basis for organizational development and interventions; (2) for documentation of changes in working conditions and for the evaluation of organizational interventions; and (3) for research into associations between work, health and productivity (Lindström et al., 2000; Elo et al., 2001). The QPSNordic combines characteristics traditionally measured by internationally used job stress measures, such as the Job Content Questionnaire (JCQ, Karasek et al., 1998) and the Job Diagnostic Survey (JDS, Hackman and Oldman, 1975). In addition, QPSNordic covers some aspects of postmodern working life, such as gender- and age-equality issues, as well as issues of the work–private life interface. QPSNordic also contains items measuring common socio-demographic factors (e.g., age, marital status, number children, title of occupation, tenure in the profession and in the current position).

The QPSNordic is a comprehensive instrument with 26 scales and 38 single items (the single items were not included in this study). The instrument consists of three separate constructed modules of psychological and social phenomena at work, related to *the task, the organization* and *the individual*. The multiple-choice questions relate to psychological and social factors at work such as job demands and job control, role expectations, predictability and mastery of work, social interactions with coworkers and clients, leadership, the organizational climate, interaction between work and private life, work centrality (work orientation), organizational commitment and work motives (see Table 3, p. 39). Each composite scale consists of 1–4 sub-scales, which comprise 2–4 items scored on a five-point scale ranging from 1 (the most negative condition) to 5 (the most positive condition) (in detail, see Lindström et al., 2000). If needed, the items are reversed to apply this interpretation. In the present study, instead of the total sum score, the mean scores of the scales (ranging from 1 to 5) were used for clarity of interpretation.

4.5.2 The MBI-GS

Burnout was measured with the Finnish version of the Maslach Burnout Inventory-General Survey (MBI-GS) (Schaufeli, Leiter, Maslach and Jackson, 1996; Kalimo, Hakanen and Toppinen-Tanner, 2006). According to the two earlier versions of MBI (MBI-HS, MBI-ES), burnout was considered as a three-dimensional syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment, which often occur among human service and education occupations. The most recent version of the MBI measure (MBI-GS) includes the same, although slightly modified dimensions: exhaustion, cynicism and reduced (diminished) professional efficacy (or professional inefficacy) (Schaufeli, Leiter and Maslach, 2009). The exhaustion items refer to feelings of being depleted of one's resources at work and constant fatigue. Cynicism refers to a distant and cynical attitude towards one's work. Professional inefficacy describes a loss of sense of competence and productivity, and the tendency to evaluate one's past and present accomplishments at work negatively.

The MBI-GS (16 items) consists of three subscales: exhaustion (five items), cynicism (five items) and (diminished/reduced) professional efficacy (six items). The items are scored on a seven-point frequency rating scale ranging from 0 (never) to 6 (daily). High scores on exhaustion and cynicism and low scores on professional efficacy are indicative of burnout. The items of professional efficacy are reversed, thus indicating professional inefficacy. To

assess the overall level of burnout, the procedure presented by Kalimo, Hakanen and Toppinen-Tanner (2006) was followed in this study. A weighted sum score of the dimensional sum scores was calculated. The coefficients were formed by weighting each dimension so that the scores corresponded to the original response scale ($0.4 \times$ exhaustion + $0.3 \times$ cynicism + $0.3 \times$ professional inefficacy). Burnout and the dimensional scores were categorised as follows: no symptoms (sum score 0–1.49), mild symptoms (sum score 1.5–3.49) and severe symptoms (sum score 3.5–6). According to this categorization, symptoms that are experienced daily or weekly are severe, they occur monthly when mild and they are experienced only a few times a year or never in cases of no burnout. In the present study, burnout scores were split into no burnout symptoms and burnout symptoms (mild or severe). The same procedure was applied to the dimensional scores.

4.5.3 Self-rated health (SHR)

Self-rated health (SRH) represents a holistic summary of how individuals perceive their overall health. It is known to reflect dynamic changes in an individual's health status and specific health conditions (Shirom 2009a, 2009b). In this study, a nurse's perception of her overall health was measured with the question "How would you rate your general health status compared with that of others of your own age?" with reply alternatives ranging from 1 to 5: very good, quite good, fair, quite poor and poor.

4.5.4 The GHQ-12

Psychological distress was measured with the twelve-item General Health Questionnaire (GHQ-12). The GHQ12 is a self-report questionnaire, designed to identify short-term changes in mental health (Goldberg and Williams, 1988). The GHQ has different versions with 60, 36, 30 or 12 items. It is one of the most widely used and studied indicators of psychological distress (for a detailed review, see Puustinen, 2011). The questionnaire comprises 12 questions, asking respondents about their level of happiness, experience of depressive and anxiety symptoms and sleep disturbance. The GHQ12 has a four-point response scale most commonly scored using a bimodal method (symptom present: not at all = 0, the same as usual = 0, more than usual = 1 and much more than usual = 1), so that the total sum score ranges from 0 to 12. The suggested optimal cut-off point (3/4) indicative of psychological distress in the Finnish population (Holi, Marttunen and Aalberg, 2003) was used in this study.

4.5.5 Preferred methods for improving work

The respondents were asked to assess the importance of ten methods for improving work (redesign of the workplace, redefining of the goals, reduction of working hours, readjustment of assignments, flexible working hours, clinical supervision, continuing education, reduction of responsibilities, enhancement of cooperation and enhancement of leadership) on a 5-point scale ranging from 1 (not at all important) to 5 (very important).

On follow-up, some additional questions were included in the questionnaire, namely:

4.5.6 The Finnish version of the MCSS

The Finnish version of the Manchester Clinical Supervision Scale (Winstanley and White, 2003; Hyrkäs, Appelqvist-Schmidlechner and Oksa, 2003; Hyrkäs, Appelqvist-Schmidlechner and Paunonen-Ilmonen, 2003) is a 33-item questionnaire with a Likert-type scale. Each item is rated on a scale from 1 (strongly disagree) to 5 (strongly agree). The higher the score, the better is the rating of CS. All items are often summed to form an MCSS total score, originally ranging from 33 to 165, but in this study, the mean of the scores was used to match to the original 5-point scale of each item for clarity of interpretation.

In addition, six questions were added inquiring whether the respondent had attended individual, group or team CS in 2004–2007, as well as whether the respondent was willing to attend individual, group or team CS in the future.

4.6 STATISTICAL ANALYSES

All the statistical analyses were performed using SPSS versions 14.0 or 17.0 for Windows (SPSS Inc., Chicago, IL, USA). The categorical data were described using frequencies and percentages, and the differences between groups were analysed with the χ^2 test. Mean values and standard deviations were used to describe the continuous data, and the differences between groups were tested with the t-test or ANOVA. As the Kolmogorov–Smirnov one-sample test for the whole sample indicated that the scores for the QPSNordic and MBI scales were not normally distributed, *only non-parametric methods* were used to test the significance of the differences between or within the groups. Means and standard deviations of the QPSNordic scales have been presented in the tables for descriptive purposes. The between-group differences in scale scores were tested with the Mann–Whitney U-test. The significance of the within-groups changes from baseline to follow-up was tested using the McNemar test for nominal data the Wilcoxon signed-rank test for ordinal data. The significance of the between-group differences in the trajectories of the outcome variables were tested using binary or ordinal logistic analyses for repeated measurements of the Generalized Estimating Equations (GEE) procedure of SPSS 17.0, including in the model the background variables (professional group, specialty, type of unit [inpatient/ outpatient], superior position, age and marital status). The odds ratio (OR) was used as an indicator of the effect size.

Table 3.

Table 3. Grouping of the study subjects according to their participation in and evaluation of clinical supervision in 2004–2007 and the variables measured at baseline in 2003 and on follow-up in 2007

Grouping of the study subjects	Psychological and social (risk/protective) factors at work (QPSNordic)	Health outcomes
The HIGH CS group: the nurses with higher evaluations of clinical supervision (the MCSS total score > the median of all MCSS total scores)	<p>JOB DEMANDS</p> <ul style="list-style-type: none"> - job demands (quantitative demands, 4 items; decisional demands, 3 items; learning demands, 3 items) - role expectations (role clarity, 3 items; role conflicts, 3 items) - predictability at work (during two months, 3 items; during two years, 2 items) <p>JOB RESOURCES</p> <ul style="list-style-type: none"> - job control (control of decisions, 5 items; control of work pacing, 4 items: positive challenges at work¹, 3 items) - feedback ²(3 items) - social support (from superior, 3 items; from co-workers, 2 items; from friends and relatives, 3 items) - perception of group work (3 items) - leadership (fairness of leadership, 3 items; empowering leadership, 3 items) - organizational culture and climate (social climate, 3 items; innovative climate, 3 items; equality, 2 items; human resource primacy, 3 items) <p>PERSONAL RESOURCES</p> <ul style="list-style-type: none"> - perception of mastery (4 items) - work motivation (intrinsic motivation, 3 items; extrinsic motivation 3 items) - commitment to the organization (3 items) - a preference for challenges (2 items) - interaction between work and private life (2 items) - work orientation³ 	<p>SELF-RATED HEALTH (1 item)</p> <p>BURNOUT (MBI-GS)</p> <ul style="list-style-type: none"> - exhaustion (5 items) - cynicism (5 items) - professional inefficacy (6 items) <p>PSYCHOLOGICAL DISTRESS (GHQ12, 12 items)</p>
The LOW CS group: the nurses with lower evaluations of clinical supervision (the MCSS total score < the median of all MCSS total scores)		
The NO CS group: the nurses with no clinical supervision in 2004–2007		

¹ One item (Q: Is your work challenging in a positive way?) replaced by another item (Reversed Q: Is your work monotonous?) because of unintended misspelling in the questionnaire (Q: Is your work too challenging?). The other two questions on this scale are: 'Are your skills and knowledge useful in your work?' and 'Do you consider your work meaningful?' (cf., Lindström et al., 2000, p. 62).

² The question in the original questionnaire asking about the reception of information on the quality of work was extended to form a scale consisting of three questions enquiring how often the respondents received information on the quality of their work from (1) patients, (2) co-workers and (3) superiors.

³ Measured by asking respondents to assign a total of 100 points to indicate how important the following areas are in their life at the present time: leisure, community, work, religion and family.

Table 4. Overview of the original studies I–IV

Table 4. Overview of the original studies I–IV

Study	Participants	Research aims	Design	Instruments, data analyses
Study I	Female registered or assistant nurses (n = 328) providing direct patient care in the medical or surgical units of the hospital in 2003	To identify which nurses decide to participate in CS when it is provided for all nursing staff.	Cross-sectional design, comparing the uptake of CS in different professional and age groups	QPSNordic, MBI-GS, SRH, GHQ12; t-test, chi-squared test, Mann–Whitney U-test
Study II	Female registered or assistant nurses (n = 328) providing direct patient care in the medical or surgical units of the hospital in 2003	To explore the differences in the uptake of CS in the medical and surgical units of an acute hospital	Cross-sectional design, comparing the uptake of CS in different specialities	QPSNordic, MBI-GS, GHQ12; t-test, chi-squared test, Mann–Whitney U-test
Study III	Female registered or assistant nurses (n = 304) providing direct patient care in the medical or surgical units of the hospital in 2007	(1) To identify which nurses benefitted most from CS and (2) to explore whether they were healthier and more satisfied with their work and health than their peers who did not attend CS	Cross-sectional design, comparing the nurses who gave higher evaluations of CS with their peers who gave lower evaluations or who had not attended CS	QPSNordic, MBI-GS, GHQ12, MCSS; t-test, chi-squared test, Mann–Whitney U-test, binary logistic regression analyses
Study IV	Female registered or assistant nurses (n = 166) providing direct patient care in the medical or surgical units of the hospital in 2003 and 2007	To explore the effects of CS on the development of medical-surgical nurses' well-being at work over a 4-year period	Longitudinal design, comparing the nurses who gave higher evaluations of CS with their peers who gave lower evaluations or who had not attended CS	QPSNordic, MBI-GS, SRH, GHQ12, MCSS; Wilcoxon signed-rank test, McNemar test, the Generalized Estimating Equations (GEE)

5 Results

5.1 WHO ATTENDS CLINICAL SUPERVISION?

While considering the uptake of CS in different professional and age groups (study I, Table 6), *more positive assessments of support from superior and leadership style of management* differentiated the CS participants from non-participants in most sub-groups. The contrasts between the assessments of the subsequent CS participants and non-participants were most obvious among the *younger RNs*, and they also concerned perceptions of control at work and organizational issues. *High job demands* had some importance, resulting in a higher frequency of uptake of CS by *older nurses, both RNs and ANs*.

As presented in study II, *the contrasts in the uptake of CS in the surgical and medical units* were marked. Thus, in the surgical units, the perceptions of good mastery at work and a preference for challenges enhanced involvement in CS, whereas *these same factors* reduced interest in CS in the medical units. In the surgical units, more positive assessments of support from superiors, empowering leadership and an innovative climate on the unit were robustly associated with engagement in CS, and the nurses who were critical of leadership were not inclined to attend. In the medical units, in contrast, there were no differences between the subsequent CS participants and non-participants in the assessments of social interactions, leadership or organizational culture and climate of the unit. Instead, the prospective CS participants among the medical nurses were more distressed, had more symptoms of burnout, especially exhaustion, and experienced more difficulties integrating work and private life than the non-participants, whereas among the surgical nurses, symptoms of burnout, particularly signs of cynicism and professional inefficacy, seemed to prevent the uptake of CS.

Taking these differences between the medical and surgical nurses in the uptake of CS as a starting point, some new analyses have been conducted for this synopsis (Tables 5a and 5b in Appendix II). The results presented in the first two studies (I and II) are combined and further elaborated in the two sections below to give a more detailed picture of the uptake of CS in different professional (RNs/ANs) and age (under 40 years/40 years or more) groups in the two specialties.

5.1.1 The uptake of CS in the surgical units

In the surgical units, certain factors at work differentiated the CS participants from the non-participants among the RNs (e.g., higher work orientation, more control at work and support from the superior, better assessments of leadership as well as lower prevalence of cynicism) and other factors among the ANs (e.g., more positive perception of mastery at work, a greater preference for challenges). A lower rate of professional inefficacy was a common factor associated with involvement in CS for both professional groups. While examining separately the uptake of CS in the different professional groups, a new group-specific factor (role conflicts) emerged to explain the CS uptake of the ANs.

As shown in Table 5a in Appendix II, among the surgical RNs, the differences found in the involvement in CS related to the group of *younger* nurses. Older surgical RNs (aged 40 years or more) accessing CS (n = 29) were quite similar to the non-participant colleagues of their age (n = 54), while among the younger surgical RNs (under 40 years) the differences between CS participants (n = 30) and non-participants (n = 75) were notable. The younger CS participants rated throughout lower job demands and higher job resources and were more committed to the organization than the non-participants of the same age. Professional

inefficacy and cynicism were less prevalent among them than among the younger surgical nurses who did not attend CS.

Among the surgical ANs, the differences found in the involvement in CS related to the group of *older* nurses. The subsequent CS participants aged 40 years or more (n = 18) assessed better mastery at work, but also more role conflicts than their same-age non-participant colleagues (n = 15). They rated more intrinsic work motivation, more of them reported a preference of challenges and the prevalence of professional inefficacy was lower compared to the non-participants (Table 5a in Appendix II).

5.1.2 The uptake of CS in the medical units

As presented in study II, a perception of worse mastery at work, difficulties integrating work and private life as well as more prevalent burnout symptoms and psychological distress seemed to differentiate the CS participants from the non-participants in the medical units. While separately examining the uptake of CS in the different professional groups, a stronger work orientation was associated with the uptake of CS by RNs in the medical units as it did in the surgical units. A new factor (high job demands, especially high decisional demands) emerged to explain the uptake of CS among the ANs. Some differences found in the whole group of medical nurses (lower support from friends and relatives, difficulties at the work–life interface) did not show in professional groups alone (Table 5b in Appendix II).

Again, the differences found in the involvement in CS among the RNs mostly related to the group of *younger* nurses (Table 5b in Appendix II). Older medical RNs accessing CS (n=18) did not differ from the colleagues of their age (n = 16), although they tended to have more burnout symptoms (48.5% vs. 28.6%, $p = 0.077$). The younger medical RNs seeking access to CS (n = 13) were psychologically more distressed and perceived worse mastery at work than their non-participating colleagues of the same age (n = 20). They provided more positive ratings on equality issues (mean 4.31, SD 0.85 vs. mean 3.53, SD 0.75, $p = 0.010$) and had more extrinsic motivation to work than their same-age peers who did not attend CS (mean 4.33, SD 0.41 vs. mean 3.97, SD 0.52, $p = 0.031$).

Among the medical ANs, *older* nurses undertaking CS (n = 8) rated more job demands, but also more job control than the colleagues of their age who did not attend CS (n = 12), whereas *younger* CS participants (n = 5) rated more decisional demands and less control of decisions, and also had less preference for challenges than their same-age colleagues who did not participate in CS (n = 3) (Table 5b in Appendix II).

5.2 BENEFITS OF CLINICAL SUPERVISION

The results of studies III and IV are combined in this section to trace evidence of the benefits of CS (an overview in Table 8, pp. 45-46). Some new results are also presented here. The between-group differences were investigated in the cohort data both at baseline (Tables 6a, 6b and 6c in Appendix II) and on follow-up (Tables 7a, 7b and 7c in Appendix II). The order of presentation of the results is as follows. First, the results of the follow-up study (study III) are presented to examine whether those in the HIGH CS group perceived their work and health more positively on follow-up than the two comparison groups. Using the cohort data, it is then explored whether the between-group differences found in the follow-up data also existed in the cohort data on follow-up, despite the reduced number of cases (Tables 7a, 7b, 7c in Appendix II). Then, it is investigated whether these differences already existed in the cohort data at baseline (Tables 6a, 6b and 6c in Appendix II) or whether they developed during the follow-up period. In case of significant changes in the perceptions of work and health by the HIGH CS group, it is finally analysed whether the same changes also occurred in the comparison groups (study IV).

5.2.1 Changes in the perceptions of work

5.2.1.1 Changes in perceived job demands

On follow-up (study III), the HIGH CS group reported as high job demands and role expectations as the two comparison groups. In the cohort data (Table 6b in Appendix II), the HIGH CS group reported *at baseline* more quantitative job demands than the NO CS group (mean 2.45, SD 0.55 vs. mean 2.76, SD 0.54, $p = 0.005$), and also more role conflicts, although the difference did not quite reach statistical significance (mean 3.20, SD 0.66 vs. mean 3.47, SD 0.54, $p = 0.060$). On follow-up, these differences levelled out, because the NO CS group now assessed higher quantitative job demands (mean 2.76, SD 0.54 → mean 2.54, SD 0.63, $p = 0.005$) and more role conflicts (mean 3.47, SD 0.54 → mean 3.30, SD 0.67, $p = 0.045$) than at baseline (Table 7b in Appendix II). In the cohort data, there were no statistically significant differences between the HIGH CS and the LOW CS groups in the estimated amount of quantitative job demands and role conflicts at baseline (Table 6b in Appendix II) or on follow-up (Table 7b in Appendix II).

5.2.1.2 Changes in perceived job and personal resources

On follow-up (study III, Table 2), the HIGH CS group exceeded *both* comparison groups by reporting *more* job resources. First, the HIGH CS group reported on follow-up more *feedback* on the quality of the work (mean 2.95, SD 0.63) than the LOW CS group (mean 2.65, SD 0.69, $p = 0.013$) or the NO CS group (mean 2.65, SD 0.59, $p = 0.003$). These significant group differences also existed in the cohort data on follow-up (Table 7b in Appendix II). The results of the cohort study showed (study IV, Table 4) that the amount of feedback increased significantly during the follow-up period in the HIGH CS group (mean 2.76, SD 0.69 → mean 3.03 SD 0.65, $p = 0.039$). While comparing the trajectories of perceptions of feedback of the HIGH CS group with those of other groups using the GEE analysis, significant differences between the study groups in the trajectories were found (Wald $\chi^2 = 6.93$, df 2, $p = 0.031$). Increased perceptions of feedback were almost four times more likely in the HIGH CS group compared to the LOW CS group (OR = 3.75, 95% C.I. 1.39–10.12, $p = 0.009$), and two times more likely compared to the NO CS group (OR = 2.34, 95% C.I. 1.01–5.41, $p = 0.047$).

Second, the HIGH CS group reported on follow-up (study III, Table 2) more *job control* (mean 3.04, SD 0.40) than the LOW CS group (mean 2.91, SD 0.49, $p = 0.029$) or the NO CS group (mean 2.88, SD 0.46, $p = 0.008$). However, in the cohort data the between-group differences in job control were not statistically significant on follow-up (Table 7b in Appendix II). The increase in control at work perceived by the HIGH CS group (study IV, Table 4) was almost statistically significant (mean 2.70, SD 0.40 → mean 2.81, SD 0.43, $p = 0.070$). When the background differences between the study groups were included (study IV, GEE analysis), the trajectories of control of decisions of the HIGH CS group and the NO CS group differed significantly (OR 2.44, 95% C.I. 1.18–5.07, $p = 0.017$), as well as the trajectories the positive challenges at work of the HIGH CS group and the LOW CS group (OR 3.94, 95% C.I. 1.63–9.52, $p = 0.002$), both in favour of the HIGH CS group.

Third, the HIGH CS group reported on follow-up (study III, Table 2) more *commitment to the organization* (mean 3.00, SD 0.68) than the LOW CS group (mean 2.80, SD 0.70, $p = 0.045$) or the NO CS group (mean 2.82, SD 0.72, $p = 0.017$), but these significant group differences did not show in the cohort data on follow-up (Table 7b in Appendix II). In the cohort data, the improvement in commitment to the organization in the HIGH CS group did not reach statistical significance, and the differences in trajectories of different groups were not statistically significant.

Fourth, among those respondents who belonged to a permanent working group or team (65.1%), the HIGH CS group reported on follow-up (study III, Table 2) better *group work* (mean 4.06, SD 0.61) than the LOW CS group (mean 3.67, SD 0.56, $p = 0.001$) or the NO CS group (mean 3.83, SD 0.62, $p = 0.014$). These significant group differences in the perceptions

of group work also existed in the cohort data on follow-up (Table 7b in Appendix II). However, the improvement in perceptions of group work in the HIGH CS group was not statistically significant, and the differences between groups in the trajectories were not statistically significant.

In addition, the HIGH CS group rated on follow-up (study III, Table 2) the *organizational culture and climate* (in particular, social climate and human resource primacy) and the fairness of leadership more positively than the LOW CS group. The cohort data showed that the assessments of fair leadership and human resource primacy improved significantly in the HIGH CS group (study IV, Table 4). However, the trajectories of the three study groups did not differ statistically significantly when the background variables were included. The assessments of fair leadership actually improved in all study groups. Compared to the NO CS group, the HIGH CS group reported more *intrinsic work motivation*, but also more *difficulties integrating work and private life* both in the follow-up data (study III, Table 2) and in the cohort data on follow-up (Table 7b in Appendix II). In the cohort data, a significant deterioration in intrinsic work motivation occurred in the NO CS group (study IV, Table 4).

5.2.2 Changes in the perceptions of health

On follow-up (study III, Table 3), the prevalence of *overall burnout symptoms* in the HIGH CS group (47.2%) was significantly lower than in the LOW CS group (65.3%, $p = 0.029$), but slightly higher than in the NO CS group, although this difference was not statistically significant (41.4%, $p = 0.415$). Fewer nurses in the HIGH CS group reported *professional inefficacy* (38.9%) than the nurses in the LOW CS group (57.9%, $p = 0.030$) or in the NO CS group (57.5%, $p = 0.009$). In the cohort data, the HIGH CS group tended to show *at baseline* more exhaustion than the NO CS group (61.0% vs. 42.7%, $p = 0.056$) and more professional inefficacy than the LOW CS group (51.2% vs. 33.3%, $p = 0.099$), but *on follow-up*, the only statistically significant difference in burnout symptoms was associated with the lower prevalence of professional inefficacy in the HIGH CS group when compared to both comparison groups (study IV, Table 5). The results of the cohort study showed that in the HIGH CS group, the prevalence of professional inefficacy decreased significantly during the four years (51.2% \rightarrow 27.5%, $p = 0.021$). When the background differences between the study groups were included in the model (study IV, GEE analysis), a highly significant difference between the groups was detected in the burnout dimension of professional inefficacy (Wald $\chi^2 = 11.01$, $df = 2$, $p = 0.004$). Decreasing perceptions of professional inefficacy in HIGH CS group were almost seven times more likely in comparison to the LOW CS group (OR = 6.79, 95% C.I. 2.17–21.27, $p = 0.001$), and almost four times more likely in comparison to the NO CS group (OR = 3.74, 95% C.I. 1.32–10.50, $p = 0.013$) (study IV, Figure 2).

On follow-up (study III, Table 3), the prevalence of *psychological distress* in the HIGH CS group (31.9%) was lower than in the LOW CS group (41.1%), but higher than in the NO CS group (24.0%). However, these differences between the HIGH CS group and the comparison groups were not statistically significant. In the cohort data (study IV, Table 5), the prevalence of psychological distress decreased in the HIGH CS group (40.2% \rightarrow 22.0%, $p = 0.092$), but increased slightly in the NO CS group (20.7% \rightarrow 29.3%, $p = 0.210$) and significantly in the LOW CS group (26.2% \rightarrow 57.1%, $p = 0.000$). In the GEE analysis, a highly significant difference between the study groups was detected in psychological distress (Wald $\chi^2 = 14.56$, $df = 2$, $p = 0.001$). The decreasing trend of psychological distress was over eight times more likely over time in the HIGH CS group than in the LOW CS group (OR = 8.16, 95% C.I. 2.77–24.00, $p = 0.000$), and almost four times more likely than in NO CS group (OR = 3.52, 95% C.I. 1.21–10.25, $p = 0.021$) (study IV, Figure 3).

Table 8.

Table 8. Overview of the differences between and changes within the study groups in the follow-up data (n = 304) and cohort data (n = 166) (Chi square test, Mann-Whitney U test, Wilcoxon rank sign test, GEE, $p < 0.05$)¹

Work factor	Follow-up data 2007: Differences between the study groups	Cohort data 2007: Differences between the study groups	Cohort data 2003→2007 Changes within the study groups	Cohort data 2003→2007: Differences between the group trajectories
Job demands	no	quantitative demands: HIGH CS group > NO CS group	quantitative demands ↑ in NO CS group	no
Role expectations	no	no	role conflicts ↑ in NO CS group	no
Control at work	HIGH CS group > LOW CS group & HIGH CS group > NO CS group	positive challenges: HIGH CS group < LOW CS group	positive challenges ↓ in LOW CS group	control of decisions: HIGH CS group > NO CS group positive challenges: HIGH CS group > LOW CS group
Feedback at work	HIGH CS group > LOW CS group & HIGH CS group > NO CS group	no	↑ in HIGH CS group	HIGH CS group > NO CS group & HIGH CS group > LOW CS group
Social support	no	no	from superior ↑ in HIGH CS group, from friends/relatives ↓ in NO CS group	no
Team work	HIGH CS group > LOW CS group & HIGH CS group > NO CS group	no	no	no
Leadership	fair leadership HIGH CS group > LOW CS group	no	fair leadership ↑ in HIGH CS group	no
Organizational culture and climate	social climate & human resource primacy: HIGH CS group > LOW CS group	human resource primacy HIGH CS group < NO CS group	human resource primacy ↑ in HIGH CS group	no

¹¹ The study groups: the non-participants (NO CS group) and the CS participants with higher (HIGH CS group) or lower (LOW CS group) evaluations of CS

Table 8 (continued)

Table 8 (continued). Overview of the differences between and changes within the study groups in the follow-up (n = 304) and cohort data (n = 166) (Chi-square test, Mann-Whitney U-test, Wilcoxon signed-rank test, GEE; p < 0.05)¹

Work/health factor	Follow-up data 2007: Differences between the study groups	Cohort data 2003: Differences between the study groups	Cohort data 2007: Differences between the study groups	Cohort data 2003→2007: Changes within the study groups	Cohort data 2003→2007: Differences between the group trajectories
Commitment to the organization	HIGH CS group > LOW CS group HIGH CS group > NO CS group	no	no	no	no
Work orientation	no	HIGH CS group < LOW CS group NO CS group < LOW CS group	no	no	no
Intrinsic motivation	HIGH CS group > NO CS group	HIGH CS group > NO CS group	HIGH CS group > LOW CS group & HIGH CS group > NO CS group	↓ in NO CS group	no
Interaction between work and private life	no	HIGH CS group < NO CS group	LOW CS group < NO CS group	no	no
Burnout	<i>Overall symptoms:</i> HIGH CS group < LOW CS group LOW CS group > NO CS group > <i>exhaustion:</i> LOW CS group > NO CS group; <i>inefficacy:</i> HIGH CS group < LOW CS group & HIGH CS group < NO CS group	<i>Exhaustion:</i> LOW CS group > NO CS group; <i>inefficacy:</i> LOW CS group < NO CS group	<i>Overall symptoms:</i> LOW CS group > NO CS group; <i>exhaustion:</i> LOW CS group > NO CS group; <i>inefficacy:</i> HIGH CS group < LOW CS group & HIGH CS group < NO CS group	<i>Inefficacy</i> ↓ in HIGH CS group	<i>Inefficacy:</i> yes
Self-rated health	no	no	no	↓ in NO CS group	no
Psychological distress	LOW CS group > NO CS group	HIGH CS group > NO CS group	LOW CS group > NO CS group; LOW CS group > HIGH CS group	↑ in LOW CS group	yes

¹The study groups: the non-participants (NO CS group) and the CS participants with higher (HIGH CS group) or lower (LOW CS group) evaluations of CS

6 Discussion

6.1 METHODOLOGICAL CONSIDERATIONS

6.1.1 General remarks

Evidence-based practice relies on experimental methodology, systematic reviews and comparison of interventions. Among several systematic reviews and meta-analyses investigating the effects of interventions related to stress and burnout among nurses (Michie and Williams, 2003; Edwards and Burnard, 2003; Mimura and Griffiths 2003; Marine, Ruotsalainen, Serra and Verbeek, 2006; Ruotsalainen, Serra, Marine and Verbeek, 2008; Richardson and Rothstein, 2008; van Wyk and Pillay-van Wyk 2010; Awa, Plaumann and Walter, 2010), only two (Mimura and Griffiths, 2003; Awa, Plaumann and Walter, 2010) have included a study in which CS was an intervention component (Berg, Welanders Hansson and Hallberg, 1994; Pålsson, Hallberg, Norberg and Björvell, 1996).

Randomized controlled trials (RCTs; also called efficacy studies) of psychological interventions seek internal validity via homogeneous samples and standardized treatment protocols. In contrast, practice-based effectiveness studies aim for clinical realism and external validity via heterogeneous samples of clients treated under routine practice conditions. Barkham et al. (2008) have compared indices of treatment effects in these two types of studies. Randomized trials showed a modest advantage over practice-based studies in the amount of pre–post improvement. However, randomized trials have a number of shortcomings when studying psychological interventions that are based on interactional processes (Leiman, 2008; Wheeler, Aveline and Barkham, 2011). Double blinding and controlling for all essential variables are not feasible. Milne et al. (2008) have suggested that in the case of complex interventions,³⁰ a parallel effectiveness framework is needed in addition to the conventional efficacy framework. Effectiveness research subsumes a wide range of technological, applied and pragmatic research activities, intended to improve decisions about resource allocation (e.g., which intervention to use within a service).

This study was conducted to address the challenge relating to the pressing need for rigorous quantitative research on the benefits of CS. Available measures were used to overcome the common weaknesses of earlier CS studies, such as small sample sizes, the use of ad hoc methods of data collection, and the lack of both longitudinal designs and control for confounding variables (Ellis, Ladany, Krengel and Schult, 1996; Buus and Gonge, 2009; Francke and de Graaff, 2011). Although it was not possible to avoid selection bias by randomization, all study subjects were working in the same units, and the many – and mostly unforeseen – changes that took place during the four study years were thought to affect all study subjects alike. When possible, attention was given to the most apparent confounding variables, namely gender, age, professional group (RN/AN) and the nature of the work (medical/surgical nursing; direct/indirect patient care; inpatient/ outpatient care). Some earlier studies (e.g., Edwards et al., 2006; Hyrkäs, Appelqvist-Schmidlechner and Haataja, 2006; Arvidsson, Baigi and Skärsäter, 2008) have demonstrated that the needs and experiences of male nurses in relation to CS differ greatly from those of female nurses. While the small number of male nurses attending CS made it difficult to control for the impact of gender, this study was confined to female nurses and among them only to those who were involved in direct patient care. Despite all precautions, the sample sizes in the

³⁰ A complex intervention consists of a number of elements that appear necessary for the intervention where the mechanism or active ingredient is difficult to pinpoint (Milne et al., 2008b).

cohort data were rather small, and since conservative non-parametric statistical methods were used, the risk of type II errors (i.e., the probability of false negative results) increased.

In observational, longitudinal studies, a great number of variables can be measured repeatedly in large study samples to determine their associations with the efficacy of the intervention. One problem inherent in this type of methodology is the difficulty in defining the cut-off point and the time limit for 'treatment' success (Leiman, 2008). In this study, recommended cut off points were available for important outcome measures (burnout, psychological distress). Moreover, the design of this study provided good conditions for the evaluation of such a lengthy transformative learning process as CS. The 4-year follow-up period made it possible to evaluate the effects of completed CS processes lasting up to three years. On the other hand, since some CS processes lasted only one year, the follow-up became rather long (two or even two-and-a-half years). Earlier stress management intervention studies (e.g., Richardson and Rothstein, 2008; Van Wyk and Pillay-Van Wyk, 2010) have shown that it is difficult to sustain the effects of short interventions. Thus, it is quite possible that among some CS participants, the effects of CS may have dissipated despite the positive experience of CS. Unfortunately, the duration of the CS process was not inquired in the follow-up questionnaire, and its impact on changes in the perceptions of work and health could not therefore be estimated.

One of the limitations of this study is the fact that results such as ours obtained with self-report measures from a single source may be biased by common method variance. Thus, for example, it remained undetermined whether or to what extent the associations between the evaluations of CS and the perceptions of work and health in the cross-sectional follow-up data (study III) were caused by some third factor such as positive (or negative) affectivity, resulting in consistently positive (or negative) perceptions of both the efficacy of CS and the perceptions of work and health. In addition, some changes found within the study groups might to some extent be explained by a statistical hazard called regression towards mean: in repeated measurements, extreme values tend to become closer to the mean. For example, regression towards the mean perhaps contributed to the decrease in the extremely high baseline ratings of work orientation and positive challenges at work in the group giving lower evaluations of CS.

6.1.2 The reliability and validity of the instruments

The reliability and validity of the internationally established instruments used in this study had already been tested in the Finnish population. The internal consistency of most scales was good or fair in all data sets (Cronbach's $\alpha > 0.7$; for exact figures, see studies I–IV).

The QPSNordic. A recent study testing psychometric properties of the QPSNordic (Wännström et al., 2009) showed that it is a good instrument for assessing health-related factors at work. The associations between the QPSNordic scales and the self-reported health scales were similar to the pattern observed during the development of the questionnaire (Lindström et al., 2000). The magnitude of the correlations between the QPSNordic scales, reaching 0.20 for general health, 0.30 for mental health and 0.40 for burnout, were also in line with what could be expected for the correlation with indicators of well-being or strain. In this study, Cronbach's α for some scales of the QPSNordic was rather weak, probably in part because the number of items was low, i.e., 2 or 3 items (Streiner and Norman, 1989). Collapsing several items into indexes provides more rigid measurements of the phenomena in question compared with single-item measures and measurements based on factor analysis (Buus and Gonge, 2009). On the other hand, using exactly the same instruments as other researchers makes it possible to compare the results of separate studies.

The MBI-GS. Although some alternative burnout instruments have subsequently been devised, such as the Copenhagen Burnout Inventory (Kristensen, Borritz, Villadsen and Christensen, 2005) and the Oldenburg Burnout Inventory (Halbesleben and Demerouti, 2005), the MBI has remained the 'gold standard' to assess burnout (Schaufeli, Leiter and

Maslach, 2009). The use of the total MBI score has theoretically been demonstrated to be problematic (Kristensen, Borritz, Villadsen and Christensen, 2005) and some critics maintain that rather than being a multi-dimensional phenomenon, burnout is essentially equivalent to exhaustion. Shirom (2009b) has recommended that researchers using the MBI to predict health outcomes should regard each of its components as a separate predictor and give preference to the predictive power of the exhaustion component. In this study, however, in addition to the component scores (exhaustion, cynicism, inefficacy) the total score for the overall burnout symptoms was also calculated, as recommended by Kalimo, Hakanen and Toppinen-Tanner (2006). The prevalence of burnout in this study (Table 9) was a little higher in 2003 and roughly the same in 2007 as in the reference data consisting of Finnish health care providers (Kalimo, Hakanen and Toppinen-Tanner, 2006), and in some earlier studies on burnout among Finnish nurses (e.g., Kanste, 2005).

Table 9. Burnout in the Finnish adult workforce (A), in the Finnish adult female workforce (F) and among health care providers (H) compared to burnout in the datasets of this study (T1 and T2 in total (t) and cohort (c) data), presented as the mean and SD of burnout symptoms (scale 0–6; score > 1.50 = at least mild symptoms presenting monthly or several times a year).

Data: N	Exhaustion		Cynicism		Inefficacy		Burnout	
	mean	SD	mean	SD	mean	SD	mean	SD
A: 2027	2.20	1.44	1.84	1.40	1.18	1.13	1.80	1.03
F: 1051	2.31	1.44	1.81	1.39	1.19	1.10	1.84	1.01
H: 232- 285	2.18	1.30	1.31	0.99	1.07	1.06	1.57	0.85
T1t: 328	2.00	1.35	1.38	1.33	1.65	1.00	1.71	0.95
T1c: 166	1.99	1.36	1.35	1.26	1.60	1.01	1.68	0.95
T2c: 166	1.88	1.24	1.33	1.05	1.53	0.98	1.60	0.84
T2t: 304	1.83	1.25	1.26	1.09	1.57	0.99	1.57	0.86

The GHQ-12. The GHQ is one of the most widely used and studied indicators of psychological distress, and has even been referred to as “the current *de facto* standard of mental health screening” (for a detailed review, see Puustinen, 2011). The reported prevalence figures for high psychological distress measured by the GHQ-12 usually vary from 15% to 36% across different studies, countries, and according to the cut-off points used. Using the same cut-off point as this study (3/4), Virtanen et al. (2007) found in the Finnish Public Sector Study (n = 48 592) that the proportion of subjects with high psychological distress was 25%, whereas in this study it was 28.7% in 2003 and 30.1% in 2007.

The MCSS. In this study, Cronbach’s α for the MCSS was 0.965. White and Winstanley (2010a) have suggested that CS is on an acceptable level if the median score of the MCSS is 3.78 or more.³¹ Hyrkäs, Appelqvist-Schmidlechner and Haataja (2006) found that MCSS scores were lower in somatic than psychiatric nursing (mean 3 .72, SD 0.53 vs. mean 4.10, SD 0.39, p = 0.000). In the present study, the MCSS total scores (mean 3.68, SD 0.59, median 3.71, range 1.73–5.00) were also lower than in some earlier studies in which the participants were psychiatric or mental health nurses (Hyrkäs, 2005; Edwards et al., 2006). Regardless of this, the median of the total MCSS scores proved to be an appropriate cut-off score indicating effective CS, since almost all of the nurses who scored above the median wanted to participate in CS in the future.

³¹ Instead of sum scores, average scores are used to compare the results from English and Finnish versions of the MCSS, which have a different number of items.

6.1.3 The generalizability of the results

The present study was undertaken in one large university hospital in Finland. The findings cannot necessarily be generalized to health care institutions of other kinds or in other countries. In addition, the results only apply to female medical–surgical nurses providing direct patient care. At baseline, the response rate was rather high. The same data that were gathered in the intervention units were also collected in the units that did not later participate in the CS programme (hereafter, the non-intervention units). Thus, it was possible to examine whether the study sample was biased because of the selection of the intervention units. When compared to female nurses working in the non-intervention units ($n = 356$, response rate 72.4%), the female nurses working in the intervention units ($n = 367$, response rate 81.2%) were younger and more of them were working in surgical inpatient units. Overall at baseline, the nurses in the surgical intervention units were representative of the nurses of all surgical units in the hospital, but the results cannot without caution be generalised to the nurses in the medical units, and especially not to the nurses working in the medical outpatient units.

It seems plausible that at baseline, i.e., before the CS programme was introduced, CS was a more established practice in the medical than the surgical department of the hospital. CS was more valued as a means of practice development in the surgical intervention than the non-intervention units, although there were no differences in the prevalence of dissatisfaction or burnout between the units. In the medical department, there was no difference between the intervention and non-intervention units regarding the value of CS. Instead, dissatisfaction and burnout were *more* prevalent in the medical intervention units than the non-intervention units. There was perhaps no need to participate in the programme in some medical non-intervention units, because CS was already provided by the unit. However, as prior involvement in CS was not inquired in the questionnaire, it is not possible to examine the phase of adoption of CS and its eventual impact on the uptake or the benefits of CS.

On follow-up, the response rate was moderate (67.2%), and again, since most of the study nurses were working in the surgical in-patient wards, the results cannot without caution be generalised to medical nurses, and especially not to those working in the outpatient units.

6.1.4 Participant dropout in the cohort data

Participant dropout occurs in all longitudinal studies, and if systematic, may lead to selection biases and erroneous conclusions being drawn from the results. Since the cohort data comprised only about a half of the data gathered both at baseline and on follow-up, a participant dropout analysis was conducted. The differences between the cohort and dropout subjects are presented in Table 10 (p. 51). The nurses responding in both surveys (i.e., those belonging to the cohort data) were older, with more years in the profession and in their current position than the nurses who responded only once (at baseline or on-follow-up). The proportion of ANs and tenured employees was slightly greater among the respondents than among the dropouts both at baseline and on follow-up. Consequently, the dropouts were mostly *younger non-tenured RNs*. Compared to the nurses in the cohort data, drop-outs assessed more decisional and learning demands and reported worse mastery at work at baseline, while on the other hand they reported more social support, particularly from their superior, on follow-up. However, there were no differences in perceptions of health between the dropouts and cohort subjects (exact figures not presented here). It can be concluded that much of the dropping out must have been caused by the normal turnover of younger hospital nurses, and that the present study mainly focused on and was representative of the more experienced nursing staff.

Table 10.

Table 10. Dropout analysis. Comparisons (t-test, chi-squared test) of socio-demographic backgrounds in 2003 and 2007 between nurses responding once (= dropout data) and those responding twice (= cohort data)

Background variable	2003		2007			
	Dropout data n = 162	Difference value	Cohort data n = 166	Cohort ¹ data n = 166	Difference p-value	Dropout data n = 142
Age, years, mean (SD)	38.7 (10.6)	0.003	41.8 (8.3)	45.8 (8.3)	0.000	38.7 (9.9)
Years in the profession, mean (SD)	12.3 (10.4)	0.002	15.6 (9.0)	19.5 (9.0)	0.000	11.4 (9.3)
Years in current position, mean (SD)	7.6 (8.3)	0.000	11.4 (8.6)	14.4 (9.3)	0.000	6.0 (7.4)
Registered nurse/midwife, %	85.2	0.003	71.7	72.3	0.024	83.1
Day work only, %	12.3	0.332	9.0	17.1	0.231	12.7
Work setting: surgical unit, %	70.4	0.887	71.1	71.6	0.283	65.5
Tenured employees, %	58.0	0.000	80.0	92.7	0.000	49.3
Superior position, %	6.3	0.770	5.5	7.2	0.403	4.9
Married/cohabiting, %	71.0	0.300	65.7	71.5	0.541	68.3
Have children, %	61.1	0.229	67.5	71.1	0.509	67.6

Four cases of the cohort data were excluded from the follow-up data (study III, n = 304) because they were providing direct patient care at baseline but not on follow-up.

6.2 DISCUSSION OF THE MAIN FINDINGS

6.2.1 Who attends clinical supervision?

There is considerable anecdotal evidence related to common barriers to CS (briefly reviewed in study I). Nevertheless, no earlier empirical studies were found concerning the question of which nurses attend CS. On the whole, the results of this study demonstrated that nurses attracted to CS formed a distinctive group on the ward, standing out as self-confident, committed and competent professionals who felt supported by empowering and fair leadership. However, while separately exploring the uptake of CS in the medical and surgical units (study II), it was revealed that the decision to undertake CS must have happened on quite different grounds within the two practice areas. Involvement in CS in the surgical units was associated with the positive perceptions of social support and leadership and good mastery at work, as well as with few symptoms of cynicism and professional inefficacy. In the medical units, in contrast, the uptake of CS was linked to impaired mastery at work and symptoms of distress and exhaustion.

6.2.1.1 Challenges for clinical supervision in the medical units

In the medical units, *the typical CS participant* was a psychologically distressed younger RN, an insecure younger AN, or an older nurse, either a RN or an AN, suffering from a high workload and burnout symptoms. Medical nursing has been described by nurses as being about messiness, complexity, filth, chaos and violence (Parker, 2004). Nurses usually learn to hide their fear, disgust or nausea, and the impatience, anger or grief evoked by their work. This tiring '*emotional labour*',¹ i.e., taking on the '*professional persona*' of a nurse as caring, receptive and non-judgmental, is often unacknowledged because it is learnt pre-reflectively through the imitation of prestigious role models. Huynh, Alderson and Thompson (2008) have noted that caring is considered as the essence of nursing, but underpinning caring, the internal regulation of emotions, i.e., the emotional labour of nurses, often remains invisible.

According to Zapf et al. (2001), early research on burnout indicated that common job-related stressors (such as workload, time pressure, or role conflicts) correlated more highly with burnout than client/patient-related stressors (such as problems in interacting with clients, frequency of contact with chronically or terminally ill patients, or confrontation with death and dying). However, recent research has shown that these emotional demands do account for additional variance in burnout scores over and above job stressors. For example, Brotheridge and Grandey (2002) found that faking emotional expressions at work is related to feeling exhausted and detached, whereas deeper emotion at work positively relates to personal accomplishment (professional efficacy). Moreover, Zapf and Holz (2006) have shown that emotional dissonance (i.e., having to show feelings not felt) is the stressful aspect of emotional labour, whereas the display of positive emotions and requirements for sensitivity also have positive effects on personal accomplishment (professional efficacy). Theodosius (2008) has argued that the nursing profession has a responsibility to include emotional labour within professional and personal development strategies to ensure that the care needs of vulnerable patients are met. The establishment and maintenance of the *therapeutic nurse-patient relationship* facilitates understanding of health care needs between the nurse and patient, as well as patient co-operation with care offered, and it encourages patients to take responsibility for their own health and well-being. It is expected that the nurse cares for the patient's psychological well-being, that it is possible for the patient to

¹ Emotional labour in nursing has been defined as "*a process through which nurses adopt a 'work persona' to express their autonomous, deeply or superficially felt emotions during patient encounters*" (Huynh, Alderson and Thompson., 2008, p. 201).

confide and express anxieties to the nurse, that the nurse educates the patient in understanding his or her health care needs and, when needed, facilitates a peaceful and dignified death. The emotions concerned include *reciprocal interpersonal emotions related to self-worth* of both the patient and the nurse, and the skills needed are *interpersonal communication skills and self-reflexivity* (Theodosius, 2008). In fact, the Finnish nurse researcher Kati Utriainen and her co-researches (Utriainen, Kyngäs and Nikkilä, 2009; Utriainen and Kyngäs, 2011) have in their empirical studies arrived at the conclusion that the core process of nurses' well-being at work is *reciprocity in relation to colleagues and patients characterized by dignity and respect*.

Parker (2004) has proposed CS as a means of facilitating greater understanding of the nature of nurses' relationships with patients and the complex dimensions of their medical nursing role. According to Theodosius (2008), a prevalent attitude that a nurse either is or is not 'good with people' prevents investment in developing interpersonal communication skills. Bailey, Murphy and Porock (2011) have observed how nurses develop expertise in end-of-life care giving by progressing through three stages of development: (1) investment of the self in the nurse–patient relationship, (2) management of emotional labour and (3) the development of emotional intelligence. Transition along the stages is challenging owing to several obstacles: environmental constraints, willingness to develop the nurse–patient relationship, and coping mechanisms adopted in response to anxieties around death. In medical nursing, one of the challenges of CS is to help nurses to overcome these barriers that prevent the transition to expertise in complex nursing situations, and that may contribute to occupational stress and eventually lead to burnout and withdrawal from practice.

It is noteworthy that although in this study health issues appeared to be more important reasons for involvement in CS in the medical than the surgical units, there were actually *no differences* between the specialties in the prevalence of burnout or psychological distress. Like many earlier studies (e.g., Ingersoll et al., 2002; McVicar, 2003; Davis et al. 2007), the present findings also showed only minor differences in stress levels between different practice areas. While in the surgical units, younger nurses who later attended CS reported at baseline ample job and personal resources, resourceful younger nurses on the medical units seemingly decided that they did not need CS. These results raise the question of whether in these medical units CS was misconceived as *only* appropriate in circumstances of impaired work performance, or when nurses are experiencing health problems. Such misconceptions could affect the uptake of CS by leaving out competent nurses who thus would miss one of the opportunities to make use of their innovativeness in developing their professional functioning and the nursing practice in their unit.

6.2.1.2 Challenges for clinical supervision in the surgical units

The typical CS participant in the surgical units was a highly work-orientated, committed and self-efficacious younger RN or a competent, intrinsically motivated and self-efficacious older AN plagued by role conflicts. Irrespective of the similarities in the perceptions of health, there were significant differences between the surgical and medical units in nurses' perceptions of social and organizational factors at work, that is, ward culture. In particular, among younger surgical nurses, the subsequent CS participants assessed social interactions, leadership as well as social and organizational culture and climate more positively than the non-participants.

Recent research using large national samples has indicated that there might be distinctions between the work in the medical and surgical units of an acute hospital affecting the quality of the care and nurses' job satisfaction, stress and burnout. In Canada, McGillis Hall and Doran (2007) found that nurses' perceptions of the quality of the care provided in the unit are linked to their job satisfaction, role tension and job stress. Both nurses and patients reported higher judgments of the quality of care in the medical than the

surgical unit (McGillis Hall and Doran, 2008). In the USA, the healthiest work environments, the greatest job satisfaction and the highest nurse-assessed quality of care have been found in outpatient care clinics, oncology units and neonatal intensive care units, whereas nurses in operating rooms, post-anaesthetic care units and telemetry units report the least healthy work environments and are the least satisfied (Schmalenberg and Kramer, 2008; also Boyle et al., 2006).

Mackintosh (2007) has observed that regardless of which area of surgery the RNs are working within, all of them feel drawn to surgery for similar reasons: the faster pace and turnover of patients, the more technical aspects of care and the likely progress and recovery of patients. Conflicts between different (e.g., technical vs. caring) competences may lead to a shift in focus away from the patients (Cronqvist, 2004). In a recent survey consisting of data obtained from 323 intensive care units in 24 countries (Azoulay et al. 2009), over 70% of workers perceived conflicts, which were often considered severe and were significantly associated with job strain. The most common conflict-causing behaviours were personal animosity, mistrust and communication gaps. Important factors underpinning the inter-professional disengagement of nurses are the establishment and maintenance of a nursing 'esprit de corps', corridor conflicts with physicians, and the failure of the interdisciplinary team to acknowledge the importance of nursing's core caring values (Miller et al., 2008).

It is well known that professional conflicts may hinder the adoption of and access to CS (Howatson-Jones, 2003; Jones, 2006a). Cottrell (2002) described how these pre-existing relationships may result in CS becoming less than optimally effective. Cronqvist (2004) also reported subtle resistance towards participation in organized stress support that may obstruct the development of caring competence in nurses. In the present study, there was some evidence that in the surgical units, management and nurses found difficulty in establishing common ground, and that there were struggles between nurses, which may have influenced the uptake of CS. In this study, enhancement of co-operation was preferred as a means of practice development by the nurses who gave higher evaluations of CS. Concurring with the results of Lantz and Severinsson (2001), Jones (2008, p. 379) has argued that "*clinical supervision, within cooperative and supportive organizational cultures, has a creative potential to address difficult issues concerning non-aggressive yet assertive professional practice promoting good relationships with oneself and others.*" It is noteworthy, however, that CS may also deepen the conflicts in the unit instead of enhancing communication and co-operation as intended, if the clinical supervisors are not properly trained to understand and address the problems concerning the dynamics of the work organization and unit culture.

Lederer et al. (2008) found that the opportunity to regularly attend CS was significantly lower for intensive care personnel with fully developed burnout compared with personnel with no burnout. In this study, two out of the three burnout dimensions, namely cynicism and professional inefficacy, seemed to be associated with non-involvement in CS in the surgical units. These results raise the same question already addressed by Butterworth, Bell, Jackson and Pajnikihar (2008), i.e., whether those who most need CS are less likely to engage in it and find it useful. How are the learning and support needs of the less co-operative surgical nurses to be met to restore their work motivation and professional efficacy? This is an important question, because cynicism is the key dimension of burnout underlying staff turnover (Leiter and Maslach, 2009), and the self-concept of nurses has been shown to have an even stronger association with their retention plans than job satisfaction (Cowin, Johnson, Craven and Marsh, 2008). To deflate the dominant discourse on 'problem' patients (or 'problem' doctors), nurses need to have time and a supportive environment to reflect, understand and discuss their professional interactions and emotional labour in caring (Huynh, Alderson and Thompson, 2008). CS helps participants to obtain professional insights instead of struggling to make sense of challenging work experiences and using defence mechanisms such as cynicism, which prevent them from directly engaging with and resolving the difficult situations at work (Žorga, 2007).

6.2.2 Benefits of clinical supervision

In general, the perceptions of work and health were quite stable over the four years in all three study groups. However, among the nurses attending effective CS, some important positive changes were evidenced, whereas in other groups, all statistically significant changes were negative.

6.2.2.1 Increased feedback on the quality of the work

Bégat, Severinsson and Berggren (1997) have reported results according to which medical nurses were more satisfied with the information given to them when they had attended CS. In this study, the amount of feedback received on the quality of the work from patients, co-workers and superiors increased during the four years among the nurses who attended effective CS, and on follow-up it was higher among these nurses than the others. This result was expected, because feedback processes are at the core of transformative learning (Taylor, 2007), and in critical reflection, interactive, dialogical action and feedback from others is an important learning source (van Woerkom and Croon, 2008). Effective CS facilitates the processing of both positive and negative information received in everyday working situations, generating new ideas about how to improve the quality of the work. Supervisee characteristics such as openness, willingness to acquire feedback and self-disclosure have been found to be important to successful CS (Hyrkäs, 2002).

Considering the meaning of this result, it is essential to realize what a major concern the quality of care is for nurses. According to Chiarella and McInnes (2008), thirty years of research has consistently found two reasons why nurses leave the profession. The first is that they feel unable to deliver the quality of care they believe is required, and the second is that they feel they are not valued or respected. While conducting narrative interviews with hospital nurses in Canada, McGillis Hall and Kiesner (2005) were surprised how impacted nurses are by the adequacy of care they are able to provide. Issues related to the changing needs of hospitalized patients in today's health care system and the associated workload, the widespread shortage of nurses, and the imbalance this creates for nursing work, surfaced repeatedly in the interviews they conducted. The narratives outlined the tremendous burden of guilt and the over-commitment that nurses bear when factors in the work environment prevent them from providing quality care (also Sumner, 2008). Persky, Nelson, Watson and Bent (2008), also unexpectedly, observed that nurses of all ages who received high scores in caring from patients were the most frustrated with the work environment. They were also the most experienced, worked only the hours scheduled, were the most affected by the relationship with the patient, derived the most enjoyment from the relationship with their co-workers, and provided continuity of care most consistently. The authors speculated that frustration among these competent nurses may arise from recognizing that authentic caring ("*Caritas*") takes more time and resources than are available.

In general, a high workload seems to have meaning to nurses' well-being at work largely through its impact on the quality of care (McGillis and Doran 2007, 2008; Tervo-Heikkinen, Kiviniemi, Partanen and Vehviläinen-Julkunen, 2009; Decola and Riggins 2010, Poghosyan, Clarke, Finlayson and Aiken, 2010). Today, nurse staffing and its relationship with the quality of nursing care and nursing outcomes, particularly burnout and turnover, is an extensively studied issue (e.g., Aiken et al., 2001, 2002; Sheward et al., 2005; Rafferty et al., 2007). In countries with distinctly different healthcare systems, nurses report similar shortcomings in their work environments and the quality of care in hospitals (Aiken et al., 2012). Freshwater and Cahill (2010) go as far as arguing that in the current global healthcare climate, practitioners' ability to provide compassionate and high quality care is undermined on a daily basis, and that the quality of care cannot be considered in isolation from the healthcare management and occupational health of the workforce. According to

them, healthcare practitioners are especially vulnerable to stress because the very nature of caring as a profession demands high levels of emotional engagement and compromise. They envisage an interventional model, the features of which (ibid., p. 178) “could include targeted clinical supervision (stimulating self-awareness, emotional growth, emotional intelligence), training in reflective practice; supportive mentorship; focus on developing self and dialogic relationships; modelling; and organisational innovations.”

6.2.2.2 Increased job control (autonomy)

In organizational and occupational psychology, there is abundant empirical evidence on the importance of job control (autonomy) to well-being at work. According to Dormann, Fay, Zapf and Frese (2006), *perceived* control is perhaps the most vital antecedent for well-being at work. Ryan and Deci (2000) consider autonomy as a basic psychological need, and see that its effects on well-being are pervasive. The key element of the structural model of work life proposed by Leiter, Gascón and Martínez-Jarreta (2010) is its focus on nurses’ and doctors’ *capacity to influence their work environments toward greater conformity with their core values*. Their model considers three aspects of that capacity: decision-making participation, organizational justice, and relationships with superiors. In this study, *all* these factors at work significantly improved among the nurses who attended effective CS.

Varjus, Leino-Kilpi and Suominen (2011) have provided an overview of the empirical research literature on the professional autonomy of nurses in hospital settings. All definitions the authors found included the same core components of the concept of autonomy, i.e. ability, independence, control, responsibility, accountability, authority and one’s own practice. The concept of ‘professional autonomy’ can be applied to nurses both as a profession and as individuals. Referring to the profession of nursing, this means the privilege of self-governance. Referring to individual nurses, autonomy means the ability of nurses to make some decisions within their own profession and their right and responsibility to act according to the shared standards of the profession. Nurses often regard themselves as the main person responsible in the health care team when it comes to understanding what the patient needs. However, to have the authority of holistic care does not always coincide with the freedom to act accordingly in situations (Skår, 2009). Nursing has faced particular problems in establishing itself as a credible profession for reasons including history, gender and a traditional subservience to medicine. Traynor, Boland and Buus, (2010), however, observed in a focus group study of some UK nurses that despite an overall picture of severely limited autonomy, nurses reproduced stories of the successful accomplishment of moral and influential action.

One of the findings of Bégat, Ellefsen and Severinsson (2005) among Norwegian nurses was the positive effect of CS on nurses’ sense of being in control of the situation. In this study, the perceptions of job control on follow-up were significantly higher among the nurses who had attended effective CS than among their co-workers. Their control of decisions increased during the four years when compared to the development of control of decisions among the nurses who did not attend CS. Positive challenges at work remained on a high level, whereas they decreased significantly in the group of CS participants with lower evaluations of CS. The results of this study thus suggest that in CS, nurses are empowered while encouraged to take personal responsibility for improving the way they work and contribute to the organization’s goals. Conditions that nourish feelings of powerlessness can be external or internal. In addition to *structural empowerment*, that is, providing access to information and support, resources necessary to do the job, and opportunities to learn and grow, *psychological empowerment* is also needed, that is, enhancement of experiences of meaning, competence, self-determination and impact (Spreitzer, 2008), which are the focus of CS.

6.2.2.3 Increased professional efficacy

Recent research has shown that typical outcomes of transformative learning such as greater self-directedness, assertiveness, self-confidence and self-esteem transcend the educational context (Taylor, 2007). Both previous research in nursing (e.g., Berg, Welander Hansson and Hallberg, 1994; Teasdale, Brocklehurst and Thom, 2001; Hyrkäs, Appelqvist-Schmidlechner and Haataja, 2006) and the results of this study suggest that professional efficacy (personal accomplishment) may be the work engagement/burnout dimension most closely related to effective CS.³³ According to Bandura (2006), beliefs of personal efficacy play a key role in occupational development and pursuits. He asserts that “[W]hatever other factors serve as guides and motivators, their roots lie in the core belief that one has the power to produce the desired effects by one’s own actions; otherwise, one has little incentive to act or to persevere in the face of difficulties” (ibid., p. 170). Evidence from several meta-analyses indicates that efficacy beliefs contribute significantly to the level of motivation, emotional well-being and performance accomplishments. Self-efficacy has also proven to be a powerful motivational predictor of well-being among health care workers (Salanova, Llorens and Schaufeli, 2011).

While summarizing the evidence from their studies on CS, Bégat and Severinsson (2006) concluded that CS increases the well-being of nurses at work by enhancing their self-recognition, as the value of quality nursing becomes clear to them while reflecting on their work. The association between professional efficacy and effective CS is consistent with the view that self-reflection is the mechanism through which CS affects work-related well-being. ‘Guided reflection’ on past action is needed for recovery and learning from emotionally demanding work experiences that would otherwise induce feelings of failure and incompetence (also Ödling, Danielson and Jansson, 2001). Projecting these negative feelings to patients and relatives or to co-workers and management does not restore professional efficacy or enhance co-operation for the best of the patients (Huynh, Alderson and Thompson, 2008; also Hawkins and Shohet, 2000). According to Nicholls and Mitchell-Dawson (2002), one of the needs of nurses is to give themselves permission to ‘know’ and to be competent (also Evans, Pereira and Parker, 2009). To challenge the all too common negative self-image of many nurses (Mimura, Griffiths and Norman, 2009), it is important to provide an on-going learning environment where nurses can reflect on and develop their skills and performance and strengthen their self-image.

6.2.2.4 Reduced psychological distress

Nicholls and Mitchell-Dawson (2002, p. 291) claimed that *“engaging in CS is in itself a demonstration of professional responsibility that may impact positively on nurses’ mental health.”* At least two earlier quantitative nursing studies have found associations of CS with one of the common mental disorders, namely anxiety (Severinsson and Kamaker 1999; Bégat, Ellefsen and Severinsson, 2005). Based on a qualitative study of the experiences of 12 nurses who had attended CS for one-and-a-half years, Ohlson and Arvidsson (2005) suggested that group CS has a protective and supporting effect on nurses’ mental health by preventing the negative effects of work-related stress. In the present study, one of the most important findings was that the prevalence of psychological distress decreased among those nurses who evaluated their CS as effective, whereas similar trajectories were not found among the nurses belonging to the comparison groups. This result suggests that CS has impact on mental health of nurses. Recently, in an Australian research and development project (White and Winstanley, 2010a), trainee supervisors’ scores also revealed an overall reduction in the level of psychological distress measured by the General Health Questionnaire (GHQ). However, this change probably reflected the positive effects of the entire clinical supervisor training process.

³³ Schaufeli and Salanova (2007) have considered professional efficacy as a personal resource connected with work engagement rather than as a burnout dimension.

A curious finding of this study was that the CS participants who gave lower evaluations of CS were on follow-up the most distressed, and the great majority suffered from burnout symptoms. In the cohort data, many of these nurses showed excellent health and high work-orientation at baseline, but on follow-up their situation had worsened dramatically. In some earlier studies, similar results have been obtained. In the study of Hyrkäs (2005), those nurses who found their CS inefficient were also the most dissatisfied with their work. White and Winstanley (2010a) observed that psychological distress increased on follow-up among the supervisees scoring low on the MCSS. The most obvious reason for lower evaluations of CS is of course that the CS process somehow failed. But why should CS evaluated as ineffective be associated with the negative development of well-being at work? Could a negative experience of CS be harmful for some supervisees? In most CS groups we studied, there were supervisees who gave higher or lower evaluations of CS than the rest of the group. Maybe there are some individual factors contributing to who will thrive in CS and benefit from it?

6.2.2.5 Improved evaluations of leadership

A central role for first-line superiors in health care providers' experiences of work life rather unexpectedly emerged for the researchers who made an effort to build an empirical model of work life (Leiter, Gascón and Martínez-Jarreta, 2010). A transformational leadership³⁴ style enhances extra-role performance³⁵ in nurses by establishing the sense of self-efficacy, but also by amplifying the levels of engagement in the workplace (Salanova, Lorente, Chambel and Martínez, 2011). There is even research showing that managers with a transformational leadership style may help towards protecting employees from developing major depression (Munir, Nielsen and Gomes Carneiro, 2010). Facilitating CS for nurses may also be seen as part of the empowering leadership of the nurse manager. There is anecdotal evidence that many supervisees are willing to undertake CS because they are disappointed with the management for not providing conditions for quality nursing, many of them being vulnerable to burnout or prone to leaving the profession because they experience themselves as powerless and unrecognized in the organization. Maslach and Leiter (2008) have demonstrated that perceived unfairness may constitute a primary tipping point for the burnout risk. Taking all this into consideration, it is particularly noteworthy that the changes during four years within the group of nurses who according to their own evaluation received effective CS related particularly to improved evaluations of leadership (improved support from superior; increased feedback from superior; improvements in the fairness of leadership). Teasdale, Brocklehurst and Thom (2001) have reported similar results, but Severinsson and Kamaker (1999) found lower ratings of the relationship with the superior and colleagues among CS participants than non-participants.

Drawing on educational, organizational and psychological literature, Stapleton and her co-authors (2007) have argued that the ability to inspire morale in staff is a fundamental indicator of sound leadership and managerial characteristics. The authors proposed four options for boosting morale and improving performance in the nursing setting, namely, role preparation for managers, understanding intrinsic and extrinsic motivation, fostering intrinsic motivation in nursing staff, and the importance of attitude when investing in relationships. As in the landmark study by Butterworth et al. (1997), in this study the nurses with high intrinsic motivation were more eager to attend CS and intrinsic

³⁴ Transformational leaders employ a visionary and creative style of leadership, acting as a coach and mentor, providing personal attention and psychosocial support to the development of the individual employee, and inspire employees to make independent decisions, and achieve satisfaction in their work (Salanova, Lorente, Chambel and Martínez, 2011).

³⁵ The term 'extra-role performance' refers to certain behaviours that are not part of a nurse's formal job requirements, but which help the hospital to operate smoothly as a social system. (Salanova, Lorente, Chambel and Martínez, 2011).

motivation remained on a high level among those who received effective CS whereas it decreased among the nurses who did not attend CS.

6.2.2.6 The essence of burnout?

Among the nurses who attended effective CS (study III), indicators of job engagement (high intrinsic work motivation, high commitment to the organization) and signs of job burnout (difficulties in integrating work and private life) co-existed, as proposed by the Job Demand-Resources model of Bakker and Demerouti (2007). During the four years, the perceptions of job demands, difficulties in integrating work and private life as well as symptoms of exhaustion and cynicism, i.e., the indicators of strain, remained *unchanged*. Professional inefficacy was the only burnout dimension³⁶ that decreased among them. However, there was a significant decrease in the prevalence of psychological distress, i.e., mental health problems, not found among other nurses.³⁷ How can these seemingly inconsistent results be explained?

Burnout is most commonly conceptualized within the stress framework. There have, however, been suggestions that 'strain' and 'burnout' should be conceived as separate constructs. Pines and Keinan (2005) have empirically demonstrated that strain may be more related to workload, while burnout is primarily related to a lack of *a sense of significance at work*. In the early days of burnout research, burnout was conceived as the end result of a process in which highly motivated and committed individuals lose their spirit (Pines, 2002). According to Pines and Keinan (ibid., p. 626), "[P]eople who expect to derive a sense of existential significance from their work, enter their chosen careers with high goals and expectations, idealistic and motivated. When they feel that they have failed, that their work is insignificant, that they make no difference in the world, they start feeling helpless and hopeless and eventually burn out." Leiter, Gascón and Martínez-Jarreta (2010, p. 61) have also emphasized the role of values in maintaining the well-being of health care providers at work, stating that "[R]ather than being buffeted by demand pressures toward exhaustion and cynicism, and resource pressures toward efficacy, people evaluate the totality of their work experiences against their core values. From this perspective, people do not perceive the sum total of work life as a series of distinct experiences, but as an integrated whole reflecting organizational values that shape the social environment of work."

Moreover, stress research has repeatedly shown that *high emotional demands* may have no effect or paradoxically can have a *positive* effect on nurses' well-being, and particularly on personal accomplishment/professional efficacy. For example, Greenglass, Burke and Moore (2003) found that a high workload did not lead to lower feelings of professional efficacy and self-esteem among Canadian nurses employed in hospitals experiencing downsizing. In the study of Leiter and Laschinger (2006), the sense of professional efficacy was an important buffer against experiencing the full burnout syndrome. Sundin, Hochwälder, Bildt and Lisspers (2007) found among Swedish registered and assistant nurses (n = 1561) that although job demands were the strongest predictor of burnout, high emotional demands surprisingly exhibited the strongest and *positive* associations with personal accomplishment. The authors suggested that meeting patients and their families, giving them support and information, and sharing some of their burdens might not be perceived

³⁶ Schaufeli and Salanova (2007) consider professional efficacy as a personal resource, not as a burnout dimension.

³⁷ A recent cross-sectional study on the effects of CS among mental health nurses (Gonge & Buus, 2011) yielded opposite results. Experienced effectiveness of CS (MCSS total score) was associated with less 'emotional exhaustion' and reduced 'depersonalization' but *not* with 'personal accomplishment' or 'mental health'. In the cross-sectional data of this study (III) using similar methods to Gonge and Buus (logistic regression), it was also found that professional efficacy and psychological distress were not the best predictors of the effectiveness of CS, but in the longitudinal study (IV) they were the most affected by effective CS.

as something demanding, but rather as something that is part of the daily work-related tasks. Recognition of such work could create a sense of competence and achievement.

In qualitative, particularly psychoanalytically informed studies on burnout, two themes have attracted attention, namely that burnout entails a disruption of people's professional identity and that it closely coheres with difficulties experienced at an intersubjective level (Vanheule, Lievrouw and Verhaeghe, 2003; Vanheule and Verhaeghe, 2004, 2005). A strong but unsatisfied desire for recognition and support from others is linked to burned-out people's feelings that their identity is in jeopardy, and to their diminished feelings of self-efficacy. Qualitative nursing studies have confirmed that the central themes in burnout are *moral stress* (Severinsson, 2003) and *powerlessness* in influencing the valuation of the work of nurses (Billeter-Koponen and Freden, 2005). In a study by Gustafsson, Eriksson, Strandberg and Norberg (2010), the burnout group was characterized by higher levels of stress of conscience, a perception of conscience as a burden, having to deaden one's conscience in order to keep working in health care and perceiving a lack of support. The non-burnout group was characterized by lower levels of stress of conscience, looking on life with forbearance, a perception of conscience as an asset and perceiving support from organizations and those around them.

Glasberg, Eriksson and Norberg (2008) have noted that in order for conscience and moral sensitivity to become an asset instead of a burden, healthcare employees need to be able to express their moral concerns. According to Henderson (2001), *"understanding the emotional demands of caring work may be one of the most important steps toward retaining many of the nurses by recognizing their enormous contribution of the profession to health-care. As much attention needs to be given to the emotional components of the preparation and support of those in caring work as is given to the theoretical and skill component because much of the satisfaction nurses derive from their work is predicated on the emotional contact with patients."* The questions of ethics and moral stress have been central particularly in the Scandinavian conceptualizations of CS (e.g. Severinsson and Kamaker, 1999; Berggren and Severinsson, 2000; Berggren, Barbosa da Silva and Severinsson, 2005; Berggren and Severinsson, 2006). This is also reflected in the definition of CS by de Raeye (1998, p. 488–489), according to which CS is *"a forum ... where individual nurses are asked to bring their experience of nursing for shared reflection and discussion....The aim of this activity, as I understand it, is essentially to enable nurses to work with moral integrity in their role."*

6.3 MAIN CONCLUSIONS

Evidence-based practice has become an imperative in health care. Despite many contradictions and limitations in the grading of scientific evidence when evaluating the effects of interventions in meta-analyses, only the findings from randomized controlled trials and, sometimes, from studies with quasi-experimental designs are included. The most severe threat to the internal validity of a study having a quasiexperimental design is the nonequivalence of the study groups. Consequently, this study scrutinized in detail the differences between the study groups, attempting to illuminate the self-selection of the participants and the variation of outcomes in CS. The attendance of and the potential benefits of CS were investigated in relation to a wide range of psychosocial risk/protective factors at work, as well as to some health outcomes, namely self-rated health, burnout, and psychological distress. To the best of my knowledge, this is the first quantitative³⁸ prospective follow-up study with a time interval between the measurements as long as four years.

³⁸ There exists at least one qualitative four-year follow-up study on CS (Arvidsson, Löfgen and Fridlund, 2001).

Although there appears to be great interest in CS in medical surgical nursing, the reasons for the uptake of CS can be quite different. Fostering well-being at work is only one of the functions of CS. Depending on the emphasis of the CS enterprise, the reasons for the attendance to and the benefits of CS vary. The reasons for the uptake of CS depend on the basic tasks and organizational culture of the hospital unit. In particular, the nurse manager's conception of CS and relationship with the staff largely affect the adoption and uptake of CS on the unit. In this study, the restorative function of stress management seemed to prevail on the medical units, whereas on the surgical units the normative function of practice development proved to be more at the forefront. On the other hand, individual characteristics of supervisees not measured in this study probably also have an impact on who attends and benefits from CS.

In this study, CS evaluated as effective by the supervisees was not associated with changes in the experience of strain (i.e., high job demands, high levels of exhaustion and cynicism or difficulties in integrating work and private life). Other measures are additionally needed – for example, those required for Magnet hospital designation – to reduce the strain experienced by nurses. Nevertheless, the results show that effective CS may increase nurses' professional efficacy, one of the most important personal resources shown to moderate the linkage between adverse working conditions and health outcomes. Professional growth, the focal aim of CS, is most clearly indicated in the increased professional efficacy of many supervisees who attend effective CS. According to the results of this study, the mechanisms through which CS exerts its effect on nurses' well-being are associated with increased feedback on the quality of the work and increased job control. Increased feedback often implies improved practice because of closer interactions with patients and relatives, as well with management and co-workers. Those nurses who already perceive job control may be readier to attend CS, but CS can also empower nurses who have difficulty in claiming their right for control over their practice.

Well-being at work is probably both an antecedent and a consequence of attendance in effective CS. On the one hand, effective CS seems to help in sustaining the motivation and enthusiasm in nursing among those who already have ample job and personal resources, while on the other hand, it can also reduce psychological distress among nurses who struggle with the difficult challenges of nursing work. Thus, effective CS may function as a means of both mental health promotion and mental disorder prevention. CS was not originally nor is it today primarily a method of stress relief. The restorative goal of promoting nurses' health and well-being is realized as far as the normative goal of improving the quality of patient care is achieved, and this is based on the formative goal of the professional development and personal growth of individual nurses.

6.4 PRACTICAL IMPLICATIONS

The importance of human resource development has only recently been noted in healthcare organizations (Estryn-Behar, van der Heijden, Fry and Hasselhorn, 2010). It has been shown that effective human resource management practice may reduce the burnout associated with emotional labour, and even assist in reducing nurse turnover (Bartram et al., 2012). Healthcare organizations that have made greater investments in their nursing 'human capital' are more likely to demonstrate lower levels of turnover of their registered nursing personnel (Rondeau, Williams and Wagar, 2009). The results of the present study advocate management planning to provide formal support in the form of CS for health care providers as one option to meet the needs of the nursing staff to remain healthy and motivated at work. Viewing work stress as a sign of a developmental challenge in the professional growth of individual nurses, an option to sustain nurses' well-being at work is to focus on developing a learning organization in the workplace and making use of CS.

Health care organisations should include CS in their corporate agenda or business plans and in the job descriptions of the nurses. In Finland, resources are sometimes wasted by training clinical supervisors who do not act in this role because of the lack of effective planning and administrative co-ordination of the CS services. Dr Marita Paunonen-Ilmonen, a professor emerita, has called for an organized, planned approach to arranging CS as part of continuing education in organizations (the so-called SUEd model). Professor Synnöve Karvinen-Niinikoski has spoken on the benefits of CS in practice development and the promotion of a learning organization. The innovativeness of employees witnessed in CS sessions could stimulate innovations in organizations and promote evidence-informed care. In Great Britain, there are currently several projects in nursing based on action research (Freshwater and Cahill, 2010) and the facilitation of practice development (Boomer and McCormack, 2010; Seers et al., 2012) focusing on the enhancement of person-centred care³⁹ (McCormack and McCance, 2006; McCormack, Karlsson, Dewing and Lerdal, 2010) and human flourishing by means of 'critical creativity' (Titchen and McCormack, 2010) and 'active learning' (Dewing, 2010) that seem to be greatly influenced by CS.

CS can be seen as an important administrative tool for nurse managers on hospital wards. CS supports nurses' resilience in the face of the changing demands of nursing work, but sufficient conditions for CS should be established by nursing management to draw the benefits from it. There is still a lot for nurse managers to do to correct the misconceptions of CS and to integrate CS into the routines of nursing work. As Williams (2010) has noted, to enable effective work-based learning, nurse managers need to develop a learning culture in their workplace and ensure that skilled facilitation is provided to support staff with critical reflection and effecting changes in practice. Nurse managers are in a pivotal role to create and to support the opportunities for their staff to attend CS. They are also in a key position to observe and evaluate the short- and long-term effects and outcomes of CS. To be able to adequately support and evaluate the CS enterprise, the nurse manager needs to share the goals set by the supervisor and supervisee(s) for their co-operation. In addition, CS for nurse managers themselves yields benefits for the whole staff.

Medical-surgical nurses are interested in CS. In the present study, almost all nurses who had received effective CS and two-thirds of other nurses reported willingness to attend CS in the future. The interest in CS among the non-participants might be explained by the fact that many young RNs had short work contracts and thus no opportunity to participate in CS groups. The finding that many nurses who did not consider their CS very effective still wanted to attend CS in the future is a paradox well known to experienced clinical supervisors, who are often told about earlier unsuccessful trials to undertake CS. CS is a lengthy process. Rapid results are not to be expected, since time and effort are needed to learn how to use CS appropriately (see e.g., Eriksson and Fagerberg, 2008).

The limitations of CS as a cure for burnout need to be taken into account. If the burnout process has progressed, more support is probably needed than conventional group CS has to offer. In these cases, one-to-one supervision might be most effective, but team CS can also be helpful for those vulnerable to burnout or acutely distressed, as it helps in building up a more supportive ward culture. On psychiatric wards, team CS has traditionally been considered as a necessity to ascertain the co-operation of the staff. In larger groups, however, additional methods are needed when compared to CS in small groups, because the whole ward culture is at stake. In these challenging projects, the support of the Social Insurance Institution of Finland (Kela), the main sponsor of programmes focusing on the promotion of well-being at work and rehabilitation of work ability, would also be needed.

³⁹ The concept of person-centred is wider than patient-centred. Person centredness concerns not only the patient, but includes the provider who is also a person (Finset, 2011).

6.5 FUTURE RESEARCH

Considering the options for quantitative research on subjective well-being, Sheldon, Cheng and Hilpert (2011, p. 1) have noted that “[i]t is easy to become bewildered when considering the wide variety of theoretical perspectives upon, and empirical findings regarding, subjective well-being.” Well-being has been found to be associated with genetic, molecular, biological, neuronal, cognitive, personality, interpersonal, environmental and cultural factors, as well as with interactions between these factors. In the future, the multilevel perspective upon the causal influences of well-being should become the philosophical perspective and – if possible – also the methodological guideline for quantitative research on well-being at work. The need for more complex designs has also been acknowledged by Kompier and Taris (2011, p. 261), who have suggested that “*in occupational health psychology (i) cross-sectional studies are of little help in examining issues of causality; since (ii) cross-sectional associations between pairs of variables cannot readily be interpreted in terms of normal, reversed or reciprocal causation. In addition, (iii) more careful theorizing on the mechanisms accounting for such associations between pairs of variables is needed; and (iv) these processes cannot be disentangled without extended longitudinal research designs, involving complete data for at least three study waves.*”

The Supervision Practitioner Research Network (SuPRENet), funded by the British Association for Counselling and Psychotherapy (BACP), has recently proposed a model for the next generation of research on CS (Wheeler, Aveline and Barkham, 2011). Given that various systematic reviews of CS literature have revealed how little is known about supervision, that studies are not usually routed in practice, and that a multitude of diverse measures are used, a project is being conducted to support and encourage practitioner research related to supervision using a prescribed common set of instruments and continuing data collection by evaluating CS sessions. Data are being collected through a special module of CORE Net using five core measures, free for anyone to use, and accessible through the SuPRENet website. At two Finnish university hospitals in Kuopio and Tampere, similar plans have been advanced to collect data not only for administrative but also research purposes using a recent technical innovation, an intranet-based site for registering CS events in the organization.

Considering future research on CS in nursing, more detailed theoretical models of CS need to be developed and empirically tested by modelling the mechanisms through which the outcomes of CS are achieved. Actually, a hypothetical model suggesting how CS might influence mental health (psychological distress) could be proposed on the basis of the main findings of this study, taking into account some results of earlier research on the associations of the variables in question. Abundant research has namely demonstrated that self-efficacy is one of the most important personal resources moderating the linkage between adverse working conditions and health outcomes (Shirom 2009a, b). For example, Cole and colleagues (2002) observed that the impact of a composite work stressor measure for psychological distress was almost entirely explained by mediation through self-esteem and mastery. Moreover, Llorens, Schaufeli, Bakker and Salanova (2007) showed that efficacy beliefs measured via the MBI-GS mediated the reciprocal relationship between job control and job engagement. According to Meier, Semmer, Elfering and Jacobshagen (2008), internal resources, such as the internal locus of control⁴⁰ or self-efficacy, are needed to be able to use job control effectively. Increasing job control may not be very helpful, or even detrimental, for people with an external locus of control. Perhaps, under conditions of high stressors, the possibility to make decisions may be experienced as a *necessity* to make

⁴⁰ Locus of control refers to the degree to which persons expect that a reinforcement or an outcome of their behaviour is contingent on internal/personal control or external forces (Rotter, 1966).

decisions, and therefore increase stress reactions because of perceived overload. The authors recommend that the most promising solution for preventing stress would be to raise (objective) job control for all, and additionally to raise (subjective) *control beliefs* (i.e., professional efficacy) in case they are low. There is scientific evidence that control beliefs can be modified through training programs, and CS can be considered as providing such training. Thus, in the simple model of the connection between CS and well-being at work (Figure 2, p. 64), it could be proposed that increased feedback received while participating in effective CS increases perceptions of job control and professional self-efficacy that contribute to the positive mental health outcomes, i.e., decreased psychological distress. This model is of course purely speculative and should be tested empirically.



Figure 2. A hypothetical model proposing how effective clinical supervision influences mental health

According to Leiman (2008), a serious problem of any 'correlational research paradigm' is the fact that the changes arrived at in psychological interventions are often not quantitative but qualitative in nature. CS aims at professional growth, e.g., at qualitative changes in the capacity for self-reflection that is realized in reaching new cognitive levels (e.g., King and Kitchener, 1994). A large amount of research already exists on the developmental processes of training supervision. However, more research is needed concerning the personal growth and professional development of practicing professionals in CS. The solution proposed to this dilemma of qualitative changes in psychotherapy research has been 'case formulation', i.e., setting individual goals and evaluating their realization (the so-called 'developmental research paradigm'). In CS, this procedure is already routinely adhered to, although it is not always documented properly for research purposes.

In nursing research, there are also authors who entirely put into question the dominant conceptual and methodological approach to occupational stress. For example, Evans, Pereira, and Parker (2008) argue that a return to the traditional notion of 'anxiety' and methodological approaches other than empirical ones could bring both depth and breadth to the consideration of occupational distress in nursing. As the object of anxiety is by definition unconscious, and thus unknown, rather than attempting to identify specific objective stressors, a more informative approach would be to map nurses' responses to anxiety, i.e., *the ways anxiety becomes an organizer for the way nurses work* (ibid.). Actually, this is exactly what is done in every CS session while reflecting on distressing personal experiences at work. Excellent material for qualitative studies would be easily at hand if CS groups would volunteer to act as co-researchers in a knowledge-creating team.

7 References

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Appendix I. Empirical studies on CS in medical-surgical nursing

Author(s), Year of publication	Country	Setting	Aim	CS intervention	Research methods	Main results
Paunonen, 1991	Scandinavia/ Finland	Hospital and community, a variety of specialties	To explore effects of a nursing supervision programme on the nursing practices of supervisor trainees	One year within a two-year training programme (the supervisor trainees also provided CS to colleagues)	Quantitative (pre-post and one-year follow- up), log-linear analyses	Supervisor trainees' freedom of action, willingness to act as well as nursing activity itself improved
Segesten, 1993	Scandinavia/ Sweden	Hospital, two orthopaedic wards, all RNs	To explore the effects on professional identity of a four- month period of professional group supervision	Four months	Quantitative (pre- post), the Nurse Self Description Form, a 21-item paper-and- pencil form for nurses to judge themselves in comparison to other nurses)	The total scores significantly increased; results argue in favour of group CS as a useful means of strengthening the professional identity of nurses.
Pålsson, Hallberg, Norberg and Isovaara, 1994	Scandinavia/ Sweden	Hospital and community/ cancer care	To investigate nurses' views on the effects of CS	One year and two months, a training programme of psycho-social care for breast cancer (40 h)	Qualitative: post, semi-structured interviews, district nurses (n = 23) and hospital nurses (n = 9) in cancer care	A great need to unburden oneself of job-related thoughts and feelings, and to receive support after having been in emotionally demanding care situations. CS provided relief, confirmation, and professional development
Pålsson and Norberg, 1995	Scandinavia/ Sweden	Community, cancer care, district nurses	To illuminate district nurses' experiences of difficult care situations narrated during CS sessions	One year and two months, a training programme of psycho-social care for breast cancer (40 h)	Qualitative, phenomenological and hermeneutical analysis of tape- recorded CS sessions of district nurses (n = 23)	Description of difficult care episodes; nurses as containers for patients' and their relatives' emotional strain; the need for CS evident for relieving feelings and thoughts evoked in demanding care situations.

Author(s), Year of publication	Country	Setting	Aim	CS intervention	Research methods	Main results
Titchen and Binnie, 1995	UK/England	Hospital, one acute ward	To help nurses to become effective and confident as primary nurses, to develop their interpersonal skills, sharpen their decision-making and nurture their creativity	Three years	Action research, data collection during three years (participant observation, in-depth interviews and documentation review)	Three distinct strategies for CS were developed, tested and refined, feasible and practical to use in a busy hospital ward and specifically aimed to foster more thoughtful and more sensitive nursing practice.
Pålsson, Hallberg, Norberg and Björvell, 1996	Scandinavia/ Sweden	Community, cancer care, district nurses	To investigate the relationships between burnout, empathy and sense of coherence (SOC) and personality traits together with the effects of systematic CS on these phenomena	One year and two months, a training programme of psycho-social care for breast cancer (40 h)	Quantitative (quasi-experimental), with a supervisory group (n = 21) and a comparison group (n = 12)	Significant correlations found between personality traits and burnout, empathy, and SOC, as well as correlations between the latter three phenomena. There were no significant effects of clinical supervision on burnout, empathy, or SOC.
Begat, Severinsson and Berggren, 1997	Scandinavia/ Sweden	Hospital/ two medical wards	To investigate nurses' views on CS, influence on their satisfaction with their working milieu	Nine months	Quantitative (pre post), (n=34), two questionnaires (work environment, moral sensitivity)	Nurses felt more confirmed in their work and were more satisfied with the information given to them.

Author(s), Year of publication	Country	Setting	Aim	CS intervention	Research methods	Main results
Butterworth, et al., 1997	UK/England	Hospital and community, general and psychiatric care	An evaluation of clinical supervision and mentorship in England and Scotland to provide an informed view on possible assessment tools that could be used to assess the impact of CS in nursing and to report on the CS activities at 23 selected sites in England and Scotland	Trial CS for 9-18 months	Quantitative (quasi- experimental, supervisees n= 217, controls n= 216, supervisors n = 153, standardised instruments were completed three times in an 18-month period: the Minnesota job satisfaction scale, the General Health Questionnaire, the Maslach burnout Inventory, the Cooper Coping Skills Questionnaire, the Harris Nurse Stress Index) and qualitative data (see White et al. 1998).	Emotional Exhaustion and Depersonalization: a significant increase between time 1 and time 2, whilst there was no CS but stabilization or a small decrease once CS was introduced. Comparing the job satisfaction of the four control/supervisee groups: Extrinsic: Time 3 'Supervisees - continued CS', a higher score (p = 0.018) Intrinsic: Time 1: Supervisee groups slightly higher than Control groups; Time 2: No significant difference - still as time 1; Time 3: A slight increase as groups have more CS. Total Score: 'Supervisees - always' start at time 1 slightly higher than the other groups; Time 3 'Supervisees - always' significantly higher score.
Elmcrona and Winroth, 1997	Scandinavia/ Sweden	Hospital, neurological care	To describe nurses' experiences of CS	Two-year process-oriented supervision programme	Qualitative (content analysis, semi- structured interviews), 10 supervisees	CS gave nurses courage and pronounced experience of support from colleagues, improved nurses' sense of professionalism and self-image.

Author(s), Year of publication	Country	Setting	Aim	CS intervention	Research methods	Main results
Marrow and Yaseen, 1998	UK/England	Hospital and community, a variety of specialities	To examine and evaluate the process and outcomes of CS using video conferencing (VC).	Four preparatory days for the implementation of CS and a further 2 days focusing on the effective use of the VC technology	Action research, 40 nurses, over an 18-month period, pre- and post-study questionnaires, repertory grids, focus group interviews and written narratives.	CS was found beneficial by supervisors and supervisees; CS enabled participants to become more aware of their own feelings to practice and to gain insight into other practitioners' feelings and behaviours, increased both their confidence and self-awareness and gained more insight into the practices and needs of other practitioners.
Fowler and Chevannes, 1998	UK/England	Hospital and community, a variety of specialities	To explore the efficacy of reflective practice in the context of CS, to identify current practices of formal and informal CS, concerns, needs and expectations regarding the possible introduction of CS.	Not specified.	Quantitative (post), n = 558 supervisees, questionnaire.	29% had CS, almost half of the respondents identified the three aspects of CS in their CS, and expectations of CS efficiency were high.
White et al., 1998	UK/England and Scotland	Hospital and community, general and psychiatric care	To explore the experience of nurses engaged in CS, as supervisors or supervisees, to better understand some issues involved around the domains of structure, process and outcome of CS	Trial CS for 9–18 months.	Qualitative, interviews, n = 34	Enthusiasm for the opportunity to talk meaningfully to a trusted colleague about personal circumstances at work, particularly to reflect upon own practice with patients, especially dealing with clinical conditions that were upsetting or otherwise challenging.

Author(s), Year of publication	Country	Setting	Aim	CS intervention	Research methods	Main results
Blackford and Street, 1999	Australia	Hospital, cardiologic unit	To evaluate the peer CS model's suitability for professional development in nursing, to examine the practice of conducting painful procedures on children to determine whether they could be managed to minimize the child's distress	Not specified	Action research, model of CS by Smyth (1984)	Peer CS was an effective model in assisting nurses to examine their practice; the structuring of nursing roles and practices when conducting painful procedures interfered with the opportunity for the child to receive comfort from their parent or a member of staff/caregivers; once the nurses understood peer CS, they were able to proceed without the support of the researchers, and developed a critical consciousness of practice.
Bowles and Young, 1999	UK/England	Community and mental health NHS	To summarize the emergent practical (contract usage, length of service as a RN, and length of experience with CS and theoretical (Proctor's model) 'key ingredients' of CS in the UK	The mean length of experience of CS from 30.7 to 13.1 months in different practice areas	Quantitative (post), registered nurses (n = 211, response rate 30.4%); an instrument was developed based on Proctor's three-function interactive model to collect biographical and attitudinal data.	Reported benefits in almost equal proportion across each of these three functions of CS; a significant positive correlation between experience of CS and its reported benefits; an inverse correlation between the length of service and overall benefits; however, no similar reduction over time against normative benefits was found.

Author(s), Year of publication	Country	Setting	Aim	CS intervention	Research methods	Main results
Severinsson and Kamaker, 1999	Scandinavia/ Sweden	Hospital, a variety of specialities	To investigate nurses' satisfaction with their work environment and moral stress levels as effects of systematic CS	Not specified	Quantitative (post- comparative, 158 hospital nurses from 10 different types of nursing contexts, in CS n = 94, no CS n = 64)	CS participants: more moral sensitivity (more stress and less perceived anxiety, ns); lower ratings for relationship with superior and colleagues and engagement (!); need to support nurses' personal qualities, integrated knowledge and self- awareness
Berggren and Severinsson, 2000	Scandinavia/ Sweden	Hospital/ two medical wards, (pulmonary, haematological and renal diseases)	To investigate the influence of CS on nurses' moral decision making.	CS in three groups of 5 nurses, one-and- a-half hours, once a week, during two semesters.	Qualitative (hermeneutic transformative process, interviews, 15 registered nurses)	The hermeneutic interpretation revealed four themes: increased self- assurance, an increased ability to support the patient, an increased ability to be in a relationship with the patient, and an increased ability to take responsibility.
Hadfield, 2000	UK/England	Hospital/ paediatric care	To gain an understanding from the perspective of 'users' on the impact of CS on paediatric nurses' practice.	Not specified	Qualitative (exploratory and descriptive study), 12 supervisees, semi- structured interviews applying vignettes based on Proctor's model, content analysis and reconstructed narratives.	The CS relationship is valuable for the development of good practice. The necessary ingredients of CS are safety, impartiality, support, trust and respect. Reflection on thoughts, feelings and actions allows debriefing, challenge and understanding. The perceived outcomes of CS are the development of personal, professional and clinical skills.

Author(s), Year of publication	Country	Setting	Aim	CS intervention	Research methods	Main results
Koivula, Paunonen and Laippala, 2000	Scandinavia/ Finland	Hospital/ two general hospitals, a variety of specialties	To describe burnout and factors affecting it in nursing staff.	Not specified	Quantitative, questionnaire survey on burnout inquiring CS	Participation in CS had no association with the level of burnout
Jones, 2001	UK/Wales	Community/ palliative care	To explore some 'lived experiences' of community Macmillan nurses as they recounted them during CS meetings	18 months of individual supervision for five nurses, four women and one man	Qualitative, a synthesis of psychoanalytic ways of thinking and existential phenomenology, audio-taped CS sessions.	Five salient themes emerged from accounts of professional practice: Biographical Determinants, Compulsion, Existential Concerns, Empathic Insufficiency in the Organization of Palliative Care and Empathic Attainment in the Organization of Palliative Care
Cheater and Hale, 2001	UK/England	Community/ practice nurses (PN)	To assess the level of uptake of CS by PNs; to identify factors that hindered/facilitated uptake; to evaluate how far CS had influenced (i) the quality of clinical care; (ii) the organization of care; (iii) professional development.	A local clinical supervision scheme for all practice nurses, a 2-day training course for supervisors, evaluation of the programme 12 months after implementation.	Quantitative (pre post study) and qualitative (content analysis) A before-and-after postal questionnaire targeting PNs, GPs and clinical supervisors, supplemented by two nurse focus groups.	12 months after implementation, 12% of practice nurses and over two-thirds of GPs unaware of the scheme; 43% of practice nurses did not know their local supervisor; 18% of practice nurses undertook supervision. No significant differences in attitudes of clinical supervisors or GPs, but PNs reported slightly less positive views at 12 months. Nevertheless, at follow-up most practice nurses still demonstrated fairly positive attitudes. PNs may have expected greater difficulties associated with involvement in CS than were actually encountered. At follow-up, over half of the PNs remained undecided about their future involvement in the scheme.

Author(s), Year of publication	Country	Setting	Aim	CS intervention	Research methods	Main results
Hyrkäs and Paunonen- Ilmonen, 2001	Scandinavia/ Finland	Hospital, five wards in a university hospital	To ascertain the conceptions of five ward teams having CS of its effects on the quality of care.	Three-year team supervision	Qualitative (phenomenography of group interviews)	Different conceptions of knowledge as a basis of nursing quality (jointly developed knowledge, written instructions and patient feedback, 'my knowledge'), change and its impact on the ward's actions and quality of care, and "I" and "we" as providers of quality.
Lantz and Severinsson, 2001	Scandinavia/ Sweden	Hospital/ intensive care unit (ICU)	To explore ICU nurses' experiences of focus group-oriented CS with particular reference to family members' needs; to focus on the perceived change of ICU nurses in their insight into caring for patients and family members in an ICU.	10 focus group- oriented CS sessions were organized over a period of one year (each session lasting 120 minutes)	Qualitative (descriptive exploratory research design), eight female ICU nurses from four different ICUs	Four themes constructed: increased perception of and response to the family members' needs; increased self- insight related to the therapeutic use of oneself in the relationship with patients and their family members; nurses' reflection on factors that increased their competence; and increased creativity; CS increased the intensive care nurses' understanding of their role, which had consequences not only for the family members but also for the teamwork in the intensive care unit.
Ödling, Danielson and Jansson, 2001	Scandinavia/ Sweden	Hospital/ surgical ward	To describe the content of caregivers' presentation of care situations as told at CS sessions	For 1 year, 21 caregivers (different professions) in a surgical ward of a county hospital, CS sessions (2 hours) every third week.	Qualitative (content analysis of verbatim transcripts of 38 tape- recorded CS sessions)	CS sessions offering an opportunity to reflect on the difficult care situations are important for caregivers and of vital importance for the future development of cancer care on the surgical ward.

Author(s), Year of publication	Country	Setting	Aim	CS intervention	Research methods	Main results
Teasdale, Brocklehurst and Thom, 2001	UK/England	Hospital and community, general care, medical-surgical nurses	To assess the effects of CS and informal support on qualified nurses.	Not specified	Quantitative (survey comparative, supervised vs. unsupervised nurses), an opportunity sample of 211 qualified nurses from 11 randomly selected hospital and community NHS Trusts, the Maslach Burnout Inventory (MBI) and the Nursing in Context Questionnaire (NICQ), qualitative (data based on written critical incidents).	Supervised nurses continued to use informal support networks as well as their CS sessions to discuss clinical issues; no significant differences in levels of burnout between supervised and unsupervised nurses; the NICQ detected some statistically significant differences, with supervised nurses reporting a more listening and supportive management, coping better at work and feeling that they had better access to support than unsupervised nurses, this finding being particularly strong among the more junior nurses
Lindahl and Norberg, 2002	Scandinavia/ Sweden	Hospital, intensive care unit (ICU), registered nurses (RNs) and enrolled nurses (ENs)	To illuminate the process and describe the content of conversations carried out during the course of CS group sessions	The participants worked in groups of eight, meeting every third week, with separate CS groups for RNs and ENs	Qualitative (content analysis, RN n = 5, EN n= 5, the tape recording of two CS group sessions as well as tape-recorded interviews with two RNs, two ENs and the supervisor)	During the sessions, ENs talked about their lifeworld from a caring perspective, while RNs focused on their professional development. Both ENs and RNs regarded the CS as a space for relief and for sharing emotions and caring experiences, which helped to manage complex nursing care.

Author(s), Year of publication	Country	Setting	Aim	CS intervention	Research methods	Main results
Marrow, Hollyoake, Hamer and Kenrick, 2002	UK/England	Hospital and community, a variety of specialities	To offer a flavour of the work done while participating in an action study on CS, three participants offered to share their experiences as practitioners engaged in remote CS	Action research, 18 months	Qualitative (reflexive accounts of three of the action research participants)	CS, as a mediator of learning, was vital in enabling the nurses to develop their reflective and problem-solving skills; the participants increased both their confidence and self-awareness and gained more insight into the practices and needs of other practitioners, attention to existing or the development of new care protocols, mixed perceptions with regards to using VC technology.
Spence, Cantrell, Christie and Samet, 2002	UK/England	Hospital and community, one NHS trust	To evaluate the implementation of a CS initiative, to determine the initial knowledge and attitudes in relation to CS and whether any changes occurred in the following year	The programme 18 months	Quantitative (pre post, questionnaires) and qualitative (focus group) in five pilot sites, n = 109	Few changes between pre- and post- questionnaire responses; the steering group (n = 15) gained most in terms of their personal and professional development and collaborative links both intra- and inter-professionally.
Jones, 2003	UK/Wales	Community/ Palliative care	To identify factors considered helpful by group members and those regarded as less important	Group format CS (n = 5), 1 h weekly for 12 weeks	Qualitative (a questionnaire and group interviews).	Interpersonal learning (output), identification, catharsis, family re- enactment, group cohesiveness and self-understanding were the most helpful factors to the group.

Author(s), Year of publication	Country	Setting	Aim	CS intervention	Research methods	Main results
Landmark, Strom Hansen, Bjones and Bøhler, 2004	Scandinavia/ Norway	Hospital and community/ palliative care	To develop and evaluate a model of CS created to provide continuous support throughout a 2-year postgraduate education programme	The first 2-year postgraduate course in palliative care at the University College, Buskerud, Norway	Qualitative (content analysis) n= 25 students A questionnaire administered on the commencement of studies, after 6 months, 12 months, 18 months and at the end of the programme.	Students' appreciation of the value of CS increased from the first to the last recording. Reflection and dynamic dialogue during group CS were reported to be well suited as methods of support in the development of insight into palliative care, integration of theory and practice, and development of skills.
Bé gat, Eillefsen and Severinsson, 2005	Scandinavia/ Norway	Hospital, medical-surgical or geriatric wards in two hospitals	To examine nurses' satisfaction with their psychosocial work environment, their moral sensitivity and differences in outcomes of CS in relation to nurses' well-being	Twenty-two nurses of 71 attended CS. The most common frequency of CS once a fortnight, and the focus in CS was feelings evoked by work and cooperation with colleagues.	Quantitative (comparative, supervised/unsupervis ed), n = 71, questionnaires (the Work Environment Questionnaire, WEQ; the Moral Sensitivity Questionnaire (MSQ).	Ethical conflicts in nursing are a source of job-related stress and anxiety. CS may have a positive influence on their perceptions of well-being and a positive effect on nurses' physical symptoms and their feeling of anxiety, as well as having a sense of being in control of the situation.

Author(s), Year of publication	Country	Setting	Aim	CS intervention	Research methods	Main results
Deery, 2005	UK/England	Community, midwives	To explore community midwives' views and experiences of their support needs in clinical practice, to identify how they would wish to receive such support, and to redress the imbalance identified by planning and facilitating a model of CS devised by the participating midwives	CS was undertaken over a 6-month period; the researcher did not take part. The study was conducted in three phases between March 1997 and November 2000.	Action research, data collected in three phases using in-depth interviews and focus groups, eight NHS community midwives working in the same team, The voice-centred relational method of data analysis (Mauthner and Doucet, 1998)	The emotional work associated with the job is not acknowledged or understood by midwives, managers and the wider organization; developing and increasing self-awareness is still not viewed as being intrinsic to the work of the midwife, and midwives are being asked to undertake a level of work for which they have not been adequately prepared. The bureaucratic pressures of working in a large maternity unit exaggerate this further.
Hyrkäs, Appelqvist- Schmidlechner and Haataja, 2006	Scandinavia/ Finland	Hospital and community, a variety of specialities	To determine how supervisees' backgrounds and CS infrastructure predict the efficacy of CS supervision among Finnish nursing staff, and to determine whether CS evaluations predicted levels of burnout, job satisfaction and perceptions of the quality of care.	Different forms of CS	Quantitative, post-respondents from 12 regional, central and university hospitals across Finland (n = 799), standardized and validated evaluation measures (Minnesota Job Satisfaction Scale, Maslach Burnout Inventory, Manchester Clinical Supervision Scale, a Finnish Good Nursing Care Questionnaire)	Supervisees' education (a nursing diploma), gender (female), employment status (tenured), area of speciality (psychiatric care), working hours (day shift), having previous experience of CS, form (one-to-one) and stage of current CS (> 2 years) were statistically significant predictors for evaluations of the efficacy of clinical supervision. The evaluations of clinical supervision were found to predict the respondents' job satisfaction, levels of burnout and assessments of good nursing.

Author(s), Year of publication	Country	Setting	Aim	CS intervention	Research methods	Main results
Jones, 2006b	UK/Wales	Community/ palliative care	To understand something of the professional work of hospice nurses and how they might best be supported	Group format CS (n = 5), 1 h weekly for 12 weeks	Qualitative, the group's sessions audio-recorded and listened to following each session, process notes written at the end of each session, and prominent issues for the group noted.	CS groups could help hospice nurses to identify and explore issues related to professional practice. Adequate preparation of nurses, organizational support and the competency of group facilitators are critical to the safe and effective management of professional groups
Alleyne and Jumaa, 2007	UK/England	Community/ District Nurse Team Leaders	To facilitate practitioners to link management and leadership theories with clinical practice in order to improve the quality of the services; to identify, create and evaluate effective processes for collaborative working so that the nurses' capacity for clinical decision-making could be improved	Two-and-a-half years, group CS sessions, held for 90 minutes on a weekly basis, a 2-day management development workshop	Action research, using a collaborative enquiry within a case study, multi-method through triangulation a process of executive co-coaching for focused group CS sessions involving six district nurses as co- researchers and two professional doctoral candidates as the main researchers.	Management and leadership interventions and approaches influenced the participants' capacity to improve the quality of services. Using various techniques, tools, methods and frameworks presented at the sessions increased participants' confidence to perform. A structured approach makes implementing change more practical and manageable.

Author(s), Year of publication	Country	Setting	Aim	CS intervention	Research methods	Main results
Kilcullen, 2007	Ireland	Hospital, renal and urological nursing	To elicit clinical supervisors' and supervisees' experiences of clinical supervision while undertaking an MSc/Graduate Diploma Programme in Renal and Urological Nursing.	Individual CS, 18 months	Qualitative (descriptive research design, content analysis of semi- structured interviews) five supervisees and five supervisors)	Six categories: 'positive aspects' (professional development, reflection on practice), 'negative aspects' (preparation for CS), 'factors, having an impact on the process' (grading, time constraints, heavy workloads, team supervision), 'support' (a major benefit), 'formal systems of CS' (difficulties setting up the system), 'reflective practice in groups' (as a starting point).

Appendix II. Additional tables

Table 5a. Differences in perceptions of work and health between subsequent CS participants (CS+) and non-participants (CS-) in the surgical units (mean [SD], Mann-Whitney U-test, statistical significance in bold)

Work/health factor	Registered nurses		Assistant nurses	
	≤ 40 years n (CS+) = 30 n (CS-) = 75	> 40 years n (CS+) = 29 n (CS-) = 54	≤ 40 years n (CS+) = 3 n (CS-) = 7	> 40 years n (CS+) = 18 n (CS-) = 15
Job demands	2.55 (0.36)	2.37 (0.45)	2.77 (0.35)	2.68 (0.48)
	2.37 (0.46), p = 0.037	2.44 (0.49), p = 0.629	2.80 (0.45), p = 1.000	2.89 (0.46), p = 0.136
Role expectations: role conflicts	3.37 (0.53)	3.23 (0.63)	3.44 (0.19)	3.04 (0.76)
	3.24 (0.78), p = 0.790	3.18 (0.79), p = 0.809	3.50 (0.69), p = 1.000	3.73 (0.46), p = 0.005
Control at work	2.93 (0.44)	2.74 (0.45)	2.78 (0.43)	2.74 (0.37)
	2.68 (0.45), p = 0.021	2.64 (0.43), p = 0.259	2.55 (0.43), p = 0.645	2.75 (0.33), p = 0.957
Predictability: a preference for challenges	3.79 (0.73)	3.66 (0.80)	4.22 (0.69)	3.80 (0.58)
	3.75 (0.75), p = 0.638	3.48 (0.86), p = 0.291	3.67 (0.88), p = 0.271	2.93 (0.70), p = 0.000
Perception of mastery	3.31 (0.46)	3.27 (0.38)	3.33 (0.12)	3.49 (0.34)
	3.22 (0.45), p = 0.361	3.24 (0.41), p = 0.868	3.23 (0.18), p = 0.197	3.19 (0.53), p = 0.026
Social interactions	4.07 (0.55)	3.60 (0.68)	3.58 (0.26)	3.60 (0.53)
	3.73 (0.52), p = 0.017	3.55 (0.66), p = 0.754	3.46 (0.45), p = 0.565	3.56 (0.68), p = 0.538
Leadership	3.54 (0.83)	3.32 (0.89)	3.06 (0.19)	3.47 (0.72)
	3.06 (0.82), p = 0.003	2.99 (0.92), p = 0.172	2.43 (0.62), p = 0.066	3.29 (0.82), p = 0.574

Table 5a. (continued) Differences in perceptions of work and health between subsequent CS participants (CS+) and non-participants (CS-) in the surgical units (mean [SD], Mann-Whitney U-test, statistical significance in bold)

Work/health factor	Registered nurses		Assistant nurses	
	≤ 40 years n (CS+) = 30 n (CS-) = 75	> 40 years n (CS+) = 29 n (CS-) = 54	≤ 40 years n (CS+) = 3 n (CS-) = 7	> 40 years n (CS+) = 18 n (CS-) = 15
Organizational culture and climate	3.21 (0.56)	3.00 (0.59)	3.24 (0.14)	3.13 (0.38)
	2.92 (0.52), p = 0.013	2.92 (0.52), p = 0.534	2.81 (0.41), p = 0.067	3.19 (0.53), p = 0.520
Commitment to the organization	3.00 (0.69)	2.84 (0.61)	2.67 (0.33)	2.83 (0.76)
	2.59 (0.77), p = 0.009	2.84 (0.89), p = 0.670	2.67 (0.33), p = 1.000	2.76 (1.12.), p = 0.913
Intrinsic work motivation	3.93 (0.41)	3.98 (0.53)	4.00 (0.00)	4.13 (0.63)
	3.94 (0.54), p = 0.893	3.98 (0.54), p = 0.973	4.11 (0.72), p = 0.683	3.64 (0.46), p = 0.022
Prevalence of inefficacy, %	36.7	39.3	33.3	27.8
	69.9, p = 0.002	50.9, p = 0.320	85.7, p = 0.116	73.3, p = 0.010
Prevalence of cynicism, %	16.7	35.7	0.0	22.2
	37.8, p = 0.036	48.2, p = 0.285	33.3, p = 0.285	40.0, p = 0.276
Prevalence of psychological distress	20.7	41.4	0.0	27.8
	24.0, p = 0.721	34.0, p = 0.508	57.1, p = 0.109	33.3, p = 0.733

Table 5b. Differences in perceptions of work and health between subsequent CS participants (CS+) and non-participants (CS-) in the medical units (mean [SD], Mann-Whitney-U test, statistical significance in bold)

Work/health factor	Registered nurses		Assistant nurses	
	≤ 40 years n (CS+) = 13 n (CS-) = 20	> 40 years n (CS+) = 18 n (CS-) = 16	≤ 40 years n (CS+) = 5 n (CS-) = 3	> 40 years n (CS+) = 8 n (CS-) = 12
Job demands	2.44 (0.38)	2.51 (0.51)	2.60 (0.80)	2.48 (0.29)
	2.43 (0.41), p = 0.911	2.63 (0.43), p = 0.199	3.53 (0.86), p = 0.174	2.89 (0.47), p = 0.025
Decisional demands	2.05 (0.51)	2.19 (0.61)	2.13 (0.80)	2.21 (0.31)
	2.15 (0.64), p = 0.879	2.27 (0.53), p = 0.551	3.67 (0.88), p = 0.036	2.61 (0.63), p = 0.070
Role expectations	3.06 (0.43)	3.83 (0.46)	3.97 (0.62)	4.00 (0.40)
	3.27 (0.63), p = 0.069	3.87 (0.34), p = 0.958	4.28 (0.42), p = 0.451	4.04 (0.42), p = 0.969
Control at work	2.75 (0.39)	2.66 (0.44)	2.33 (0.31)	2.84 (0.35)
	2.64 (0.37), p = 0.541	2.87 (0.54), p = 0.240	3.25 (0.43), p = 0.024	2.53 (0.46), p = 0.048
Control of decisions	2.47 (0.40)	2.37 (0.53)	1.88 (0.29)	2.50 (0.41)
	2.31 (0.47), p = 0.385	2.54 (0.63), p = 0.435	3.10 (0.36), p = 0.024	2.15 (0.53), p = 0.080
Predictability: a preference for challenges	3.85 (0.76)	3.56 (0.86)	3.67 (0.60)	3.38 (0.49)
	3.90 (0.61), p = 0.836	3.83 (0.76), p = 0.312	4.44 (0.51), p = 0.024	3.39 (0.87), p = 0.479
Perception of mastery	3.00 (0.38)	3.05 (0.46)	3.55 (0.60)	3.25 (0.42)
	3.39 (0.41), p = 0.011	3.30 (0.42), p = 0.099	3.75 (0.25), p = 0.297	3.39 (0.44), p = 0.503
Social interactions	3.83 (0.83)	3.58 (0.66)	3.83 (0.82)	4.04 (0.49)
	4.17 (0.29), p = 0.165	3.56 (0.58), p = 0.904	4.33 (0.31), p = 0.297	3.92 (0.39), p = 0.276
Leadership	3.54 (0.95)	3.62 (0.66)	3.63 (0.99)	3.69 (0.53)
	3.57 (0.69), p = 0.781	3.38 (0.86), p = 0.267	3.11 (0.51), p = 0.453	3.42 (1.03), p = 0.562

Table 5b (continued). Differences in perceptions of work and health between subsequent CS participants (CS+) and non-participants (CS-) in the medical units (mean [SD], Mann-Whitney U-test, statistical significance in bold)

Work/health factor	Registered nurses		Assistant nurses	
	≤ 40 years n (CS+) = 13 n (CS-) = 18	> 40 years n (CS+) = 18 n (CS-) = 16	≤ 40 years n (CS+) = 5 n (CS-) = 3	> 40 years n (CS+) = 8 n (CS-) = 12
Organizational culture: equality	4.31 (0.85) 3.52 (0.75), p = 0.010	3.92 (1.09) 4.25 (0.52), p = 0.431	4.10 (0.65) 4.50 (0.50), p = 0.359	4.29 (0.57) 3.92 (0.85), p = 0.382
Commitment to the organization	2.92 (0.86) 3.13 (0.85), p = 0.412	3.22 (0.63) 3.17 (0.82), p = 0.869	3.27 (0.83) 3.00 (0.00), p = 0.158	2.92 (0.73) 3.25 (0.71), p = 0.292
Extrinsic work motivation	4.33 (0.41) 3.97 (0.52), p = 0.031	3.96 (0.52) 4.02 (0.64), p = 0.538	4.00 (0.67) 4.00 (0.33), p = 1.000	4.00 (0.25) 3.86 (0.46), p = 0.635
Prevalence of overall burnout symptoms, %	53.9% 31.6%, p = 0.215	66.7 28.6, p = 0.035	60.0 33.3, p = 0.495	57.1 50.0, p = 0.770
Prevalence of exhaustion, %	61.5 42.1, p = 0.288	61.1 31.3, p = 0.086	80.0 66.7, p = 0.693	50.0 41.7, p = 0.721
Prevalence of professional inefficacy, %	76.9 47.4, p = 0.100	66.7 60.0, p = 0.686	60.0 66.7, p = 0.860	37.5 33.3, p = 0.852
Prevalence of psychological distress, %	53.9 10.0, p = 0.007	27.8 6.7, p = 0.123	60.0 33.3, p = 0.495	28.6 16.7, p = 0.550

Table 6a. Socio-demographic background in different study groups of the cohort data at baseline in 2003 (t-test, chi-squared test, statistical significance in bold)

Background variable	Nurses who	CS participants		CS participants
	did not participate in CS (n = 82)	Difference p-value	with higher evaluations of CS (n = 41)	with lower evaluations of CS (n = 43)
Age, years, mean (SD)	41.1 (8.1)	0.405	42.5 (8.7)	42.5 (8.7)
Years in the profession, mean (SD)	14.9 (9.1)	0.394	16.4 (9.0)	16.2 (9.0)
Years in current position, mean (SD)	11.3 (8.7)	0.774	11.8 (8.6)	11.2 (8.7)
Registered nurse/midwife	78.0	0.046	61.0	69.8
Work setting: surgical unit, %	69.5	0.889	70.7	67.4
Outpatient unit, %	18.3	0.388	12.2	14.0
Three-shift work, %	85.4	0.183	75.6	74.4
Tenured employee, %	79.0	0.849	80.5	81.4
Superior position, %	3.7	0.753	2.6	11.9
Married/ cohabiting, %	67.1	0.490	73.2	55.8
Having children, %	68.8	0.831	70.7	73.2

Table 6b. Perceptions of work in different study groups of the cohort data at baseline in 2003 (Mann-Whitney U-test, statistical significance in bold)

Factor at work	Nurses who did not participate in CS (n = 82)	Difference p-value	CS participants with higher evaluations of CS (n = 41)	Difference p-value	CS participants with lower evaluations of CS (n = 43)
Job demands					
Quantitative demands	2.61 (0.48)	0.552	2.53 (0.48)	0.996	2.55 (0.46)
Decisional demands	2.76 (0.54)	0.005	2.45 (0.55)	0.434	2.54 (0.68)
Learning demands	2.12 (0.65)	0.373	2.22 (0.69)	0.666	2.17 (0.57)
	2.91 (0.57)	0.920	2.95 (0.50)	0.858	2.97 (0.53)
Role expectations					
Role clarity	3.95 (0.42)	0.062	3.80 (0.45)	0.528	3.86 (0.42)
Role conflicts	4.44 (0.50)	0.665	4.40 (0.46)	0.819	4.37 (0.53)
	3.47 (0.54)	0.060	3.20 (0.66)	0.526	3.34 (0.53)
Control at work					
Control of decisions	2.75 (0.39)	0.794	2.70 (0.40)	0.195	2.86 (0.46)
Control of pacing	2.47 (0.48)	0.392	2.41 (0.56)	0.601	2.47 (0.55)
Positive challenges	2.36 (0.59)	0.753	2.30 (0.54)	0.142	2.55 (0.76)
	4.38 (0.53)	0.639	4.34 (0.48)	0.034	4.56 (0.48)
Predictability at work					
during 2 months	3.47 (0.61)	0.974	3.47 (0.54)	0.861	3.52 (0.61)
during 2 years	3.57 (0.91)	0.092	3.84 (0.91)	0.254	3.71 (0.74)
a preference for challenges	3.03 (1.1.9)	0.122	2.66 (1.1.2)	0.112	3.08 (1.21)
	3.63 (0.78)	0.987	3.62 (0.63)	0.927	3.62 (0.84)
Social support					
from superior	3.82 (0.59)	0.513	3.75 (0.52)	0.379	3.83 (0.73)
from co-workers	3.28 (1.01)	0.736	3.20 (1.03)	0.123	3.55 (1.13)
from friends/relatives	4.24 (0.58)	0.468	4.17 (0.58)	0.755	4.19 (0.61)
	3.95 (0.89)	0.657	3.86 (0.96)	0.663	3.73 (1.00)

Table 6b (continued). Perceptions of work in different study groups of the cohort data at baseline in 2003 (Mann-Whitney U-test, statistical significance in bold)

Factor at work	Nurses who did not participate in CS (n = 82)	Difference p-value	CS participants with higher evaluations of CS (n = 41)	Difference p-value	CS participants with lower evaluations of CS (n = 43)
Feedback at work	2.74 (0.63)	0.849	2.76 (0.69)	0.894	2.74 (0.68)
Perception of mastery at work	3.98 (0.40)	0.730	3.97 (0.50)	0.428	4.02 (0.46)
Leadership	3.30 (0.78)	0.757	3.34 (0.83)	0.394	3.46 (0.84)
Fair leadership	3.65 (0.84)	0.829	3.69 (0.92)	0.996	3.71 (0.85)
Empowering leadership	2.95 (0.88)	0.770	2.99 (0.99)	0.240	3.22 (0.85)
Organizational culture & climate	3.10 (0.48)	0.933	3.10 (0.48)	0.685	3.14 (0.58)
Social climate	3.49 (0.72)	0.234	3.68 (0.66)	0.342	3.49 (0.79)
Innovative climate	3.34 (0.57)	0.696	3.32 (0.64)	0.336	3.41 (0.59)
Equality	3.57 (0.85)	0.228	3.75 (0.98)	0.874	3.79 (0.91)
Human resource primacy	2.17 (0.69)	0.034	1.89 (0.68)	0.272	2.09 (0.77)
Perception of group work	3.93 (0.61)	0.606	3.86 (0.55)	0.912	3.86 (0.59)
Commitment to the organization	2.93 (0.85)	0.655	2.89 (0.67)	0.896	3.85 (0.74)
Work motivation	3.91 (0.46)	0.071	4.07 (0.43)	0.248	3.93 (0.48)
Extrinsic motivation	3.94 (0.58)	0.124	4.11 (0.56)	0.870	4.09 (0.51)
Intrinsic motivation	3.85 (0.56)	0.006	4.12 (0.47)	0.062	3.90 (0.57)
Work/private life interaction	4.09 (0.68)	0.024	3.74 (0.81)	0.776	3.85 (0.74)
Work orientation	26.5 (12.7)	0.761	28.0 (12.1)	0.037	33.4 (13.4)

Table 6c. Perceptions of health in different study groups of the cohort data at baseline in 2003 (Mann-Whitney U- test, statistical significance in bold)

Health factor	Nurses who did not participate in CS (n = 82)	Difference p-value	CS participants with higher evaluations of CS (n = 41)	Difference p-value	CS participants with lower evaluations of CS (n = 43)
Self-rated health [1 = very good... 5 = very poor, mean (SD)]	2.06 (0.81)	0.487	2.18 (0.79)	0.332	1.88 (0.77)
Psychological distress, %	20.7	0.025	40.0	0.183	26.2
Burnout symptoms, mild or severe %	45.7	0.746	48.8	0.659	50.0
Exhaustion, mild or severe, %	42.7	0.056	61.0	0.791	58.1
Cynicism, mild or severe, %	31.7	0.814	34.1	0.814	31.7
Professional inefficacy, mild or severe %	60.5	0.328	51.2	0.099	33.3

Table 7a. Socio-demographic background in different study groups of the cohort data in 2007 (t-test, chi-squared test, statistical significance in bold)

Background variable	Nurses who did not participate in CS (n = 82)	Difference p-value	CS participants with higher evaluations of CS (n = 41)	Difference p-value	CS participants with lower evaluations of CS (n = 43)
Age, years, mean (SD)	45.1 (8.1)	0.399	46.5 (8.7)	0.969	46.5 (8.7)
Years in the profession, mean (SD)	18.5 (9.2)	0.225	20.6 (8.8)	0.907	20.4 (9.0)
Years in current position, mean (SD)	14.3 (9.4)	0.773	15.0 (9.4)	0.822	14.3 (9.2)
Registered nurse/midwife	80.5	0.020	61.0	0.397	69.8
Work setting: surgical unit, %	72.0	0.487	65.9	0.701	65.9
Outpatient unit, %	17.1	0.480	12.2	0.417	18.6
Three-shift work, %	74.1	0.695	70.7	0.690	66.7
Tenured employee, %	93.8	0.809	92.7	0.745	90.7
Superior position, %	7.3	0.605	4.9	0.431	9.3
Married/cohabiting, %	76.5	0.328	68.3	0.758	65.1
Having children, %	73.8	0.708	76.9	0.573	71.4

Table 7b. Perceptions of work in different study groups of the cohort data on follow-up in 2007 (Mann-Whitney U-test, statistical significance in bold)

Factor at work	Nurses, who did not participate in CS (n=82)	Difference p-value	CS participants with higher evaluations of CS (n=41)	Difference p-value	CS participants with lower evaluations of CS (n=43)
Job demands					
Quantitative demands	2.54 (0.46)	0.476	2.48 (0.48)	0.510	2.53 (0.46)
Decisional demands	2.54 (0.63)	0.300	2.40 (0.61)	0.458	2.52 (0.65)
Learning demands	2.13 (0.65)	0.673	2.15 (0.62)	0.413	2.26 (0.61)
	2.93 (0.55)	0.357	2.87 (0.50)	0.936	2.82 (0.62)
Role expectations					
Role clarity	3.86 (0.49)	0.689	3.80 (0.54)	0.346	3.91 (0.35)
Role conflicts	4.42 (0.45)	0.685	4.37 (0.48)	0.308	4.49 (0.41)
	3.30 (0.67)	0.672	3.26 (0.75)	0.506	3.33 (0.54)
Control at work					
Control of decisions	2.75 (0.46)	0.457	2.81 (0.43)	0.619	2.81 (0.53)
Control of pacing	2.40 (0.57)	0.415	2.49 (0.58)	0.444	2.58 (0.58)
Positive challenges	2.46 (0.66)	0.786	2.46 (0.62)	0.922	2.51 (0.80)
	4.33 (0.53)	0.711	4.38 (0.45)	0.249	4.28 (0.47)
Predictability at work					
during 2 months	3.52 (0.54)	0.589	3.56 (0.59)	0.852	3.57 (0.49)
during 2 years	3.76 (0.34)	0.655	3.80 (0.91)	0.674	3.91 (0.82)
a preference for challenges	3.16 (1.07)	0.628	3.06 (1.11)	0.764	3.20 (0.86)
	3.48 (0.71)	0.137	3.69 (0.62)	0.138	3.47 (0.64)
Social support					
from superior	3.75 (0.61)	0.535	3.82 (0.50)	0.318	3.69 (0.62)
from co-workers	3.43 (1.00)	0.434	3.54 (0.90)	0.615	3.49 (0.94)
from friends/relatives	4.13 (0.62)	0.767	4.10 (0.50)	0.985	4.05 (0.72)
	3.73 (0.95)	0.709	3.83 (0.84)	0.136	3.57 (0.93)

Table 7b (continued). Perceptions of work in different study groups of the cohort data on follow-up in 2007 (Mann-Whitney U-test, statistical significance in bold)

Factor at work	Nurses who did not participate in CS (n = 82)	Difference p-value	CS participants with higher evaluations of CS (n = 41)	Difference p-value	CS participants with lower evaluations of CS (n = 43)
Feedback at work	2.67 (0.60)	0.008	3.03 (0.65)	0.000	2.52 (0.61)
Mastery at work	3.99 (0.34)	0.892	3.96 (0.46)	0.989	4.00 (0.37)
Leadership	3.45 (0.82)	0.536	3.55 (0.73)	0.568	3.43 (0.85)
Fair leadership	3.81 (0.83)	0.369	3.97 (0.75)	0.207	3.74 (0.85)
Empowering leadership	3.08 (0.94)	0.783	3.14 (0.89)	0.927	3.13 (0.95)
Organizational culture & climate	3.17 (0.39)	0.412	3.21 (0.43)	0.304	3.12 (0.48)
Social climate	3.56 (0.57)	0.144	3.72 (0.51)	0.092	3.51 (0.64)
Innovative climate	3.36 (0.49)	0.393	3.26 (0.58)	0.924	3.21 (0.66)
Equality	3.65 (0.74)	0.072	3.87 (0.82)	0.457	3.79 (0.66)
Human resource primacy	2.28 (0.60)	0.701	2.25 (0.78)	0.810	2.22 (0.69)
Perception of group work	3.82 (0.70)	0.039	4.08 (0.61)	0.022	3.86 (0.38)
Commitment to the organization	2.84 (0.73)	0.130	3.00 (0.68)	0.224	2.87 (0.59)
Work motivation	3.82 (0.54)	0.008	4.10 (0.49)	0.197	3.95 (0.46)
Extrinsic motivation	3.96 (0.59)	0.632	4.11 (0.56)	0.630	3.95 (0.60)
Intrinsic motivation	3.71 (0.62)	0.002	4.08 (0.54)	0.026	3.79 (0.53)
Work/private life interaction	4.10 (0.71)	0.003	3.68 (0.63)	0.595	3.80 (0.69)
Work orientation	26.9 (13.4)	0.355	127.8 (10.0)	0.369	30.3 (12.8)

Table 7c. Perceptions of health in different study groups of the cohort data on follow-up in 2007 (Mann-Whitney U-test, statistical significance in bold)

Health factor	Nurses who did not participate in CS (n = 82)	Difference p-value	CS participants with higher evaluations of CS (n = 41)	Difference p-value	CS participants with lower evaluations of CS (n = 43)
Self-rated health [1 = very good... 5 = very poor, mean (SD)]	2.29 (0.84)	0.753	2.27 (0.74)	0.377	2.07 (0.70)
Psychological distress, %	29.3	0.388	22.0	0.001	57.1
Burnout symptoms, mild or severe %	43.6	0.508	51.2	0.191	64.3
Exhaustion, mild or severe, %	44.3	0.106	60.0	0.630	65.1
Cynicism, mild or severe, %	33.8	0.685	37.5	0.685	41.9
Professional inefficacy, mild or severe %	63.3	0.000	27.5	0.022	52.4

AIJA KOIVU
*Clinical Supervision
and Well-being at Work*

*A Four-year Follow-up Study on
Female Hospital Nurses*

Clinical supervision, originally a method for learning and teaching professional communication, has become a common method for promoting well-being at work in social and health care. According to the results of this quasi-experimental study, clinical supervision can maintain and promote well-being at work. The factors at work most influenced are increased feedback on the quality of the work and job control. The positive changes in health are most prominent in relation to increased professional efficacy and decreased psychological distress.



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