Investigating premature departure from the nursing professions in europe: The european NEXT-study

Article · January 2003

CITATIONS
17

READS
275

3 authors, including:

Hans Martin Hasselhorn
Bergische Universität Wuppertal
213 PUBLICATIONS **5,485** CITATIONS
SEE PROFILE

Peter Tackenberg
German Nurses Association - Deutscher Berufsverband für Pflegeberufe - Bundesv…
33 PUBLICATIONS **952** CITATIONS
SEE PROFILE

Report No 7:2003

Working conditions and intent to leave the profession among nursing staff in Europe

Edited by

Hans-Martin Hasselhorn
Peter Tackenberg
Bernd Hans Müller
University of Wuppertal

NEXT nurses' early exit study

FIFTH FRAMEWORK PROGRAMM

A research project initiated by SALTSA and funded by the European Commission (QLK6-CT-2001-00475)
www.next-study.net

coordinated by UNIVERSITY OF WUPPERTAL

Arbetslivsinstitutet
LO TCO SACO

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

ISSN 1404-790X

SALTSA is a collaboration programme for occupational research in Europe. The National Institute for Working Life in Sweden and the Swedish confederations of trade unions SACO (the Swedish Confederation of Professional Associations), LO (the Swedish Trade Union Confederation) and TCO (the Swedish Confederation of Professional Employees) take part in the programme. Many problems and issues relating to working life are common to most European countries, and the purpose of the programme is to pave the way for joint research on these matters from a European perspective.

It is becoming increasingly obvious that long-term solutions must be based on experience in and research on matters relating to working life. SALTSA conducts problem-oriented research in the areas labour market, employment, organisation of work and work environment and health.

SALTSA collaborates with international research institutes and has close contacts with industry, institutions and organisations in Europe, thus linking its research to practical working conditions.

Contact SALTSA
Labour Market Programme
Lars Magnusson, National Institute for Working Life, Tel: +46 8 619 67 18,
e-mail: lars.magnusson@arbetslivsinstitutet.se
Torbjörn Strandberg, LO, Tel: +46 8 796 25 63, e-mail: torbjorn.strandberg@lo.se

Work Organisation Programme
Peter Docherty, National Institute for Working Life, Tel: +46 8 619 69 59,
e-mail: peter.docherty@arbetslivsinstitutet.se
Mats Essemyr, TCO, Tel: +46 8 782 92 72, e-mail: mats.essemyr@tco.se

Programme for Work Environment and Health
Per Malmberg, National Institute for Working Life, Tel: +46 8 619 67 10,
e-mail: per.malmberg@arbetslivsinstitutet.se
Anders Schaerström, SACO, Tel: +46 8 613 48 74, e-mail: anders.schaerstrom@saco.se

SE-113 91 Stockholm, Sweden
Tel: (+46) 8-619 67 00, fax: (+46) 8-656 30 25
Web: www.arbetslivsinstitutet.se/saltsa
Printed at Elanders Gotab
ISSN: 1404-790X

Contents

Foreword SALTSA

Today, there is a substantial shortage of nurses in Europe. It is not known how the increasing future demands for nursing can be met. Different approaches are possible. One of them – possibly the most effective – might be to enable nurses to stay longer in their profession than they do today. This is the topic of the NEXT-Study, which has been initiated by SALTSA, a joint undertaking by the three Swedish confederations of employees - LO, TCO, SACO - and the National Institute for Working Life in Stockholm.

The aim of SALTSA is to promote working life research in Europe. We are happy to say that today, after a pilot phase funded by SALTSA, the NEXT-Study is being financed by the European Union within the 5th framework programme (QLK6-CT-2001-00475).

From the very start of the SALTSA programme, we have focused on various trends, sometimes summarised as the "new working life". One of the main topics is "sustainable work ability" – or how to maintain work ability until a reasonable age of retirement. In current working life, several circumstances pose actual threats to the sustainability of work ability. Not only physical loads but mental "burn-out" are realities, all too often leading to retirement from working life altogether or dropping out of certain professions. Normal ageing does not explain all these undesirable events, which involve human suffering and cause great losses to the professions. From a public health aspect it is also relevant to consider the need for health care among the retired population and its connection with earlier circumstances in working life.

This very comprehensive project has been co-ordinated by Dr Hans-Martin Hasselhorn and Professor Bernd Müller at the University of Wuppertal, and an extensive team of European researchers have contributed to the results. We are deeply grateful to all of them for their substantial exploration and analysis of this urgent problem.

Per Malmberg

Professor

Chairman, SALTSA Programme Committee for Working Environment and Health

The National Institute for Working Life
Stockholm

Anders Schærström

Fil dr

Secretary, SALTSA Programme Committee for Working Environment and Health

Foreword NEXT

The aim of the European NEXT-Study (nurses early exit study) is to identify why nurses are leaving their profession early, often earlier than members of other professions. What are the reasons for this? What are the circumstances and the consequences of such steps for the nurses and for their institutions? In this publication, we present first results of our initial cross sectional questionnaire assessment which has reached more than 77,000 nurses in 10 European countries. 39,689 nurses have taken their time to fill out this extensive questionnaire.

This tremendous effort has been made possible by a large input from numerous people. More than 40 researchers from 14 scientific institutions in 10 countries are participating in the project and coordinating the NEXT-Study in their countries. They are being supported by *field managers* in the participating institutions who locally organise the NEXT assessment and maintain regular contact with the national NEXT teams. And, of course, NEXT has the support from employers and employee representatives of 585 health care institutions in Europe.

The greatest support, however, has come from all of the nurses who have taken part in the study. Many participants have expressed their gratitude to NEXT for taking up this – for many of them – highly relevant topic. There have however also been those who were afraid that the data gathered would merely satisfy theoretical scientific needs, and that it might not impact on nursing reality.

This is of course something that we want to prevent. This report may be viewed as the first public sign of this. In this book we have described the working situation of the nursing professions in 11 European countries. For each participating country, the NEXT authors reported whether and why nurses want to leave their profession, or why they want to stay. Not only *adverse* but also *positive* working conditions have been found: for example, we can clearly show that there are *attractive* and *unattractive* health care institutions. Our task is now to investigate what makes a health care institution attractive. Another example relates to nursing as people grow older: Older Finnish nurses often remain longer in the nursing profession than those in other countries. Although their work ability is very low, their job satisfaction is high and only very few of them want to leave nursing. Obviously, there are ways to offer older nurses a satisfying working life. To describe these *attractive institutions* and *positive approaches* could count as one of the many challenging tasks of NEXT in the coming years.

NEXT is an ongoing study; it started in February 2002 and will last until June 2005. Further questionnaire assessments will follow to investigate how working and living conditions change and what this means for the nurses involved.

We wish to thank both SALTSA for having initiated this challenging project and the European Commission for providing the majority of the funding. Above all, the European NEXT team is very grateful for support from all those directly involved in the study, the supporting organisations, the field managers and – in particular – the nurses who have responded to our questionnaires. We hope that this support continues to make NEXT successful in the interests of the nursing profession and of health care in Europe.

On behalf of the European NEXT-Study Group

Hans-Martin Hasselhorn
MD, PhD
Scientific co-ordinator of the European NEXT-Study
University of Wuppertal

Bernd Hans Müller
Professor
Financial and administrative co-ordinator of the European NEXT-Study
University of Wuppertal

The European NEXT-Study Group (and authors)

European co-ordination

University of Wuppertal, Section of Occupational Safety and Ergonomics, Germany.

Hans-Martin Hasselhorn, Bernd Hans Müller
Peter Tackenberg, Angelika Kümmerling, Michael Simon, Renate Mankel

NEXT-Scientific Team (and authors)

Belgium: Université Catholique de Louvain, Ecole de Santé Publique, Brussels
Sabine Stordeur, William D'hoore

Finland: Turku Regional Institute of Occupational Health, Turku
Marjukka Laine, Gustav Wickström, Juhani Ilmarinen, Jaana Pentti

France: Assistance Publique-Hôpitaux de Paris, Service central de médecine du travail, Paris
Madeleine Estryn-Behar, Olivier Le Nézet, Claire Charton, Jean-François Caillard

Germany: Private University of Witten/Herdecke, Institute for Nursing Science
Andreas Büscher, Christel Bienstein, Stephanie Stelzig
Federal Institute of Occupational Safety and Health, BAuA, Dortmund
Karl Kuhn, Beate Beermann

Great Britain: National Centre for Social Research, London
Simon Anderson, Laura Conway, Kerstin Hinds, Bob Erens
City University, School of Nursing, London
Dinah Gould, Marina Fontenla

Italy: University of Milan, Department of Occupational Health
Donatella Camerino, Pier Alberto Bertazzi, Paul Conway, Nadia Selva, Miriam Di Bisceglie, Sharon Coen
University of Milan, School of Nursing Maura Lusignani
UOOML – CEMOC, Lucia Savina Floridia

The Netherlands: University of Twente, Department of Technology & Management, HRM, Enschede
Beatrice van der Heijden, Esther van der Schoot

Poland: Central Institute for Labour Protection – National Research Institute, Warszaw
Maria Widerszal-Bazyl, Piotr Radkiewicz
Jagiellonian University in Krakow, Collegium Medicum,
Janusz Pokorski, Joanna Pokorska, Halszka Ogińska, Ewa Pietsch

Slovakia: Pavol Jozef Safarik University, Department of Social Medicine, Kosice
Maria Kovarova, Alzbeta Hanzlikova, Marian Rimarcik, Marek Jurkovic

Sweden: Karolinska Institutet, Section of personal injury prevention, Stockholm
Malin Josephson, Per Lindberg, Grethe Fochsen, Eva Vingård

External experts of the NEXT-Study Group

Allan Toomingas, Staffan Marklund, both National Institute for Working Life, Stockholm, Sweden

Associated members of the NEXT-Study Group

Norway: *Aslaug Mikkelsen, Kari Anne Holte.* Rogaland Research Institute, Stavanger
Belgium:
Philippe Kiss, Progecov, Occupational Health Service, Gent
Lut Braeckman, Rini Verpraet, Marc De Meester, Gent University, Department of Public Health, Section for Occupational Health

Other contributors to this report

France:
Anne Affre, Nicole Bonnet, Francis Derrienic, Marc Loriol, Roger Salbreu
Trade unions (CGT, CFTC, SUD, FO)
Patricia Arbieu, Monique Bedel, Eric Ben-Brick, Catherine Fayet, Gilles Gadier, Research and occupational health institutions (NDBS, INSERM, CNRS, AIRHM, CHU Rouen)

1 Investigating premature departure from the nursing professions in Europe – the European NEXT-Study

Hans-Martin Hasselhorn, Bernd Hans Mueller and Peter Tackenberg

Introduction

The NEXT-Study is investigating the reasons, circumstances and consequences surrounding premature departure from the nursing profession. Of particular interest is the question of what consequences this step has for the person involved as well as for their health care institution and for health care in general.

NEXT is being financed by the European Union (QLK6-CT-2001-00475) and carried out simultaneously in Belgium, Finland, France, Germany, Great Britain, Italy, the Netherlands, Poland, Sweden and in Slovakia. More than 40 researchers in 14 research institutions are active members of the NEXT-Study Group. Norwegian researchers have become 'associated members'. The study brings together interdisciplinary expertise from e.g. nurses, nursing scientists, (occupational health) physicians, psychologists, sociologists and statisticians.

The study began in February 2002 and will run until June 2005. In this book, members of the scientific team present their first research data. In part A, they report living and working conditions for the European nursing work force. Part B covers the central aspect of the NEXT-Study: national teams report on nurses' intentions to leave the nursing profession in their country. The last part of this book, part C, deals with methodology, describing and examining the questions and scales used for the questionnaire. The data for these contributions derive from the so called 'basic assessment' of NEXT: a questionnaire which was sent to about 77,000 nurses in 10 countries and to which almost 40,000 nurses have responded.

In this chapter we first want to describe the underlying problem the NEXT-Study is addressing, followed by the conceptualisation and then the performance of NEXT in Europe.

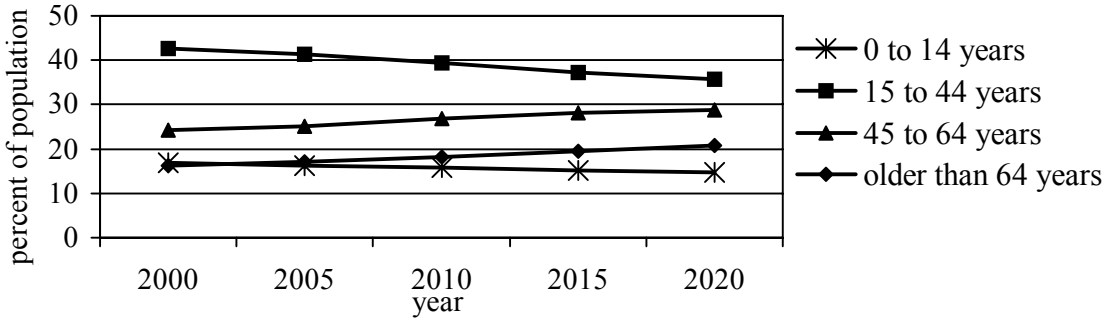
Impact of ageing population on nursing

Today, almost all countries in the European Union have a lack of active nurses. Demographic changes within the coming 20 to 30 years might worsen this situation if no action is taken. Three aspects play a part in this:

- the proportion of *younger* people in the working-age population will decrease,
- the proportion of *older* people in the working-age population will increase
- and the number of people over 64 years will increase (Figure 1).

In many (but not all) European countries nursing staff predominantly belong to the younger age groups. Middle-aged and older nurses often leave their profession earlier than it is the case for other occupational groups. Since it is the oldest members of the population who require the most care, the pressure on the health care service will significantly increase. E. g. it is estimated for Germany that by 2020 the share of people requiring in- and outpatient care will increase by approximately 40% (Hof, 2001). The question is: *who will provide the care needed in the coming decades?*

Figure 1. Estimated changes of the proportion of various age groups in the total European population between 2000 and 2020. (Eurostat, Basic-Variant for 16 countries, 1999; 2000: n=376 million, 2020: n=386 million)



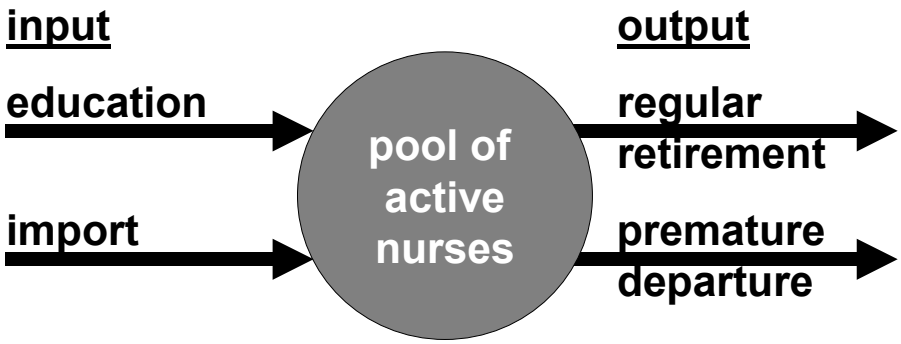
Ensuring a sufficient nursing pool

In theory, there are four ways in which the pool of active nurses might be increased (Figure 2). The *input* may be increased by providing more education facilities at nursing schools. However, currently, it seems unlikely, that an increase in provision of nursing training alone will solve the future demands for nursing staff. Among other reasons this is due to the relative unattractiveness of the nursing professions to young people in countries such as (Western) Germany, Austria, Poland, and Slovakia. There, training places in health care cannot be adequately filled due to a lack of sufficiently qualified applicants. However this situation seems to differ substantially between the European countries, regions and even over time.

Another way of increased input would be through immigration of nursing staff from other countries. Such migration of nursing professionals is currently under discussion at the European level, with consideration of both positive and negative impacts. Nurse migration mainly occurs in an East-West direction and in the UK to a larger degree from overseas. Attempts have been made to recruit many thousands of nurses from the new member states of the European Union to countries such as Germany, the Netherlands and Italy. The success, however seems to be limited. Widerszal-Bazyl et al. report (chapter 23) that during the first period of the programme ‘Polish nurses in the Netherlands’ (signed up to by

health ministries of both countries) only 50 Polish nurses had been offered work places in the Netherlands. Of 10.000 'greencards' made available by the German government aimed at attracting Slovakian and Polish nurses to home care in Germany, only about half were taken up. Language problems and high attachment to their community in Eastern Europe might be some underlying reasons for this.

Figure 2. Factors increasing and decreasing the pool of active nurses.



On the output side, raising the retirement age may be regarded by some as a solution to the problem of a shortage of nurses. However, in many countries such as Germany and Italy, already today there are only a few nurses who are active in their profession until normal retirement age. The most effective way of assuring nursing in the future therefore seems to be to promote the retention of existing nursing staff. This is the research topic of the European NEXT-Study.

Methodology of the NEXT-Study

The NEXT-Study concept

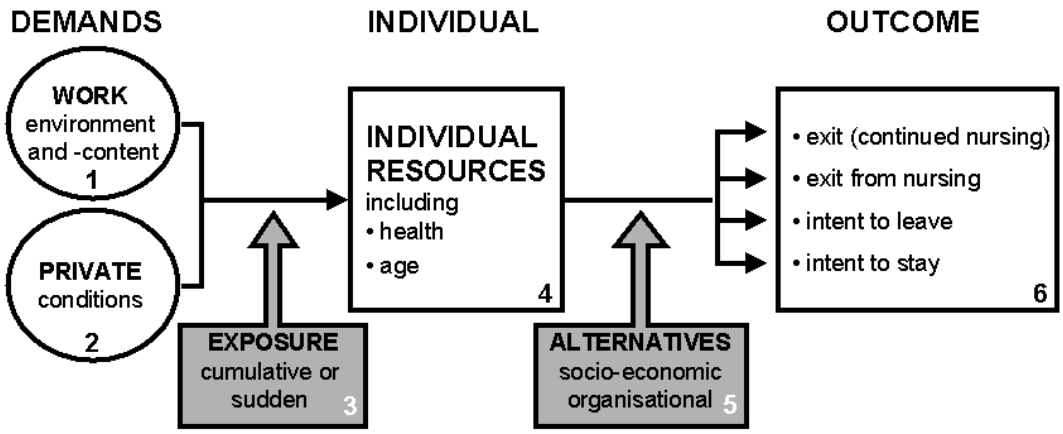
The NEXT-Study takes a systematic approach to the problem of sustaining the nursing workforce, approaching it from the worst case scenario of premature departure from the profession. However, our concept considers premature departure from health care work a priori to be neutral in value. We want to take into consideration the fact that early departure from the profession might also be advantageous for certain individuals, e. g. for those with severe health complaints or for those who wish to further their careers in other directions.

The decision to leave the nursing profession is likely to be the result of a process with – simultaneously – numerous underlying causes, push- as well as pull-factors. *Push factors* circumscribe adversely perceived aspects which make people want to stop working in the way they are currently (e.g. conflicts at work or ill health). *Pull factors* are attractive incentives from outside such as (university) studies or early retirement regulations. In the NEXT-Study as many of these aspects need to be assessed as possible to be able to understand 'premature

departure from the nursing profession'. The two central questions are: *which are the relevant factors in each of the participating countries and how can we measure them?*

As a first step, we have developed a model which is supposed to cover all relevant aspects (Figure 3).

Figure 3. NEXT model of departure from health care work



We postulate, that the consideration of leaving the profession (box 6) depends on

a) the demands of work (circle 1) and private life (circle 2)
b) the pathway of exposure (box 3, have problems come up suddenly or are they ongoing for a long time?)
c) the individual's resources (box 4)
d) possible alternatives (box 5, e.g. better job or pay, opportunities for education, disability pension, premature retirement or another job within the institution).

As a second step, we collected the relevant aspects of each box and defined whether and how they could be measured in the NEXT-Study.

The NEXT-Study design

It was decided to perform a longitudinal study. The study should be performed in the same way in all participating countries (with some exceptions for Sweden) and should include hospitals, nursing homes and home care institutions. Repeated questionnaires should be sent to the nursing staff and a check list for the participating institutions should be completed. All in all, about 6,000 nursing staff of all qualification levels should be approached in each participating country. The design is shown in Figure 4 and described as follows:

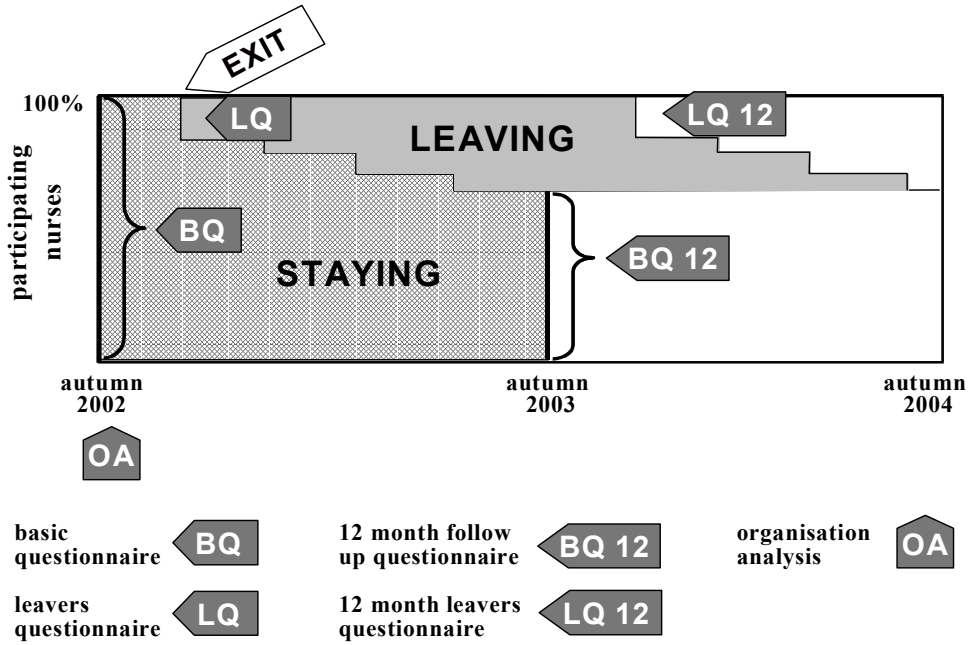
In the beginning, the *first questionnaire* ('*basic questionnaire*' BQ) was sent out to all nursing staff in the participating institutions. The questionnaire covers

working and private life as well as future perspectives of the respondents (see details below).

In the following 12 months, all those who were approached at the first assessment and have left their current health care institution, will receive an additional questionnaire, the '*leavers questionnaire*' (LQ). This records the underlying reasons for this departure. One year after they have left the institution, the participants will receive a '*12 month leavers follow up*' questionnaire (LQ12) which investigates the effects and consequences of this step.

All participants who have remained in their institution will be approached to fill in a final questionnaire 12 months after the first. ('*12 month follow up questionnaire*', BQ12). This will explore whether changes have occurred and what the consequences of continued nursing are.

Figure 4. Design of the European NEXT-Study.



Since institutional factors also influence the departure of nursing staff an '*organisation analysis*' (OA) has been carried out for every participating institution. With the use of a checklist the institutions shall be described on the basis of defined parameters and economic trends (e.g. process of expansion, reorganisation, institutional education).

The design of the NEXT-Study is complex and it requires a high degree of organisation, even within the institutions. A central part of NEXT is that the questionnaires had to be anonymous. Therefore a coding system was used which ensured that different questionnaires from the same respondents could be linked to the correct individual.

The NEXT-Study design has been approved by the ethical committee of the University of Wuppertal in Germany. In Great Britain, additional formal 'ethical approval' was also required at a National level before access to the institutions was permitted.

By means of the above instruments the investigation shall enable us to

- describe and analyse the working conditions for nursing staff in large parts of Europe,
- identify the reasons why nursing staff considers leaving their profession,
- identify causes for premature departure from nursing (work related, socio-structural, individual),
- identify risk groups for premature departure,
- study the impact that premature departure has on the individual and the institutions,
- define conditions associated with 'healthy ageing' in health care work,
- deliver the basis for targeted workplace health promotion in order to sustain the working ability of nurses in European countries, and to
- deliver an estimation of the national Polish and Slovakian consequences of the inclusion of the NAS in the European Union with respect to the nursing workforce ('*freedom of movement of labour*').

The authors of the following chapters in this report have provided us with first answers to several of the above aspects. Their results are based on the 'basic questionnaire'. On the following pages we describe the procedure of this assessment. Details and special national conditions are found in the separate chapters for each country (see chapters 16 to 26).

The first questionnaire assessment of NEXT

The initial questionnaire assessment, BQ, was carried out in 10 countries between October 2002 and June 2003. The varying start dates were due to research teams from Poland and Slovakia not joining the NEXT-Study until 2003. The participation of these countries is being financed by a European Commission fund aimed at including research teams from the '*newly associated states*' to ongoing projects. The Swedish NEXT partners are only performing the '*leavers*' *part* of the NEXT-Study in their country, because they are investigating similar questions in the ongoing HAKuL project. Coincidently, central parts of the NEXT 'basic questionnaire' (about 80%) were also used in a Norwegian investigation, headed by Professor Aslaug Mikkelsen (Rogaland Research Institute, Stavanger), which was not funded by the EU. The Norwegian research group is therefore an 'associated member' of the NEXT-Study Group.

Description of the '*basic questionnaire*'

The '*basic questionnaire*' was developed by a group of experts, drawing on earlier research results, interviews with nursing staff in three countries and 6 pre-tests in three countries. Finally, a *core version* was agreed upon which was used by the participating countries. Each team was allowed to add a limited number of further items. In the UK, the core version had to be shortened because a pre-test had indicated that such a long version would not be acceptable to the British nursing professions. The final version has about 260 questions. Free text was allowed in a few questions. The size of the questionnaires in the participating countries ranged from 24 to 37 pages.

The questionnaire covers *occupational biography*, *work demands*, *work organisation, social work environment, individual resources* as well as *occupational future plans*. Moreover, the questionnaire inquired about relevant private conditions such as *living conditions* and *additional caring obligations*. Some questions were descriptive single items (e.g. '*How often in one month do you have to get up before 5 o'clock in the morning to go to work?*'). Other items belonged to scales which describe a certain aspect of work (e.g. '*social support*'). 22 validated established scales were used to assess relevant aspects (see chapter 27). Most descriptive single items and four scales were developed by NEXT.

Selection of institutions

In each country the national NEXT teams have recruited health care institutions for the investigation (hospitals, nursing homes, home care institutions and in Poland and Finland institutions for out patient care). The selection should so far as possible reflect the national distribution of nurses working in the different types of institutions and cover different regions. Usually, the agreement of the employers and of employee representatives had to be achieved. In each institution, a 'field manager' was identified who organised the assessment(s) locally and kept in close contact with the national NEXT team throughout the conduct of the NEXT-Study.

Distribution of the '*basic questionnaire*'

Different procedures for distribution of the anonymous questionnaires were used. Direct posting from the national NEXT teams to the participants' home address was preferred. This was possible in some countries after agreement of all parties involved. In some instances the institutions put on the address label themselves to avoid handing out addresses. In other cases the questionnaires were sent to participants via the institution's internal mail.

In all countries (except Belgium) completed questionnaires were returned to the national research institution by post, using a pre paid envelop. In Belgium the questionnaires were personally collected by the researchers at the institutions.

Participation

The basic questionnaires were sent out to a total of 77,202 nurses (covering all qualification levels). In Poland the return of questionnaires and data entry had not finished by the time the analysis began. Thus while by September 2003 4,150 Polish respondents had returned their questionnaires, only 3,263 Polish participants are included in the analysis in this report.

So far, 39,689 participants have returned the questionnaire. The response rate is 53.2% for the total investigation and varies between the participating countries from 32.4% to 76.9%. In some countries (e.g. Great Britain) it was difficult to be sure how many questionnaires were actually sent out by the institutions.

Table 1: Overview NEXT Q0 assessment
(Sweden was not participating in the assessment)

country	number of institutions	questionnaires sent out	questionnaires received	response rate
Belgium	28	7,049	4,257	60.4
Germany	75	6,484	3,565	55.0
Finland	65	5,161	3,970	76.9
France	55	13,017	5,376	41.3
Great Britain	33	7,962	2,578	32.4 *
Italy	16	7,447	5,645	75.8
Netherlands	27	9,309	4,019	43.2
Norway $	39	7,779	2,733	35.0
Poland	204	7,091	4,150 #	58.8 #
Slovakia	82	6,382	3,396	53.2
all	*585*	*77,202*	*39,689*	*52.9*

* preliminary

$ associated member of the NEXT-Study Group (not funded by the EU)

for Poland only 3263 cases are included in the analysis.

585 health care institutions (excluding Norway) are involved in the NEXT-Study. In Italy, the 16 institutions comprise 127 independent units / sub institutions (Table 1 and Table 2).

Table 2. Number of participating institutions by country.
(Norway and Sweden excluded)

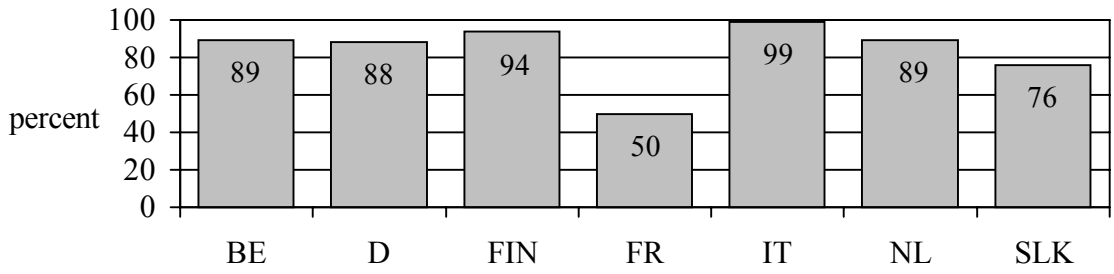
country	hospitals	nursing homes	home care institution	other	all
Belgium	9	9	10	0	28
Germany	16	29	30	0	75
Finland	11	30	10	14	65
France	36	16	3	0	55
Great Britain	17	16	0	0	33
Italy*	9	5	2	0	16
Netherlands	9	13	5	0	27
Poland	18	23	0	163	204
Slovakia	22	44	16	0	82
SUM	*147*	*185*	*76*	*177*	*585*

* in Italy, the 16 institutions comprised 127 independent units / sub institutions

Data handling
Data entry and data processing was organised by each national team. The complete national data set was then forwarded to the co-ordinator and merged to a common data set. SPSS 11.0 was used for data handling.

Differentiation between professional groups in nursing
In the following chapters, the scientific team of NEXT documents results from the first analyses. The large number of topics to be dealt with and the limited space did not allow for presenting detailed findings in all instances. Compromises had to be made. One of them was that most results were shown for the total group of participants, not differentiating between registered nurses and other qualification levels in nursing. This may influence the results, depending on the proportion of registered nurses in the national samples. As Figure 5 indicates, in most participating countries the majority of participants belonged to the group of registered nurses. Only in France it was rather low with 50%.

Figure 5. Proportion of registered nurses in the national samples.
(no data for Norway, Poland and the UK)



Further analysis
'Topic sub-groups' have been set up to deal with certain topics such as 'job insecurity' or 'work ability'. The topic groups cooperate with leading scientists in these fields.

Outlook
The NEXT-Study Group is more and more being contacted by institutions and organisations to provide or present information on our topic of interest. Increasingly, such requests include methodological issues. Indeed, the NEXT-Study is unique in its design, size and international nature. The conduct of the investigation and our first results might encourage similar investigations for other occupational groups in Europe.

Reference

Hof B (2001) *Auswirkungen und Konsequenzen der demographischen Entwicklung für die gesetzliche Kranken- und Pflegeversicherung*. Verlag der privaten Krankenversicherung e.V., Köln.

2 Nursing in Europe

Peter Tackenberg, Hans-Martin Hasselhorn and Andreas Büscher and the NEXT-Study Group

A global perspective of nursing

A variety of tasks performed by the nursing professions have recently been summarised by WHO and other international organisations (2002):

> *"Nursing and midwifery services are a subsystem of health services that are provided by a range of personnel. Globally, these services share common attributes that include:*
> *– caring for, supporting and comforting clients;*
> *– continuously assessing and monitoring health needs and responses to interventions;*
> *– advocacy and education of clients and communities;*
> *– identifying care gaps and developing appropriate responses;*
> *– delivering and coordinating health services across the care spectrum.*
> *Nursing and midwifery also complement and support other health care services and thus help to ensure the successful implementation of interventions that welcome life, promote or restore health or, conversely, enable the means to a peaceful, dignified and pain-free death."*

The progress nursing and midwifery services have achieved in striving for higher professional goals has been acknowledged and supported by WHO since Alma Ata 1978. At the 2nd *WHO Ministerial Conference on Nursing and Midwifery* in Munich it was declared in '*Nurses and midwives: A force for health*' (WHO, 2002):

> *"We believe that nurses and midwives have key and increasingly important roles to play in society's effort to tackle the public health challenges of our time, as well as in ensuring the provision of high-quality, accessible, equitable, efficient and sensitive health services which ensure continuity of care and address people's rights and changing needs."*

According to the conclusions of the 6th meeting of the *Global Advisory Group on Nursing and Midwifery*, the nursing profession (WHO, 2000) cannot be empowered until the following recommendation has been incorporated into policy practice:

> *"Given the pivotal role that nurses and midwives play within health systems and communities in promoting health, the lack of opportunity for contributing*

nursing and midwifery expertise to policy-making processes at the global, regional, national and local levels was identified as a major concern and area for action."

The declared intention to acknowledge and promote the nursing professions to provide health care is in contrast to the fact that, in many European countries, nursing has been exposed to increasing pressure over the last 25 years. At all levels, the health care systems have had to adjust to an economic environment focused on management efficiency. This development has very often resulted in intensified work, increasing patient turnover and in deteriorating working conditions. If the official declarations and recommendations quoted above are to be realised, it will be important to know more about the circumstances and characteristics of the nursing profession in Europe. The NEXT-Study can contribute to this by accumulating knowledge about the working conditions of nurses and by exploring individual and organisational factors which lead to staff turnover and premature departure from the nursing profession.

To undertake a European study investigating the nursing professions has required the development of a study model which is consistent across all participating European countries (see chapter 1). Some problems had to be solved: (i) The first challenge was that, according to some authors, the nursing systems within the national health care systems are unique in each country and thus difficult to compare. Therefore, in the NEXT-Study, a great deal of emphasis had to be put on the definition of characteristics of each particular system, such as professional levels and institutions. (ii) The second point was to arrive at workable measures of physical and psycho-social demands of daily work in nursing. (iii) A third point was the assessment of private and individual circumstances relevant for working in nursing. (iv) And the final challenge was to describe the functionality of nurses' institutional and social environments. The following chapters 3 to 14 of this book examine some of these issues in detail.

Nursing in a European perspective

New challenges for the delivery of nursing care

The following points highlight well-known general trends in European health care services which have significant impact on nursing: hospital care is increasingly reserved for those with acute diseases requiring highly skilled and technical care; the trend to shorter length of stays in hospitals leads to higher work intensification; the need for 'seamless' transition from hospital to home care requires more community health nursing; home care is shifting from social care to complex and often highly specialised care.

Definitions of nurses, nursing practice and institutions

Taking the different changes in health care systems into account, the NEXT-Study started by carrying out a national analysis in each country. The diversity of the nursing work force was examined with respect to age distribution, qualification levels, type of institutions and turnover patterns. This analysis was the basis for the selection and recruitment of health care institutions according to size, type, and regional distribution.

For the NEXT-Study, three main categories of institutions were covered, because these types of institutions exist in all countries involved: (i) hospitals, (ii) old peoples' homes / long-term facilities, and (iii) home care services. However, this had to be adapted to the national health care system. In some countries, like France, separate home care services do not exist. Other countries like Finland or Poland run public health nursing facilities in their health care sectors.

In our study a nurse was defined following the standards and international directives set by the Council of Europe (1978) and the European Community (1977, *cit. in WHO, 1993*).

> *"Compliance with the minimum requirements stated in the European Community directives is a necessary prerequisite to the free movement of professional nurses within the community: the minimum full-time study period must comprise a three-year course or 4,600 hours of theoretical and practical instruction. The Council of Europe agreement recommends that the theoretical component be not less than one third and the practice component not less than half of the programme"*

In addition to these minimum requirements nurses should have the skills and the training to develop nursing practice through critical thinking and research. In order to face these challenges, the International Labour Organisation (1986) recommended that candidates for nursing training should have completed full secondary education (cit. in WHO, 1993).

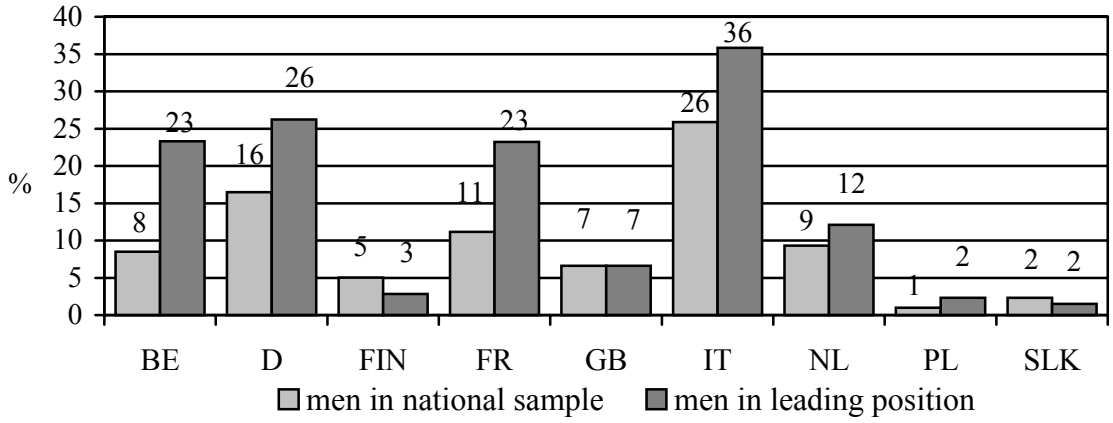
The sampling for NEXT aimed at those individuals characterised by the above definition of a nurse. However, all caring staff were included in the data collection except temporary staff such as conscientious objectors, and voluntary unpaid workers, etc. Nurses employed by nursing agencies were excluded if possible (as it was expected that it would be difficult to follow these individuals). Midwives were included if they were nurses (in some countries) or if it was not possible to separate them from nurses in the work place. In some countries it was necessary to include health care workers other than nursing staff.

Differences in the nursing profession in Europe

The following paragraphs bear out the observation that nurses in Europe are indeed a heterogeneous occupational group - in spite of the common core characteristics of their tasks. We will document this by providing examples in relation to *a) socio-epidemiological data, b) education,* and *c) work organisation.*

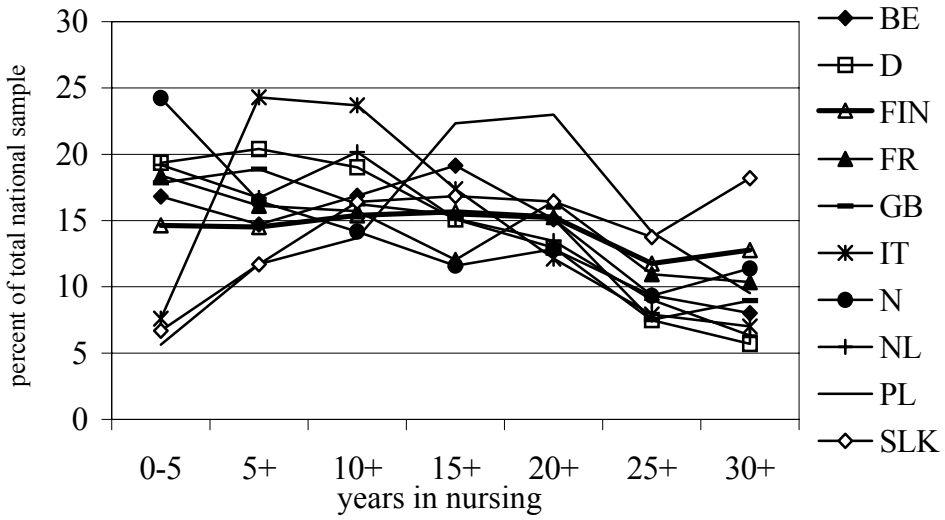
a) Socio-epidemiological data. In our sample, 89.5% of all respondents were women. This confirms that nursing still is a highly gender-segregated profession. National differences were pronounced. As expected, men were over-represented among head nurse positions in almost all countries (Figure 1).

Figure 1. Proportion of men in total national samples and in leading positions; (10.7% in total n=35,897; 12.3% among leading positions, n=4.358).



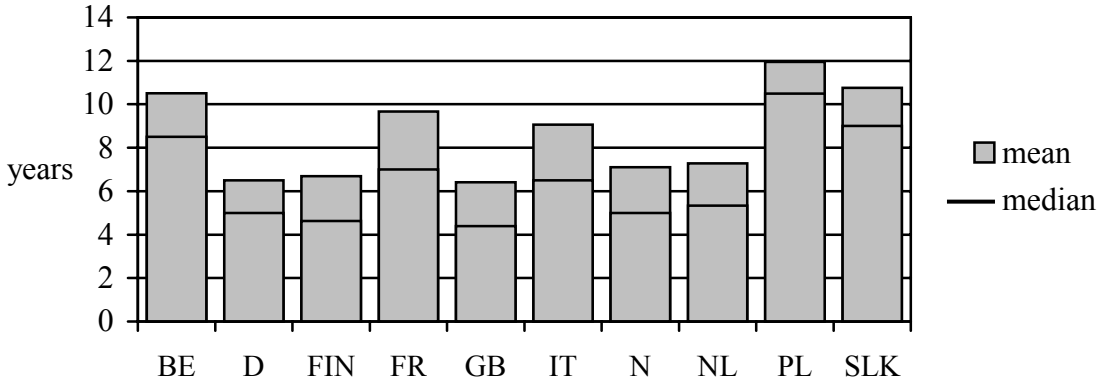
The distribution of *occupational* seniority in the national samples differed (Figure 2). Finland had an even distribution while Italy and Germany had a high proportion of younger nurses. The opposite was the case for Poland and Slovakia.

Figure 2. Occupational age by country. (n=38,673)



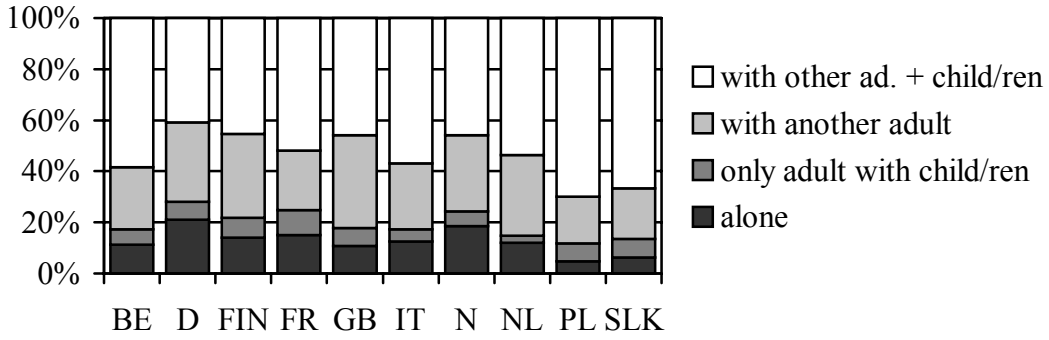
Pronounced differences were also found in relation to *institutional* seniority (Figure 3). In Germany, the respondents had stayed at one institution for a mean number of 6.5 years while in Slovakia this was almost twice as long. The median (line) was lower and lowest in Finland (4.6 years).

Figure 3. Institutional seniority per country. (n=38,563)



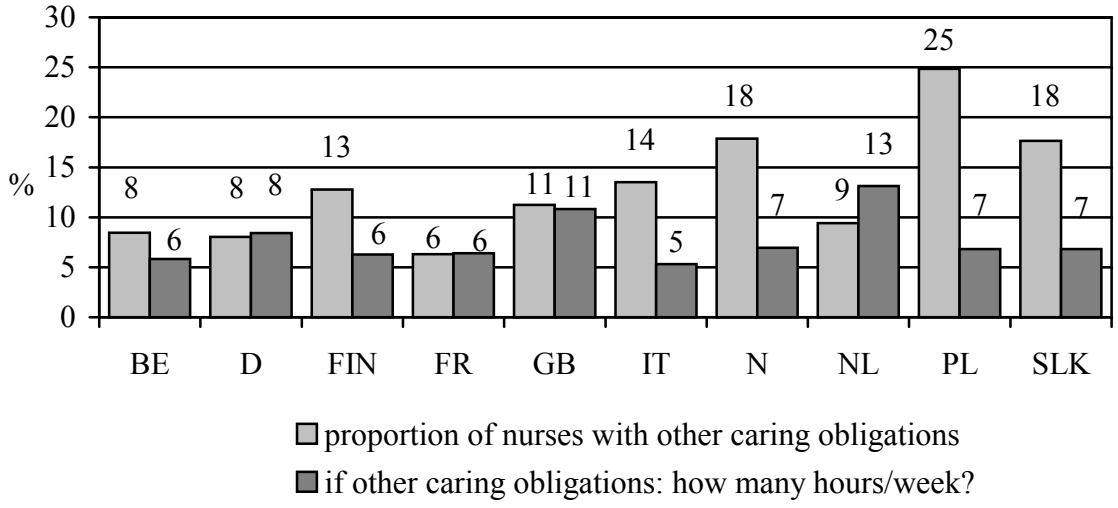
The domestic circumstances of participants varied substantially too. In Germany and Norway, about one fifth of respondents lived alone. In Poland and Slovakia more than 65% lived with another adult and child/ren (Figure 4). Interestingly, participants in Poland and Slovakia reported by far the greatest amount of support from their family in their households: half of them shared the household chores evenly with someone else. However, to assess the total workload of nurses, more factors need to be considered: e.g. number of children at home (between on average 0.8 in Germany and 2.1 in the Netherlands). This might indicate that childcare facilities are not sufficient in Germany to allow mothers to work.

Figure 4. Domestic circumstances. (n=38,111)



In Slovakia, Norway and especially in Poland, the proportion of participants with additional caring obligations was rather high. The amount of time spent on such tasks (excluding child care) was highest in the Netherlands and in Great Britain (Figure 5).

Figure 5. Proportion of nurses with additional caring obligations (left bar, n=38,177) and the mean amount of hours spent on this (right bar, only those with additional caring obligations, n=4,735).

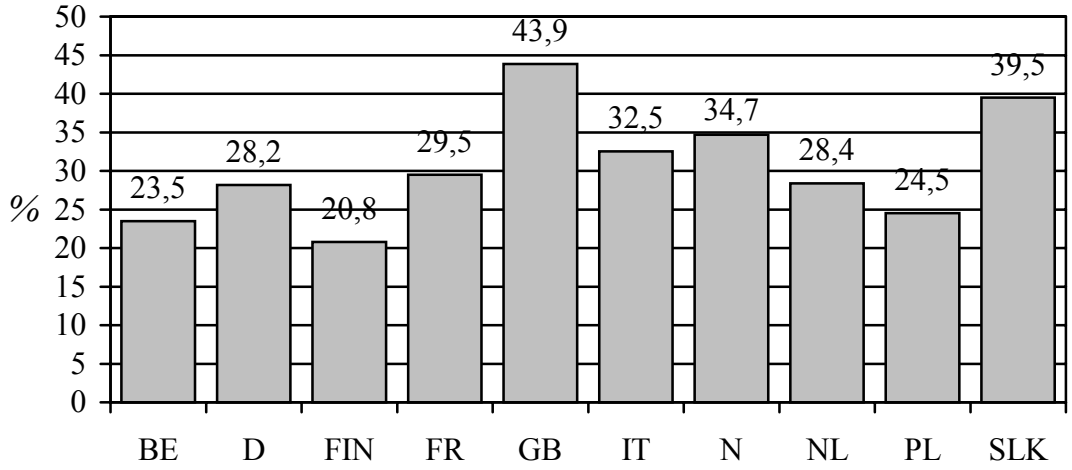


b) Education, qualification. The educational level of the participants was difficult to compare across the participating countries. The number of years in nursing education, however, showed, that in most countries more than 80% of all respondents had a minimum of three years of nursing education. Only in France (57%), Finland (73%) and Poland (75%) was the proportion lower (not shown).

Nurses in the UK and in Slovakia were more likely than their counterparts elsewhere to consider undertaking further nursing education (Figure 6). In the UK, a system of continuous further education exists which all nurses have to participate in. In Slovakia the education system is being adapted to European

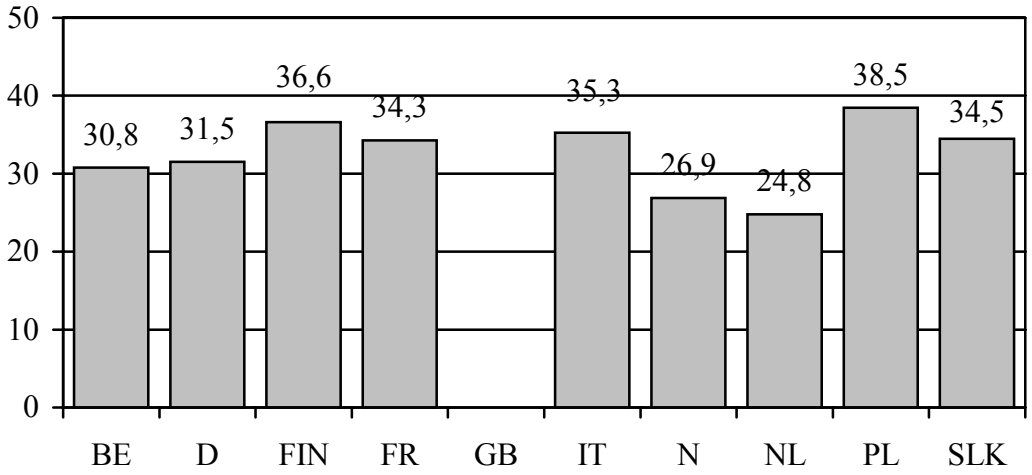
guidelines which requires an increase in the educational level of the existing nursing force.

Figure 6. Proportion of nurses considering further education within health care several times a month or more (in total sample 29.7%). (n=34,820)



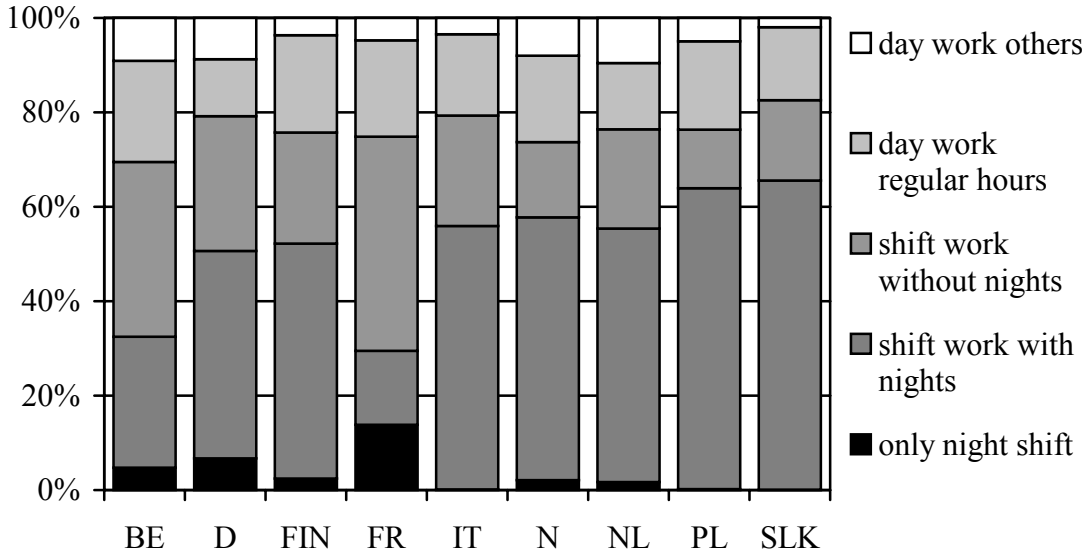
c) Work organisation. As reported in chapter 10, the mean number of weekly working hours differed substantially between the countries. It was lowest in the Netherlands (24.8 hours) and highest in Poland (38.5 hours) (Figure 7).

Figure 7. Mean number of working hours per country.



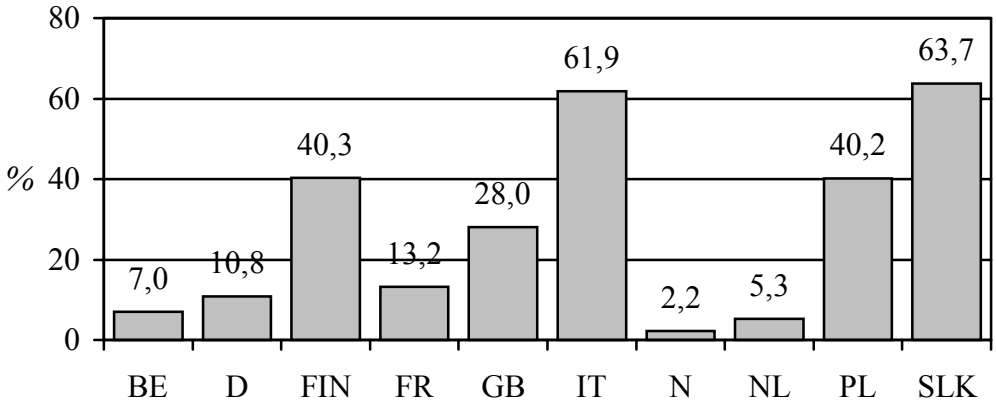
There were also clear differences in terms of the shift systems used to provide nursing care (Figure 8). In France, night shifts appear to be staffed almost exclusively by nurses who only work night shifts. This was only exceptionally the case in the Italian, Polish and Slovakian sample.

Figure 8. Proportion of nurses working in different shift systems by country. (n=35,569)



The proportion of nurses working on three or more weekends per month was highest in Slovakia, Italy, and Finland (Figure 9).

Figure 9. Proportion of nurses working on three or more weekends per month by country. (n=36,242)



Conclusion

In spite of the common tasks carried out by all nurses which have been defined above, our results show that nursing in Europe may actually vary substantially in many respects across the participating countries. Within the context of this article it was only possible to demonstrate some examples for this. The impact which such variations have on health, well-being and staff retention needs to be investigated through multivariate analysis taking account of a wider range of factors. The NEXT-Study provides a large data set on the living and working conditions and characteristics of nursing staff in 10 European countries. These data will be used to explore in depth the profile and characteristics of nursing in each country. Examples of good practice may be identified. It may then be possible to indicate whether or not such examples might be transferred to other settings, e.g. other countries.

References

Commission of the European Communities (1977) Council Directive of 27 June 1977, 77/453/EEC on Nurses. *Official Journal of the European Communities*, L 176 (1977)

Council of Europe (1978*) European agreement on the instruction and education of nurses, Strasbourg, 25.X.1967*. Strasbourg: Council of Europe (European Treaty Series, No. 59)

International Labour Organisation (1986) Recommendation 157 concerning employment and conditions of work and life for nursing personnel (1977) *International labour conventions and recommendations, 1919-1981.* Geneva: International Labour Office

World Health Organisation Regional Office for Europe (1993) *Nursing in action – Strengthening nursing and midwifery to support health for all*. WHO Regional Publications, European Series, No. 48

World Health Organisation (2000) *Global Advisory Group on Nursing and Midwifery – Report on the Sixth Meeting Geneva, 19-22 November 2000.* Geneva: World Health Organisation

World Health Organisation (2002) *Strategic directions for strengthening nursing and midwifery services*. Geneva: World Health Organisation.

3 Leadership, job satisfaction and nurses' commitment

Sabine Stordeur, William D'hoore, Beatrice van der Heijden, Miriam Dibisceglie, Marjukka Laine, Esther van der Schoot and the NEXT-Study Group

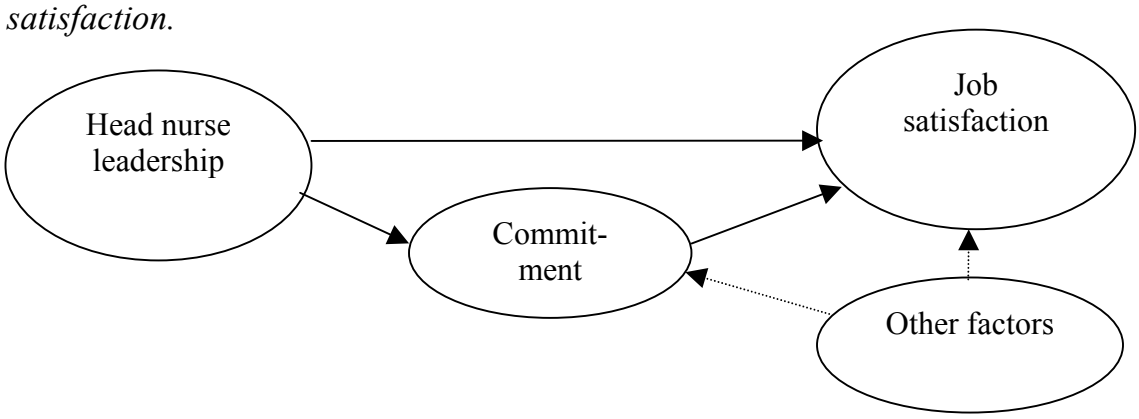
Introduction

The main issue addressed in this chapter concerns the relationship between managerial practices on the one hand and nurses' job satisfaction and commitment on the other hand. Assessment of managerial practices and their implications in terms of commitment and job satisfaction appear to be of theoretical and empirical relevance with regard to the performance of employees in the nursing sector.

Leadership, job satisfaction and commitment are closely interrelated. Job satisfaction and commitment are immediate antecedents of intention to leave the workplace and turnover: the higher a nurses' job satisfaction and commitment, the lower their intention to leave. Among antecedents of job satisfaction and commitment, leadership plays a central role, along with other human resource management practices. Leadership is positively correlated with nurses' job satisfaction and with commitment towards the institution and its missions (Dunham-Taylor, 2000; Stordeur et al., 2000; Morrison et al., 1997). In the figure below commitment is portrayed as a mediator influencing job satisfaction (Currivan, 1999).

Moreover, leadership has further major implications in the hospital production process: numerous studies demonstrate that sister nurses adopting active leadership behaviours urge nurses to achieve higher standards of quality and to do more than they originally thought to be able to (Stordeur et al., 2000).

Figure 1. Model on relationships between leadership, commitment and job satisfaction.



Leadership

Despite the multitude of ways in which leadership has been conceptualised, the following definition of leadership can be proposed: *leadership is a process whereby an individual influences a group of individuals to achieve a common goal* (Northouse, 1997). The main challenges for leaders are to build a long-term vision, to increase commitment, to build teams and coalitions in order to create required organisational changes. In order to reach their goals they should focus on motivating, inspiring and empowering their employees.

In work settings, the supervisor is often the most salient person and is therefore likely to both represent the organisation's culture and to exert a direct influence upon subordinates' behaviours. Superiors who enable employees to participate more in decision making and who encourage a two-way communication process tend to generate a favourable climate among their nursing team, characterised by less interpersonal conflict and hostility and fewer non-cooperative relationships (Stordeur et al., 2001). This managerial style can be typified as transformational leadership. On the other hand, assigning tasks, specifying procedures, and clarifying expectations have been shown to result in reduced role ambiguity and increased job satisfaction among employees. Leaders who are perceived to closely monitor their nurses in order to prevent mistakes tend to evoke higher levels of emotional exhaustion among their staff (Stordeur et al., 2001). It is likely that in many circumstances close control by the sister nurse is perceived as an additional pressure to the high work pressure nurses already face. Moreover, close monitoring may be perceived as a lack of trust in the nursing staff. Emotional support and adequate feedback provision about nurses' performance would be a better strategy and may lead to an increase in nurses' self-esteem.

Job satisfaction

Job satisfaction is generally defined as an employee's affective reaction to a job, based on comparing actual outcomes with desired outcomes. It is generally recognised as a multifaceted construct that includes employee feelings about a variety of both intrinsic and extrinsic job elements. Employees expect their job to provide an accumulation of features (e.g., pay, promotion, autonomy) for which the employee has certain preferential values. The range and importance of these values vary across individuals, but when the accumulation of unmet expectations becomes sufficiently large, job satisfaction is lower, and there is a greater probability of withdrawal behaviour (Pearson, 1991).

Numerous factors influence job satisfaction, including: clinical duty/service and type of work, nursing care delivery model, degree of professionalism, organisational climate, supervision and interpersonal relationships, status, autonomy, repetition of duties, the nature of tasks to be performed, job outcomes

and pay (Hinshaw & Atwood, 1984). Irvine and Evans (1995) have also underlined the importance of work characteristics (routine, autonomy, and feedback), characteristics of how the work role is defined (role conflict and role ambiguity) and characteristics of the work environment (leadership, stress, advancement opportunities and participation) in relation to nurses' job satisfaction. In the Davidson et al. study (1997), effective communication patterns contributed favourably to perceptions about quality of care, time available to accomplish work demands, and overall enjoyment of the job. Studies investigating relationships between type of nursing care delivery and nurses' satisfaction report low correlations between these two variables (Kangas et al., 1999). The process of implementing a nursing care delivery model is more important than the model itself.

Nurses' satisfaction is positively linked to patients' satisfaction (Leiter et al., 1998) and to quality of care (McNeese-Smith, 1995). Dissatisfaction at work leads to absenteeism, expression of grievances, and turnover. Unsatisfied workers report a higher intent to leave, the influence of job satisfaction being as powerful as that of wages (Clark, 1998).

Nurses commitment

Organisational commitment. The various views on organisational commitment seem to reflect three general components: affective attachment to the organisation (affective commitment), perceived costs associated with leaving the organisation (continuance commitment), and feelings of obligation to the organisation (normative commitment) (Allen & Meyer, 1990). Although each of these components increases the likelihood that the employee will choose to remain within the organisation, the nature of these psychological ties differs from one another. *Affective commitment* refers to the degree to which the employee identifies with, is involved in, and is emotionally attached to the organisation. Affectively committed employees believe in the goals and values of the organisation and enjoy being a member of it. Employees with strong affective commitment remain with the organisation because they *want* to do so. *Continuance commitment* refers to the degree to which the employee recognizes that costs associated with leaving the organisation tie him or her to the organisation. Such employees remain within the organisation because they *have* to do so. *Normative commitment* refers to the degree to which the employee feels an obligation to the organisation; staying within the organisation is the right and moral thing to do. Employees remain within the organisation because they feel they *ought* to do so (normative commitment will not be investigated in NEXT-Study). All components of commitment are positively related to the decision whether to stay or leave the organisation.

Professional commitment. Commitment to one's profession has not been studied as extensively as organisational commitment. However, it has been found to be an important component of different types of work-related commitment of nurses (Cohen, 1998). Gardner (1992) emphasised the importance of occupational commitment in nursing because it relates to the attractiveness of nursing as a lifelong occupational choice and valued career option.

The terms 'professional', 'occupational' and 'career commitment' have been used somewhat interchangeably in the literature. Recent research supports a three-dimensional construct of professional commitment that is similar to the one for organisational commitment. According to Meyer et al. (1993), the nature of the person's involvement in the occupation might differ depending on which form of commitment is predominant. A person who is affectively committed may, for example, keep up with developments in the occupation (e.g. by subscribing to trade journals or attending conferences), or join and participate in relevant associations. Individuals who have a strong continuance commitment may, in contrast, be less inclined to involve themselves in occupational activities besides those required to continue membership (Meyer et al., 1993).

Professional commitment is argued to be an even stronger determinant of nurses' turnover than commitment to the organisation and work (Mueller et al., 1992). Lacking professional commitment has been found to be associated with intention to leave the nursing profession in several studies (Bedeian et al., 1991; Cohen 1998), and also with intention to leave the organisation (Cohen, 1998).

Methods

Leadership instrument

Leadership quality was measured with 4 items from the *COPSOQ (Copenhagen Psychological Questionnaire).* These items concerned how nurses perceive the way their immediate superiors *make sure that the individual member of staff has good development opportunities*, *give high priority to job satisfaction*, *are good at work planning* and *at solving conflicts*. A high score for this scale indicates a high quality of leadership. The rating scale is a five-point one.

Job satisfaction instrument

The job satisfaction scale was composed of 4 items of the COPSOQ. These items pertain to the way in which employees are satisfied with their work prospects, their physical working conditions, the way their abilities are used, and finally their job as a whole; everything is taken into consideration. A high score for this scale indicates that people are extremely pleased with their job. The rating scale is a five-point one.

Organisational commitment and *professional commitment* were both measured with a four item job commitment scale adapted from Allen and Meyer

(1990). All items reflected the affective dimension of commitment (i.e. 'I really feel that I belong to this institution/to the nursing profession'). Answers were recorded on a five-point scale (1=totally inaccurate and 5=totally accurate). High scores indicate a strong commitment to the organisation and to the profession.

Data analysis

Data analysis was conducted with SPSS 11.0. Means comparisons were carried out using ANOVA, proportion comparisons with Chi^2 test.

Table 1. Response rates for the measurement instruments 'leadership', 'job satisfaction', 'organisational' and 'professional commitment' per country. (r.rate = response rate)

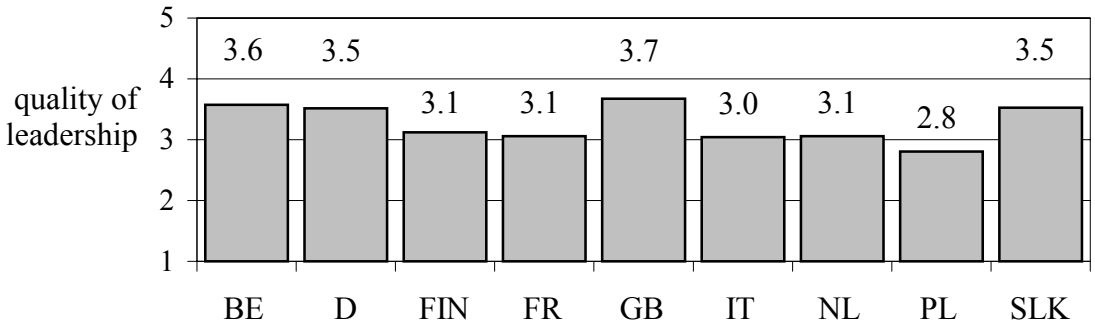
Country	leadership scale		job satisfaction scale		organisational commitment scale		professional commitment scale	
	n	n	r.rate	n	r.rate	n	r.rate	n	r.rate
BE	4,257	4,101	96.3	4,188	98.4	4,185	98.3	4,181	98.2
D	3,565	3,484	97.7	3,525	98.9	3,476	97.5	3,479	97.6
FIN	3,970	3,909	98.5	3,935	99.1	3,926	98.9	3,927	98.9
FR	5,376	5,269	98.0	5,299	98.6	5,260	97.8	5,251	97.7
GB	2,578	2,521	97.8	2,559	99.3	2,529	98.1	2,518	97.7
IT	5,645	5,168	91.6	5,418	96.0	5,369	95.1	5,318	94.2
N	2,733	-	-	2,633	96.3	-	-	-	-
NL	4,019	3,886	96.7	3,964	98.6	3,986	99.2	3,980	99.0
PL	3,263	3,103	95.1	3,118	95.6	3,041	93.2	3,066	94.0
SLK	3,396	3,177	93.6	3,246	95.6	2,884	84.9	2,890	85.1
SUM	*38,802*	*34,618*	*89.2*	*37,885*	*97.6*	*34,656*	*89.3*	*34,610*	*89.2*

Results

Leadership

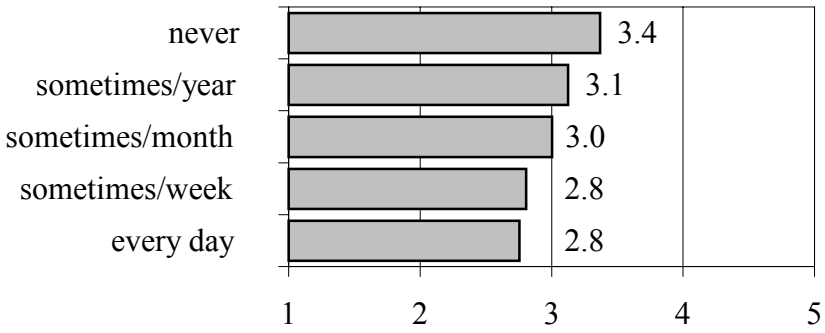
Leadership quality was more positively evaluated in Great-Britain, Belgium, Germany and Slovakia, compared with the other participating countries, particularly in Poland and Italy. Nevertheless, the two highest score categories (4 and 5) were not used in most cases; nurses were merely "more or less" satisfied with their superior's abilities to plan teamwork, to solve conflicts, to give priority to nurses' development and to job satisfaction.

Figure 2. Mean scores for leadership by country. Possible range 1 (low) to 5 (high)



Moreover, leadership quality appears to vary with work setting; it was more positively rated in home/residential care (m=3.52) compared with nursing homes (m=3.28) and hospitals (m=3.20). Nurses having a higher level of training considered the leadership quality of their superiors (m=3.24) worse compared with their counterparts that had no qualification or a low training level (m=3.33). The difference between males and females was not significant.

Figure 3. Mean scores for leadership by intent to leave. Possible range 1 (low) to 5 (high)



Finally, nurses who had often thought about leaving reported low quality of leadership. In Figure 3 the pattern is visualized.

Discussion leadership

Firstly, it is interesting to note that there were more missing values for the leadership scale in comparison with the other scales, probably because respondents are reluctant to give their opinion about their immediate superior by fear of reprisals (Stordeur et al., 2001).

In our European sample, English, Belgian, Slovakian and German nurses reported a significantly higher leadership quality compared with Polish and Italian nurses. Our results reflect differences in the development of nursing

leadership in European countries that may be explained by a constellation of historical and structural factors, by nursing training and corporate culture. In the health care system, the evolution of values, structures and professions is very slow and may vary among countries (Genevieve, 2003).

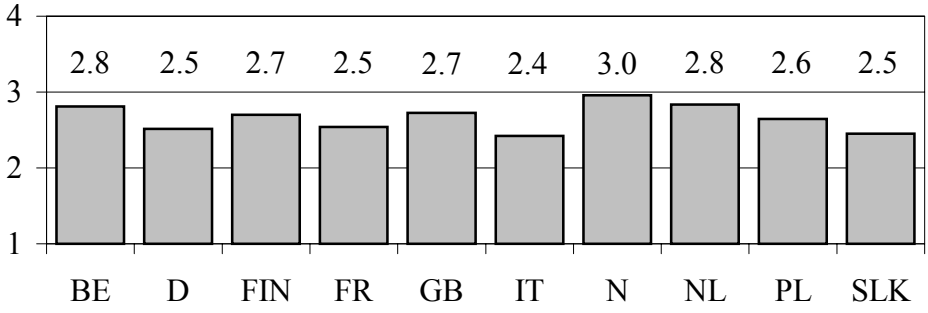
Leadership abilities of sister nurses were perceived differently according to the work setting. Our outcomes are supported by a study of Leatt and Schneke (1982) who found that structure, size, technology, internal and external environments can influence health care workers' attitudes and behaviour. The different manners in which the workplace and teamwork are organised might explain our results. When providing home/residential care, for example, nurses work more independently without the permanent control of sister nurses who naturally have to delegate a part of the organisation and coordination of nursing care. Consequently, nurses can feel empowered, having better control over their activity: their perception of leadership quality will be higher under these circumstances.

Highly qualified nurses evaluate the leadership quality of their superiors less positively. Moreover, further training also raises nurses expectations towards their superiors and of the work context in which they evolve (Sheridan et al., 1984). The fact that specialised nurses prefer to work in hospitals might partly account for the previously mentioned outcomes regarding the relatively low evaluations in hospital settings.

Except in Poland, sister nurse leadership is positively related to job satisfaction (r=.38) and to affective commitment towards the organisation (r=.33) and negatively associated to intent to leave (r=-.25). In Poland, leadership quality is not associated with these outcomes.

Job satisfaction

Figure 4. Mean scores for job satisfaction by country. Possible range 1 (low) to 4 (high)



Substantial differences between the participating countries have been found with respect to job satisfaction. The overall scores may hide more specific information

about potential sources of dissatisfaction. Indeed, we found the lowest score in all countries for 'satisfaction with psychological support' and for 'satisfaction with physical working conditions' and the highest score for 'use of abilities' (DE, BE, FIN, FR, N, SLK) or 'satisfaction with the job as a whole' (IT, NL). In Poland, the high dissatisfaction scores were obtained to 'use of abilities' (m=2.46) and 'opportunity to give to patients the care they need' (m=2.47). Another remarkable result was the low 'satisfaction with work prospects' in Germany and Slovakia (m=2.34 and m=2.23).

Womens' job satisfaction was found to be significantly higher (m=2.65; n=33,809), compared with men (m=2.55; n=3,967). As regards differences according to age and seniority, we observed a curvilinear relationship: scores were higher for the lowest and highest ages and seniority ranges and lower after 5 to 10 years of experience, which corresponds to an age of 30.

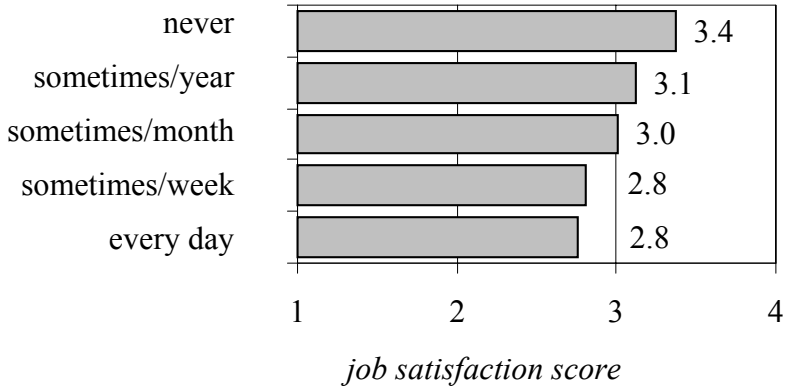
Job satisfaction appeared to vary with work setting: job satisfaction was higher in home/residential care (m=2.81) than in nursing homes (m=2.65) and in hospitals (m=2.58). The dimension 'satisfaction with working conditions' particularly contributed to the differences.

Except for the nursing personnel who had no qualifications in nursing, job satisfaction decreased slightly as educational level increased.

Sister nurses represented 11% of our sample, and deputy nurses 10%. Job satisfaction appeared to increase with hierarchical level, sister nurses and deputy nurses being the most satisfied nurses (m=2.80), and staff nurses the least satisfied (m=2.59).

Finally, there was an obvious relationship between job satisfaction and intent to leave. The lower the satisfaction, the higher the intent to leave.

Figure 5. Mean scores for job satisfaction by intent to leave. Possible range 1 (low) to 4 (high)



Discussion job satisfaction

As expected for health service employees (Tumulty et al., 1994), poor levels of job satisfaction were reported in our European nursing sample. The rather low job satisfaction level can be mainly attributed to the physical working conditions, as observed previously (De Troyer, 2000), but also by the low social support obtained. The nursing occupation is physically demanding as the handling of heavy loads is often involved (moving, repositioning and lifting patients), but also due to the movements and postures that are expected in many work situations. Moreover, in many occasions, the work environment is not well adapted (transformable beds, internal transport of patients, bad architectural structure of the ward, etc). Differences in job satisfaction between countries might be due to differences in working conditions. According to De Troyer, equipment which assists in the handling of patients does exist in Belgium, Denmark, France, the Netherlands, and the United Kingdom, but only in some hospitals.

The design and organisation of the job sometimes imply that many physically demanding tasks are carried out alone and without mechanical assistance for a number of reasons (lack of time at some points of the day, lack of information about patients' degree of independent motion, stretcher-bearers not available, and so on).

Strikingly, German nurses reported poor satisfaction with work prospects. In fact, even though federal law regulates basic training for nurses, post basic nurse education is left to the 16 federal states. This has resulted in different 16 federal states recognizing different types of specialization. Moreover, the qualification as a specialist nurse does not guarantee any particular competence and work domain to these nurses, except for the nursing teacher. These two aspects of German post-basic training and lack of a specific area of competence for specialist nurses may discourage nurses to continue their training leading to poor satisfaction with work prospects.

Differences in job satisfaction between men and women have to be interpreted according to the low proportion of men in our sample; a high proportion of them were Italian nurses who were particularly unsatisfied with their job. On the one hand, these differences could be explained by differences in professional aspirations. Women's lower expectations are likely to result from their poorer position in the labour market but also from their higher investment in family sphere. The basis for this argument is the finding that individuals tend to evaluate experiences relative to some kind of norm or reference level (Clark, 1997). Moreover, satisfaction with ones use of abilities was also lower for men, which can reflect unease with the traditional image of nurses (mother's role and patient dedication) as well as a clash between what men do as nurses and what they think they should do to progress in their career. On the other hand, male nurses

are stereotyped as lazy or as non-achievers who chose nursing rather than medicine, engineering or other "masculine" professions (Chung, 2000). Some male nurses feel that higher performance standards are required from them compared with their female colleagues and that peers may resent them having a traditionally female role (Farella, 2000). One of the misconceptions is that men are not capable of being nurses, nursing being a "woman's job". These unfair misconceptions make it difficult for men to find satisfaction in the nursing profession.

The U-formed relationship between age, seniority and job satisfaction requires two interpretations. Among younger nurses, a higher level of satisfaction may be due to the fact that inexperienced nurses have less responsibilities, less pressure, less demands from colleagues, doctors and the sister nurse. They may also be less exposed to work-to-family conflicts. Among older nurses, higher satisfaction could be explained by a better knowledge of nursing, by benefits linked to seniority (schedules, salary), and by less external demands. It is also possible that older nurses refocus their priorities to factors outside the work setting, such as family and planning for retirement. Nurses older than 50 years of age may also be more able to favourably assess what is possible and available today in the nursing profession as compared to previous years (Ingersoll et al., 2003). In our cross-sectional study, we cannot rule out selection mechanisms: dissatisfied nurses may have already left the profession.

In accordance with Blegen's meta-analysis (1993), satisfaction is lower among nurses with a higher level of training. As suggested by Price and Mueller (1981), a higher level of training may lead to dissatisfaction if organisational constraints hinder the use or the further development of acquired knowledge and abilities, while these nurses have higher expectations towards management. The amount of dissatisfaction may worsen if they realise that they have no access to opportunities where they could use these abilities.

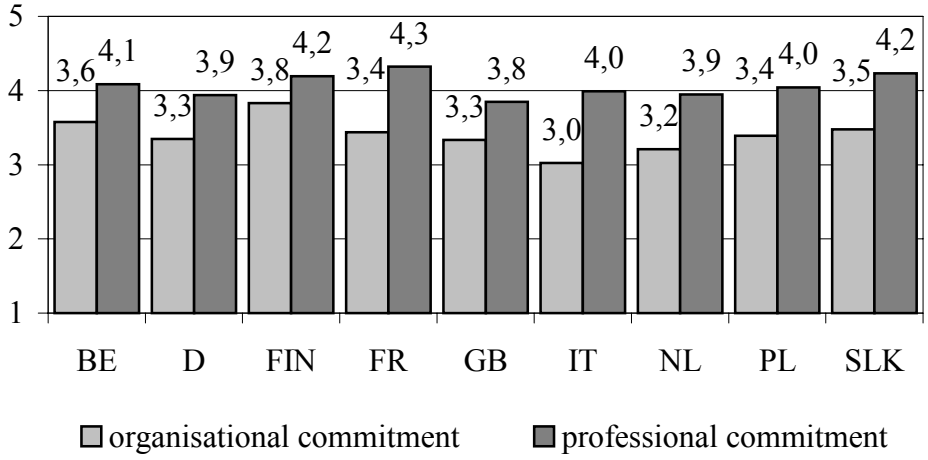
As expected, satisfaction was higher among nurses with higher occupational positions. This can be attributed to having more control over the job, more decision latitude, along with a more central position between nursing staff and other healthcare professionals (esp. the physicians), a valued position within nursing hierarchy, and more social recognition.

Finally, job satisfaction was higher among nurses working in home/residential care compared with those working in old people homes and hospitals. This could be explained by the characteristics of home care which ensures higher autonomy, higher job control and a narrow, rewarding, relation with chronic patients. Parallel, home care nurses do not experience the tremendous pace and administrative burden that hospital nurses do experience.

Commitment

In this section, the affective dimension of both organisational and professional commitment according to different characteristics of the respondents and according to type of health care institution will be described.

Figure 6. Mean scores for commitment by country. Possible range 1 (low) to 5 (high)



In each country, professional commitment was significantly higher than organisational commitment (paired samples t-test; p<.0001). Indeed, in practice, we observed that nurses can change easily from one health care institution to another without leaving the nursing profession. Although the amount of professional commitment was highest in France, the highest organisational commitment score was seen in Finland.

Figure 7. Mean scores for commitment by setting. Possible range 1 (low) to 5 (high) (out-patient care in Finland and Poland)

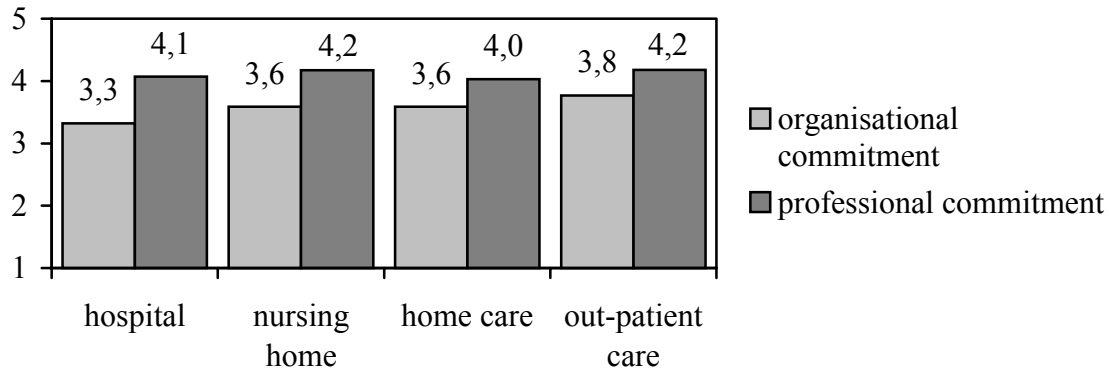
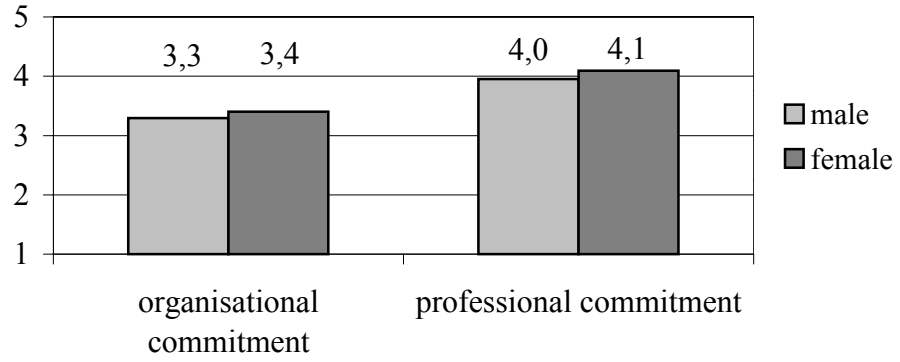


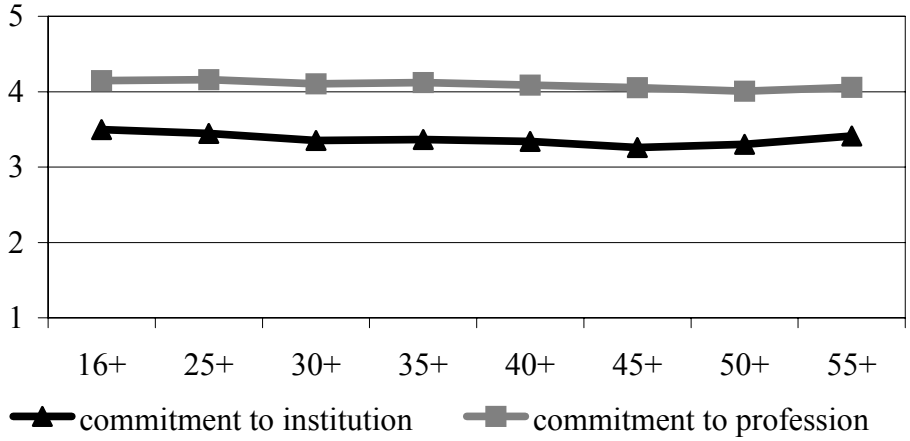
Figure 7 shows that both organisational and professional commitment varied between the different types of healthcare institutions. Organisational commitment seemed to be higher in nursing homes and home care compared with the score for hospitals, while the highest professional commitment was found in nursing homes/out-patient care.

Figure 8. Mean scores for commitment by gender. Possible range 1 (low) to 5 (high)



For both types of commitment, the scores for men were lower compared with the scores for women ($p<.0001$). Please note that nurses having a seniority of up to 1 year reported a higher amount of commitment towards their institution and their profession (Figure 9).

Figure 9. Mean scores for commitment by seniority. Possible range 1 (low) to 5 (high)



The association between intent to leave and the two commitment types is clear (Figure 10). As the frequency in thinking of leaving the profession increased, both levels of organisational and professional commitment decreased.

Figure 10. Mean scores for commitment by intent to leave. Possible range 1 (low) to 5 (high)

Finally, it is of interest to pay attention to the positive relationship between leadership quality and affective commitment (towards institution: r=.29; p<.0001; towards profession: r=.14; p<.0001), and between job satisfaction and affective commitment (towards institution: r=.35; p<.0001; towards profession: r=.18; p<.0001). The relationship between affective commitment and intent to leave was negative (r=-.33 for commitment towards institution; and r=-.38; p<.0001 for commitment towards profession).

Discussion commitment

The relatively higher scores for professional commitment can be accounted for by the high degree of dedication and motivation that nurses have towards their profession and their patients. Lowest levels of professional commitment can be found in Great-Britain, Germany, and the Netherlands. This may be due to the fact that nurses, in spite of their devotion towards their job, obtain low recognition and rewards from sister nurses, doctors, and administrators.

Organisational commitment scores are lower in comparison with the scores for professional commitment. This result is important because, in practice, we observe that nurses easily change from one health care institution to another without leaving the nursing profession. The high need for qualified nurses enables them to change frequently and easily but it aggravates the feeling of shortage and the quality of care (continuous recruitment, socialisation of nurses to ward/organisation habits etc.).

Commitment towards smaller organisations such as nursing homes is higher than towards larger institutions (e.g. hospitals), where doctors' decisiveness is more dominant and the organisation is more bureaucratic and hierarchical. The highest scores for professional commitment can be found in nursing homes,

where prolonged and continuous care is needed. In this work setting, the amount of opportunities to take care for patients' welfare are higher. This matches the task orientation of nurses, which seems to be based on the fundamental concern for patient welfare (Borghans & De Steur, 1999).

It should not be surprising that men obtain lower scores for the two types of commitment than women, probably because men attribute more importance to professional and social success (even if this success implies leaving the organisation, or even the profession). Besides, nursing is still regarded as a female profession (except for Italian male nurses).

Scores on commitment controlled for seniority shows that, as expected, nurses having worked for up to one year express higher commitment levels. Affective commitment develops mainly in earlier stages of one's career. Later on, affective commitment can be high as well, but combined with other types of commitment (like continuance commitment for example). Here too, professional commitment scores higher than organisational commitment. At the beginning of their career, people identify more with their profession and to a lesser degree with the organisation in which they work.

The relationship between both organisational and professional commitment and intent to leave the profession is clear. As commitment influences levels of satisfaction, it is of significance to be monitored in order to prevent premature leaving of nurses. More detailed analysis is needed to gain further insight into cross-cultural differences.

General discussion

Research in employee turnover has generated several models of determinants and processes underlying voluntary turnover. In the most recent models, job satisfaction and organisational commitment proved to have empirical relationships with voluntary turnover even in meta-analyses (Gaertner, 1999). Among determinants, leadership is viewed as an important predictor of job satisfaction and commitment, beside the other work setting characteristics. Leadership quality is a core element of management. It is not only strongly related to the amount of employee commitment but it is also logically linked to organisational performance and patient satisfaction (Rogg et al., 2001).

In our European sample, nurses from Great-Britain, Belgium, Slovakia and Germany reported higher scores for leadership quality compared with Polish and Italian nurses. Nevertheless, despite positive correlations between head nurse leadership and global job satisfaction (r=.32) and organisational commitment (r=.29), we observed that, at the country-level, highest scores in leadership were not systematically followed by highest scores in job satisfaction and commitment (see Great-Britain and Belgium). Conversely, in the Netherlands, we obtained low scores in leadership, but high scores in job satisfaction and, for Finland, in

commitment. Our correlations between leadership quality and job satisfaction vary from the lowest result in Slovakia (r=.33) to the highest result in Great-Britain (r=.46). Therefore, we cannot conclude that relationships between leadership, job satisfaction and commitment are automatic. For each country, it must be recognised that individual, organisational and task characteristics exist which may act as moderators on leadership effectiveness. Among these moderators, we can distinguish *individual characteristics of subordinates* (ability and training; high need for independence; professional orientation; indifference toward organisational rewards), *task characteristics* (methodologically invariant tasks; task-provided feedback; intrinsically satisfying tasks) and finally, *organisational characteristics* (organisational formalisation; organisational inflexibility; highly specified and active advisory and staff functions; cohesive work groups; organisational rewards not within the leader's control; spatial distance between a superior and subordinates) (Kerr & Jermier, 1978). Campion et al. (1993) also insisted that characteristics such as job design, interdependence, team composition, environmental context and process (e.g. workload sharing, communication/cooperation within groups, potency and social support) better account for effectiveness criteria (such as productivity and satisfaction). In an international sample, we cannot rule out the influence of cultural factors (Hofstede, 1980).

As nurses' dominant work orientation is based upon the fundamental concern for patients welfare, it is important to monitor the character of their job in order to guide the amount of organisational and professional commitment. Only if nurses perceive the organisation, and even the profession as a place where they can fulfil work-related desires, the *intent to stay* will increase. It is hard to understand why, in a period of a huge nurse shortage, their life-long employability is so badly guided. (Van der Heijden, 2002). After all, it is not only the amount of respect and recognition by head nurses, doctors, and administrators, to mention but a few, that is at stake here. Many of the nurses in our sample reported that their job is, in many circumstances, highly physically demanding, and thus endangers their future employability. Since the perception of the quality of leadership is also positively related to the amount of job satisfaction and productivity, it is recommendable that supervising staff in the health care sector pays more attention to individual differences in order to increase the person-job match. As the amount of affective commitment develops mainly in one's earlier career stages, it is extremely important to start paying attention to the work-related abilities, needs and desires of individual nurses, in order to adjust leadership style, work-related demands and developmental plans. During one's entire career, the future employability should be considered in order to prevent premature loss of capabilities, knowledge and commitment.

According to Gaertner (1999), it is even possible that all of these determinants do not predict *both* job satisfaction and organisational commitment. For example, from a theoretical point of view, supervisory support and promotional chances could be directly related to organisational commitment over and above job satisfaction, while other structural determinants could be related to job satisfaction alone. It is also important to point out that, compared to organisational commitment, job satisfaction varies more directly and instantaneously with changing working conditions (Mowday et al., 1982). It is probably why, in countries like Germany, Finland and the Netherlands, we observed a high discrepancy between leadership quality and job satisfaction scores. Drawing in results from the other parts of our baseline questionnaire will be very important to obtain a more complete structural model. Additionally, more data analysis is needed which makes use of appropriate tools such as hierarchical modelling.

From a practical perspective, more needs to be known about how leaders can affect principal working conditions in order to indirectly enhance job satisfaction. Moreover, if managers would conceptualise major work characteristics (i.e. staffing, training, assigning work, appraising performance, allocating rewards, etc) within a human resource framework, it might enhance employees awareness in human resource departments of their responsibilities regarding work groups (Campion et al., 1993); this could favour the decentralisation of power in baseline managers hands (here, sister nurses) who would be more suitable to work as leaders, responsible for their team functioning in well-adapted working conditions.

References

Allen NJ & Meyer JP (1990) The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology* 63: 1-18.

Bedeian AG, Kemery ER & Pizzolatto AB (1991) Career commitment and expected utility of present job as predictors of turnover intentions and turnover behavior. *Journal of Vocational Behavior* 39:331-343.

Blegen MA (1993) Nurses' job satisfaction: a meta-analysis of related variables. *Nursing Research* 42:36-41.

Borghans L & De Steur M (1999) Kiezen voor de zorg: Een conceptueel kader [Choosing health care: A conceptual framework]. Den Haag: OSA.

Campion MA, Medsker GJ & Higgs AC (1993) Relations between work group characteristics and effectiveness: implications for designing effective work groups. *Personnel psychology* 46:823-850.

Chung V (2000) Men in nursing. Retrieved April 14, 2003, from MinorityNurse.com Web Site: http://www.minoritynurse.com/features/nurse_emp/08-30-00c.html

Clark AE, Georgellis Y & Sanfey P (1998) Job satisfaction, wages and quit : Evidence from German Panel Data, Research in Labor Economics. In: Clark AE. *Les indicateurs de la satisfaction au travail. Quelles sont les caractéristiques d'un bon emploi ? Observations recueillies dans certains pays de l'OCDE. Politiques du marché du travail et politique sociale* – Documents hors série N° 34, OCDE, 1998, 29 p.

Clark AE (1997) Job satisfaction and gender: why are women so happy at work? *Labour Economics* 4(4):341-372.

Cohen A (1998) An examination of the relationship between work commitment and work outcomes among hospital nurses. *Scandinavian Journal of Management* 14(1-2):1-17.

Currivan DB (1999) The causal order of job satisfaction and organizational commitment in models of employee turnover. *Human resource Management Review* 4:495-524.

Davidson H, Folcarelli PH, Crawford S, Duprat LJ & Clifford JC (1997) The effects of healthcare reforms on job satisfaction and voluntary turnover among hospital-based nurses. *Medical Care* 35:634-645.

De Troyer M (2000) *The hospital sector in Europe – Introductory report*. TUTB-SALTSA Conference 2000:25-27, Brussels.

Dunham-Taylor J (2000) Nurse executive transformational leadership found in participative organizations. *Journal of Nursing Administration* 30(5):241-250.

Farella C (2000). MIW: Men in white. Retrieved April 12, 2003, from Nursing http://community.nursingspectrum.com/MagazineArticles/article.cfm?AID=2746

Gaertner S (1999) Structural determinants of job satisfaction and organizational commitment in turnover models. *Human Resource Management Review* 9(4): 479-493.

Gardner DL (1992) Career commitment in nursing. *Journal of Professional Nursing* 8:155-160.

Genevieve L (2003) Dare to be different: Transformational leadership may hold the key to reducing the nursing shortage. *Journal of Nursing Management* 11:73-79.

Hinshaw AS & Atwood JR (1984) Nursing staff turnover, stress and satisfaction: models, measures and management. In: Werley HH & Fitzpatrick JJ (eds). *Annual Review of Nursing Research Vol. 1.* Pp 133-153, New York: Springer Publishing Company.

Hofstede G (1980) *Culture's consequences.* Beverly Hills, CA: Sage Publications.

Ingersoll GL, Olsan T, Drew-Cates J, DeVinney BC & Davies J (2002) Nurses' job satisfaction, organizational commitment, and career intent. *Journal of Nursing Administration* 32(5):250-263.

Irvine DM & Evans MG (1995) Job satisfaction and turnover among nurses: integrating research findings across studies. *Nursing Research* 44(4):246-253.

Kangas S, Kee CC & McKee-Waddle R (1999) Organisational factors, nurses' job satisfaction, and patient satisfaction with nursing care. *Journal of Nursing Administration* 1:32-42.

Kerr S & Jermier JM (1978) Substitutes for leadership: their meaning and measurement. *Organizational behavior and human performance* 22:375-403.
Leatt P & Schneck R (1982) Technology, size, environment, and structure in nursing subunits. *Organization studies* 3(3):221-242.
Leiter MP, Harvie P & Frizzell C (1998) The correspondence of patient satisfaction and nurse burnout. *Social Sciences Medicine 47*(10):1611-1617.
McNeese-Smith D (1995) Job satisfaction, productivity, and organizational commitment. The result of leadership. *Journal of Nursing Administration 25*(9):17-26.
Meyer JP, Allen NJ & Smith CA (1993) Commitment to organizations and occupations: extension and test of a three-component conceptualization. *Journal of Applied Psychology* 78:538-551.
Morrison RS, Jones L & Fuller B (1997) The relation between leadership style and empowerment on job satisfaction of nurses. *Journal of Nursing Administration 27*(5):27-34.
Mowday RT, Porter LW & Steers RM (1982) *Employee-Organization linkages: The Psychology of commitment, absenteeism, and turnover*. New York: Academic Press.
Northouse PG (1997) *Leadership. Theory and Practice*. USA:SAGE Publications.
Pearson CA (1991) An assessment of extrinsic feedback on participation, role perceptions, motivation, and job satisfaction in a self-managed system for monitoring group achievement. *Human Relations* 44(5): 517-537.
Price JL & Mueller CW (1981) *Professional turnover: the case for nurses*. Iowa State University Press.
Rogg KL, Schmidt DB, Shull C. et al. (2001) Human resource practices, organizational climate, and customer satisfaction. *Journal of Management 27:*431-449.
Sheridan JE, Vredenburgh DJ & Abelson MA (1984) Contextual model of leadership influence in hospital units. *Academy of Management Journal* 27(1):57-78.
Stordeur S, D'hoore W & Vandenberghe, C (2001) Leadership, organizational stress, and emotional exhaustion among nursing hospital staff. *Journal of Advanced Nursing* 35(4), 533-542.
Stordeur S, Vandenberghe C & D'hoore W (2000) Leadership styles across hierarchical levels in nursing departments. *Nursing Research,* 49(1), 37-43.
Tett RP & Meyer JP (1993) Job satisfaction, organizational commitment, turnover intention, and turnover: path analyses based on meta-analytic findings. *Personnel Psychology* 46(2):259-293.
Tumulty G, Jernigan IE & Kohut GF (1994) The impact of perceived work environment on job satisfaction of hospital staff nurses. *Applied Nursing Research* 7:84-90.
Van der Heijden BIJM (2002) Prerequisites to guarantee life-long employability. *Personnel Review* 31(1&2): 44-61.
Weisman CS & Nathanson CA (1985) Professional satisfaction and client outcomes. *Medical Care 23*(10):1179-1192

4 Social work environment and nurses' commitment

Beatrice van der Heijden, Angelika Kuemmerling and the NEXT-Study Group

Introduction

In this chapter the relationship between social support and nurses' commitment will be explored. Workers' perceptions of the extent to which they receive supervisory support, and support by near colleagues is supposed to be of theoretical and empirical relevance with regard to performance in the nursing sector.

Following a previous study on the relationship between social support and occupational expertise (see Van der Heijden, 1998, 2002, 2003) it is expected that in case supervisors and near colleagues are supportive, and provide positive, informational feedback, and in case they facilitate employee skill development positive feelings will prevail (see also Deci et al., 1989; Greenhaus et al., 1990). Interpersonal relationships appear to be important predictors of job satisfaction (see also Stordeur et al., this book) and as a consequence related to absenteeism, expression of grievances, and turnover (Tett & Meyer, 1993). Moreover, a positive working climate wherein supervisor and co-worker support is prevalent enhances the amount of professional growth of individual workers (Van der Heijden, 2002, 2003).

It is important to understand under which circumstances nurses' intent to leave increases. In this contribution the predictive value of two important aspects of the social working climate are studied, that is to say, the relationship between on the one hand social support from immediate supervisor and from near colleagues, and on the other hand nurses' intent to leave is empirically investigated by using data from eight European countries. In case we better understand the influence of the working climate upon the decision whether to leave the nursing profession or not we might be able to prevent premature departure. Given the enormous shortage of nurses and the fact that the working climate in organizations is a factor that management can strongly exert influence on, our outcomes might contribute to enlarge the employability and staffing opportunities within the healthcare sector.

Social support from immediate supervisor

At the heart of the learning climate lies the relationship between the employee and his or her immediate supervisor. Good supervisory feedback and good communication between the two enhance the opportunity for advancement in the worker's capabilities (Blancero et al., 1996; Dubin, 1977). Social support from one's superior can generate a general feeling of satisfaction and faith in one's further career development (Bratton & Gold, 1994; Sloboda, 1991). All kinds of

learning require feedback to be effective. In an environment where poor or even delayed feedback is given, learning may be slow or even non-existent (Ericsson & Smith, 1991).

In another previous study (Boerlijst, 1994; Boerlijst et al., 1993) it has been found that most supervisors fall short in devoting attention to the functions and functioning of their older workers. This is apparent on a number of fronts, including the area of the stimulation of training and development and the promotion of the learning value of the function, i.e. the value that the function has as nutrient for the employee's further development. Particular in the case of seniors, supervisors appear to be uncooperative and unhelpful with regard to their professional development. In other words, the degree of social support from one's immediate supervisor is expected to decline when the employee gets older.

As work-based support correlates negatively with job insecurity, job dissatisfaction, and noncompliant job behaviors (see Lim, 1996) it is likely that the accessibility of social support from one's immediate supervisor effects the employee's intent to leave.

Social support from near colleagues

The majority of our abilities come from the social transfer of other people's knowledge via a variety of cultural processes - some formalised in education but many of them being very informal (Gaines, 1988). In each working organisation, one's peers must bear the responsibility of providing reliable information on current technical developments, for example by drawing one's attention to useful new journals or training courses. Peers must be willing to act as sounding boards for new ideas based on their own experiences.

Where colleagues are prepared to provide feedback on each other's work, such as regular reviews of progress, they convey a feeling of being interested in and of valuing the work and the output that is achieved.

In the case of middle-aged employees, determination of possibilities for advancement in one's professional field seems to be a central theme (Schein, 1978). Because of the fact that vertical progress is not within everyone's reach, owing to the increasing flattening of organisations, this gives rise to a great deal of competition between near colleagues. The individual's social network, so to say, is subject to change in the course of life (see also Sarason et al., 1987).

Accordingly we expect a decrease in social support from near colleagues when employees enter the mid-career phase. The difference between middle-aged employees and seniors is envisaged as being minimal.

As work-based support correlates negatively with job insecurity, job dissatisfaction, and noncompliant job behaviors (see Lim, 1996) it is likely that the accessibility of social support from one's near colleagues effects the employee's intent to leave.

Methods

Social support instruments

For the measurement of the variable '*social support from immediate supervisor*' four items have been used: "Is your immediate supervisor able to evaluate the value of your work and its results?", "Does your immediate supervisor regularly express an opinion on your work?", "Is your immediate supervisor in general ready to help you with the performance of your tasks?" and "Does your immediate supervisor regularly give you supportive advice?".

For the first item a six-point rating scale has been used, ranging from: (1) not at all to (6) very much. For the second and fourth item a six-point rating scale has been used, ranging from: (1) never to (6) very often. For the third item a six-point rating scale has been used, ranging from: (1) In my opinion, (s)he shows little willingness to help me to (6) In my opinion, (s)he is very willing to help me.

The variable '*social support from near colleagues*' was measured by exactly the same four items, with obviously 'near colleagues' instead of 'immediate supervisor' in the item formulation.

Data analysis

Data analysis has been conducted with SPSS 11.0. Differences of means were calculated by analysis of variance and T-Tests. Post-hoc analyses of mean values were computed with Scheffé-tests. Due to the large sample size, the limit for significance was set by $p<.01$.

Table 1. Overview over participants by country and social support scale

country	n_{total}	$n_{social\ support\ supervisor}$	response rate	$n_{social\ support\ near\ colleagues}$	response rate
BE	4,257	4,197	98.5%	4,196	98.6%
DE	3,565	3,523	98.8%	3,521	98.8%
FIN	3,970	3,920	98.7%	3,922	98.8%
FR	5,376	5,319	98.9%	5,321	90.0%
IT	5,645	5,465	96.8%	5,445	96.5%
NL	4,024	3,967	98.6%	3,969	98.6%
POL	1,129	1,090	96.5%	1,096	97.0%
SLK	3,396	3,245	95.6%	3,224	94.9%
all	*31,362*	*30,726*	*98.0%*	*30,694*	*97.9%*

Results

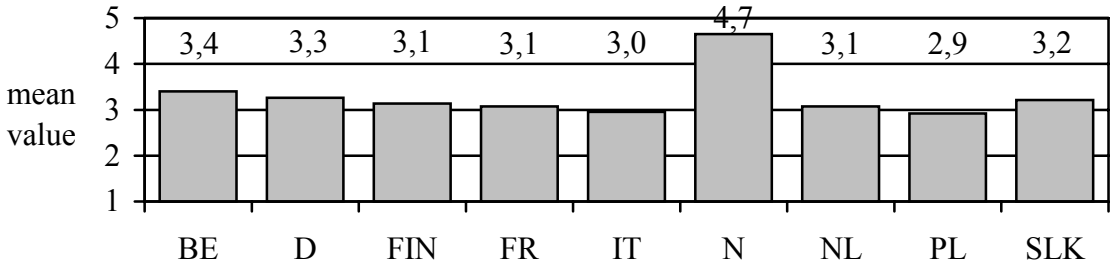
Social support from immediate supervisor

The scores for social support from immediate supervisor were highest for the Belgian nurses and lowest for the Polish ones. However, scores do not differ greatly across countries. Analysis of variance (ANOVA) and post-hoc analyses

(Scheffé-tests) revealed that the Belgian nurses perceive the amount of social support by their direct supervisor as significantly higher compared to nurses in all other participating countries (p.001).

Nevertheless, even for Belgium the range of answers did not reach the higher categories on the six-point rating scale.

Figure 1. Mean scores for social support of immediate supervisor by country.



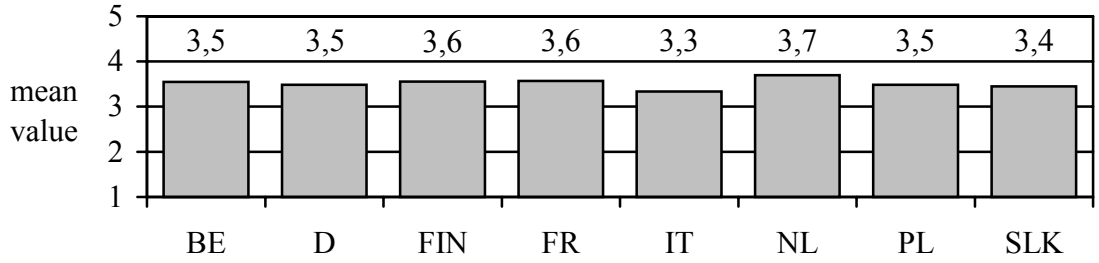
In all countries age appears to have no effect on the perceived amount of social support from the immediate supervisor (for all countries p>.01). Thus, our results can not support our previously stated hypothesis concerning age. With the exception of Finland, the same is true for gender. In Finland men have slightly, yet significantly higher scores compared with their female colleagues (M=3.3 versus 3.1) (p<.001).

Social support from near colleagues

The lowest scores for social support from near colleagues as perceived by the nurses have been found in Italy, while the highest ones have been found in the Netherlands. Both countries differ significantly from all other countries (ANOVA and Post-hoc Scheffé-tests, p<.001). The amount of social support from near colleagues does not differ for male and female nurses.

It was hypothesized that social support from near colleagues decreases in the mid-career phase of individuals. Except for Poland, the amount of social support from near colleagues appears indeed to decrease with age. In Italy and Slovakia the pattern of social support is U-shaped, that is, after a decline with age, perceived support is increasing again in the older groups (over-fifties).

Figure 2. Social support from colleagues by country



Social support and intent to leave

Concerning the relationship between the amount of social support and nurses' intent to leave, our results indicate that there is a negative relationship between social support from immediate supervisor and intent to leave. Nurses that report the highest amount of perceived support indicate the lowest scores for intent to leave (see Figure 3 below).

Figure 3. Mean scores for social support from supervisor and intent to leave (total sample).

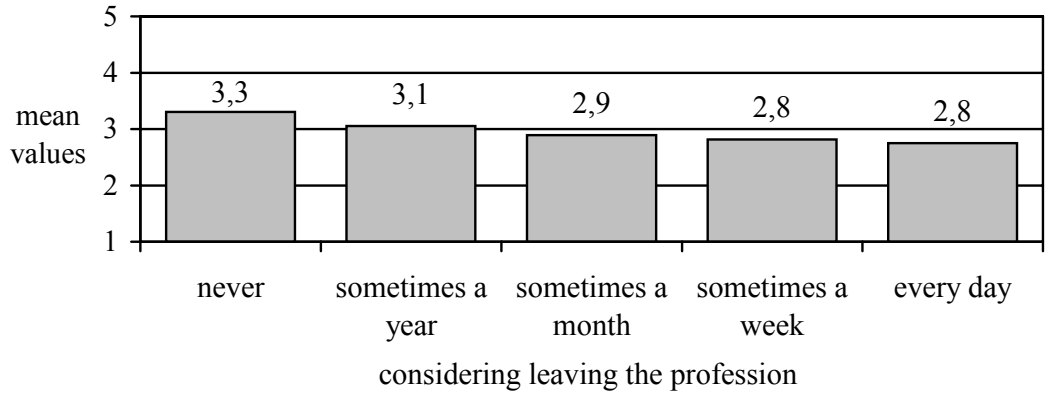
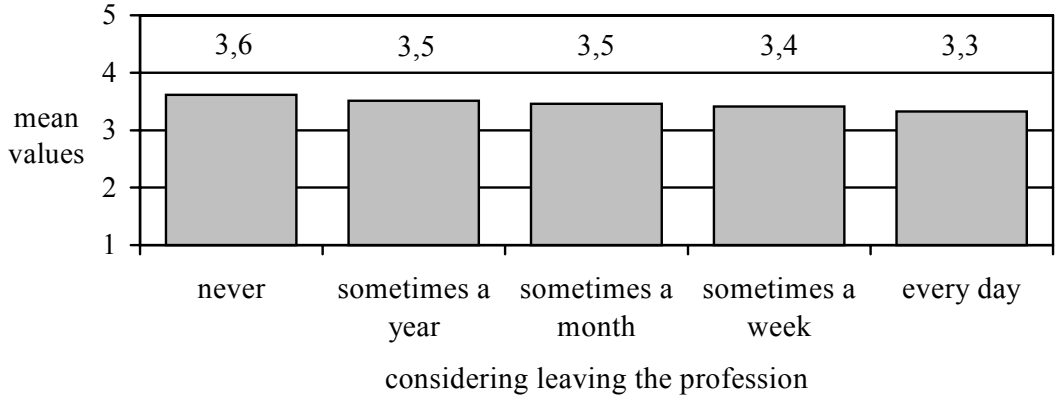


Figure 4. Social support near colleagues and intent to leave (total sample)



It appears that the amount of social support from near colleagues does not have a significant influence upon the nurses' intent to leave.

Discussion

As far as the country differences in social support from immediate supervisor are concerned we have not found differences that are worth mentioning. For most nurses the scores fall in the three lower rating anchors indicating that a lot has to be done in order to improve this potentially powerful management instrument. Moreover, neither gender (except for Finland where males have slightly higher scores) nor age differences have been found.

As regards social support from near colleagues it has been found that in most countries the relationship with age is negative. For Italy and Slovakia we have found a U-shaped pattern indicating that after a decline with age, perceived support is increasing again in the older age groups. More research is needed to understand whether these outcomes indeed may be partly attributed to a lack of vertical progress for most nurses during the mid-career phase (flattening of organizations), and, as a consequence, a high amount of competition.

As the relationship between social support from immediate supervisor and intent to leave is indeed negative, it is extremely important to have a working climate where mutual trust is prevalent. The nurse should feel safe to experiment (of course within certain limits…) and mistakes have to be seen as starting-points for further coaching programs instead of ways of surpassing or excluding one another. As the social support of the immediate supervisor appears to be determinative, taking care of open communication with nurses, providing them with supportive feedback and being there when they need it should be part of the responsibility of all line management staff in healthcare sector.

Notwithstanding the lack of a relationship between social support from near colleagues and nurses' intent to leave, we advice to carefully guide the working climate within departments and to make sure that all nurses are fed with social support by peers in their working environment. Nurses' perceptions of their work contexts, more specifically, the nature of supervision, social support from supervisors and peers, appreciation felt, and a general sense of empowerment will affect their commitment.

References

Blancero D, Boroski J & Dyer L (1996) Key competencies for a transformed Human Resource Organization: results of a field study. *Human Resource Management* 35:383-403.

Boerlijst JG (1994) The neglect of growth and development of employees over 40 in organizations: a managerial and training problem. In: Snel J & Cremer R (Eds.), *Work and aging.* Pp. 251-271, London: Taylor & Francis Ltd.

Boerlijst JG & van der Heijden BIJM & Van Assen A (1993) *Veertig-plussers in de onderneming* [Over-forties in the organization]. Assen: Van Gorcum/Stichting Management Studies.
Bratton J & Gold J (1994) Human resource management: theory and practice. Basingstoke: Macmillan.
Deci EL, Connell JP & Ryan T (1989) Self determination in an organization. *Journal of Applied Psychology* 74:580-591.
Dubin, SS (1977) The updating process. *Continuing Education in Science and Engineering, Dec.,* 165-186.
Ericsson KA & Smith J (1991) *Toward a general theory of expertise. Prospects and limits*. Cambridge: Cambridge University Press.
Gaines BR (1988) Positive feedback processes underlying the formation of expertise. *IEEE Transactions on systems, man, and cybernetics,* 18:1016-1020.
Greenhaus JH, Parasuraman A & Wormley WM (1990) Effects of race on organizational experiences, job performance evaluations, and career outcomes. *Academy of Management Journal* 33:64-86.
Lim VKG (1996) Job insecurity and its outcomes: Moderating effects of work-based and non-work-based social support. *Human Relations* 49:171.
Sarason BR, Shearin EN, Pearce GR & Sarason IG (1987) Interrelations of social support measures; Theoretical and practical implications. *Journal of Personality & Social Psychology* 52:813-832.
Schein EH (1978) *Career dynamics: Matching individual and organisational needs.* Reading Mass.: Addison-Wesley.
Sloboda JA (1991) Musical expertise. In: Ericsson KA & Smith J eds. *Toward a general theory of expertise. Prospects and limits.* Pp. 153-171, Cambridge: Cambridge University Press.
Tett RP & Meyer JP (1993) Job satisfaction, organizational commitment, turnover intention, and turnover: path analyses based on meta-analytic findings. *Personnel Psychology* 46:259-293.
Van der Heijden BIJM (1998) *The measurement and development of professional expertise throughout the career. A retrospective study among higher level Dutch professionals*. Doctoral thesis. University of Twente, Enschede: PrintPartners Ipskamp.
Van der Heijden BIJM (2002) Organizational influences upon the development of professional expertise in SME's. *Journal of Enterprising Culture,* 9:367-406**.**
Van der Heijden BIJM (2003) Organisational influences upon professional expertise throughout the career. A retrospective study among higher level Dutch professionals. *International Journal of Training and Development,* 7:142-165.

5 *Burnout in the nursing profession in Europe*

Esther van der Schoot, Halszka Ogińska, Madeleine Estryn-Behar and the NEXT-Study Group

Introduction

According to the "classical" theory of Maslach (1993), burnout is a syndrome of emotional exhaustion, depersonalisation, and a feeling of incompetence. In many countries and contexts 'burnout' is a fuzzy concept, however, it simply means exhaustion. An attained consensus is a multidimensional model of burnout, in which psychophysical, emotional exhaustion is the main factor and the essence of professional burnout (Maslach, 1993). Professional burnout can affect those professions in which the close interaction with another person is a key action and a condition of work success and development. The costs of such a close interaction and confrontation with negative emotions, suffering, and chronic stress may be very high, especially when a nurse (physician, teacher, social worker, etc.) is not able to cope with workload, experiences defeats, and lack of professional success (Sęk, 2000).

Nursing work, especially if it forces confrontation with serious illness and death, may be a significant source of affective strain. Nurses' ability to cope with this stress depends on the extent of their support network and their possibility to discuss and improve patients' quality of life (Rodary & Gauvain-Piquard, 1993). Burnout affects approximately 25% of nurses, but this ratio reaches 64% in nurses with high affective strain and 39% in those with high cognitive strain (Estryn-Béhar et al., 1990).

The specificity of the ward as an organisational factor seems to be connected to the dynamics of burnout as well. Burnout scores were high in young oncology nurses, and decreased with seniority (of the position). In contrast, burnout scores among geriatric nurses increased with seniority, attaining levels much higher than those observed in oncology nurses. This trend is seen to be due to characteristics of the workload in geriatric wards (Kempe et al., 1992). The risk of burnout, generally considered to be high in palliative care units, was not significant in some Swedish studies, which revealed more occupational satisfaction than occupational stress. Turnover and work stoppages in these units were low, and personnel had a positive self-image. This was attributed to the selection criteria for personnel, good teamwork, positive feedback and continuous (the possibility to obtain further) training (Hasselhorn & Seidler, 1993).

In the following sections, the methodology and the results of the professional burnout component of the Copenhagen Burnout Inventory (CBI) will be presented. Attention will be paid to differences between cultures and countries in relation to burnout and intent to leave the profession. This will contribute to an insight into reasons for the premature exit from the nursing profession, which is the main question of the NEXT-Study (Nurses Early Exit Study).

Method

The MBI (Maslach Burnout Inventory) is the most widely used tool, however, in this study the six item, five point scale Copenhagen Burnout Inventory (CBI) was chosen to measure *personal burnout*. Item examples are*: Do you feel tired? Do you think: "I can't take it anymore?"*, *Do you feel weak and susceptible to illness?*

The CBI originally consists of three parts, namely: *personal* burnout, *work* burnout and *client* burnout. According to Kristensen and Borritz (2001), *personal burnout* is a state of prolonged physical and psychological exhaustion. In a representative sample of the adult Danish population, Cronbach's alpha of this scale was 0.80 (Kristensen & Borritz, 2001).

Data analysis

Data analysis has been conducted with SPSS 10.0. Means comparisons were carried out by ANOVA, proportions comparisons by Chi^2 test. Due to the large size of the sample, the limit for significance was set by alpha <.01.

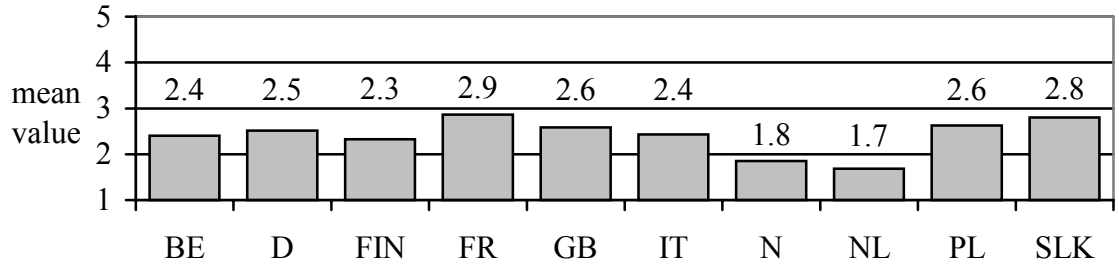
Table 1. Participants by country and the CBI scale of personal burnout.

country	abbrev.	total n	n burnout
Belgium	BE	4,257	4,195
Germany	D	3,565	3,520
Finland	FIN	3,970	3,926
France	FR	5,376	5,330
United Kingdom	GB	2,578	2,537
Italy	IT	5,645	5,351
Norway	N	2,733	2,659
Netherlands	NL	4,019	3,985
Poland	PL	3,263	3,108
Slovakia	SLK	3,396	3,187
all		*38,802*	*37,798*

Results

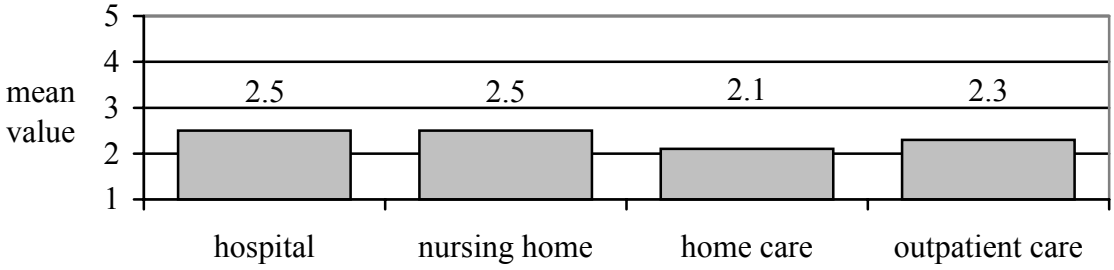
Figure 1 shows the mean scores on personal burnout by country. The results for Poland and Slovakia are preliminary, since in these countries the collection of the questionnaires has not been finished yet.

Figure 1. Mean scores for personal burnout in the nursing sample by country.



Except for the Netherlands and Norway, mean scores for all the countries are placed just below or just above the middle of the exhaustion scale (p<.0001). This means that nurses feel physically and/or emotionally worn out "once or twice a week". In France and Slovakia nurses score higher. In the Netherlands, nurses feel exhausted only once or a few times during a month.

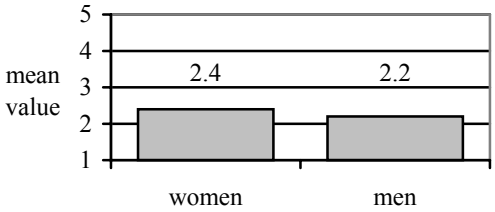
Figure 2. Mean scores for personal burnout in the nursing sample by setting.



The occurrence of personal burnout in hospitals and nursing homes is higher than in home care institutions (p<.0001). Results show that exhaustion scores are higher in intramural health care settings.

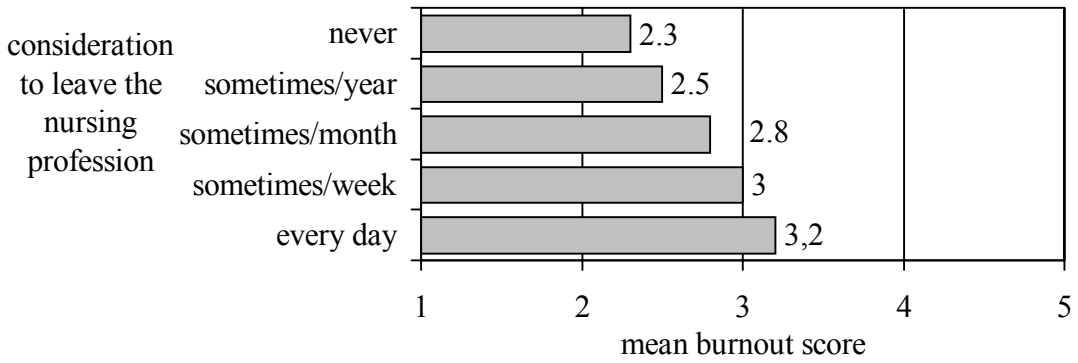
It is noteworthy to see in Figure 3 that females scored in all countries higher on the exhaustion scale than men (p<.0001).

Figure 3. Mean scores for personal burnout in the nursing sample by gender.



According to Figure 4, the association between intent to leave and personal burnout is clear (p<.0001).

Figure 4. Mean scores for personal burnout in the nursing sample by intent to leave.



There are no relevant differences regarding seniority and burnout. Some national differences, however, do exist. The percentage of health care workers showing the highest levels of personal burnout at the CBI scale was particularly high among nurses reporting certain problems with their work content, especially lack of satisfaction with opportunities to give care which patients needed (Table 2). All the factors listed below seem to play significant role ($p<.0001$).

Table 2. Percentage of HCWs with the highest level of burnout at CBI scale among nurses declaring certain difficulties with their work content

	n responses	n nurses reporting problems with this	% of nurses in previous column with high burnout
Not enough time to talk to patients	32,693	3,362	36.8
Worrying about making mistakes	32,850	2,750	37.8
Lack of time to complete tasks	32,735	3,980	35.6
Receiving relevant information too late	32,619	1,334	42.1
Receiving conflicting orders	32,647	1,040	45.4
Not knowing what ought to be told to patient	29,830	2,355	36.6
Uncertainty regarding equipment	29,306	1,239	41.5
No possibilities to discuss professional matters	32,789	766	37.5
Little will from colleagues to help with tasks	30,165	844	37.9
Unsatisfied with psychological support	32,202	2,152	41.5
Unsatisfied with opportunity to give care needed	31,966	1,074	46.8

Discussion

Burnout scores are rather high in all the countries, except for the Netherlands. This is not surprising if we look at the mean working time, which is lowest in the Netherlands (25 hours a week compared with nearly 39 hours in Poland and 38 in Slovakia), and at the other elements of general work stress, which are

discussed in the respective chapters in this book. Although the workload in home care institutions is not lower than in hospitals and nursing homes, the scores on exhaustion are lower in home care institutions. Maybe the high degree of independence in extramural settings of home care nurses is of importance here. It is not surprising as well that females report higher scores of burnout than men. High motivation ('the moral calling' of the work) and a tendency to over-commitment promote the development of burnout and are more represented in females than in men. Finally, as burnout levels increase, the thought of leaving also occurs more frequently. It is, however, important to realize that the burnout problem does not originate in people, but in the social work environment. The psychosocial factors influencing the level of personal burnout in nurses need to be studied further.

In the past, burnout was analysed from the perspective of 'burning-out' employees. However the social costs of burnout, including lowered quality of care, should also be taken into account (Maslach & Leiter, 2000; Sęk, 2000).

References

Estryn-Béhar M, Kaminski M, Peigne E, Bonnet N, Vaichere E, Gozlan C, Azoulay S, Giorgi M (1990) Stress at work and mental health status among female hospital workers. *British Journal of Industrial Medicine* 47: 20-28.

Hasselhorn HM & Seidler E (1993) Terminal care in Sweden. New aspects of the professional care of dying. In: Hagberg M, Hofmann F, Stössel U & Westlander G. *Occupational Health for Health Care Workers.* Pp 394-397, Ecomed Landsberg Germany. Pp 394-397, Ecomed Landsberg Germany.

Kempe P, Sauter M & Lindner I (1992) Special characteristics of nurses for the aged who made use of a training program aimed to reduce burnout symptoms and first results on treatment outcome. In: Estryn-Béhar M, Gadbois C & Pottier M. *Ergonomie hospitalière – hospital ergonomics ed Octarès*. Pp 331-337. Toulouse France.

Kristensen TS & Borritz M (2001) *Copenhagen Burnout Inventory: Normative data from a representative Danish population on Personal Burnout and results from the PUMA study on Personal Burnout, Work Burnout, and Client Burnout*. National Institute of Occupational Health, Copenhagen, Denmark.

Maslach C (1993) Burnout: a Multidimensional Perspective. In: Schaufeli WB, Maslach C, Marek T eds. *Professional Burnout: Recent Developments in Theory and Research.* Pp.19-32, Washington DC: Taylor & Francis.

Maslach C & Leiter MP (2000) *Burnout: oorzaken, gevolgen en remedies.* [The truth about burnout.] Amsterdam/Antwerpen: Uitgeverij Contact.

Rodary C & Gauvain-Piquard A (1993) Le stress et épuisement professionel. *Objectif Soins* 16:26-34.

Sęk H ed. (2000) *Wypalenie zawodowe: przyczyny, mechanizmy, zapobieganie.* [Professional burnout: causes, mechanisms, prevention.] Warszawa: PWN.

6 *Meaning of work in the European nursing profession*

Janusz Pokorski, Esther van der Schoot, Gustav Wickström, Joanna Pokorska, Hans-Martin Hasselhorn and the NEXT-Study Group

Introduction

History has treated medical doctors more generously than nurses. Although the first physician known to history, Imhotep, lived nearly thirty centuries before Christ, nursing appeared with Christianity with its idea of charity and Christian love. The role of deaconesses, virgins and widows in nursing was prominent at the time and several of them became saints. Male and female hospital/nursing orders as well as military nursing orders were introduced due to crusades. These achievements vanished with the Renaissance period, which could be said to be the 'Dark Ages of Nursing'. Changes occurred late in the XIXth Century. The influence of Florence Nightingale was radical, who advanced nursing as a profession.

Nowadays, we cannot imagine contemporary medical care without nursing staff. Advances in intensive care techniques have shown it is necessary to provide nurses with higher decisive competencies and stresses the role of teamwork (Reis Miranda et al., 1998). Nurses are main suppliers of long-term care. They fulfill many unofficial roles such as being a source of information, counsellors, and mediating between patients and doctors. In spite of their multidirectional versatile tasks, nurses still work in the shadow of doctors.

Meaning of work is understood as a neutral term, indicating the value of important work aspects. Its relationship with job satisfaction and motivation is obvious, but indirect (Van Dijk et al., 2002). The manner in which nurses value their profession seems to be of significance in regard to their intention to leave the profession (Pool et al., 1992; Van der Schoot, 2001; Van Dijk et al., 2002).

It seems that especially the content and the organisation of work is of importance. Furthermore, a relationship between meaning of work and physical and psychological health exists (Van Dijk et al., 2002).

What keeps nurses going? According to Florence Nightingale, nurses appear to be motivated by a deep concern for patients and families. This, however, creates tremendous stress due to poor staffing, excessive demands on registered nurses, and unexpected crises. The task orientation of nurses also appears to be based on their fundamental concern for patient welfare (Cohen and Sarter, 1992; Borghans and De Steur, 1999; Van der Schoot, 2001).

In this chapter, nurses' perception of the importance of their mission will be approached.

Methods

COPSOQ instrument
The meaning of work concept is one of the psychosocial factors at work measured in the NEXT-Study by the 3 item COPSOQ scale. The items are: “Is your work meaningful?”; “Do you feel that the work you do is important?”; “Do you feel motivated and involved in your work?”. COPSOQ stands for the Copenhagen Psychosocial Questionnaire. Until now, the questionnaire seems to provide valid assessments (Kristensen, 2000).

Data collection
Data collection and participation is described in the respective chapters in this book.

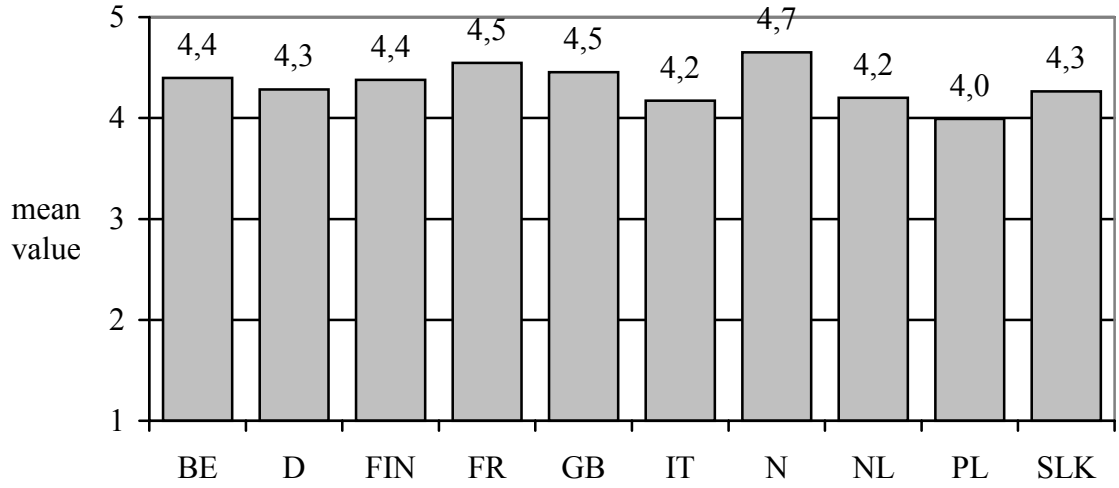
Data analysis
Data analysis has been conducted with SPSS 10.0 and 11.0. Differences of means were calculated by ANOVA and T-Test. Differences in prevalence was calculated by Chi^2 test. Due to the large size of the sample, the limit for significance was set by alpha <.01.

Table 1. Overview of participants by country and the COPSOQ scale meaning of work.

country	abbreviation	number of participants	n meaning of work
Belgium	BE	4,257	4,136
Germany	D	3,565	3,526
Finland	FIN	3,970	3,929
France	FR	5,376	5,345
United Kingdom	GB	2,578	2,548
Italy	IT	5,645	5,397
Norway	N	2,733	2,676
Netherlands	NL	4,019	3,960
Poland	PL	3,263	3,106
Slovakia	SLK	3,396	3,249
all		*38,802*	*37,872*

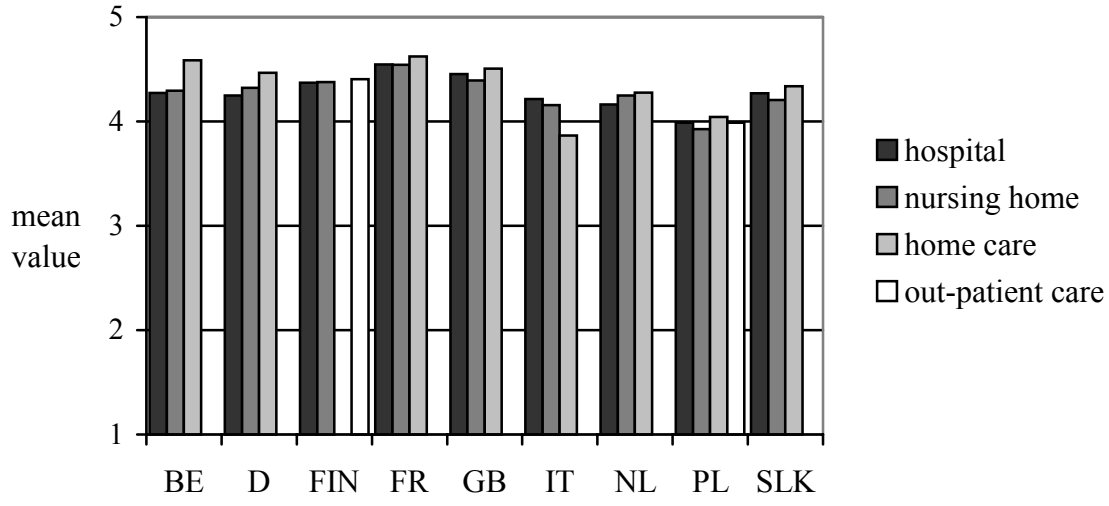
Results
Figure 1 shows the mean scores on the COPSOQ scale *meaning of work* by country. The results for Poland are preliminary since not all of the questionnaires have been collected in this country yet.

Figure 1. Mean values for 'meaning of work' by country. All differences significant at p<.01 except between Belgium and Finland, Belgium and Great Britain, Italy and the Netherlands, and Germany and Slovakia. Possible range 1 to 5; 5 indicates: 'very high meaning of work'.



Generally high values for all groups are common for medical professions. Noteworthy are the comparatively low values for the Netherlands, Poland and Italy. The Dutch result is surprising since many aspects of the nurses working conditions seem to be substantially better in the Netherlands than in most other countries.

Figure 2. Mean values for 'meaning of work' by country and type of institution.



Meaning of work seems to be very diversified. In the total sample the scores for *meaning of work* are significantly higher than in hospitals (p<.001).

Figure 3. Mean values for 'meaning of work' by country and age.
Note: possible range from 1 (low meaning) to 5 (very high meaning)

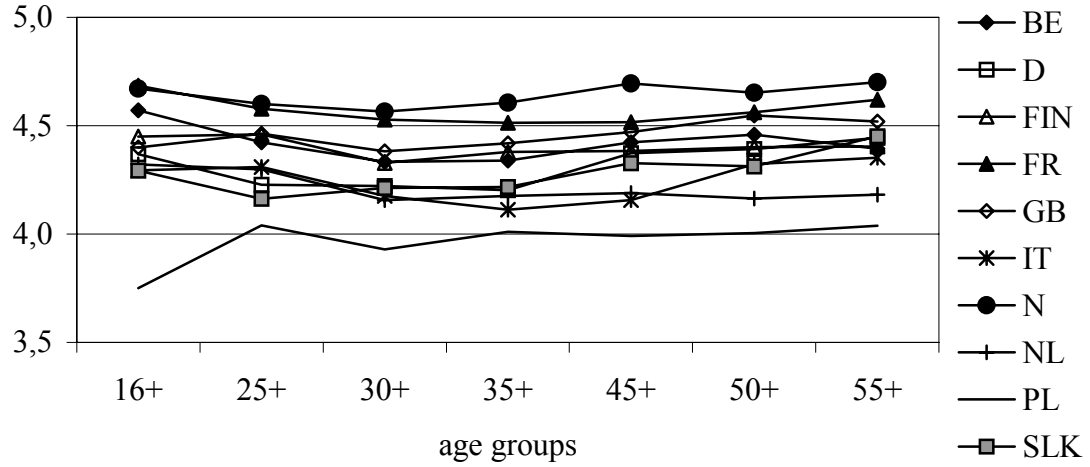
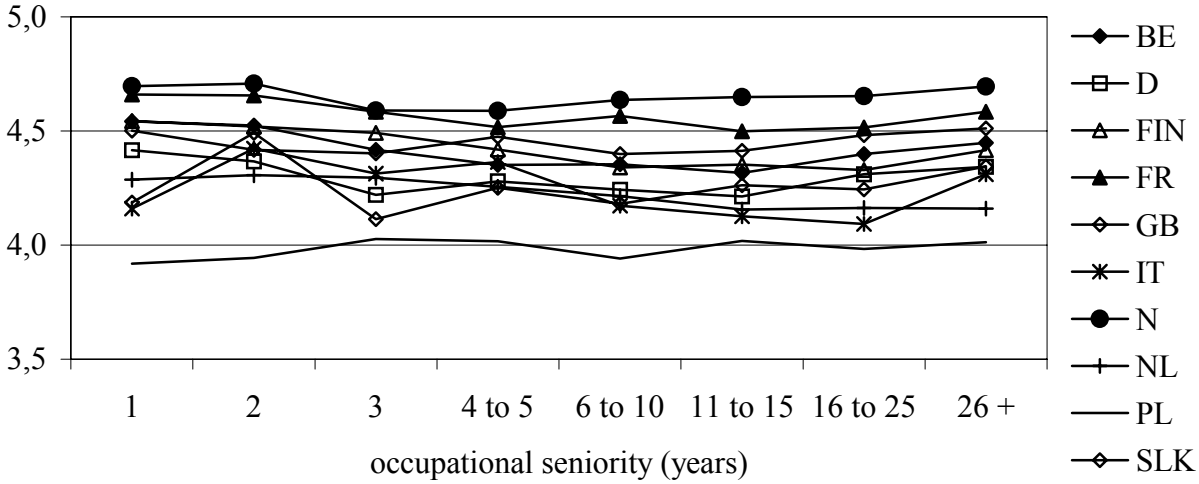


Figure 3 displays a clear u-shaped association of meaning of work with age in most of the participating countries: younger and older people value work higher. This is very pronounced in Italy and France.

In general women view the nursing profession to higher degree as a 'call' compared to men. This reflects the low participation of males in this profession. In Italy far more men (25%) are employed in this profession than in other countries, especially in Southern Italy where 'better' jobs are lacking.

Figure 4. Mean values for 'meaning of work' by occupational seniority.
Note: possible range from 1 (low meaning) to 5 (very high meaning)



With the exception of Poland, Slovakia, Italy and the Netherlands, there is a constant decline in *meaning of work*, already after one year of employment.

Figure 5. 'Intent to leave nursing' vs. 'meaning of work'.

The association between *intent to leave the profession* and *meaning of work* is very pronounced and clear cut. This is more or less the case for all countries.

Discussion

Generally, the scores for *meaning of work* were high in the investigated sample. This is a typical picture in comparison with other professions. Medical professions are usually chosen by highly motivated people. The low scores in Poland correspond with the supplementary comments of respondents pointing to their bitter feelings caused by the discrepancy between their devotion to the job and the low recognition from the decision makers at all levels of administration, direct and superior management and physicians, and very low wages. On the other hand, unexpectedly low scores were found in the Dutch data, where the working conditions seem to be substantially better than in most other countries.

When analysing scores for various types of institutions separately, the high values for home care are characteristic. For the majority of countries, they are significantly higher than those given by hospital nurses. The reason may be the satisfaction with the work done on ones' own account without permanent interrogation from physicians and superiors.

Accounting for why younger and older nurses have higher scores in *meaning of work* is difficult. In former socialist countries the possible explanation could be that, due to child raising and many other domestic duties, middle-aged nurses suffer most from the combination of the poor economy and high occupational and extraprofessional demands. The other factor is that older nurses were used to higher prestige from society when they were younger. The younger feed some hope for the future. Middle-aged people in former socialist countries are now "the lost generation" having great difficulties in adapting to the new market economy and poor chances for keeping in pace with newcomers.

In general, the male nurses perceived their job to be less meaningful than the female nurses. One possible explanation may be that the common opinion in society is that nursing is a female job, and that female nurses perceive their

profession to a larger extent as a call. The relatively large proportion of male nurses in Italy (25%) probably changed this stereotype resulting in the equal ratings of meaning of work for both sexes.

It is difficult to interpret the relationship of the perception of 'the meaning of work' and work seniority. In general, the decline after the first year of employment, may be accounted for by the conflict of idealistic expectations with reality.

The relationship between the perception of the *meaning of work* and the intent to leave the nursing profession is clearly visible in the total population studied here, and in particular participating countries. As such it seems to be an important factor to be addressed in future intervention programmes.

References

Borghans L and De Steur M (1999) *Kiezen voor de zorg: Een conceptueel kader* [Choosing healthcare: A conceptual framework]. Den Haag: OSA.

Cohen MZ and Sarter B (1992) Love and Work: Oncology Nurses' View of the Meaning of Their Work. *Oncology Nursing Forum* 10:1481-86.

Kristensen TS (2000) *A new tool for assessing psychosocial factors at work: The Copenhagen Psychosocial Questionnaire*. Copenhagen: National Institute of Occupational Health.

Pool J, Meeuwsen EAM, Michels KJAM and Windt W van der (1992) *Beheersing van personeelsverloop in de intramurale gezondheidszorg* [Controlling the leavers in the intramural healthcare]. Den Haag: OSA.

Reis Miranda D, Ryan DW, Schaufeli WB, Fidler V (eds.) (1998) *Organisation and Management of Intensive Care.* Springer: Heidelberg.

Van Dijk JK, Messchendorp HJ, Koopman MI, Steenbeek R and Van Til CT (2002) *Personeel in beeld: De arbeidsbeleving van medewerkers in ziekenhuizen* [A portrait of personnel: The meaning of work of employees in hospitals]. Utrecht: Prismant.

Van der Schoot E (2001) *De invloed van het curriculum op de brede inzetbaarheid van afgestudeerden in de verzorging en verpleging* [The influence of the curriculum on the employability of nursing and health care graduates]. Doctoral thesis, Universiteit Twente, Enschede.

7 Affectivity as individual factor influencing the intent to leave the nursing profession

Piotr Radkiewicz, Maria Widerszal-Bazyl, Halszka Ogińska, Donatella Camerino and the NEXT-Study Group

Introduction

Factors such as personality characteristics are important modifiers of the reaction to job stress. They may moderate the experience of negative emotions and, consequently, health. Thus, it seems justifiable to include a measure of personality traits, as an element of 'individual resources', into the prospective general model of the nurses' intent to leave their profession.

The instrument chosen to characterize personality was the PANAS scale, a measure of positive and negative affectivity. The nature of that concept is perfectly expressed by its authors (Watson et al., 1988) who state: '…positive affect reflects the extent to which a person feels enthusiastic, active, and alert. High positive affect (PA) means a state of high energy, full concentration, and pleasurable engagement, while low PA is characterized with sadness and lethargy. Negative affect is a general dimension of subjective distress comprising a variety of aversive mood states (including anger, contempt, disgust, guilt, fear, nervousness). Low NA is a state of calmness and serenity. Although these two factors represent affective *state* dimensions, it has been demonstrated that they are related also to the *trait* dimensions of positive and negative emotionality, i.e. individual disposition to experience specific emotions'. It is assumed that these two dimensions are highly distinctive and might be treated as independent of each other, although their negative correlation is likely to appear.

What are the possible relationships of PA and NA with job stress, health and, in consequence, intention to quit a profession? By definition, affectivity is associated with tension and reduced well-being. People showing high levels of negative affect are less likely to have a satisfying family life or working life. They are hyper responsive to stressors and susceptible to experiencing job stress - mainly because they perceive higher levels of job stressors than people with low NA (Spector et al., 2000). Negative affectivity (similarly to neuroticism) correlates with higher frequency of health complaints. However, the objective health problems in high NA subjects have not been proved in the research (Pervin, 2000). On the other hand, some studies clearly show the occurrence of the negative affect to be accompanied by increased blood pressure (Mitsutage et al., 2002) or cortisol level (Buchanan et al., 1999). These relationships need to be studied further. As for mental health, a strong negative relationship between

depression severity (as measured by Beck Depression Inventory) and PA affectivity was found, as well as a strong positive correlation with NA (Petrocelli et al., 2001). It should also be noted that positive mood and positive affectivity of employees enhance 'organizational citizenship behaviours' and the will to offer help (Williams & Shaw, 1999).

Having in mind that we study the data coming from eight populations of European nurses, the following article should be treated as: (1) an inspection of PA and NA intensity in eight European countries; (2) test of potential differences between those countries; and (3) preliminary and very limited attempt to investigate relationship between PA-NA factor and nurses' intent to leave their profession.

Method

Instrument - The PANAS scale

The PANAS (Positive and Negative Affect Schedule) is a 20-item questionnaire that is widely recognized to assess the 'emotional style' a person uses to cope with life and world events. It has been constructed by Watson and his co-workers and seems to be a valid and reliable tool with satisfactory psychometric properties. *Positive affectivity* is assessed with ten items measuring to what extent person feel active and alert. High scores indicate a high level of full concentration, energy and commitment. *Negative affectivity* is measured by ten items concerning distress and unpleasant engagement. High scores indicate high level of aversive mood states (anger, disgust, fear, nervousness etc.). Different instructions depending on temporal perspective could be applied, asking subjects to rate how they feel: from 'right now, at the present moment' or 'during the past week' to 'in general, that is, on the average'. It has been decided to use the latter option within the present study, as this time frame relates more to the 'trait' affect. Independently of the time frame, positive affectivity always shows higher level than NA.

Data collection

Data collection and participation are described in the respective chapters in this book.

Data analysis

Data analysis has been conducted with SPSS 10.0. Overall differences of means were calculated by ANOVA. Additionally Scheffé's test for multiple comparisons was used. The limit for significance was set by alpha <.01. Psychometric properties of the scales are presented in chapter 27.

Table 1. Overview of participants by country and positive-negative affectivity scale.

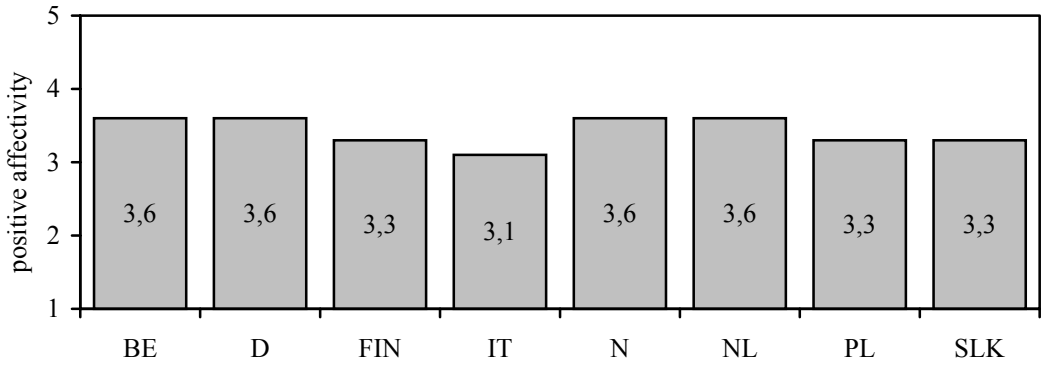
country	abbrev.	total n	n positive affectivity	n negative affectivity
Belgium	BE	4,257	1,923	1,917
Germany	D	3,565	3,523	3,521
Finland	FIN	3,970	3,946	3,945
Italy	IT	5,645	5,343	5,346
Norway	N	2,733	2,514	2,507
Netherlands	NL	4,019	3,973	3,973
Poland	PL	3,263	2,972	2,973
Slovakia	SLK	3,396	3,166	3,178
all		*30,848*	*27,360*	*27,360*

Results

Positive affectivity

Positive affectivity mean scores could be divided into two clusters: highest scores were observed for Germany, Norway, the Netherlands and Belgium (3.6), while lowest for Slovakia (3.3), Poland (3.3), Finland (3.3), and Italy (3.1) (Figure 1).

Figure 1. Mean scores for positive affectivity scale in the nursing population by country. Possible score range from 1 to 5, n_{total} =27,360

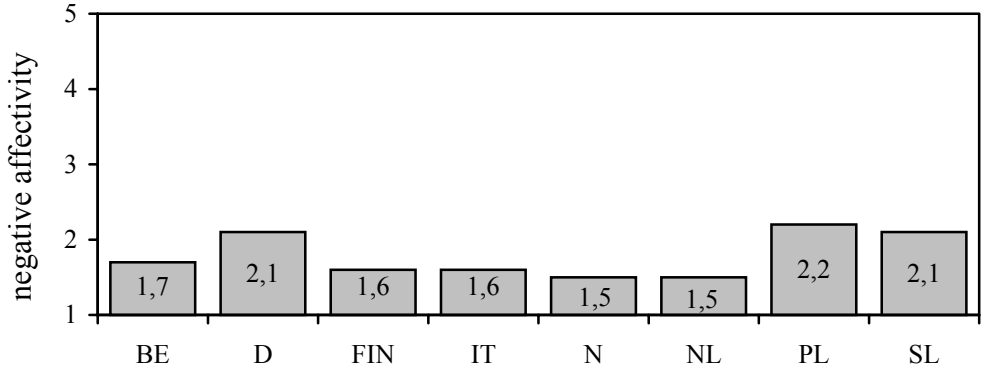


Insignificant differences between mean scores appeared in the comparison Slovakia-Poland and for comparisons within a set of four countries: Germany, Belgium, the Netherlands and Norway. Women in Germany had significantly higher scores than men, while in Italy – on the contrary – men scored significant-ly higher than women. In most countries the mean positive affectivity score decreased with age. The relationship was rather modest but noticeable: youngest respondents (by 30) had significantly higher scores than respondents over 30, although the largest difference did not exceed. 2 on the total scale ranging from 1 to 5.

Negative affectivity

Negative affectivity mean scores (Figure 2) were highest for Poland (2.2), Germany and Slovakia (2.1). The lowest mean scores were observed for the Netherlands and Norway (1.5). Significant differences were found between Poland, Germany and Slovakia on the one hand, and the rest of countries on the other. Insignificant differences between mean scores appeared only for three pairs of countries: Finland-Italy, the Netherlands-Norway and Germany-Slovakia. No clear differences appeared with respect to gender and age.

Figure 2. Mean scores for negative affectivity scale in the nursing population by country. Possible score range from 1 to 5. (n_{total}=27,360)

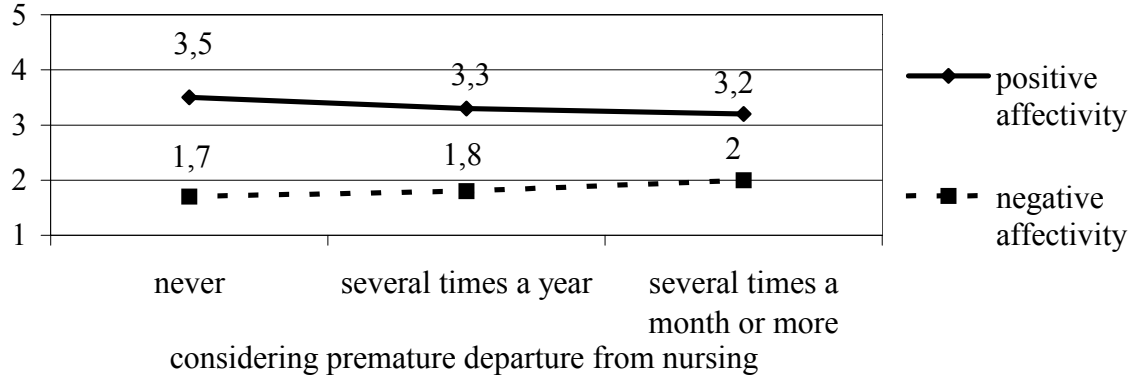


Positive-negative affectivity and intent to leave the nursing profession

Results on PANAS scales seem to be clearly associated with 'intent to leave the nursing profession' (Figure 3). Growing intention to leave was linearly accompanied by a decreasing positive affectivity and increasing negative affectivity.

Respondents who 'never' think about leaving nursing had the highest level of positive and lowest level of negative affect. Figure 3 shows as well that respondents declaring desire to leave nursing 'several times a year' displayed intermediate results on positive as well as on negative affectivity.

Figure 3. Positive and negative affectivity in relation to response to the question 'How often did you consider leaving the nursing profession?'. (n_{PA}=24,358; n_{NA} =24,559)



In contrast to those in the 'never' category, people thinking about leaving nursing can most often be described as experiencing the lowest positive and the highest negative affectivity. For both dimensions mean scores differences between three categories of 'intent to leave' were statistically significant.

It is worth emphasizing that in *each* category of the intent to leave the profession, the mean scores for PA were substantially higher than for NA. This clearly reflects empirical independence of both dimensions and differences in a general shape of their distributions. While PA distribution is rather symmetric on the scale and close to a normal curve, NA one is shifted to the left side of the scale and displays skewness, resulting from an advantage of low NA scores in a total population.

Discussion

It was shown that there were significant differences in positive and negative affectivity among nurses from various countries. These differences can result from several causes. First, to some degree they can be a consequence of diversity of working conditions in nursing. Although PA and NA are conceptualised to be stable traits across time (Watson et al., 1988), it has been demonstrated that in the long run NA was likely to be influenced by job related stressors (Spector et al., 2000). The above could suggest that nurses' working conditions are particularly stressful in Poland, Slovakia as well as Germany (in countries with the highest NA) and the best in the Netherlands and Norway (the lowest NA). Secondly, differences between countries can result from cultural reasons. For example, it was found that the Polish people generally had a higher level of negative emotions than the British (Czapiński, 1994). Thirdly, the differences can stem from diverse ways of expression of emotions in various countries. The future analysis will be an opportunity to better understand the underlying causes.

Results described in this article indicate that high intent to leave nursing is associated with low positive and high negative affectivity. We assume that, to some extent, the 'intent to leave' is a derivative of mental health and a kind of a reaction to job stress. PA and NA may be considered as the other psychological characteristics which may influence the decision of leaving the nursing profession, either through moderating mental health and job stress or directly.

References

Buchanan TW, al' Absi M & Lovallo WR (1999) Cortisol fluctuates with increases and decreases in negative affect. *Psychoneuroendocrinology* 24:227-241.

Czapiński J (1994) *Psychologia szczęścia [Psychology of happiness]*. Warsaw: Laboratorium Testów Psychologicznych PTP.

Mitsutage G, Cornelissen G, Otsuka K, Dawes C, Burch J, Rawson MJ, Siegelova J, Jancik J, Masek M, Pazdirek J & Halberg F (2002) Relationship between positive and negative moods and blood pressure in a clinically healthy man. *Scripta Medica* 75(6):315-320.

Pervin LA (2000) *The Science of Personality. Polish edition.* Gdańsk: GWP.

Petrocelli JV, Glaser BA, Calhoun GB & Campbell LF (2001) Personality and Affect Characteristics of Outpatients With Depression. *Journal of Personality Assessment* 77(1):162-175.

Spector PE, Zapf D, Chen PY & Frese M (2000) Why negative affectivity should not be controlled in job stress research: don't throw out the baby with the bath water. *Journal o f Organizational Behaviour* 21(1): 79-95.

Watson D, Clark LA & Tellegen A (1988) Development and Validation of Brief measures of Positive and Negative Affect: The PANAS Scales. *Journal of Personality and Social Psychology* 54(6):1063-1070.

Williams S & Shaw WT (1999) Mood and Organizational Citizenship Behavior: The Effects of Positive Affect on Employee Organizational Citizenship Behavior Intentions. *The Journal of Psychology* 133(6): 656-668.

8 *Job insecurity in the nursing profession in Europe*

Marjukka Laine and the NEXT-Study Group

Introduction

Job insecurity is regarded as a psychosocial job stressor. It has been found to be associated with, e.g. self-reported health and wellbeing, job satisfaction, organizational commitment and intention to leave the job/organization (Ferrie et al., 2002; Hellgren et al., 1998; Mauno, 1999; Rosenblatt & Ruvio, 1996). Studies of job insecurity can be divided into those that have examined self-perceived job insecurity and those in which it has been externally attributed by researchers e.g. to downsizing or workplace closure.

In general, job insecurity is defined as 'the discrepancy between the level of security a person experiences and the level he or she might prefer' (Hartley et al., 1991). Bartley and Ferrie (2001) separate the concepts 'job security' and 'employment security'. According to them, job security represents the ability to remain in a particular job, while employment security represents the likelihood of being able to remain in paid employment. Job insecurity is highly context-dependent, and the experience of job insecurity may affect employees who, ultimately, are not made redundant, as much as those who are. Job insecurity arising from the threat to a particular job may lead to loss of employment security if subsequent jobs prove hard to find (Bartley & Ferrie, 2001).

Job insecurity can be approached either according to the global definition or to the multidimensional definition (Mauno, 1999). Globally defined, job insecurity signifies the threat of job loss or to job continuity, while from the multidimensional point of view, it refers not only to the amount of uncertainty an employee feels about his or her job continuity, but also about the continuity of certain dimensions of the job or of valued condition of employment, for example, opportunities for promotion or the possibility of being laid off for a short while. Hellgren et al. (1998) use the terms *quantitative* and *qualitative* job insecurity to reflect these two dimensions of perceived loss of continuity in a job situation. Quantitative job insecurity refers to concerns about *the future existence of the present job*, that is, perceived threats of imminent job loss. Qualitative job insecurity means *the perceptions of potential loss of quality in the employment relationship*, such as deterioration of working conditions, demotion, lack of career opportunities, decreasing salary development, and concerns about the person-organization fit in the future.

The NEXT-Study examines self-perceived job insecurity, and the concept job insecurity refers both to employment security and qualitative job insecurity.

Methods

Instrument

The instrument used to measure job insecurity consists of five questions (three from the Copenhagen Psychosocial Questionnaire and two from NEXT), with dichotomous responses. The questions were ”Are you worried about a) becoming unemployed? b) being unable to work? c) difficulties finding another job if you became unemployed? d) being transferred to another job/place of work that you do not want? e) receiving a new work schedule which does not suit you?” Questions a and c measured employment security, and d and e qualitative job insecurity.

Data collection

Data collection and participation are described in the respective chapters in this book. The number of respondents was 38,802: in Belgium (BE) 4,257; in Germany (D) 3,565; in Finland (FIN) 3,970; in France (FR) 5,376; in Great Britain (GB) 2578, in Italy (IT) 5,645; in the Netherlands (NL) 4019; in Norway (N) 2733; in Poland (POL) 3263; and in Slovakia (SLK) 3396.

Data analysis

Data analysis has been conducted with SPSS 11.5. Differences in prevalence were calculated by Chi^2 test.

Results

Job insecurity experiences

Job insecurity experiences differed quite a lot between countries. In Poland and Slovakia, nurses were most concerned about their job security, as measured by almost any of these questions. The respondents from other countries were more concerned about their qualitative job security than about becoming unemployed. The fear of becoming unemployed and worry about difficulties finding another job were extremely high among Polish and Slovakian nurses (roughly 90% of the Polish and 80% of the Slovakian respondents expressed concern about these), whereas the respondents in the Netherlands expressed least concern about those (2% and 16 %). Either in Norway nurses did not experience much concern about difficulties finding a new job. (Figure 1.) Polish and Slovakian nurses were also more concerned than nurses in other countries about their qualitative job security (Figure 2). Italian nurses expressed also more worry than others about being transferred inside their organization. Differences in all job insecurity a experiences were significant between countries ($p<.001$).

Figure 1. Quantitative job insecurity among nursing staff in ten European countries.

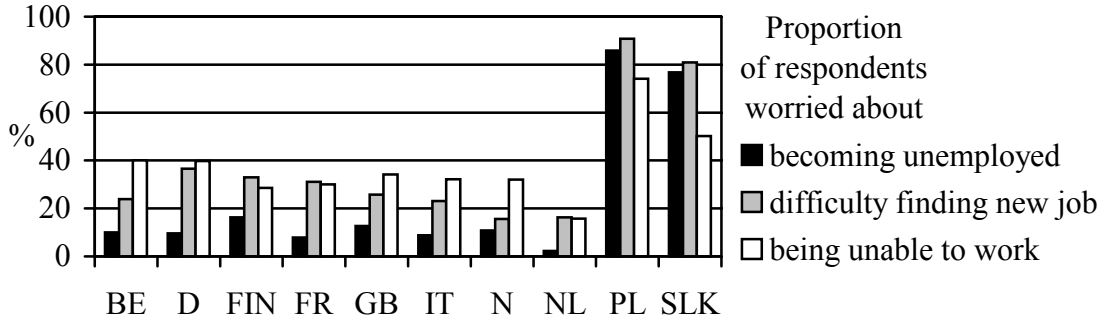
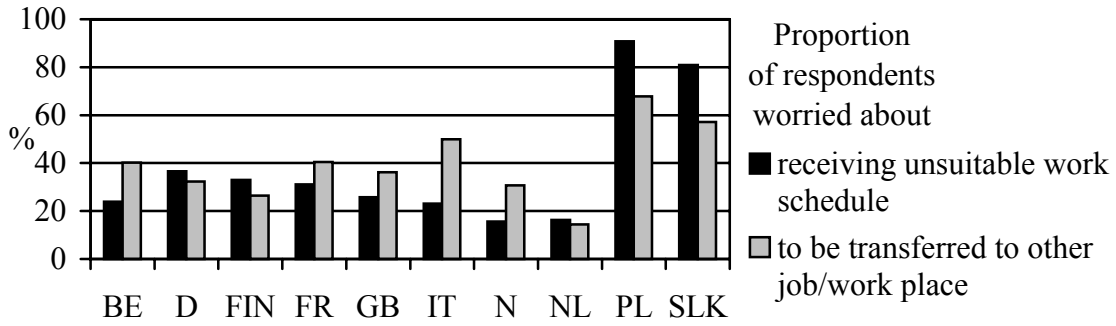


Figure 2. Qualitative job insecurity among nursing staff in ten European countries.



Job insecurity by gender, age and employment contract

W*omen* were significantly *more worried than men* about difficulties to find a new job if they became unemployed in Germany and in Norway ($p<.01$), about being unable to work in Finland ($p<.001$), in France ($p<.05$), and in Italy ($p<.01$), about being transferred to another job/place in Italy ($p<.001$), and in Finland ($p<.05$), and receiving an unsuitable work schedule in Italy ($p<.001$). Finding a new job in a situation of unemployment was the only thing that was the concern of *men more than of women*; this was in Italy ($p<.001$).

The worry about different aspects of job insecurity seemed to have *some general trends* in some countries *as regards to age*. The worry about becoming unemployed decreased with age in Finland, Poland and Slovakia, and also slightly in France and Italy ($p<.01$) (Figure 3). The concern about finding a new job if becoming unemployed increased with age in Germany, Belgium, France, Great Britain, Norway and the Netherlands, while in Slovakia it decreased after the age group of 30-34 years, and in Poland after the age group of 40-44 years, being the lowest among the oldest respondents ($p<.01$). In Belgium, Germany, Finland, France and Italy, the youngest and the oldest nurses were less concerned about being given an unsuitable schedule than the other age groups in their

countries (p<.001 to <.05), while in Great Britain the worry increased with the age (p<.001). In the Netherlands, nurses less than 30 years old were less concerned about it (p<.001). (Figure 4).

Figure 3. Proportion of nurses worried about becoming unemployed (%) by age in different countries.

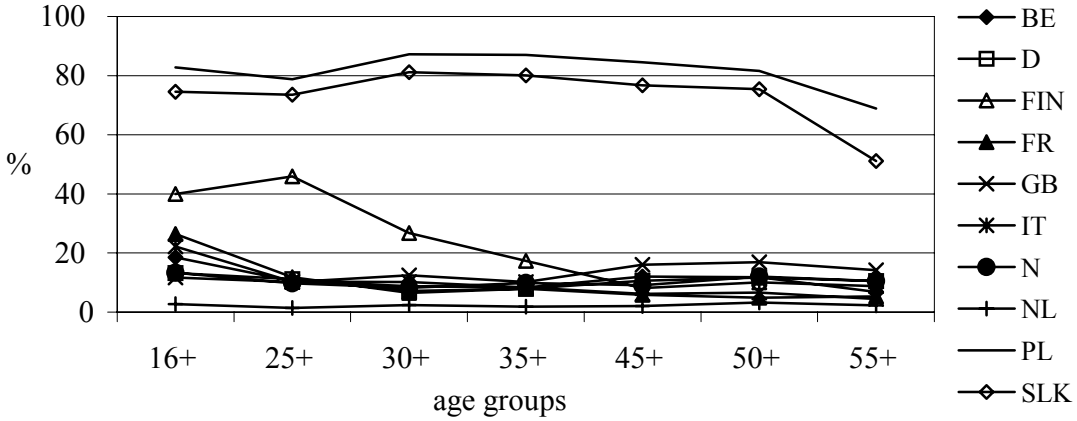
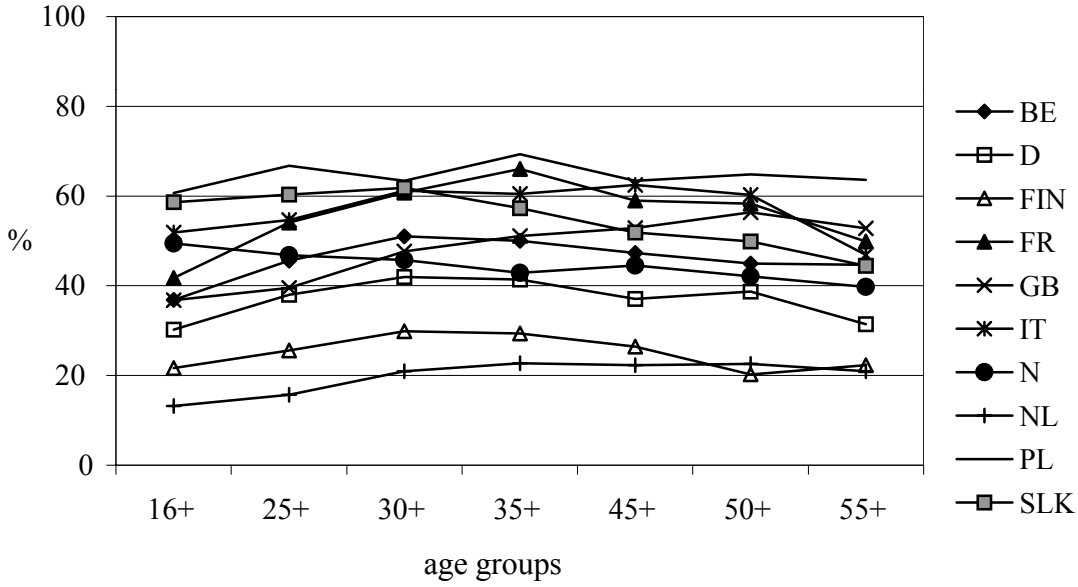


Figure 4. Proportion of nurses worried about receiving an unsuitable work schedule (%) by age in different countries.



The share of respondents whose employment contract was temporary was highest in Slovakia (31%) and in Finland (20%), while the share in other countries varied from 3% to 9% (no information from Great Britain and Norway). *Temporary employees* were significantly *more worried* about becoming unemployed than permanent ones in all other countries except Poland and Slovakia. Temporary employees were most concerned about this in Finland, France and the

Netherlands. Dutch, German, Finnish and French nurses with a limited working contract were more worried than others in their country about finding a new job in the case of unemployment ($p<.05$), Belgian temporary nurses about being transferred inside the organisation ($p<.01$), and Dutch temporary nurses about being given an unsuitable working schedule ($p<.01$). On the contrary, in Belgium and France, *permanent nurses* were *more worried* about being given an unsuitable schedule than temporary nurses ($p<.01$), and this was the case also in Italy with the concern about being transferred to another job/place ($p<.05$).

Job insecurity and intent to leave (ITL)

The experiences of *job insecurity* were associated with *'intent to leave the nursing profession'*. Especially those who were worried about receiving an unsuitable working schedule had more often thoughts about leaving than those who did not have this worry ($p<.001$). This was the case in every country. The correlation was strongest in Belgium, Finland and the Netherlands. Moreover, concern about being unable to work (except in Norway and Poland) was associated with ITL ($p<.001$). Among Dutch nurses, experienced job insecurity, although it was less than in other countries, was associated with ITL more strongly than in other countries. In Germany, unlike in other countries, the correlation between worry about becoming unemployed, and ITL was negative: those who reported less worry were more willing to leave ($p<.05$). This was the case in Germany and in Norway also as regards concern about finding another job if unemployed.

Discussion

Many differences emerged among countries both in terms of the experiences of job insecurity and its associations to other factors. Generally speaking, with the exception of Poland and Slovakia, it seemed that nurses were more worried about qualitative job insecurity (being transferred to another job and receiving an unsuitable work schedule) than job loss. Particularly French, Italian and Belgian nurses feared these kinds of changes in their job. Qualitative job insecurity experiences correlated also more with intent to leave nursing than experiences in connection with job loss. The worry about transferring and receiving an unsuitable schedule may reflect the low possibilities to influence the organisation of tasks and working hours. Nurses in Poland and in Slovakia were most worried about their job security, measured by almost any of these five questions, and they were especially concerned about being unemployed and about difficulties in finding a new job in such a situation. Instead, in the Netherlands, the level of concern about every item of job insecurity was clearly lower than in other countries.

It is not surprising that nurses with a limited working contract were worried about becoming unemployed. This connection was extremely strong in Finland. In Finland, the share of temporary employees in health care has been rather large in recent years, and particularly recently qualified nurses have had difficulties finding other than short-time temporary posts.

The age correlation with job insecurity experiences varied both by matter of concern and by country, but some general trends seemed to emerge. Worry about becoming unemployed decreased with age. Apparently, older nurses have more often permanent posts and layoffs and dismissals due to downsizing have not occurred extensively in the health care sector. Therefore, they feel more secure in their job than younger nurses. In Slovakia, the training of nurses is changing, and employers now prefer older and more experienced nurses. Thus, rumours about cutting staff make young nurses feel insecure. Being given an unsuitable working schedule was of more concern to those aged 25 to 50 years than to younger or older ones. Women at that age have more family obligations, and rearranging life according to a new schedule may be more difficult for them than for younger or older employees.

Forthcoming changes and those that have already occurred in organizations and in the health care sector, as well as the labour market situation in the country, lie behind the job insecurity experiences of employees. Thus, more detailed analysis is needed in order to gain a better understanding of this phenomenon in different countries.

References

Bartley M, Ferrie J (2001) *Glossary: unemployment, job insecurity, and health*. J Epidemiol Community Health; 2001, 55: 776-781

Ferrie J E, Shipley M J, Stansfeld S A, Marmot M G (2002) *Effects of chronic job insecurity and change in job security on self reported health, minor psychiatric morbidity, physiological measures, and health related behaviours in British civil servants: the Whitehall II study*. J Epidemiol Community Health; 56: 450-454.

Hartley J, Jacobson D, Klandermans B, Van Vuuren T (Eds) (1991) *Job insecurity: coping with jobs at risk*. London, Sage Publications

Hellgren J, Sverke M, Isaksson K (1998) *A new look at job insecurity and its long-term effects on employee attitudes and well-being*. Reports from the Department of Psychology Stockholm University, 1998, no. 853

Mauno S (1999) *Job Insecurity as a Psychosocial Job Stressor in the Context of the Work-Family Interface*. Jyväskylä studies in education, psychology and social research 156. University of Jyväskylä.

Rosenblatt Z, Ruvio A (1996) *A test of a multidimensional model of job insecurity: the case of Israeli teachers.* J of Organizational Behavior, 1996, vol. 17, 587-605.

9 Work-family interference in the European nursing profession

Michael Simon, Hans-Martin Hasselhorn and the NEXT-Study Group

Introduction

The conflict between family and work life has been widely recognised by different disciplines such as Psychology, Sociology and Economics. Greenhaus and Beutell (1985) define work-family conflict as *"a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible in some respect."* (p.77). In addition to this definition, the authors have differentiated between three major forms of work-family conflict: *time-based*, *strain-based*, and *behaviour-based* conflict. *Time-based* work-family conflicts arise if the amount of time spent in one domain (e.g. work) hampers to meet the requirements of the other domain (e.g. family). A *strain-based* conflict exists when the performance in one role decreases due to stressors in the other role, for example tiredness at work due to lack of sleep due to child care responsibilities at home. The third form of conflict describes behavioural difficulties in switching between different roles.

A crucial aspect of understanding work-family interference is its bidirectional conceptualisation. This means according to Frone et al. (1992) a distinction between WFC (work conflicting family) and FWC (family conflicting work). Based on this distinction Netemeyer et al. (1996) developed short self-report scales for WFC and FWC which have been used in the NEXT-Study.

Studies investigating work-family interference in nursing are rare. Burke & Greenglass (2001) analysed the relationship between WFC/FWC, burnout and organisational restructuring, showing higher values for WFC than for FWC (similar to non-nursing investigations). Gottlieb et al. (1996) investigated predictors for the work-family conflict in the nursing profession and identified childcare responsibilities, social support (at home and at work) and workload as important variables influencing WFC/FWC.

The relationship of premature departure from the respective profession and work-family interference is not yet fully understood. Studies investigating both aspects are absent, nevertheless links have been made between both topics. Several factors such as gender, age, marital status, work load or work schedule may play significant roles in both domains, a relationship between both concepts can be assumed. High scores for WFC or FWC may firstly contribute to the *consideration* to leave the profession and, finally, to the actual departure from it. The NEXT-Study provides far-reaching possibilities to investigate work-family

interference and its related factors. In this chapter, WFC and FWC scores in general and their relationship to age, gender, marital status and work shift will be analysed.

Methods

WFC & FWC-Scale

Five-item scales of WFC and FWC developed by Netemeyer et al. (1996) were used. High scores indicate strong conflicts between family and work or between work and family.

Data collection

Data collection and participation has been described in the respective chapters in this book. Differences of means were calculated with T-Test and ANOVA. In consideration of the large sample size, the limits for significance were set by alpha <.01.

Data analysis

Data analysis has been conducted with SPSS 11.

Table 1. Overview of participants by country and work-family conflict (WFC) and family-work conflict (FWC) Scale.

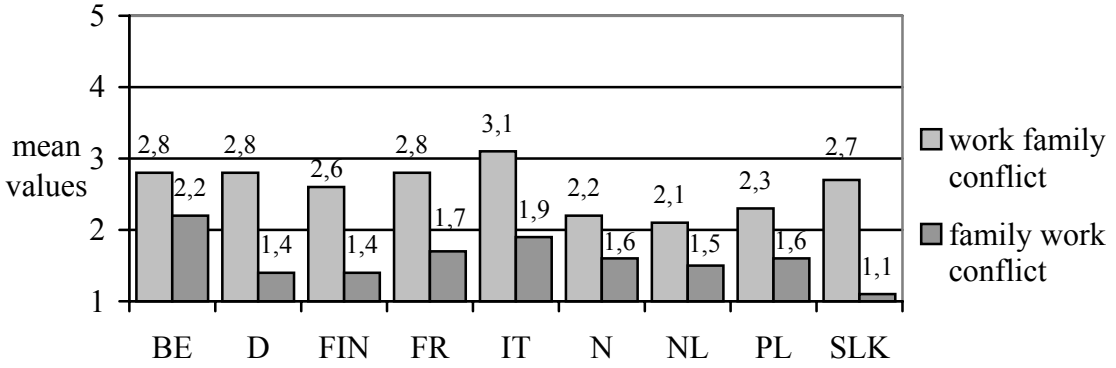
country code	total n	valid n WFC	valid n FWC
BE	4,257	4,192	4,128
D	3,565	3,514	3,517
FIN	3,970	3,908	3,878
FR	5,376	5,284	5,253
IT	5,645	5,367	5,282
N	2,733	2,627	2,606
NL	4,019	3,978	3,960
PL	3,263	3,130	3,096
SLK	3,396	3,185	3,144
all	*36,224*	*35,185*	*34,864*

Results

WFC & FWC Scores

Both scales have a possible range from 1 (no conflict) to 5 (very high conflict). Overall mean values for WFC (2.7; SD 1.04) were higher than for FWC (1.7; SD .79) (Figure 1). Scores for WFC were highest for the Italian (3.1) and lowest for the Dutch sample (2.1). Highest Scores for FWC were found in the Belgian sample (2.2). Finland and Germany showed the lowest scores (1.4) for FWC.

Figure 1. Mean scores for WFC and FWC in the nursing workforce by country. Score ranges from 1 (no conflict) to 5 (very high conflict). n_{WFC} = 35,185, n_{FWC} = 34,864



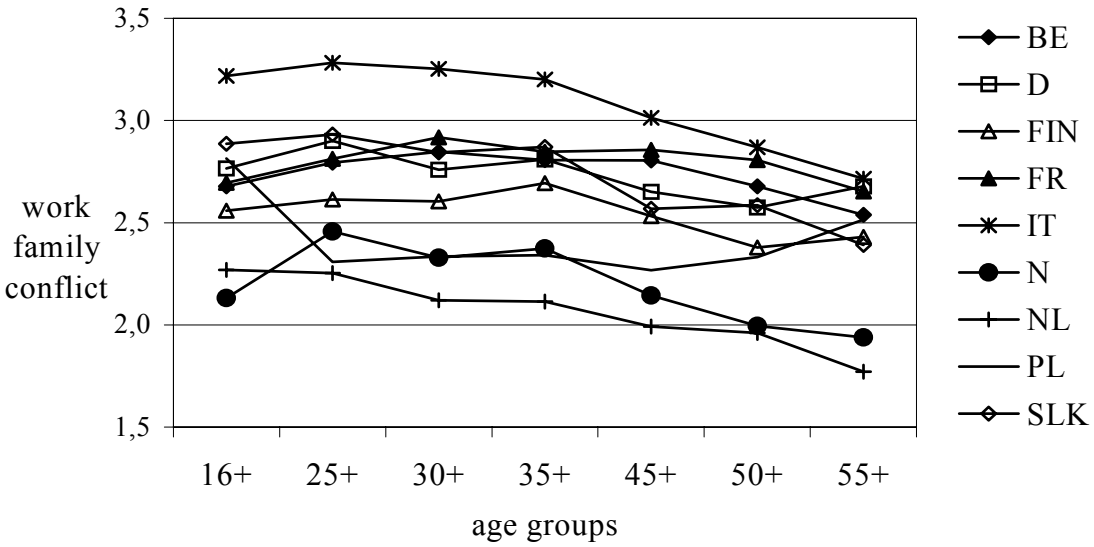
Gender

Interestingly, differences between male and female nurses within countries and combined for all participating countries were marginal. Comparing all participating countries, WFC scores among women were slightly lower (2.6; SD 1.05) than for male nurses (2.7; SD 1.01). Due to the large sample size, differences for the European sample were statistically significant, but taken as a whole negligible. Within the participating countries, only the Polish sample showed a significantly higher WFC for women than for men, however, only 1% of all respondents in Poland were men. FWC scores showed an even smaller gender difference with a score of 1.8 for male and 1.7 for female nurses.

Age

Differences for WFC between age groups showed – for the total sample - a peak (2.8) for nurses at the age of 30 to 35 years (35+ for FWC). This was followed by a continuous decline of the score until the age group 55+, reaching a WFC score of 2.4. This pattern was characteristic for almost all countries (Figure 2). In Poland, however, a different pattern was observed: the younger and the older nurses reported the highest work-home conflict. This might be explained by the following: whereas the young Polish nurses may have to take care of children (on average 1.6 children at home), the older nurses have far more additional caring obligations than the colleagues from other countries. One out of four Polish participants had to take care of another person (without child care) for an average of 13 hours a week.

Figure 2. Mean values for work-family conflict by age groups and country. (displayed range 1.5-3.5, possible range from 1 to 5, n=35,185)



Marital status and child care responsibility

Marital status in the NEXT-Study was divided into four groups: those living alone, those being the only adult with child/ren, those living with another adult and those living with another adult plus child/ren. Both groups with children obtained higher values for WFC at 2.8 and 2.7 than the scores in groups without children who each obtained a score of 2.6. FWC scores showed a similar pattern with values of 1.8 for both groups of nursing staff with children and lower values for those without (1.6 in both groups).

Interestingly, WFC scores for adults with three or more children were lower (2.5) than for adults with 0 to 2 children (2.7). FWC scores, however, were identical for these groups (1.7).

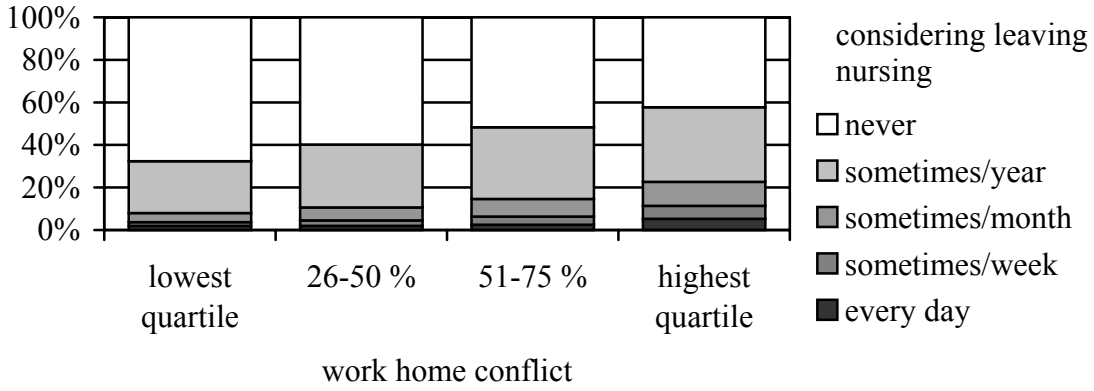
Work schedule

The WFC score for those working regular day hours only was low (2.3). Nurses working shift work but *not nights* had somewhat higher scores (2.6). The highest scores were found for those who worked *both* day and night shifts (2.8). Interestingly, nurses who exclusively work night shifts reported lower scores than the latter group (2.6). As shown in the following chapter, an exceptionally high proportion of 80% of these nurses was satisfied with their working hours. In summary, these findings indicate that combined day and night work and regularity of working hours are crucial factors for the WFC.

Also, weekend work was strongly linearly associated with WFC: those working no weekends had the lowest WFC scores (2.4), those with two weekends a month had 2.7 and nurses having to work 4 weekends had the highest mean score: 3.1.

Family-work and work-family conflict vs 'intent to leave nursing'
WFC and intention to leave the profession showed a linear positive association. This means that nurses who had higher scores for WFC thought more often about leaving the profession (Figure 3). Less clear-cut was the relationship between FWC and the intention to leave. Nurses who often considered leaving the nursing profession had marginally higher scores (1.82) than those thinking about it less often (1.72).

Figure 3. Quartiles for work home conflict and intention to leave the nursing profession. FWC ranges: 1-1.8 (lowest quartile), 1.8-2.6 (25-50%), 2.6-3.4 (50-75%) and 3.4-5 (highest quartile). N=31854



Discussion

In line with expectations, the results confirm earlier findings that work adversely affects private life to a greater extent than the reverse direction. Surprisingly, there were no clear gender differences, even though own experience and other results of the NEXT-Study indicate that even today, different roles of men and women in nursing exist in Europe.

Associations of WFC and *childcare responsibilities* as well as *work schedule* and *weekend work* were expectedly pronounced and could be summarised as contributors to a *time-based* work home conflict. The strong association of WFC and *intention to leave the profession* remains even in multivariate analysis. This supports the relevance of this topic for the NEXT-Study.

The pronounced differences between the participating countries (but also between institutions, *not shown*) indicate that under certain conditions a

satisfying combination of work and family life is possible for the nursing professions. Further analysis may reveal the underlying conditions for this.

References

Greenhaus JH & Beutell NJ (1985) Sources of Conflict Between Work and Family Roles. *Academy of Management Review* 1: 76-88.

Frone MR, Russell M & Cooper M (1992) Antecedents and Outcomes of Work-Family Conflict: Testing a Model of the Work-Family Interface. *Journal of Applied Psychology* 1: 65-78.

Netemeyer RG, McMurrian R & Boles JS (1996) Development and Validation of Work-Family Conflict and Family-Work Conflict Scales. *Journal of Applied* Psychology 4: 400-410.

Burke RJ & Greenglass ER (2001) Hospital Restructuring, Work-Family Conflict and Psychological Burnout among Nursing Staff. *Psychology and Health* 5: 583-594.

Gottlieb BH, Kelloway EK & Martin-Matthews A (1996) Predictors of Work-Family Conflict, Stress, and Job Satisfaction among Nurses. *Canadian Journal of Nursing Research* 2: 99-117.

10 Work schedules of nurses in Europe

Halszka Ogińska, Donatella Camerino, Madeleine Estryn-Behar, Janusz Pokorski and the NEXT-Study Group

Introduction

Work schedule is an important factor of organisational and general workload influencing work satisfaction, health, and – as a result – the intention to stay or to leave the job. This is a very complex issue which cannot be reduced to a single aspect. The most important problems within the topic 'work schedule' include: time of work (weekly working hours), hours of work (timing, atypical working hours), regularity (predictability), and flexibility and control over one's working schedule. An inappropriate organisation of work-time may be the key reason for the work-family conflict, making it difficult or even impossible to fulfil the roles of partner and parent.

In most European countries a tendency towards more flexible and shorter working hours can be observed (Boisard et al., 2003). The question arises whether this is also the case in the health care sector.

Nursing, especially in hospitals and medical emergency services, enforces special time arrangements providing continuity of care and readiness for action whenever patients require so. Although one of the oldest protective measures of occupational health, the agreement of all European monarchs and presidents in 1906, excluded women from night duty (Rutenfranz, 1987), nursing was the only profession to allow this, for the aforementioned reasons.

According to present scientific evidence, night and shift work may be harmful to the health and social functioning. It is generally acknowledged that only about 10% of shift workers can tolerate such a manner of work organisation over an extended period of time, while about 20% have to stop mainly due to health reasons; the silent majority of 70% has to cope with the inconvenience of shift work and have expressed discomfort in various manners up to retirement (Harrington, 1978). In spite of the fact that shift work does not directly cause illness, it has been proved to be a significant factor facilitating or aggravating several medical conditions. Among such problems are sleep disturbances, digestive problems, cardiovascular diseases, gynaecological, neuropsychological, and also oncological problems (Costa & Pokorski, 2000).

Since correct organisation of shift work plays the decisive role for its medical consequences, it is of vital importance for the organisers of shift work in health care to be supplied with relevant knowledge based on the status quo. In the

NEXT-Study, data on schedules of time organisation of the nursing profession in Europe was assessed.

Some work organisation systems comprise solutions which should be avoided from an ergonomic point of view, such as the necessity to get up very early (before 5 o'clock), so-called alternating shifts, backward rotation, working several nights in a row, too many weekends spent at work. It would be reasonable to assess the frequency of these occurrences and – in further steps – to estimate their relation to work satisfaction, fatigue and health outcomes, and intention to change system, institution or job.

Method

Work schedule issues were addressed by 18 questions regarding particular aspects of work time and organisation. They do not constitute any scale and are to be treated as separate variables. At this point, only preliminary results are presented, comprising especially important elements of the organisational workload.

Data collection

Data collection and participation are described in the respective chapters in this book.

Data analysis

Data analysis has been conducted with SPSS 11.0. Overall differences of means were calculated by ANOVA; differences in prevalence by Chi^2 test. The limit for significance was set by alpha <.01.

Results

Working time in nursing (according to the contract, Figure 1) was the shortest in the Netherlands and the longest in Poland and Slovakia. It was in accordance with the data regarding work duration in European countries available from the other sources, for example the ILO and the European Foundation for Improvement of Living and Working Conditions (Boisard, 2003). The differences between the countries reflect the national regulations on working time, in general, and in the health service sector. In addition, the results are to some extent influenced by the proportion of part-time workers in the nurses' populations. The discrepancies between the European countries are easily observed – for several of them (BE, DE, FR, N, NL) there is a tendency towards shorter working hours. The gap between the longest and the shortest mean working times in the studied populations was over 13 hours per week. Except between Belgium and Norway, all the differences between the countries were significant ($p<.001$).

Figure 1. Nurses' mean working time by country – hours per week. n=32,502

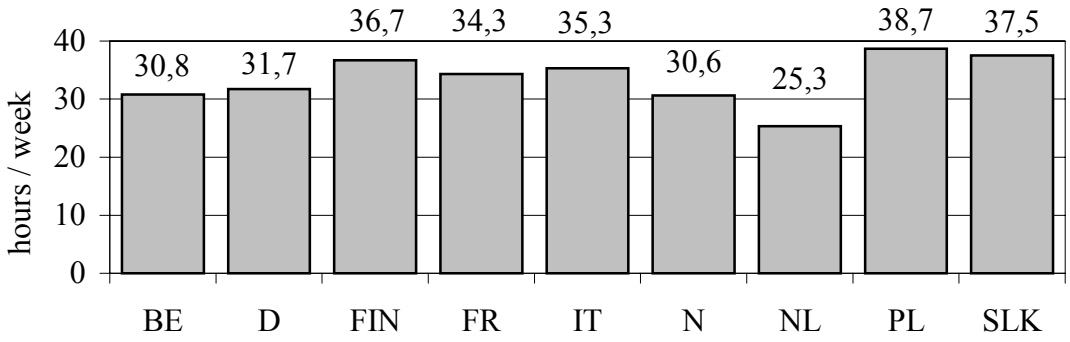


Table 1. Distribution of nurses by types of work schedule (in %).

country	n	regular day work	day work - irregular	shift work without nights	permanent night work	shift work with nights	sum
BE	4,202	28.4	9.1	30.2	4.7	27.7	100
DE	3,479	16.9	8.7	23.9	6,7	43,9	100
FIN	3,925	21.9	3.7	22.2	2.4	49.8	100
FR	5,347	25.3	4.8	40.5	13.8	15.7	100
IT	5,508	26.1	3.5	14.4	0.1	55.8	100
N	2,639	21.9	8.0	12.4	2.1	55.6	100
NL	3,980	19.9	9.6	15.1	1.7	53.8	100
PL	3,148	25.5	4.9	5.6	0.2	63.7	100
SLK	3,341	30.5	2.0	1.9	0.1	65.5	100
total	*35,569*	*24.0*	*6.0*	*18.5*	*3.5*	*47.9*	*100*

In the entire group, every second nurse was involved in night-time work (Table 1). In hospitals, 58% of nurses carried out night duties and in home care or out-patient care less than 4% of the time. The relatively low proportions of night workers in France (29.5%) and in Belgium (32.4%) are noteworthy. At the same time, in France the highest number of permanent night nurses (13.8%) was observed; in other countries it amounted to 0.1–6.7%.

There was a clear-cut relationship between the work system and age: 60% of the nurses below 30 years worked night shifts, so did only 30% of the oldest group analysed (55 years and above). It seems that nurses try to withdraw from the night work with increasing age. However, at the same time, one can notice an interesting tendency – the proportion of permanent night workers increased from 1.6% in the youngest group to 8.1% in the oldest one. Besides, nurses younger than 30 years of age worked significantly more hours per week than older ones.

Male nurses in our sample were employed slightly more often than female nurses in schedules comprising night shifts (59 vs. 49%). They also worked significantly longer in terms of weekly hours.

Work schedule and 'intent to leave nursing'

Various aspects of work time organisation were analysed in relation to 'thinking of giving up the health care profession'. Some characteristics of work schedule, such as the *necessity to work nights, and/or on weekends*, the *number of night shifts per month*, the *necessity to get up very early* are factors unanimously recognised as aggravating work stress. This has been confirmed in the present analysis, showing significant associations with the *intent to leave the profession* ($p<.001$). However, the most striking differences regarded a group of factors that could be labelled as 'control and flexibility', i.e. *influence on planning own rota*, the *possibility (or not) to swap shifts with colleagues*, or – contrary to that – the *necessity to take over shifts at short notice*.

It was found that nurses in Great Britain, Poland and in France had problems to swap shifts with colleagues (for >60% it was *difficult* or *impossible*), while for those in Finland, Germany, and Italy this was more easy (50%). This may be regarded as an advantage and speaks for staying in the institution.

Nurses in France and in Slovakia reported having less influence on the planning of their work rota. Those in the Netherlands and in Great Britain had far more opportunity to adapt their work schedules to their individual wishes and preferences.

On average, 31% of nurses 'never' had to take over shifts at short notice. For the rest of them it was a regular occurrence, to 9% it happened 3 times a month or more often. This was a problem especially for nurses in Germany (16%) and Italy (14%). On the contrary, in Poland and Slovakia only 2 and 4% of nurses had to face it that often. The necessity to be 'on call' was strongly - and more than other organisational factors – associated with the thought of giving up work in health care.

Nearly 28% of all nurses were dissatisfied with their work schedules with respect to their well-being, and 36% with respect to their private life. This was clearly associated with the frequency of 'thinking of giving up the health care job' (Figure 2, $p<.001$).

Among those whose work time organisation did not meet their needs with respect to private life, 21% *often* considered leaving the profession. This was twice as much as the ratio in a group satisfied with their work schedule. This proportion was even higher (24%) in the group which rated the work system as harmful for their individual psychophysical resources.

Not surprisingly, shift work including nights was assessed as the least satisfying system with regard both to well-being and to private life (35% and 47% were dissatisfied, respectively). Day work with regular hours was not appreciated by 14% and 16% of nurses with regard to both criteria. Surprisingly, permanent night work was appreciated by 80% of nurses with regard to their private life.

Figure 2. 'Satisfaction with working schedule with respect to private life' in relation to 'intent to leave the nursing profession'.. n=27,362.

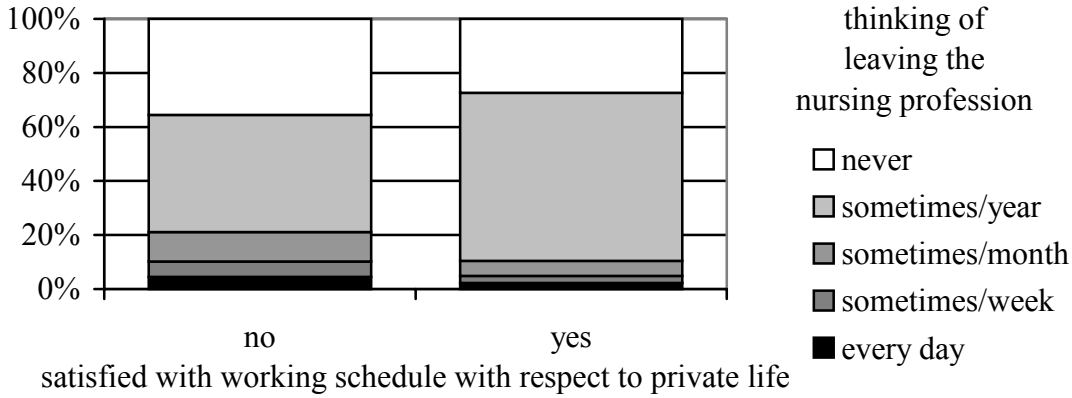
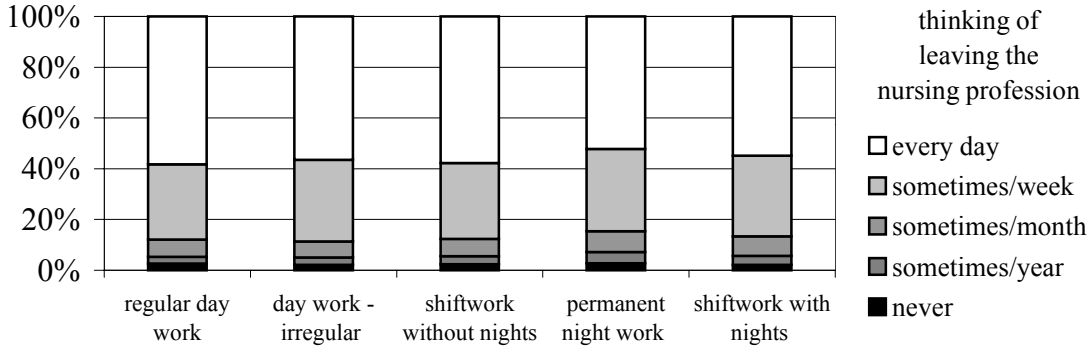


Figure 3. Frequency of thinking of leaving health care job by nurses employed in different types of work schedules. (N=26,967; Chi^2 = 60.1; p<.001)



Generally, the proportion of nurses who considered leaving their profession was significantly higher in schedules comprising night shifts: 15.5% of permanent night workers and 13.5% of those working day & night shifts in comparison to 11.2% to 12.4% in the groups not working nights (Figure 3). This is, however, a simplified picture of the situation. Further research will enable more in-depth comparisons. There are a variety of shift systems differing in such important features such as, for example, length of the shift, timing (beginning and end of the shift), direction of rotation, or length of the work sequence/block. These characteristics and the adequacy of work time organisation with the work load

should be studied in order to obtain more sound material on work schedules of nurses and their intent to leave.

Discussion

It seems as if it was not so much the work system *per se* that makes nurses consider leaving their profession. The results so far rather indicate that there are discrepancies between the individuals' wishes and her/his actual work schedule. Those not satisfied with their work schedule would like to leave to a high degree. This, indeed, may have practical implications for work organisation in health care institutions which want to retain nurses.

It seems that the well-known '14 rules of a good shift system' (Wedderburn 1991) are still of importance. Furthermore 'flexibility', one of the most distinct features of contemporary work, is also highly appreciated in health care professions.

It should be kept in mind that employee's satisfaction with the work schedule depends both on the characteristics of the latter and on individual motivation and preferences, taking into account the psychophysical well-being (individual resources, including chronotype), private life and/or other extra-professional circumstances.

References

Boisard P, Cartron D, Gollac M, Valeyre A (2003) *Time and work: duration of work.* Dublin: European Foundation for the Improvement of Living and Working Conditions.

Costa G, Pokorski J (2000) Effects on health and medical surveillance of shiftworkers. In: Marek T, Ogińska H, Pokorski J, Costa G, Folkard S eds. *Shiftwork 2000 – implications for science, practice, and business*. Pp 71-97, Krakow: UJ.

Harrington JM (1978) *Shift work and health. A Critical Review of the Literature*. London: Her Majesty's Stationary Office.

Rutenfranz J (1987) Introductory lecture. In: Ogiński A, Pokorski J, Rutenfranz J eds. *Contemporary Advances in Shiftwork Research.* Pp 13-21, Krakow: Medical Academy.

Wedderburn A (1991) Guidelines for shiftworkers. Bulletin of European Shiftwork Topics 3. Dublin: European Foundation for the Improvement of Living and Working Conditions.

11 Work ability in the nursing profession

Donatella Camerino, Beatrice van der Heijden, Madeleine Estryn-Behar, Philippe Kiss, Janusz Pokorski, Hans-Martin Hasselhorn and the NEXT-Study Group

Introduction

The conceptualisation of 'work ability' that is chosen in this contribution has to be understood in a preventive context where interventions ensure that workers are properly accommodated and that future alienation, work disability and premature retirement will be minimized. Nowadays, one of the most important challenges in the domain of personnel management is to find out whether influential factors (i.e. work conditions) can be detected that stimulate or hinder the development of individual employability throughout a career. Employability can be defined as 'the behavioural tendency directed at acquiring, maintaining and using qualifications that are aimed to enhance the ability to cope with a changing labour market during all career stages' (van der Heijden & Thijssen, 2003).

Work ability as a personal characteristic can be interpreted as being an important component of the broader concept of employability. It refers to both individual and occupational factors that are essential to a person's ability to cope in working life (Ilmarinen, 1999). More specifically, it is the worker's perception of own work ability. It is a self-assessment based on commitment, educational and training background, work history and transferable skills, current work status and relationship with supervisor, social activities, support systems and fitting needs (Ilmarinen, 1993).

The work ability index (WAI) has been developed in the early 80's by researchers from the Finnish Institute of Occupational Health (FIOH) as an instrument aimed at evaluating how well workers are performing in their present job and how their performance is expected to be with respect to future work demands, health, and mental resources (Tuomi et al, 1991).

The model underlying the WAI is mainly explained by four factors: job demands and environment (28% of explanation rate), work organization and work community (20%), professional competence (15%) and life style (13%) (Tuomi, 2001). More specifically, these four factors significantly influence how well or how poorly a worker uses his or her resources. A system of feedback exists on how he or she is doing at work and it models and improves his/her motivational factors too. The WAI can be used as a monitoring instrument for both individuals and groups among occupational health personnel; it has proved

to be helpful in high stress level detection and prevention (Kloimuller et al., 2000), a predictor for disability pension and mortality (Tuomi et al., 1991a, 1997) and a good indicator of occupational risk factors for early retirement (Tuomi, 2001).

The WAI has been translated into 15 languages and is highly applicable for cross-cultural comparisons. An international network initiated by the National Age Programme (1998-2000) has collected a huge database using WAI in order to focus on determining factors that affect work ability in different age stages. The NEXT-Study provides an opportunity to study perceived work ability, it's change in the light of ageing, and the effects of influential factors in different countries. The aim of this contribution is to study the relationship between work ability and turnover intention among nurses.

Methods

The use of the WAI is easy and quick; the questionnaire entails seven dimensions, each covered by means of one or more questions: current work ability compared with the best during one's lifetime (0-10 points), work ability in relation to the demands of the job (2-10 points), number of diagnosed diseases (1-7 points), subjecttive estimated work impairment due to diseases (1-6 points), sickness absence during past year (1-5 points), own prognosis of work ability two years later (1, 4 and 7 points) and mental resources (1-4 points). The WAI is calculated by summing the points for each item. The final index-score ranges from 7 to 49 points. Work ability is considered as 'poor' if the WAI score has a range of 7 to 27, as 'moderate' if it ranges from 28 to 36, as 'good' if it ranges from 37 to 43 and as 'excellent' if the range is 44 to 49. In a longitudinal study (Tuomi et al., 1998), the 15th percentile of the index distribution was used as the cut-off point for poor and excellent work ability. The moderate and good classifications have been determined by using the median.

A slightly adapted version of the WAI questionnaire was used to assess work ability. The third dimension 'number of diagnosed diseases' has been shortened before submission. As our modification of the WAI might result in somewhat higher WAI scores for our respondents, comparisons with other empirical results of WAI studies must be carried out taking this into account. The WAI score was calculated according to instructions provided by FIOH (Tuomi et al., 1998).

Data collection

In Table 1, the response rate for the WAI by country is reported.

Data analysis

Age, gender and type of institution have been taken into account in this preliminary analysis phase in order to establish their relationship with WAI

scores and to establish their effect upon the relationship between WAI and intention to leave the nursing profession. The overall analysis shows that the distribution of the WAI score is skewed to the left (skewness: -0.95), that is to say that non parametric analysis is to be preferred. During this research stage, descriptive analyses, parametric - non parametric univariate tests, Spearman's correlation, the relative risk estimate have been performed using SPSS 11.5.

Results

WAI scores were lowest for the Polish and French samples (36.3-37.8) and highest for the Dutch one (41.4) (see Table 1). The test for differences between *countries* was significant (Kruskal Wallis: Chi-Square =2810 (df =9), p-value.000).

Table 1. Respondents per country for the Work Ability Index (WAI) and nurses' mean WAI by country.

country	total subj. n	WAI valid n	mean	s.d.	min.	max.
Belgium	4,257	3,859	39.7	5.0	14	49
Germany	3,565	3,373	37.9	6.3	10	49
Finland	3,970	3,750	39.9	5.8	9	49
France	5,376	4,306	37.8	5.7	9	49
United Kingdom	2,578	2,318	39.7	5.7	7	49
Italy	5,645	4,073	39.6	5.3	9	49
Norway	2,733	2,262	42.0	5.3	13	49
Netherlands	4,019	3,927	41.4	4.9	12	49
Poland	3,263	3,073	36.3	6.0	14	49
Slovakia	3,396	3,093	39.4	4.8	19	49
All	*33,491*	*29,454*	*39.1*	*5.6*	*7*	*49*

When we take *type of institution* into account, the results point out that in most countries nurses working in *old peoples' homes* have the worst WAI score (Kruskal-Wallis: Chi-square 138 (df=2, p<.000).

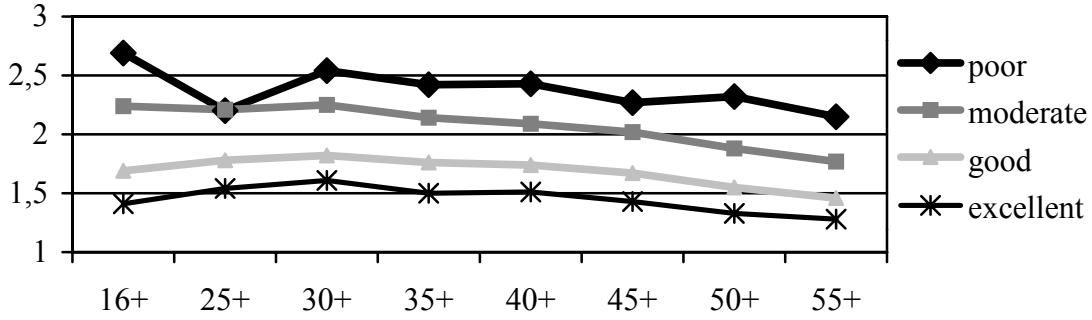
Considering *gender* differences, we have found that in all countries male nurses have higher WAI scores compared with their female counterparts. The overall outcome, that is to say: in case the respondents for all countries are aggregated, is Mann-Whitney U: z =-10.9 (p<.000).

The WAI scores decreases significantly with *age* (Kruskal Wallis: Chi-square 489.3 (df=9), p<.000), although not homogeneously in all countries. In Italy, for example, the decrease with age is less apparent in comparison with other countries.

The intent to leave is two times higher in the group of nurses with low WAI score than in the other group: the relative risk is equal to 2.3 (CI 95%: 2.1-2.5).

The intent to leave for another profession initially increases but shows a decrement after one's thirties, whereas WAI score decreases significantly with age: as a result, the strength of the relationship between WAI and the intent to leave for another profession raises with age (interactive effects: F 17.5 (df= 28) p<.000). This effect has been found in all countries.

Figure 1. Intent to leave for another profession: means comparison by age and WAI. (possible range from 1 (never considering leaving) to 5 (considering it daily), n=34,623)



The intent to leave for another profession also varies according to gender and type of institution (except for Italy and France). The analyses for interaction effects showed different results in the participating countries.

The relationships between work ability on one hand, and variables like the amount of stress due to physical and psychosocial conditions, perceived burnout and perceived health, on the other hand, are significant in all countries. For stress and burnout, we have found, on the whole, a negative relationship with WAI scores (rs=-.36, rs=-.53), while for health perception, the relationship is positive (rs=.59). Moreover, stress and burnout scores are positively related to intent to leave the nursing profession (rs=.20, rs=.23), and negatively to WAI scores (rs=-.17).

Discussion

In a recent study, Costa (2002) has found that nurses appeared to have lower mean scores for work ability compared with both biologist-technicians and physicians in all age groups. Moreover, this effect turned out to be stronger with ageing. While the work ability index predicts the risk of work disability or the future ability to cope and remain at work especially in ageing people (Tuomi et al., 1997), the outcomes regarding our nurses' sample are alarming. Health and the decline in health status and their perceived consequences for managing work have an important role among nurses, in any stage of life.

In the NEXT-Study, the mean WAI scores show significant differences across countries. Besides, factors such as gender, age and type of institution, appear to

play an important role in explaining differences in WAI scores. It might be gender-related differences in muscular mass to partly explain the more favourably outcomes for male respondents in our sample. After all, high physical workloads are very common in the nursing profession, but this hypothesis has to be controlled by lifting aids / hoists usage. Also working conditions reflecting social values attributed to gender such as 'influence at work…' may play an important role (Kiss et al., 2003).

Concerning age effects, mean WAI scores appear to decrease with age, even though individual differentiation increases with age (Ilmarinen 1999). In the light of an enhancement of life-long employability, work ability is an important component. Yet, an increase in work ability enlarges the chance for premature leave too. Without doubt, one should guide the individual work ability and employability, while at the same time the attractiveness of the health care institution has to be monitored in order to guarantee best working conditions, to enhance organizational and professional commitment. Management in health care institutions, taking into account the thoughts of representatives of prevention, should positively influence the working climate, developmental and career opportunities in order to prevent loss of highly capable employees.

The fact that variance in WAI scores is to a large extent explained by stress factors supports the idea that in the long run unsatisfactorily working conditions will result in a negative perception of one's own health and work ability. This negativity might result in a loss of affinity towards the organization as well as to the nursing profession as a whole.

References

Costa G, Sartori A (2002) Aging, working hours and health: some preliminary statistics from the 3rd European Survey on working conditions. In: *The 4th Conference on Ageing and Work. Promotion of Work Ability and Employability*. P 28, Kraków: The Jagiellonian University Medical College.

Ilmarinen J (1999) *Ageing workers in the European Union – Status and promotion of work ability, employability and employment*. Helsinki: Finnish Institute of Occupational Health.

Kiss P, Stordeur S, Verpraet R, De Meester M, Braeckman L, D'Hoore W, NEXT-Study Group (2003) *Work ability and its influencing factors in Belgian Nurses*. Abstract accepted for presentation on the 7th National Symposium on Public Health, to be held in Brussels, Belgium, 5-6 December 2003.

Kloimuller I, Karazman R, Geissler H, Karazman-Morawetz I, Haupt H (2000) The relation of age, work ability index and stress-inducing factors among bus drivers. *International Journal of Industrial Ergonomics* 25(5):497-502.

Tuomi K, Toikkanen J, Backman A-L, Eskelinen L, Ilmarinen J, Järvinen E, Klockars M (1991a) Mortality, disability and changes in occupation among aging municipal employees. *Scand J Work Environ Health* 17(suppl 1):58-66.

Tuomi K, Ilmarinen J, Eskelinen L, Järvinen E, Toikkanen J, Klockars M (1991b) Prevalence and incidence rates of diseases and work ability in different work categories of municipal occupations. *Scand J Work Environ Health* 17(suppl 1):67-74.

Tuomi K, Ilmarinen J, Martikainen R, Aalto L, Klockars M (1997). Aging, work, life-style and work ability among Finnish municipal workers in 1981-1992. *Scand J Work Environ Health* 23(suppl 1):58-65.

Tuomi K, Ilmarinen J, Jahkola A, Katajarinne L, Tulkki A (1998) *Work ability Index (2nd ed.)*. Helsinki: Finnish Institute of Occupational Health.

Tuomi K, Ilmarinen J, Jahkola A, KatajarinneL, Tulkki A (1998). *Work Ability Index. Occupational Health Care.* Helsinki: Finnish Institute of Occupational Health.

Tuomi K, Huuhtanen P, Nykyri E, Ilmarinen J. (2001) Promotion of work ability, the quality of work and retirement. *Occup. Med.* 51(5):318-324.

Van der Heijden BIJM, Thijssen, JGL (2003) HRD and employability' for the special issue entitled 'HRD and employability from different perspectives in the Netherlands and Flanders.' *Editorial note. International Journal of Human Resources Development and Management* 3(2):99-101.

12 Physical load among nursing personnel

Madeleine Estryn-Behar, Olivier le Nézet, Marjukka Laine, Janusz Pokorski, Jean-François Caillard and the NEXT-Study Group

Introduction

Nursing is a profession which requires duties to be carried out entirely, without time delay and independent of circumstances, having clear implications on work load. Nursing always involves working in awkward positions, prolonged standing and lifting loads. Apart from planned activities, which could be arranged with the assistance of colleagues, technical facilities. There are numerous emergency situations where nurses have to act quickly, often alone, exerting extreme effort in extreme stress. Working with the disabled, in intensive care or emergency units imposes particularly high demands on nurses (Reis Miranda et al. 1998). Paradoxically such an excessive work load is imposed on females who constitute the majority of nurses all over the world. According to the stress-strain concept (Rutenfranz 1985), this situation can be described as a high physical load imposed on the worker supplied with medium or low capacity for such work. The clear consequence of such a situation is overstrain leading directly to excessive fatigue, and when this burden is too great, prolonged or repetitive this can lead to pathological strain or accidents (Estryn-Behar et al. 1990; Videman et al. 1984). The NEXT-Study has provided the opportunity for the physical working conditions in different health care systems in Europe on large scale to be investigated.

Method

Information on physical load was taken from answers to questions concerning frequency of executing typical nursing activities, time spent in uncomfortable postures, the availability of mechanical aids facilitating handling patients, and perception of distress due to physical load. The data concerning work load were compared with such measures of outcome like work satisfaction, individual prognosis concerning further work ability and the intent to leave the profession.

Data collection

Data were collected with the use of the NEXT-Study basic questionnaire in 10 countries. A total of 31362 nurses' opinions were taken into account (Table 1). The structure of national groups in the study was not homogenous in regard to age, sex, and professional level.

Since the working conditions differ greatly with respect to occupational level, the diversity of persons partaking in the study has to be taken into account when analysing the results.

Table 1. Number of respondents in participating countries in total and in specific dimensions of occupational physical load.

country	total n	lifting[1]	bending[2]	standing
Belgium	4,257	3,988	4,049	4,188
Germany	3,565	3,332	3,381	3,491
Finland	3,970	3,785	3,829	3,912
France	5,376	4,891	4,992	5,342
Italy	5,645	4,497	4,513	5,464
Netherlands	4,024	3,744	3,822	2,244
Poland	1,129	797	831	1,112
Slovakia	3,396	2,677	2,755	3,194
all	*31,362*	*25,897*	*26,325*	*28,947*

[1]lifting index : score of (bedding+ transferring+ lifting+ mobilising patients) divided by 4 and multiplied by 25. [2]bending index : score of (bathing + clothing + feeding patients + making beds+ pushing beds + uncomfortable posture) divided by 6 and multiplied by 25.

Statistical analysis

Data were analysed with the use of SPSS 10.0 and 11.0 and comprised Pearson's chi square test, Cochran Mantel Haentzel test for adjustments, and Student test for means comparisons.

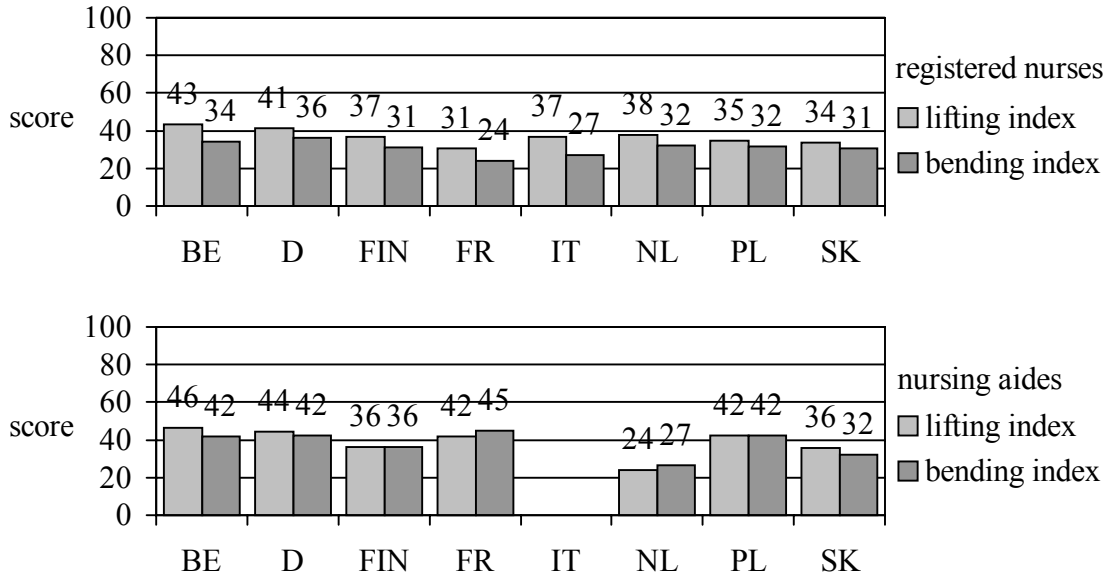
Results

Working conditions involving mostly lifting are bedding, transferring, lifting and mobilising patients. The less qualified health care workers (HCWs) stated more often that they carry out each of these tasks 6 times per day or more ($p<.001$). This relation remains true after adjustment for the different countries. The average lifting index was 37.5 for registered nurses (RN) and 39.4 for nursing aides ($p<.001$). The sisters in charge or head nurses declared performing these manner of tasks less often (lifting index 27.45). The differences between countries are extremely important (Figure 1a). Bedding patients 6 times per day or more concerns 45.0% of nursing aids in Poland and 36.7% in France, but only 15.1% in the Netherlands. For sisters in charge this frequency was 38.7% in Poland and 34.4% in the Netherlands; only 3.2% of them are involved in these tasks in France and 4.0% in Italy. In Slovakia 18.5% of registered nurses are involved in transferring patients 6 times or more per day, this is the case for 41.2% in the Netherlands and 40.6% in Finland ($p<.001$).

Technical lifting aids are more available in the Netherlands and Belgium (68.8% and 69.9%) than in Italy, Finland and France (33.2%, 43.4% and 51.0% respectively) (p<.001); the lower the availability, the less often they were used.

Tasks requiring *frequent or prolonged bending* of the body at least 6 times per day, i.e.: patients' personal hygiene care, dressing patients, making beds, concern about 33% of nursing aids, 26% of registered nurses and 15% of sisters in charge in the total sample (p<.001). The average bending index was 37.4 for registered nurses (RN) and 45.8 for nursing aides (Figures 1b).

Figures 1a-b. Mean values of the "lifting index" and the "bending index" in registered nurses (upper Figure) and nursing aides (lower Figure) in the participating countries.



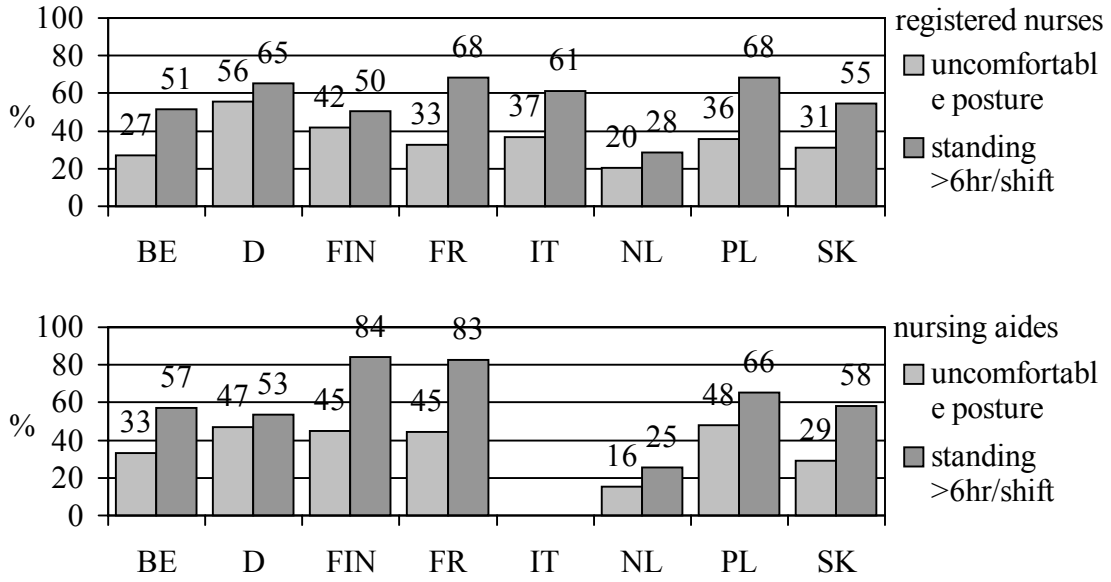
In France and Italy, registered nurses accomplish these tasks less often than in other countries such as Belgium and the Netherlands. In France and Italy, less than 4% of sisters in charge accomplish these tasks at least 6 times per day (in other countries: 10% to 30%). Uncomfortable postures maintained 6 times per day or more concerned over 25% of nurses at all occupational levels in each country, except in the Netherlands for nursing aids and registered nurses and in France, Italy and Slovakia for sisters in charge.

Working in uncomfortable posture was most prevalent among registered nurses in Germany where 56 % of them reported this (Figure 2a).

Standing 6 hours or more per day (Figures 2a-b) was highly prevalent for nursing aids and decreased with occupational level in the total sample (67.3% of nursing aids, 57.3% of registered nurses, 55.4% of other, and 38.8% of sisters in charge). The data from two countries indicates particularly adverse situations for

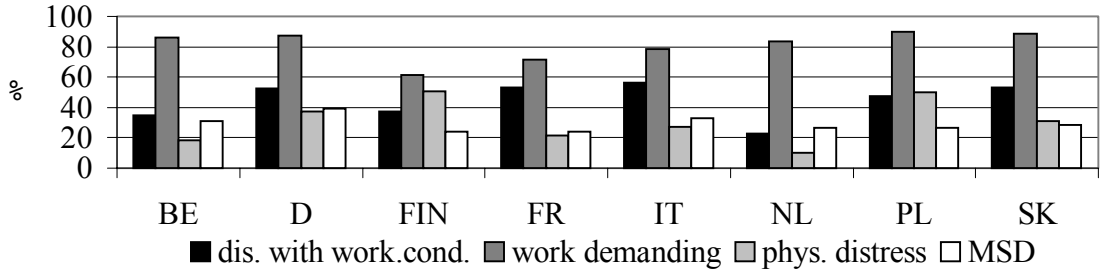
nursing aids: in Finland and France, more than 80% of the nurses reported standing for 6 hours or more per day, when this was the case for only 25.3% of them in the Netherlands (Figure 2b). More than 60% of registered nurses stand for 6 hours or more per day in France, Germany, Poland and Italy, while this figure is 28.4% for the Netherlands. Head nurses reported frequent standing nearly as much as nurses in Poland (62.6%) and in Germany (48.2%) but in Finland and France it was the case for 22.6% and 24.3% respectively.

Figures 2a-b. Percentage of respondents reporting uncomfortable posture (>6hrs/shift) and prolonged standing (>6 hrs/shift) for registered nurses (upper Figure) and nursing aides (lower Figure).



Job satisfaction with physical working conditions increased with occupational level. The percentage of HCWs being very unsatisfied or unsatisfied with physical working conditions was 50.8% for nursing aids, 46.6% for registered nurses and specialised nurses, 41.5% for other qualified nurses and 34.2% for sisters in charge. More than 80% of German, Belgian, Polish, Slovak and Dutch registered nurses considered their work to be physically demanding (61.1% in Finland) (Figure 3). In France, 23.4% of the sisters in charge made showed dissatisfaction with this whilst in Poland this was the case for 86.7% of the sisters in charge.

Figure 3. Percentage of registered nurses reporting that their job is physically demanding (work demanding), dissatisfaction with physical work, distress due physical load (phys. distress) and musculo-skeletal disorders (MSD).

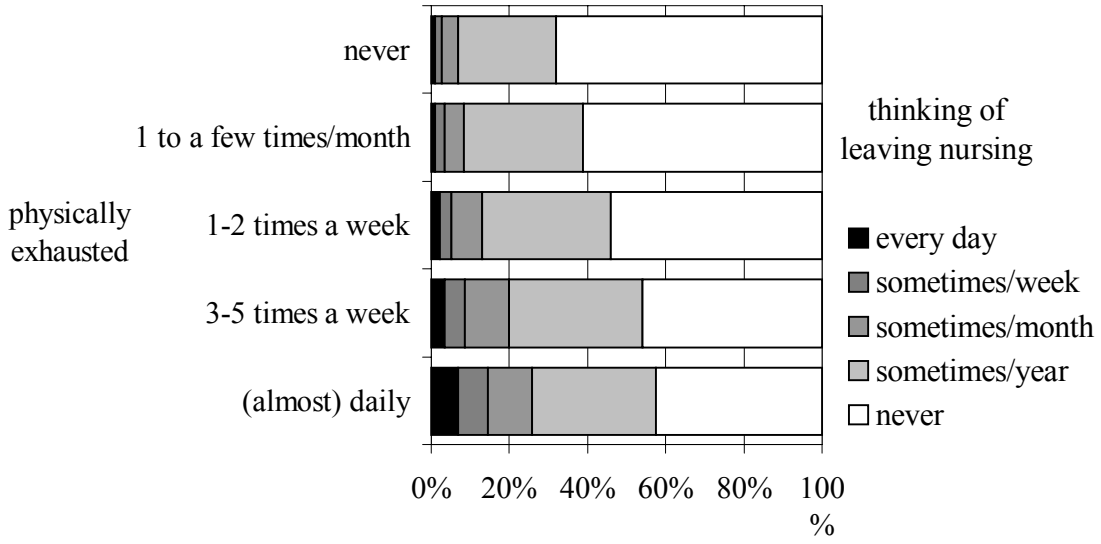


37.5% of the nursing aids, 28.9% of the registered nurses, and 24.4% of the sisters in charge reported distress due to physical demands. In the Netherlands, all nursing groups reported very low distress (under 11%). More than 40% of the Finnish and Polish nursing aids, registered nurses and sisters in charge, and German and French nursing aids stated they were distressed with the situation.

Health was considered as poor or fair by 35.6% of nursing aids, 23.6% of registered or specialised nurses, 20.4% of sisters in charge and 27.3% of other nursing staff. Less than 9% of all nursing staff at any occupational level in the Netherlands considers themselves to be physically exhausted 3-5 times per week or almost daily, whilst exhaustion was declared to occur at this frequency by more than 25% of all the other countries' nursing aids, i.e., Italian, French, Finnish, Polish, Slovak and German registered nurses, German and Italian head nurses. Musculo-skeletal disorders (MSD) were common and more than a quarter of nursing staff at any occupational level had a physician diagnosis of MSD. However, for the Dutch sample, MSDs were less frequent. Nurses in occupational categories reporting the greatest physical strain on their job performance were also the ones who doubted that they "would still be able to work in two years time" (answers "unlikely" and "not certain"). Nursing aids doubted to a higher extent that they would not be able to work in two years (21.4% in general; 42.5% in Poland as opposed to 5.6% in the Netherlands). Registered and specialised nurses were less pessimistic (in general 15.4%; in Germany 36.6%, in Italy 19.0%, in the Netherlands 4.4%).

Poor and fair physical health and physical exhaustion were clearly associated with "intention to leave the nursing profession" (Figure 4). More than two thirds of participants (57.6 %) who declared being physically exhausted daily, considered leaving the profession several times per year or more often.

Figure 4. Physical exhaustion and intent to leave the profession.



Discussion

Physical work load and its health consequences have been shown to vary substantially between the different national samples. The data from the Netherlands indicates a far better situation. The numerous lifting aids developed and tested in this country have demonstrated their realistic feasibility and effectiveness (Knibbe and Friele 1996). Countries where lifting aids are less available are also the countries where they are less often used when they do exist due to problems in obtaining them, transporting and queuing for use. A ward structure with small units allowing less walking and standing and more sitting postures while caring and preparing care also has improved working conditions. Cost-benefit and cost-effectiveness of disability prevention have been demonstrated for back pain management (Losel et al. 2002). However, it has to be stressed that the optimisation of the nurses' physical load during all of their occupational activities seems to be impossible. Although routine everyday planned activities could be assisted by special devices facilitating lifting, in practice their use in emergency situations requiring prompt action is practically impossible.

More detailed analysis, taking into account potential confounding factors, such as age, seniority, gender and number of children, as well as psychological well being, have to be developed in a second step of this study. As a result, these preliminary findings must be regarded with caution despite the fact that they are coherent with previous research (Estryn-Behar et al. 2001).

References

Estryn-Behar M, Kaminski M, Peigne E, Maillard MF, Pelletier A, Berthier C, Delaporte MF, Paoli MC, Leroux JM (1990) Strenuous working conditions and musculo-skeletal disorders among female hospital workers. *Int Arch Occup Environ Health* 62: 47-57.

Estryn-Behar M, Duger N, Vinck L (2001) Les conditions de travail des femmes à l'hôpital ont-elles changé entre 1984 et 1998. *Rev Epidemiol Sante Publique* 49: 397-400.

Knibbe JJ, Friele RD (1996) Prevalence of back pain and characteristics of physical workload of community nurses. *Ergonomics* 39 (2): 186-98.

Loisel P, Lemaire J, Poitras S, Durand MJ, Champagne F, Stock S, Diallo B, Tremblay C (2002) Cost-benefit and cost-effectiveness analysis of a disability prevention model for back pain management: a six year follow up study. *Occup Environ Med* 59: 807-815.

Reis Miranda D, Ryan DW, Schaufeli WB, Fidler V (eds) (1998) *Organisation and Management of Intensive Care*. Heidelberg: Springer.

Rutenfranz J (1985) Arbeitsphysiologie. In: Valentin H, Lehnert G, Petry H, Rutenfranz J, Stalder K, Wittgens H Wojtowitz H-J eds *Arbeitsmedizin.* Stuttgart: Thieme

Videman T, Nurminen T, Tola S, Kuorinka I, Vanharanta H, Troup JDJ (1984) Low back-pain in nurses and some loading factors of work. *Spine* 9: 400-404.

13 The Job Demand-Control-Support Model applied to analysis of nursing work in ten European countries

Maria Widerszal-Bazyl, Piotr Radkiewicz, Hans-Martin Hasselhorn, Paul Conway and the NEXT-Study Group

Introduction

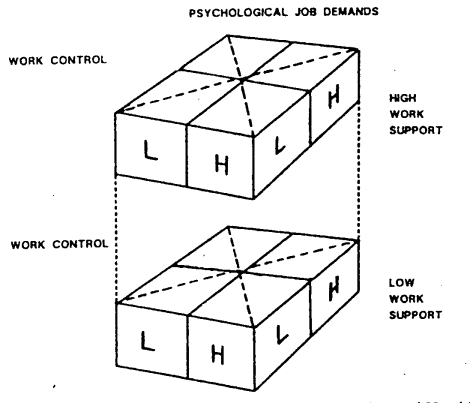
The Job Demand-Control (D-C) Model (Karasek, 1979), and its expanded version, the Job Demand-Control-Support (D-C-S) Model (Johnson, 1989; Karasek & Theorell, 1990) have dominated research on stress at work for more than 20 years. According to the D-C model job strain results from the interaction of two main dimensions of the work environment: psychological demands and control. Over the years, the way in which demands in the model are understood has evolved. At the beginning, they were operationalised mainly as quantitative demands and demands stemming from role conflict (Karasek, 1979). Later, additional elements were included, such as interpersonal conflicts (Spector, 1987), cognitive demands (Karasek et al., 1998), qualitative demands and emotional demands. The definition of job control (also called decision latitude) is peculiar to the model. It includes two components: decision authority that is the worker's ability to make decisions on the job, and skill discretion that is the breadth of skills used by the worker on the job. According to the D-C model the highest strain arises when demands are high and control is low.

The Demand-Control-Support (D-C-S) model assumes that job strain is a result of the interaction of three job dimensions: not only demands and control but also social support (see Figure 1) which was defined as 'overall levels of helpful social interaction available on the job from both co-workers and supervisors' (Karasek & Theorell, 1990). According to D-C-S model the highest strain arises in a work environment when demands are high, control - low and social support - low.

Both models were tested in many studies concerning cardiovascular functions, musculoskeletal complains, mental well being such as job satisfaction, emotional exhaustion, depression and others. Some of them supported the models while others did not (see reviews: Van der Doef & Maes, 1998, 1999).

There are several studies, which have attempted to apply the D-C and/or the D-C-S models to nursing work. It was found that the job strain among nurses was associated with depression, low job satisfaction, some symptoms of burnout (Landsbergis, 1988; de Jonge et al., 1996) as well as elevated blood pressure and cortisol level (Fox et al., 1993).

Figure 1. The Demand-Control-Support Model, where L = low and H = high. (from: de Jonge et al.1996, p.212)



Only one study was found in which the D-C-S model was used to explain the intent to leave one's profession. It was carried out among correctional officers in Australia (Dollard & Winefield, 1998) and supported the expectations that the demand-control-support interaction is a predictor of intention to change a job.

We assume that the D-C-S model could help us understand the causes of the intention to leave the nursing profession. Moreover, the NEXT-Study gives us the possibility to compare different European countries in that respect.

Methods

Instrument

Indices of job demands, job control and social support were computed according to the same formula - as mean scores of appropriate subscales:

Job demands. Measure consists of three subscales covering different aspects of nurses' demands: quantitative demands (5 items from Copenhagen Psychosocial Questionnaire), emotional demands (4 items from de Jonge scale) and demands related to role conflict and ambiguity (4 items developed for NEXT). Thus, the total job demands scale includes 13 items. Its internal consistency was satisfactory with Cronbach's alpha varying between .74 (Germany, Netherlands) and .77 (Slovakia).

Job control. Measure consists of two subscales covering two aspects of control: influence at work (4 items developed for NEXT) and possibilities for development (4 items from Copenhagen Psychosocial Questionnaire). The total job control scale includes 8 items. Its Cronbach's alpha varies from .70 (Netherlands) to .83 (Italy).

Social support. Empirical meaning of this measure made up two subscales developed by Van der Heijden concerning support received from superiors (4 items) and colleagues (4 items) (van der Heijden, 1998). The total scale of social support includes 8 items. Its Cronbach's alpha varies from .77 (France, Netherlands) to .82 (Italy, Germany, Slovakia).

Job strain. Job strain is a measure of interactive effect evoked by a combination of job demands, job control and social support. It is calculated as a product of the three variables mentioned above (results on job control and social support scales have to be reversed). Thus, the higher job strain the higher job demands, the lower job control and social support. The index ranges from 1 to 125 points. High results indicate stressful work conditions.

Data collection

Data collection and participation is described in the respective chapters of this book.

Data analysis

Data analysis has been conducted with SPSS 10.0. Overall differences of means were calculated by ANOVA. To perform multiple comparisons Scheffe's test was applied. The limit for significance was set by alpha<.01.

Table 1. Overview of participants by country and Job Demands-Control-Support.

institution / abbrev.		total n	n job demands	n job control	n social support	n job strain
Belgium	BE	4,257	4,255	4,243	4,216	4,206
Germany	D	3,565	3,564	3,553	3,535	3,525
Finland	FIN	3,970	3,968	3,959	3,929	3,923
France	FR	5,376	5,366	5,362	5,333	5,327
Great Britain	GB	2,578	2,571	2,571	2,554	2,550
Italy	IT	5,645	5,592	5,543	5,492	5,450
Norway	N	2,733	2,728	2,701	2,670	2,643
Netherlands	NL	4,019	4,018	4,010	3,972	3,965
Poland	PL	3,263	3,246	3,207	3,187	3,148
Slovakia	SLK	3,396	3,366	3,318	3,263	3,213
all		*38,802*	*38,674*	*38,467*	*38,151*	*37,950*

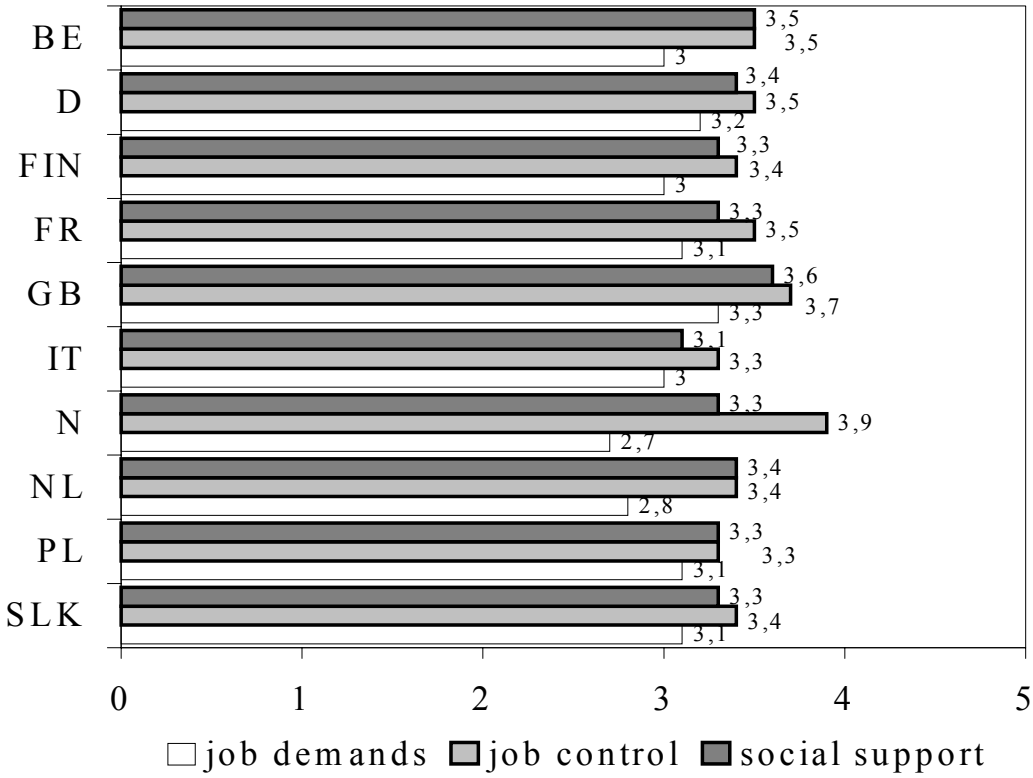
Results

Job demands, job control and social support

Figure 2 shows that scores for job demands were highest in Great Britain and Germany (respectively 3.3 and 3.2 on a scale from 1 to 5), and lowest in Norway (2.7). Mean scores on the job control scale were definitely highest in Norway

(3.9 on a scale from 1 to 5), and lowest in Italy and Poland (3.3). The largest differences between national samples were observed on the social support measure. Great Britain and Belgium having the highest scores (respectively 3.6 and 3.5 on a scale from 1 to 5) noticeably differed from the 3.1 mean score in Italy. Since very large samples were explored, for all of the measures the mean score differences of 0.1 units or larger turned out to be significant.

Figure 2. Mean scores for demands, control and social support scales in the nursing population by country. Possible scores range from 1 to 5. High values indicate high level of demands, control or support. ($n_{job\ demands}$ =38,674; $n_{job\ control}$ =38,467; $n_{social\ support}$ =38,151)

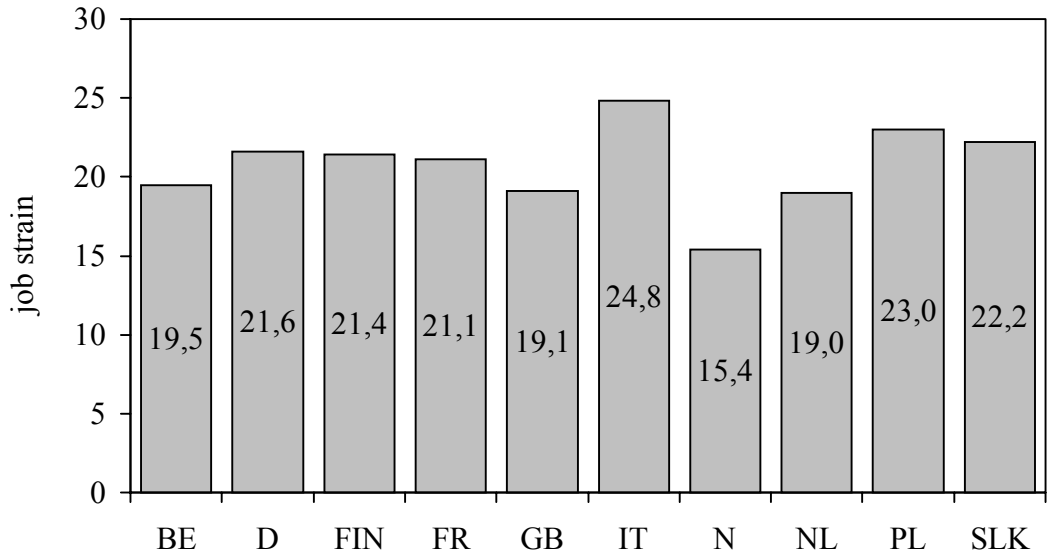


There were no significant differences between men and women for the D-C-S measures. However, D-C-S measures showed certain fluctuations within age groups. In most countries, the mean demands scores, as well as mean social support scores, decrease with age. In the total sample the youngest respondents (under 30) reported higher demands (3.1) and higher social support (3.5) than older ones (30 and more): 2.9 for demands and 3.3 for support, respectively. The relationship between job control and age seemed to have a clear pattern only for Slovakia where older respondents reported higher control than younger (3.4 and 3.2, respectively).

Job strain

Job strain scores were definitely highest in Italy (24.8), as well as in Poland (23) and clearly the lowest in Norway (15.4). Mean scores of the lowest (Norway, Great Britain, Belgium, the Netherlands) and highest (Italy, Poland) scoring countries differed significantly from the 'middle' group (Germany, Finland, France and Slovakia), where all differences were insignificant. Additionally, no significant differences were observed between Belgium, the Netherlands and Great Britain, whereas all these countries significantly differed from Norway.

Figure 3. Mean scores for job strain index in the nursing population by country. Possible score range from 1 to 125. (n_{total} =37,950)

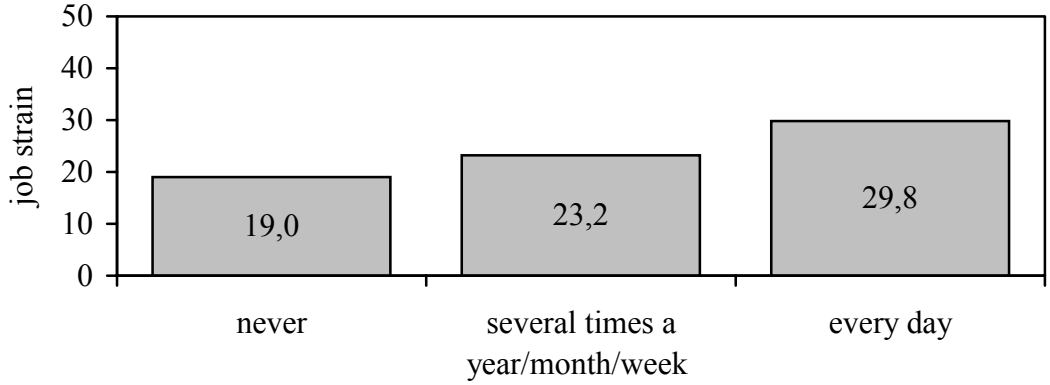


Relationships between job strain and gender were not observed. In the total sample, the mean job strain scores increased with age – youngest respondents (under 30) reported lower strain (20.6) than older ones (21.6). However, the above mentioned trend was significant only in certain countries (Germany, Belgium and the Netherlands). In Slovakia, the opposite trend was observed: younger respondents reported higher strain levels.

Job strain and intent to leave the nursing profession

In the total sample, job strain was substantially linked with 'intent to leave the nursing profession' (Figure 4). Increasing intention to leave nursing was accompanied by increasing strain. Respondents who thought 'every day' about leaving nursing show much higher strain (29.8) than people who 'never' (19.0) or only sometimes had such thoughts (23.2). All differences are significant.

Figure 4. Mean scores for job strain in relation to response to the question 'How often did you consider leaving the nursing profession?'. Possible score for job strain from 1 to 125. (n_{total} =34,416)



Discussion

Concluding, the psychosocial working environment of Norwegian, Belgian, British and Dutch nurses is better than those in the remaining countries: their job strain was the lowest. However, there could be various reasons for that. For example, British nurses perceive job demands placed on them as very high but at the same time they seem to have sufficient resources for coping with them: high perceived control and high social support. The Norwegian nurses, on the other hand, perceived low demands and very high control, although their social support was relatively low. Italy and Poland represented the most difficult psychosocial working environment: relatively high demands were connected with the lowest levels of control and social support.

Our preliminary results suggest that the D-C-S model is a useful tool for analyzing the diversity of job strain, and its components, in a large European sample. The model itself and its operationalisation used in the NEXT-Study are found to be sensitive to inter-country differences. It was also sensitive to age differences. In Germany, Belgium and the Netherlands, higher job strain was associated with increasing age, whereas the opposite trend was observed in Slovakia

Sometimes it is said that the intent to leave a job can stem from two opposite reasons: one, from stress and dissatisfaction with work, and second, from energy and an optimistic belief that the situation can be improved. These results showed that the intention to leave is significantly related to job strain. The relative role of those mechanisms can be understood better following further NEXT analyses. The potential consequences for organizational intervention with the aim to keep nurses in their profession could then be elaborated.

References

De Jonge J, Janssen PPM & van Breukelen GJP (1996) Testing the Demand-Control-Support Model among health-care professionals: a structural equation model. *Work & Stress* 10:209-224.

Dollard MF & Winefield AH (1998) A test of the Demand-Control/Support Model of work stress in correctional officers. *Journal of Occupational Health Psychology* 3:243-264.

Fox M L, Dwyer DJ & Ganster DC (1993) Effects of stressful job demands and control on physiological and attitudinal outcomes in a hospital setting. *Academy of Management Journal* 36: 289-318.

Johnson JV, Hall EM & Theorell T (1989) Combined effects of job strain and social isolation on cardiovascular disease morbidity and mortality in a random sample of the Swedish male working population. *Scand. J. Work Environ. Health* 15:271-279.

Karasek RA (1979) Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly* 24: 285-308.

Karasek R, Brisson C, Kawakami N, Houtman I, Bongers P & Amick B (1998) The Job Content Questionnaire (JCQ): An instrument for international comparative assessments of psychosocial job characteristics. *Journal of Occupational Health Questionnaire* 4:322-355.

Karasek RA. & Theorell T (1990) *Healthy Work: Stress, Productivity and the Reconstruction of Working Life.* New York: Basic Books.

Landsbergis PA (1988) Occupational stress among health care workers: A test of the job demands-control model. *Journal of Organizational Behavior* 9:217-239.

Spector PE (1987) Interactive effects of perceived control and job stressors on affective reactions and health outcomes for clerical workers. *Work & Stress* 1:155-162.

Van der Doef M & Maes S (1998). The Job Demand-Control (-Support) Model and physical health outcomes: A review of the strain and buffer hypotheses. *Psychology and Health* 13:909-936.

Van der Doef M. & Maes S. (1999) The Job Demand-Control (-Support) Model and psychological well-being: a review of 20 years of empirical research. *Work & Stress* 13:87-114.

Van der Hejden BM (1998). The measurement and development of professional expertise throughout the career. Dissertation University of Twente, Enschede, the Netherlands. no publisher.

14 Effort, reward – and effort-reward-imbalance in the nursing profession in Europe

Hans-Martin Hasselhorn, Maria Widerszal-Bazyl, Pjotr Radkiewicz and the NEXT-Study Group

Introduction

There is evidence that psychosocial work characteristics are associated with adverse health outcomes such as cardiovascular (Schnall et al., 2000; Kristensen, 1999; Kuper et al., 2002) and musculoskeletal diseases (Bongers et al., 1993, Leino & Hänninen, 1995). Taking the variety and complexity of psychosocial work environment into consideration, it is necessary for such potential stressors to be identified and then operationalised. The first widely recognised attempt has been made by Karasek who – in his job strain model – postulated that high psychological demands and low decision latitude at work are associated with ill health (Karasek, 1979) (see previous chapter). Within the last decade, another operationalisation has found international attention which not only takes the quantity of exposure to working conditions into account, but also its relation to other exposures and its perception by the employees: Siegrist's model of effort-reward imbalance (ERI) (Siegrist, 1996a, 1996b). It is based on the postulate that digression from reciprocity in transaction results in a stressful experience. Applied to the workplace, this would mean that there should be a balance between what the employee *gives* ('effort') and what he or she *receives* ('reward'). Here, reward not only implicates financial reward, but also esteem and career opportunities including job security. In case an imbalance occurs in this social contract, adverse health effects might develop, e.g. as a result of an activated autonomic nervous system (Siegrist, 1996b). In a number of studies, imbalance has been found to be related to cardiovascular diseases (Kuper et al., 2002; Schnall et al., 2000). A second assumption made by Siegrist is that people characterised by a high work related commitment and high need for approval ('overcommitment') would be experiencing the imbalance even more and might be at increased risk for adverse health outcomes (Siegrist, 1996b).

Siegrist postulates that the condition of imbalance is more prevalent in unstable societies, e.g. in societies which are in transition such as the eastern European countries (Siegrist, 1996b). However, economic sectors may also be in transition: such as the health care system in some European countries. Consequently, the ERI model seems especially appropriate to investigate the nursing force in Europe. In this contribution, national differences with respect to the three components of the ERI model are being presented.

Methods

The ERI instrument

The 23 item shortened version of the effort-reward questionnaire was used (Siegrist et al., *in press*). Here, *effort* is assessed with six items mainly measuring quantitative work load. High scores indicate high distress experienced by the respondent due to his or her efforts at work. *Reward* is measured by eleven items covering the three central aspects of reward: financial reward, esteem reward and promotion prospects including job security. Again, the degree of distress was measured. High scores indicate high reward (or low distress). Six items for *overcommitment* investigate the individual's inability to withdraw from work obligations. The *effort-reward ratio* – measuring the actual imbalance – was calculated: *effort/reward x correction factor* (factor correcting for the different number of items of the two scales).

Data collection

Data collection and participation is described in the respective chapters in this book. For technical reasons no data for the Finnish reward scale was available. The Norwegian data for reward had many missings, a systematic error (possibly layout) cannot be excluded, the data was not used in this analysis. Consequently, no effort-reward ratio could be calculated.

Data analysis

Data analysis was conducted with SPSS 10.0 and 11.0. Differences of means were calculated by ANOVA and T-Test. Differences in prevalence were measured by Chi^2 test. Due to the large size of the sample, the limit for significance was set by alpha <.01 Psychometric properties of the scales are presented in chapter 27.

*Table 1. Overview of participants by country and ERI scale. No data was available for the Finnish reward scale. (*excluded from analysis)*

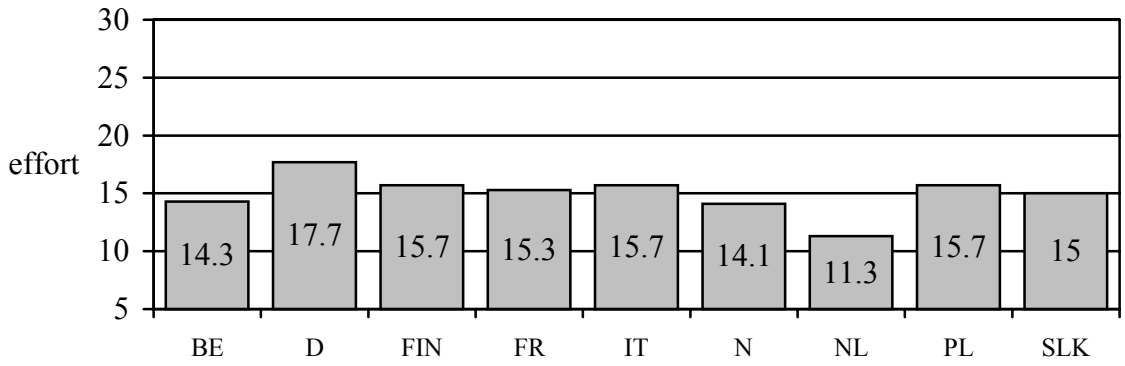
country	abbrev.	total n	n effort	n reward	n over-commitment	n effort / reward ratio
Belgium	BE	4,257	4,172	4,104	4,166	4,063
Germany	D	3,565	3,525	3,484	3,526	3,453
Finland	FIN	3,970	3,862	-	3,929	-
France	FR	5,376	5,346	5,344	5,298	5,338
Italy	IT	5,645	5,394	5,354	5,350	5,249
Norway	N	2,733	1,514	473*	2,665	-
Netherlands	NL	4,019	3,991	3,980	3,993	3,968
Poland	PL	3,263	3,141	3,108	3,179	3,067
Slovakia	SLK	3,396	3,283	3,191	3,189	3,160
all		*36,224*	*34,228*	*29,038*	*35,295*	*28,726*

Results

Effort

Effort scores were highest in the German sample (17.7) and lowest in the Dutch (11.3) (Figure 1). Differences between countries were significant except between Finland, Poland and Italy. Women in all countries except Italy had higher scores than men. This was significant in Finland, France, Poland and Slovakia. In most countries, the mean effort scores increased with age by – in total – 1 to 2 points. The main increase was between the youngest age group (-24 years) and those 25 to 29 years of age. In Italy and the Netherlands, a constant decrease was found with age.

Figure 1. Mean scores for ERI 'effort' scale in the nursing population by country. Possible score range from 6 to 30, n_{total} =34,228. High values indicate high 'effort'.

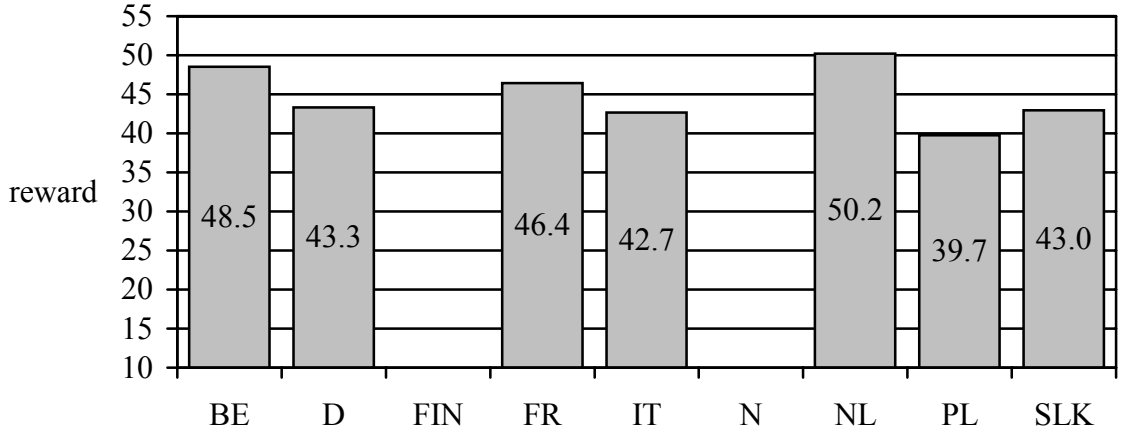


Reward

The scores for reward were highest in the Netherlands and lowest in Italy, Slovakia and Germany (Figure 2). This means that nurses in these countries felt most distressed by lack of reward. All differences between the countries were significant except between Slovakia and Italy and Germany, respectively. In the total sample, women experienced somewhat higher reward scores (45.0) than men (43.9, p<.001).

There was a u-shaped association between reward and age: The youngest age groups reported almost the same levels of reward as the oldest age groups in their country and higher scores than the age groups in-between. This was most pronounced in countries with low reward scores (Germany, Italy and Slovakia, but contrary in Poland).

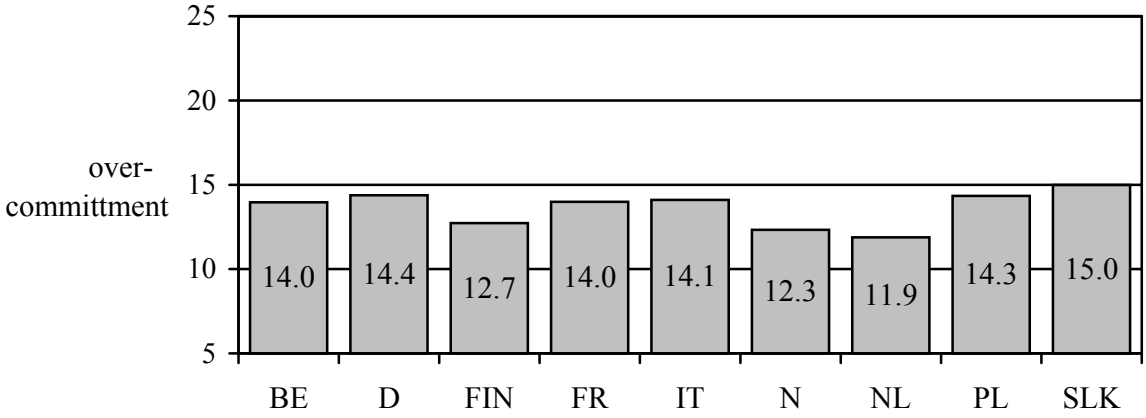
Figure 2. Mean scores for ERI 'reward' scale in the nursing population by country. Possible score range from 11 to 55, no data for Finland and Norway, n_{total} =29,038. High values indicate high 'reward'.



Overcommitment

Scores for overcommitment were lowest in the Netherlands and highest in the Slovakian and the German samples, indicating an – on average – increased inability of respondents in these countries to psychologically withdraw from work obligations. The mean differences between all countries were significant except between Belgium, France, Italy, and between Germany and Poland. In all countries except Norway and Poland, female nursing staff reported significantly higher mean overcommitment scores than men. In most countries, the association of overcommitment with age was 'j'-shaped: nurses between 30 and 40 years expressed lowest overcommitment and older age groups highest.

Figure 3. Mean scores for the ERI 'overcommitment' scale in the nursing population by country. High values indicate high overcommitment and thereby an adverse situation. Possible score range from 6 to 24, n_{total} =35,295. High values indicate high 'overcommitment'.



Effort-reward ratio

Effort-reward ratio values close to '0' are hypothesised to indicate a favourable relation between the respondent's effort made and the reward received (Siegrist 1996a, 1996b). Ratios above '1.0' indicate that the efforts made are not counterbalanced by sufficient reward and that an increased risk for adverse health effects may exist. In the countries Poland, Germany, Italy and Slovakia, the proportion of respondents with an adverse ratio above '1' was – compared to other investigations – extremely high (Figure 4). The proportion was exceptionally low in the Dutch sample. There were no clear gender differences with respect to the ratio apart from in the German sample, where male nurses were more often among those exposed to a ratio >'1' ($p<.001$).

In all countries apart from the Netherlands, the effort-reward ratio increased with age from the youngest age groups until around 35 years of age. In three countries with a high prevalence of adverse ratios, Germany, Italy and Slovakia, it was mainly the age groups from (25) 30 to 40 years where the highest prevalence of people with adverse ratios was registered. In Poland, the proportion of those exposed remained very high (>22%) even among older age groups and was highest (30%) among those of 55 years of age and above.

The effort-reward ratio was clearly associated with 'intent to leave the nursing profession' (Figure 5). This was identical in all countries where the data was available. Almost one out of three of the participants with an adverse ratio >1 considered leaving the profession several times per month or frequently still.

Figure 4. Percentage of participants in each country with an effort/reward ratio above '1' indicating an (adverse) effort/reward imbalance. No data for Finland and Norway. (n_{total} =28,726)

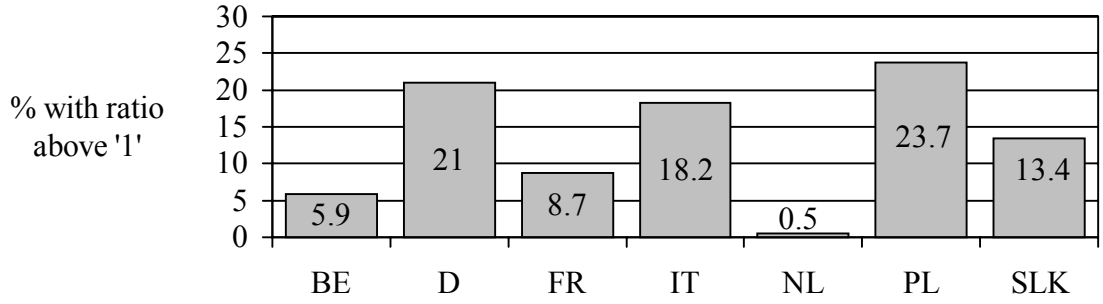
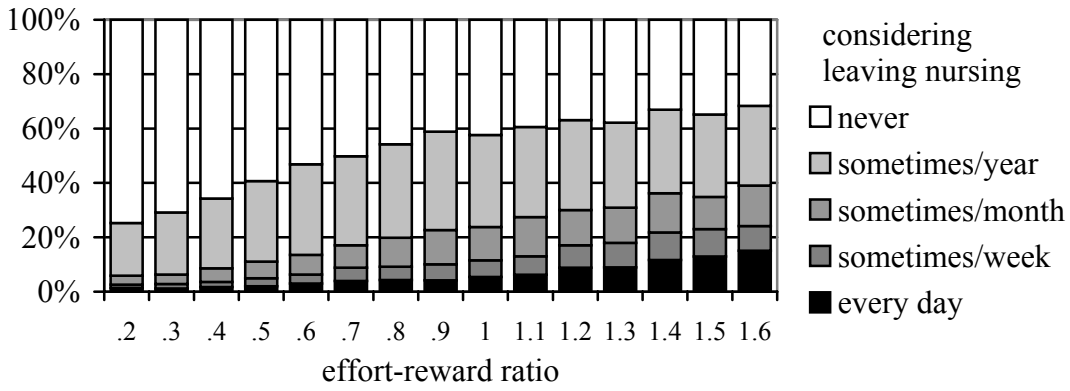


Figure 5. Distribution of responses to the question 'How often did you consider leaving the nursing profession?' in relation to the effort-reward ratio. A ratio above '1' indicates an (adverse) effort-reward imbalance. No data for Finland and Norway. (n_{total} =25,853)



Discussion

The analysis of effort, reward and overcommitment as defined by the ERI imbalance model by Siegrist (Siegrist 1996a, 1996b) has shown substantial differences for all scales between the different national samples. The data from the countries Poland, Germany, Italy and Slovakia indicate particularly adverse situations. For Poland and Slovakia, the fundamental political and economic change may account for the high proportion of nurses exposed to adverse conditions. In Germany and Italy, nursing staff have often rated both exposure and health outcomes more negatively than their colleagues from other countries (see other chapters in this book) and the wish to leave the profession was most pronounced in these countries. Already in 1999, Killmer reported that in the German nursing profession the gap between demands and rewards was widening. There is nothing to indicate a recent change in this trend. Also in Italy, there

seems to be substantial dissatisfaction with the working conditions among the nursing staff.

A detailed analysis of the differences between the countries is beyond the scope of this report. In the future, three potential causes for the differences between the countries must be evaluated: a) different response habits (there was a rather low response rate in the Dutch sample where best conditions were registered with respect to the ERI scales), b) different attitudes of the national nursing populations, and c) different working conditions.

The consistently strong association of reward with 'intent to leave the profession' seems to be of relevance for health care institutions in all participating countries. Assuming that the ERI model assesses aspects which can be subject to organisational intervention, the NEXT-Study data may present valuable data for such measures. This, however, requires more detailed analysis which includes associations between the ERI components and work exposure, private conditions and organisational style. Finally, the ERI components shall be related to outcomes such as health and work ability.

References

Bongers PM, de Winter CR, Kompier MAJ & Hildebrandt VH. (1993) Psychosocial factors at work and musculoskeletal disease. *Scand J Work Environ Health* 19:297-312.

Karasek RA (1979). Job demands, job decision latitude, and mental strain: implications for job redesign. *Adm Sci Q* 24:285-308.

Killmer C (1999) *Burnout bei Krankenschwestern.* Dissertation. Münster: Lit Verlag

Kristensen TS (1999). Challenges for research and prevention in relation to work and cardiovascular diseases. *Scand J Work Environ Health* 25 (6, special issue):550-7.

Kuper H, Singh-Manoux, Siegrist J & Marmot M. (2002) When reciprocity fails: effort-reward imbalance in relation to coronary heart disease and health functioning within the Whitehall II study. *Occup Environ Med* 59:777-784.

Leino PI & Hänninen V (1995) Psychosocial factors at work in relation to back and limb disorders. *Scand J Work Environ Health* 21:134-42.

Schnall PL, Belkic K, Landsbergis P & Baker D (2002) The workplace and cardiovascular disease. *Occup Med State of the Art Reviews* 15:1-334.

Siegrist J, Starke D, Chandola T, Godin I, Marmot M, Niedhammer I & Peter R (*in press*) The measurement of effort-reward imbalance at work. European Comparison. *Special Issue Social Science & Medicine.*

Siegrist J (1996a) Adverse health effects of high effort – low reward conditions at work. *J Occup Health Psychol* 1:27-43.

Siegrist J (1996b) Soziale Krisen und Gesundheit. Göttingen.

15 Intent to leave nursing in the European nursing profession

Hans-Martin Hasselhorn, Peter Tackenberg, Bernd Hans Müller and the NEXT-Study Group

Introduction

The initial assessment of the NEXT-Study provides the opportunity to investigate three central questions of the NEXT-Study: *How many nurses are considering leaving their profession? Why are they considering this? Which groups are at higher risk of leaving?*

In this chapter, we are responding to these questions at a European level. Data from respondents from 9 participating countries of the NEXT-Study are being analysed as well as data from respondents in Norway. Norway is not represented in NEXT, however, central parts of the NEXT basic questionnaire have been used for a large investigation headed by Professor Aslaug Mikkelsen (Rogaland Research Institute, Stavanger). The Swedish NEXT partners did not perform the basic assessment in their country, because they are investigating similar questions in the ongoing HAKuL project.

This presentation will be followed by separate chapters discussing these issues at a national level for all participating countries.

Methods

In the NEXT-Study, 'intention to leave nursing' (ITL) was measured by the question: *'How often during the course of the past year have you thought about giving up nursing?'*. The answer categories were *'never', 'sometimes a year', 'sometimes a month', 'sometimes a week', 'every day'*, and *'not applicable'*.

In Italy and the UK, the question has been extended with '*…giving up nursing completely and starting a different kind of job?'*. In the other participating countries, both items proved to be highly correlated (r=.88). For a description of the methodology of the initial NEXT assessment, see chapter 1.

Where data analysis considerations made this necessary, the sample was dichotomised with respect to the intensity of thinking about leaving the profession. Those considering leaving *several times a month or more* (hereafter described as those thinking of leaving *often*) were compared to those considering leaving less frequently or not at all. The underlying reason for choosing this cut off was that the occasional consideration of such a step (thinking of leaving *several times a year*) may be regarded as natural for most professional people. In contrast,

considering leaving *several times a month* indicates a serious desire to leave the profession.

Data analysis was conducted with SPSS 10.0. The significance of the differences in prevalence was calculated by Chi^2-test and by means of ANOVA.

Results

34,925 people responded to the ITL question (Table 1). More than half of them *never* considered leaving the nursing profession. 15.6% of the nurses considered it *often* (as defined above). Those not responding at all (n=1,512) or using the response category '*does not apply'* (n=2,365) were not included in the following analysis.

Table 1. Distribution of participants responding to the question: 'How often during the course of the past year have you thought about giving up nursing?' (n=34,925; $n_{does\ not\ apply}$=2,365, $n_{missing}$=1,512).

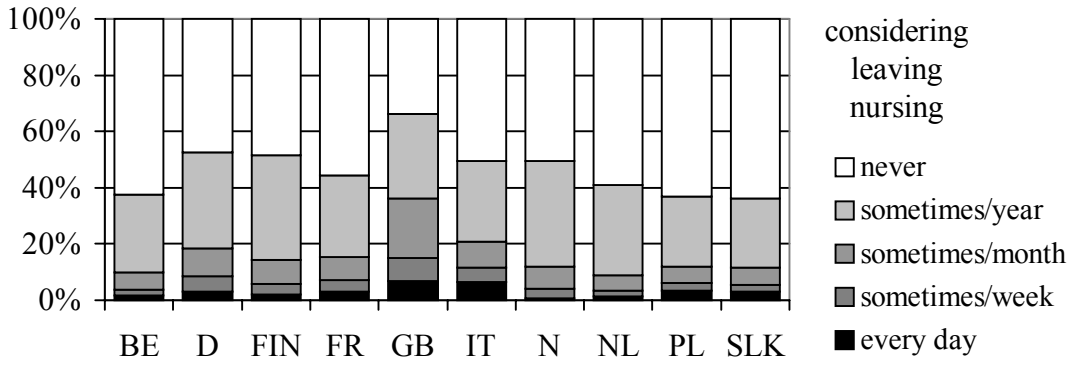
response category	n	percent
never	18,811	53.9
sometimes/year	10,662	30.5
sometimes/month	2,945	8.4
sometimes/week	1,364	3.9
every day	1,143	3.3
sum valid cases	*34,925*	*100.0*

Differences of ITL between the participating countries were pronounced. By far the highest proportion of nurses wanting to leave nursing was found in the British sample (Table 2 and Figure 1). There, 7.0% of the participants considered this step daily and 36.2% often. High proportions of nurses thinking of leaving the profession were also found in Italy and Germany (20.7% and 18.5% considering this often). Lowest rates were found in the Netherlands (8.8%) and in Belgium (9.8%). In Slovakia (11.7%), Poland (11.8%) and Norway (11.9%) the rates were also relatively low.

Table 2. Participants by country. (values from a slightly different question: 'giving up nursing and starting something new')*

country	abbrev.	total n	n intent to leave nursing	proportion of participants considering leaving nursing *several times a month or more often*
Belgium	BE	4,257	3,963	9.8
Germany	D	3,565	3,131	18.5
Finland	FIN	3,970	3,920	14.2
France	FR	5,376	4,989	15.4
UK	GB	2,578	2,365	36.2*
Italy	IT	5,645	5,211	20.7*
Norway	N	2,733	2,220	11.9
Netherlands	NL	4,019	3,660	8.8
Poland	PL	3,263	2,787	11.8
Slovakia	SLK	3,396	2,679	11.7
all		*38,802*	*34,925*	*15.6*

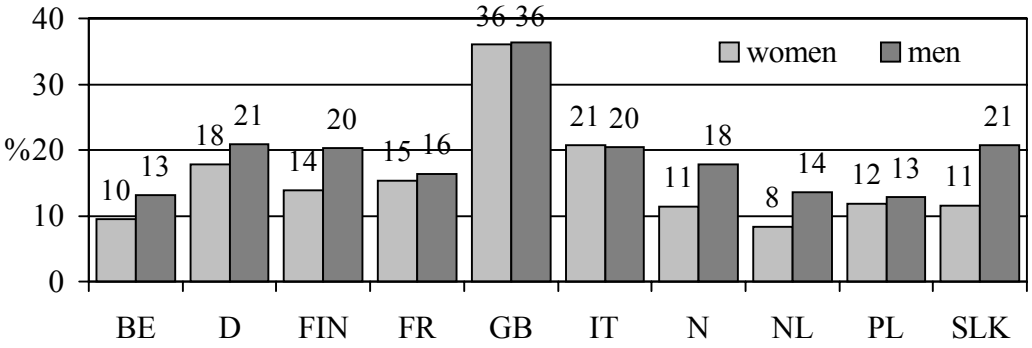
Figure 1. 'Intent to leave the nursing profession' by country. (n=34,924)



'Intent to leave nursing' in relation to gender

Male nurses considered leaving the nursing profession more often than women (Figure 2). The difference was significant in Slovakia, Norway, Finland, Belgium (all $p<.05$) and in the Netherlands ($p<.01$). It was observed for all age groups and was especially pronounced among the 30 to 40 years age group. Only in Italy did men think slightly less often of leaving the profession than women. There, men comprised a relatively large proportion of the sample (25.9%).

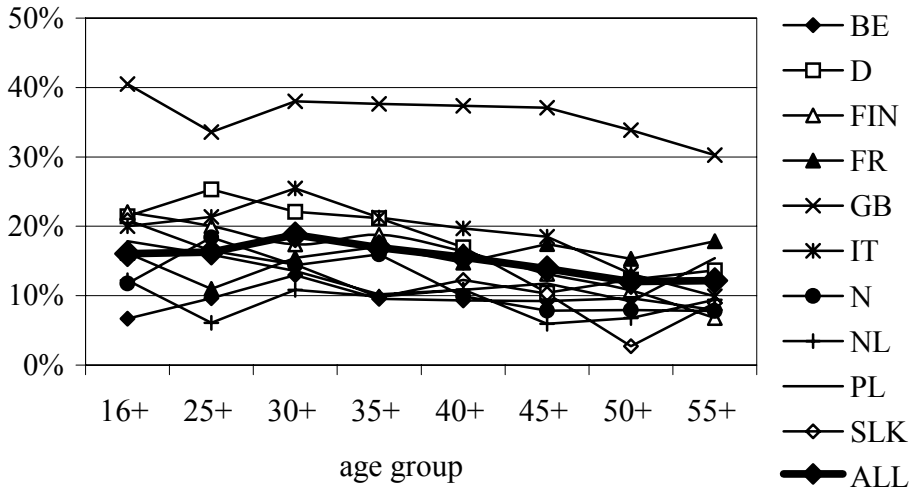
Figure 2. Proportion of nursing staff with frequent 'intent to leave the nursing profession' by gender and country. ('considering this several times per month or more often'; n=34,832)



'Intent to leave nursing' in relation to age

ITL varied with age. In the total sample, ITL increased until the 30 to 34 years age group and then decreased constantly to minimum levels. However, different patterns can be seen for the different countries in Figure 3. In Finland, Poland and Slovakia, the constant decline of ITL from the youngest age groups to the oldest is noteworthy.

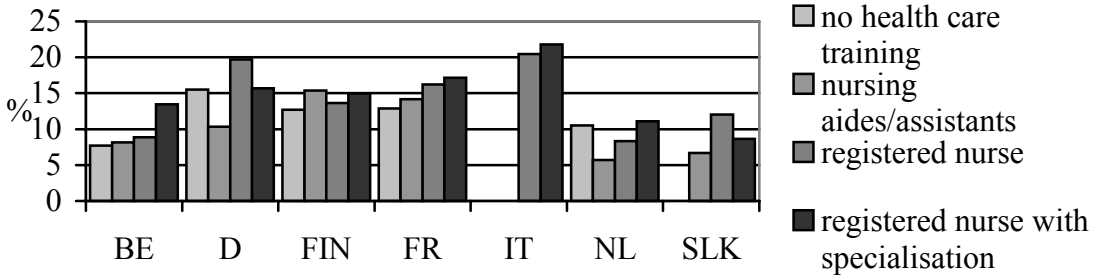
Figure 3. Proportion of nurses considering leaving nursing 'several times a month or more' by country and age.



'Intent to leave nursing' in relation to qualifications

On average, more nursing staff with higher qualifications wanted to leave nursing – i.e. registered nurses (14.8%) and those with additional qualifications (15.0%) –compared to nursing aides (11.6%) or those without training in nursing (12.5%). This pattern was observed for most of the participating countries (Figure 4).

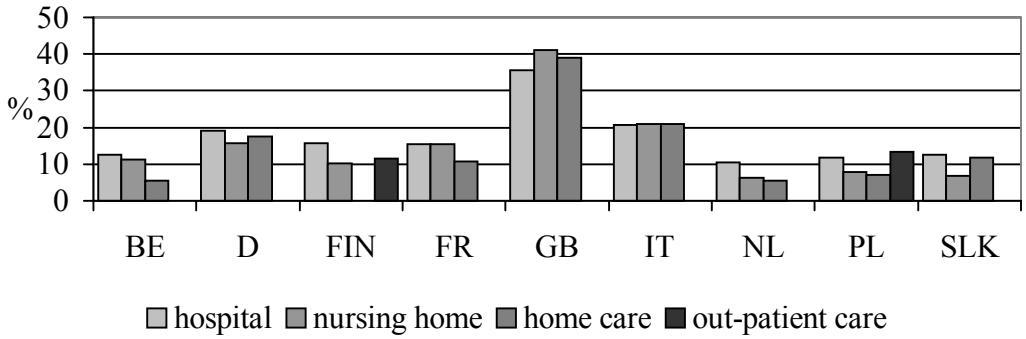
Figure 4. Proportion of nursing staff with frequent 'intent to leave the nursing profession' by qualifications and country. ('considering this several times per month or more often'; n=29,731)



'Intent to leave nursing' in relation to type of institution

Nurses' ITL was – on average – most pronounced in hospitals (17.1% considering it often), followed by nursing homes (12.5%) and home care institutions (10.8%); this trend was most prominent among younger staff. Figure 6 shows, however, that the pattern is not uniform in all the participating countries.

Figure 5. Proportion of nursing staff with frequent 'intent to leave the nursing profession' by type of institution and country. ('considering this several times per month or more often'; n=35,802)

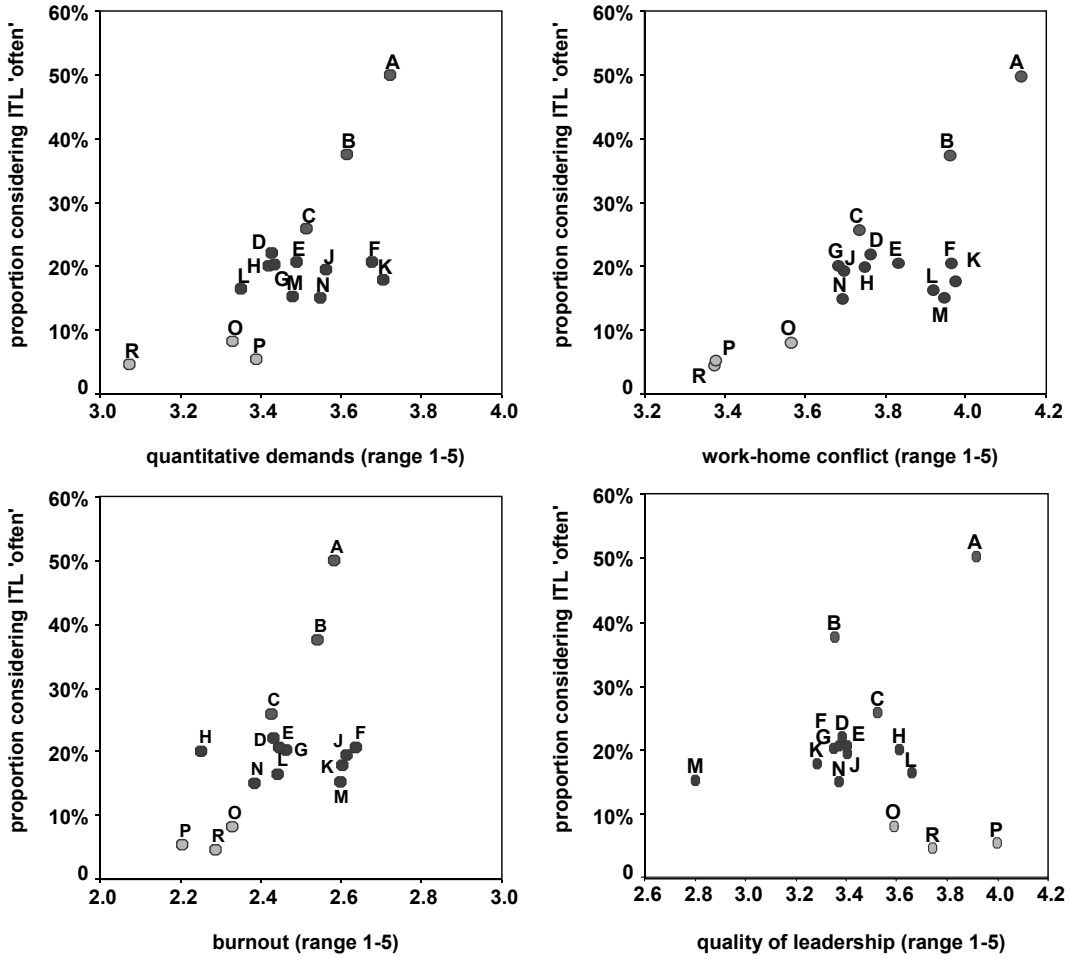


'Intent to leave nursing' in relation to institution

Intent to leave varied substantially between countries, but even more between institutions. For example, in Germany, there were 75 institutions included in the NEXT-Study, and the proportion of participants who often considered leaving their profession ranged from 0 to 50%. Our first results indicate that nurses' intention to leave their profession was strongly influenced by characteristics of the institutions. We analyse as an example the 16 German hospitals included in NEXT. They comprise 2,544 of the German NEXT participants and contribute between 38 to 439 respondents to the NEXT data base. In institutions with low

ITL, substantially better values were attained for several psychosocial and other work aspects. Figures 6a-d demonstrate these associations for *'quantitative demands', 'work-home conflict', 'quality of leadership'* and *'burnout'* (each dot indicates one institution, identical labels in all Figures). These associations were very strong and consistent. However, it is not possible to lump together all institutions with high ITL for all work aspects. For example, hospital A had a very high ITL (50%) and very high mean scores for *'quantitative demands', 'work home conflict'* and *'burnout'*. But the *'quality of leadership'* was rated to be among the highest in the total sample.

Figures 6a-d. Characterisation of 16 German hospitals (each letter represents one institution) by the proportion of staff who 'often' considered leaving the nursing profession (y-axis) in relation to a) 'quantitative demands', b) work-home conflict', c) 'burnout' and d) 'quality of leadership' (x-axis).



'Intent to leave nursing' in relation to working conditions

As shown in the previous chapters, in our study numerous aspects of physical and psychosocial working conditions were associated with ITL in the expected

direction. This was the case for the *'exposure variables'*: *'meaning of work', 'uncertainty concerning treatment', 'interpersonal relations', 'opportunities for development', 'quality of leadership', 'social support from colleagues' / 'social support form the superior', 'influence at work', 'satisfaction with pay', 'physical load', 'emotional demands', 'quantitative demands', 'work family conflict', and 'family work conflict'* (for Germany: r from .07 to (-).38; all p<.001). The associations were even stronger when so called *'outcome measures'* were assessed: *'job satisfaction'* (r=-.49) and *'burnout'* (r=.35). Also *'work ability'* and *'self-rated health'* showed the expected association with ITL (r=.32, and -.20).

These bivariate observations, however, do not provide us with information about where to intervene to retain nurses in their profession. Often, the above aspects are inter-correlated (e.g. *'quantitative demands'* with *'physical demands'*). To identify which were the most relevant aspects associated with ITL, multivariate analysis is necessary where this intercorrelation is being taken into account.

This type of analysis is beyond the scope of this article. However, we can say, that in Germany first multivariate analysis (linear regression) shows, that the exposure variables with the dominant influence on ITL were '*possibilities for development*' and '*work-home conflict*'.

Discussion

Substantial differences between the countries

The NEXT data show that in European countries a large proportion of active nurses want to stay in their profession. It was surprising to find that the proportion of those who – on the other hand - would like to leave their profession differed substantially among the countries assessed. According to our data, ITL in the UK, Germany and Italy reaches striking proportions. In contrast, the proportion is very low in the Netherlands and in Norway. As described in the previous chapters, these two countries often achieve better scores for working conditions and health outcomes. These results may indicate that nursing can be performed in some countries without leading to adverse outcomes such as burnout and ill health, and without leading to a large proportion of dissatisfied nurses wanting to leave their profession. Further analysis is needed to identify factors which can explain why some countries are better at retaining nurses than others.

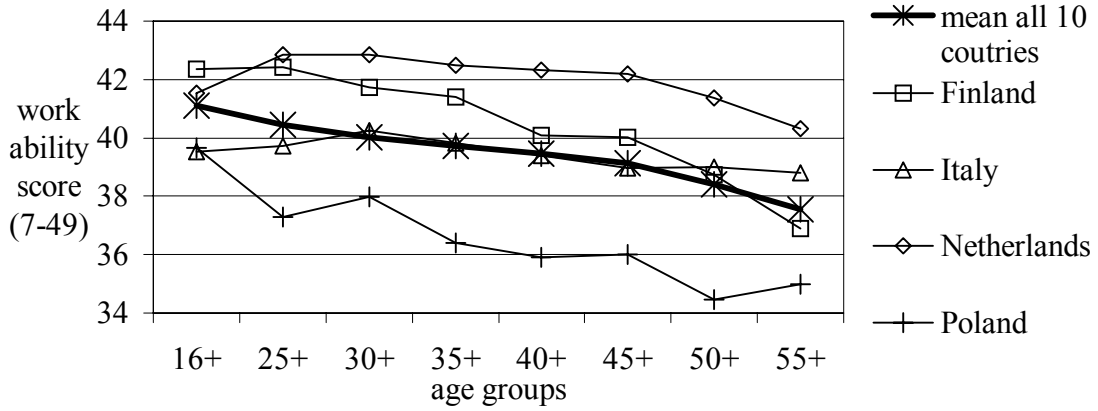
It becomes obvious that the NEXT-Study provides the opportunity to 'benchmark' and analyse the conditions in different countries on a large scale. One further example should elucidate this.

Among the nursing profession, *work ability* decreased with age (Figure 7). In Italy the decrease was least pronounced. Older Italian nurses had on average a better work ability than those in most other countries, but they were only a small

number (proportion >50 years = 12.1% of the total Italian sample). Apparently, many Italian nurses had already left their profession before the age of 50 years, possibly for health reasons. In contrast to Italy, the decrease of *work ability* with age was by far the most pronounced in Finland, reaching low scores for the oldest groups. There, the proportion of older nurses among the participants was by far highest (33.2%), and the ITL in this group was very low (Figure 3). Furthermore, scores for job satisfaction were high. Obviously, older Finnish nurses may continue to work in nursing even with reduced work ability. In Norway, the proportion of older nurses was also comparably high (22.2%) and this group reported *high* work ability values. One explanation for the difference with Finland may be that Norwegian nurses work on average seven hours less per week (approx. 28 hours/week) than Finnish nurses, even in higher age groups (approx. 35 hours/week).

These findings indicate that it may be possible to continue working full time in nursing even in older age groups and even with reduced work ability. The resulting question is: what makes Finnish nurses continue working in spite of low work ability? Better work content or work organisation? More support from colleagues? Or lack of alternatives? Here, a detailed comparative analysis is required.

Figure 7. Work ability index in relation to age. Presentation for all participants in this study (n= 29,441) and for some selected countries.



Substantial differences between institutions

Besides learning from other countries, our first results also clearly indicate the interconnectedness between *'intent to leave the nursing profession'* (not only to leave the *institution*) and institutional conditions such as the working conditions. Obviously, one can differentiate between 'attractive' and 'unattractive' institutions. Attractive institutions retain their nursing staff longer. This improves the quality of work and reduces costs. In the German hospital with highest ITL, only

44.7% of all respondents had worked at this institution for 5 years or longer. In hospitals with low ITL scores, this rate rose to 82%.

Two different individual motivations to leave nursing
On the individual level three groups of nursing staff can be distinguished: a) those who want to stay in the profession, b) the *motivated* leaver and c) the *resigning* leaver. The *motivated* leavers are young, well educated and striving for personal development. Depending on the job market, they may have more or fewer opportunities to fulfil their future plans. The *resigning* leavers have bad health, low work ability and are burned out. It may be assumed that they have many fewer choices outside health care and that they would seek early retirement.

What does frequent consideration of 'leaving nursing' mean?
At the moment it is not possible to say the extent to which the *frequent* consideration of leaving nursing will be associated with real departure from the profession. This will be investigated in the longitudinal part of the NEXT-Study which lasts until June 2005. However, already today, we can see a substantially reduced commitment to the institution (and to the profession) among nurses with high ITL. It might even be, that these 'inner leavers' are already affecting the quality of work in their institutions.

Frequent consideration of 'leaving nursing' does not exclude the consideration of other alternatives – even within health care. Indeed, about one third of those who frequently considered leaving their profession also considered obtaining further qualifications within health care with the same intensity. This indicates that – if the opportunity to gain further qualifications were offered, departure from the profession might be prevented. The opportunity to gain further qualifications, however, is more attractive, if it goes along with increased responsibility at work and higher wages. The fact, that this most often is not the case is considered as a serious problem in nursing for some countries like Germany.

Limitations of this investigation
There are a number of limitations in this investigation. In the UK, France, the Netherlands and Norway, the response rate was relatively low (see chapter 1). For the other countries it was satisfactory (Belgium, Germany, Poland, Slovakia) or very good (Italy, Finland). Assuming that those dissatisfied with their working conditions might be more likely to return the NEXT questionnaire, there might be an overestimation of the ITL. This may in parts explain the large proportion of nurses who want to leave their profession in the UK. But it cannot explain the low scores for ITL in the Dutch and Norwegian samples. In these countries, large

scale investigations of the nursing professions are frequent and 'questionnaire fatigue' might be a problem.

Furthermore, it needs to be taken into account that considering leaving the profession seems to be closely related to the availability of alternatives. This may be one of the main reasons, why relatively few Polish and Slovakian respondents considered ITL in spite of often bad working conditions and very low pay. There, occupational alternatives are very rare. More than 80% of the Polish and Slovakian respondents were afraid of having difficulties in finding a new job when becoming unemployed.

The translation of items in a Europe-wide study also creates the risk that questions may not have been interpreted in quite the same way in each country. Translation - backtranslation procedures were used for all items in the questionnaire where wording was relevant, e.g. for all items in existing scales. The high consistency of the findings of psychometric values in the different countries may be one indication, that a potential language bias was relatively small (see chapter 27).

The NEXT-Study is a longitudinal investigation. But the first results presented in this book derive from the first questionnaire assessment and thus are cross sectional in nature. This means that the *healthy worker effect* will undoubtedly have influenced our results: Nurses who were not able to continue in their profession had left it already (and did thus not receive our questionnaire). However, this effect leads to an *under*estimation of the association of 'intent to leave the profession' with adverse conditions in our sample.

The future longitudinal results of the NEXT-Study need to be awaited, analysing those who in the course of the following 12 months after having returned the basic questionnaire actually have left their institution and – possibly – their profession.

16 Intent to leave nursing in Belgium

Sabine Stordeur, Philippe Kiss, Rini Verpraet, Marc De Meester,
Lut Braeckman and William D'hoore

Introduction

In Belgium, there are shortages of personnel throughout the service occupations. Nursing is particularly affected, with health care institutions experiencing difficulties recruiting and retaining staff (Afis and Femarbel, in Béchet, 2003). Nursing training attractiveness slightly decreases among 18 year old students (Leroy et al., 2003) and those already employed as nurses are dissatisfied with their working conditions (De Troyer, 2000). This has encouraged them to reduce their working hours, to seek new jobs where the conditions of employment are better or to leave nursing altogether. Moreover, nurses are getting older, resulting in numerous departures for retirement in the next decade.

Nurses and nurses' aids is the largest group of health professionals. However, workforce planning has not been adequately addressed by the government. According to the Public Health Ministry (2001): "Today, it is impossible to estimate nursing personnel working in health care sector as well as to plan the evolution of this sector needs. The last available data are seven year old." In all types of health care institutions, the debate about appropriate nursing staffing levels is ongoing. In hospitals there was also a recent debate concerning the adequate ratio between qualified nurses and nursing aids.

In addition, changes in medical training have implications for the number of nurses recruited and the nature of their training. The restriction of medical students admission by a *numerus clausus* has resulted in a lack of specialized doctors, with the need to adapt nursing education (standardization of diplomas, role differentiation between certificate and registered nurses, length of training, links between trainings, degree of specialization, clinical specialists). However, there is no consensus on the best way of introducing these changes in nursing.

Finally, working conditions have generated a great deal of dissatisfaction. The tension caused by heavy workload, low professional status, relationships between the different health care disciplines, unpredictable work schedules, occupational health risks and the emotional demands of nursing affect nurses' motivation.

In Belgium, these problems are present since 1980, but are now further compounded by social changes such as the aging population, the reorganization of health care institutions and the way they are financed.

In 2000, there were 174,010 people working in the nursing profession in Belgium. About 60% of them were working in hospitals and 25% in long-term

care institutions. The remaining 15% were employed in home care services. The main professional categories were registered nurses and certificate nurses, representing 74% of the active work force in nursing. Nursing aids accounted for the remaining 26%. The shortage of nurses and – especially – insufficient staffing are crucial issues for Belgian politicians and health services managers (Béchet, 2003). Whereas all settings reported problems in recruiting qualified nurses, this problem is more severe in old peoples' homes than in hospitals, because in this sector, 250 nursing posts are vacant for the whole country (Béchet, 2003). Nevertheless, hospitals have also many difficulties to employ highly qualified registered nurses with adequate specialisations, and they are obliged to recruit less qualified personnel. The problem is exacerbated by the high numbers of part-time nurses (45% in hospitals), the low rate of activity in the profession (only 69% of registered nurses work in health system), the pregnancy and maternity leave (12 months) and the breastfeeding period (3 months), and government initiatives to progressively reduce working hours prior to retirement (1 day off per month from 45 year old, 2 days off per month from 50 year old and 3 days off per month from 55 year old). This is expected to increase substantially in the coming years. Despite attempts to increase and diversify the supply in nursing education, interest in nursing has declined among young people (attractiveness of nursing training decreased by 1.5% these last 5 years). Not only is the number of applicants decreasing, but also their quality (less than 30% of nursing students obtained their diploma after 3 years of training) (Leroy et al., 2003).

International migration is a special issue in Belgian health care because in Belgium, we do not have closing classes or *numerus clausus* regulation. This situation attracts many French students rejected according to *numerus clausus* regulation or students reluctant to undertake the exams to enter in French nursing schools. These students come to Belgium and work thereafter in France. Thus, 31% of students in Belgium come from other countries (20% graduate nurses – 50% certificate nurses), and 68% are French students.

Retaining nurses in healthcare settings requires a detailed investigation of the reasons and the circumstances for premature departure from the nursing profession. The NEXT-Study is the first study investigating this issue in Belgium, where it is being conducted by two institutions: Université catholique de Louvain (Brussels) and Universiteit Gent.

Methods

Recruitment of institutions

For selecting the Belgian participating institutions, we used a stratified sample of hospitals, home care services and long-term care, based on the following criteria: (1) each of the three regions had to be represented (Brussels, Wallonia and

Flanders); (2) status (we selected a balance of private and public institutions); (3) former restructuring (grouped and non-grouped institutions). Forty-eight hospitals, home care services and nursing homes were randomly selected and asked to participate. Of those, 37 were finally included in the study. A requirement for participation with written confirmation of active participation was signed both by administration and staff representatives of the institutions (executive boards and works committees). In all participating institutions, all nursing staff were included. One institution withdrew from the study, because a lack of participation affected data collection.

The selected study base did not completely represent the Belgian distribution of nursing staff in the three types of institutions investigated in NEXT: nursing staff in hospitals were well represented (54% in this sample vs. about 61% in Belgium), staff from nursing homes is underrepresented (7% vs. 14%) whereas (Flemish) home care institutions are over-represented (39% vs. 25%). The main reason for this deviation is that the Flemish region has a very well organized home care sector. By contacting the principal coordinator, who agreed to collaborate to NEXT study, we obtained the collaboration of the 5 main centres in Flanders which employs more or less 2,000 nurses. Please note that 67% of Belgian nurses who work in home care sector, work in the Flemish Region. Consequently, the over representation of Flemish home care nurses in our sample adequately represents the nursing workforce in Flanders. Nurses working in nursing homes are not well represented; this is mainly due to the small size of institutions, needing to include more institutions, and to the refusal of some directors of contacted nursing homes to participate.

Participation

In Belgium, 4,257 of those approached (61.3%) returned the Q0 (Table 1). The response rate in the different institutions ranged from 20.7% to 100% (mean and median 65%). Participation was highest in home care organizations (except one having two languages: French and German, and many internal problems) and lowest in the two university hospitals.

Table 1. Overview over participating institutions and staff in the Belgian 'basic assessment'.

institution	number of institutions	n staff approached	n staff responded	response rate	range of response rates
university hospital	2	1,359	689	50.7%	34.5%–53.8%
hospital > 400 beds	2	1,704	892	52.3%	34.1%–56.9%
hospital < 400 beds	12	1,336	724	54.2%	43.0%–67.9%
nursing home	11	473	303	64.1%	37.5%–100%
home care	10	2,075	1,649	79.5%	20.7%–90.6%
all	*37*	*6,947*	*4,257*	*61.3%*	*34.1%–100%*

Data entry and statistical analysis

Data entry was done by optical recording. Plausibility tests checked for outliers and implausible data. Errors (e.g. full time contract having more than 38 hours a week) were treated as missing values. The following data analysis has been conducted with SPSS 11.0.

Results

Nursing staff working in hospitals included 54% of all participants, those working in old peoples' homes and in home care, 7% and 39% respectively (Table 2). According to the type of institution, there was no statistical differences between the mean age of female nursing staff and that of their male colleagues (two-factorial ANOVA effect for age ($F(2/3,927)=.89$, $p>.05$, interaction for institution and gender ($F(2/3,927)=.04$, $p>.05$)). A one-way ANOVA also indicated that mean ages of nursing staff were comparable in the three settings.

Table 2. Participants in Belgium by type of institution, gender and age.

type of institution		n	%	mean age	stdev. age
hospital	female	1,995	87.3	37.7	9.31
	male	290	12.7	35.6	9.00
	all	*2,285*	*100.0*	*37.4*	*9.30*
old peoples' homes	female	282	94.0	38.3	9.66
	male	18	6.0	38.8	9.65
	all	*300*	*100.0*	*38.3*	*9.65*
home care	female	1,589	96.9	37.1	9.06
	male	51	3.1	34.6	9.27
	all	*1,640*	*100.0*	*37.0*	*9.08*
all	*female*	*3,866*	*91.5*	*37.5*	*9.24*
	male	*359*	*8.5*	*35.6*	*9.08*
all	*all*	*4,225*	*100.0*	*37.3*	*9.24*
	missing	*32*			
	total	*4,257*			

Intent to leave

Of the 3,973 respondents who answered to this question, 4% thought of giving up nursing completely ('intent to leave', ITL) *several times per week or daily*, an additional 5.3% considered this *monthly* (Table 3). However, ITL varied with respect to a) gender, b) age, c) type of institution, d) qualification, e) seniority, f) health and work ability. Each of these aspects will be fully investigated in relation to 'intent to leave the profession'. Where appropriate, the sample was dichotomised with respect to the intensity of thinking about leaving the profession. Those thinking of this '*several times per month* and more' were compared to those considering it less often or not at all.

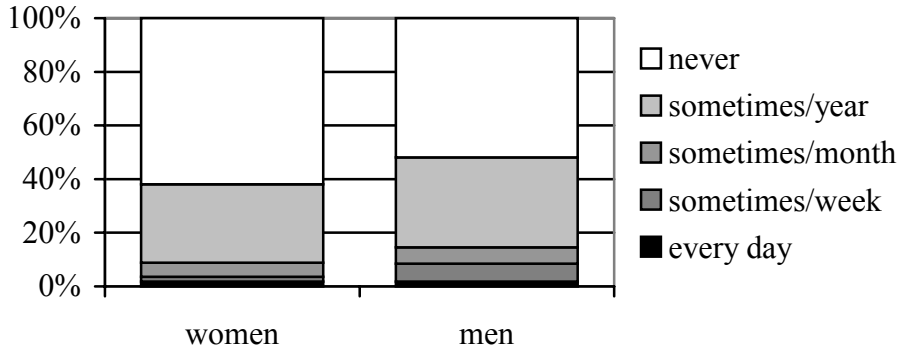
Table 3. Response distribution to the question: 'How often during the course of the past year have you thought about giving up nursing completely?'

answering category	frequency	percent
never	2,428	61.0
sometimes/year	1,179	29.7
sometimes/month	210	5.3
sometimes/week	90	2.3
every day	66	1.7
all	*3,973*	*100.0*

a) Gender. Whereas 8.8% of female nurses frequently thought about leaving nursing, 14.6% of male nurses thought about giving up nursing completely

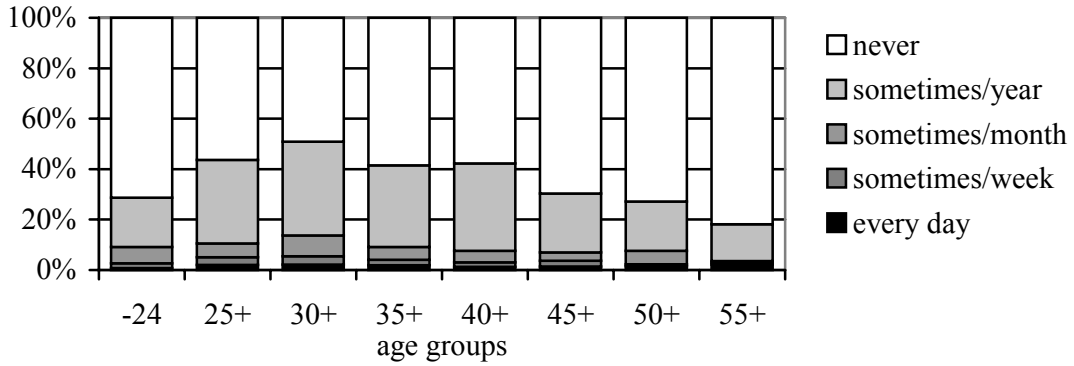
(χ^2=18.6, 2 df, p<.0001). This result was particularly salient in hospitals where 14.7% of men thought frequently about leaving nursing. Nevertheless, in the two other settings, men were under represented. The gender effect is mainly due to the age groups from 30 to 40 years, where 'intent to leave the profession' was very high in men group (19%). Among women, the intent to leave was most prevalent in the age group from 26 to 30 years (9.8%). Intent to leave also depended on nursing qualification: it was higher among registered nurses (with or without specialization) than among nursing aids (with or without health care training) (χ^2=38.4, 6 df, p<.0001).

Figure 1. Response by gender: 'How often during the course of the past year have you thought about giving up nursing completely?'. (n=3,952, n_{women}=3,609, n_{men}=343)



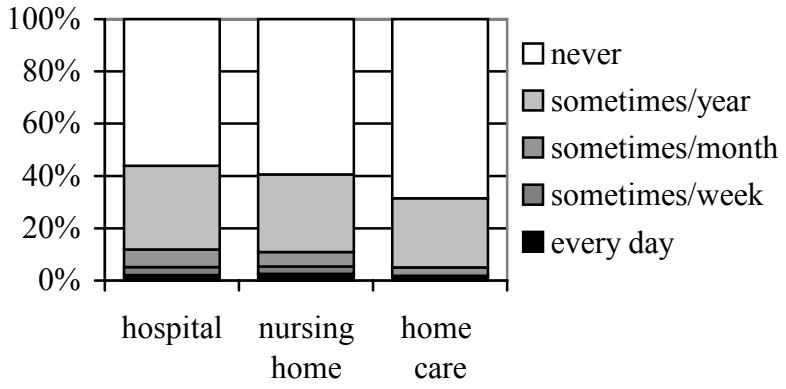
b) Age. Age was clearly associated with intent to leave in a curvilinear way (Figure 2). Younger nurses showed a higher intent to leave with a maximum in the 30-to-34 years age category. A large part of nursing staff 50 years of age and older did not think about leaving. In Belgium, recent governmental initiatives were taken to keep older nurses at work: employees who are at least 45-years old can choose either to benefit 1 to 3 days off per month without loss of salary, or to maintain a full-time with salary increment. These measures appear to have been successful.

Figure 2. Response by age: 'How often during the course of the past year have you thought about giving up nursing completely?'. (n_{total}=3,948, n_{-24}=382, n_{25+}=614, n_{30+}=559, n_{35+}=803, n_{40+}=699, n_{45+}=488, n_{50+}=265, n_{55+}=138)



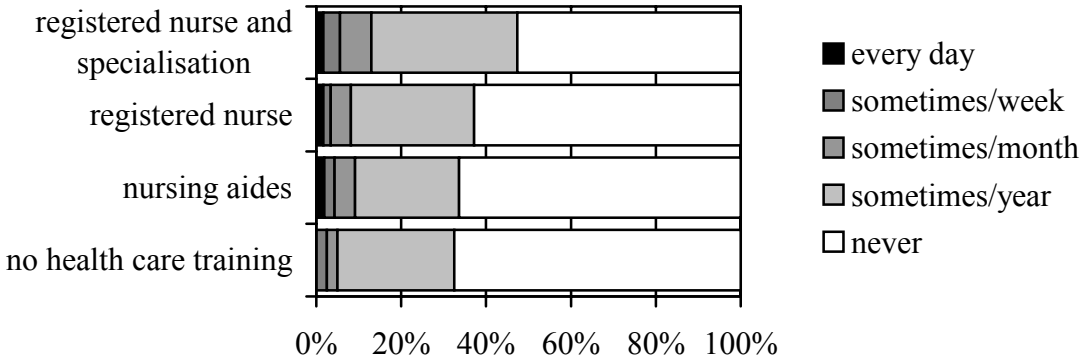
c) Type of institution. Nursing staff in home care considered leaving nursing less often (5.5% considering this at least several times per month) than those working in nursing homes (11.3%) and hospitals (12.7%). A chi-square test confirmed the significance of this result (χ^2=78.8, 4 df, p<.0001). In single institutions, the rate of nursing staff considering leaving the profession every month or more often ranged from 0% to 22.2% (median 9.4%). In two institutions, none of the participants considered leaving the profession every month or more often. They were one old peoples' home and one home care organisation. In Brussels, the rate was not as high as expected (according to additional pulling factors increasing the difficulties of employees, such as difficulties to acquire affordable housing, long and difficult journeys, insufficient opportunities for child care, …) but varied substantially between institutions – from 4% to 18.2%. This implies that there are 'attractive' institutions which probably develop effective strategies to retain nurses.

Figure 3. Frequency of 'intent to leave the nursing profession' by type of institution. (n_{total}=3,873, $n_{hospital}$=2,172, $n_{nursing\ home}$=176, $n_{home\ care}$=1,525)



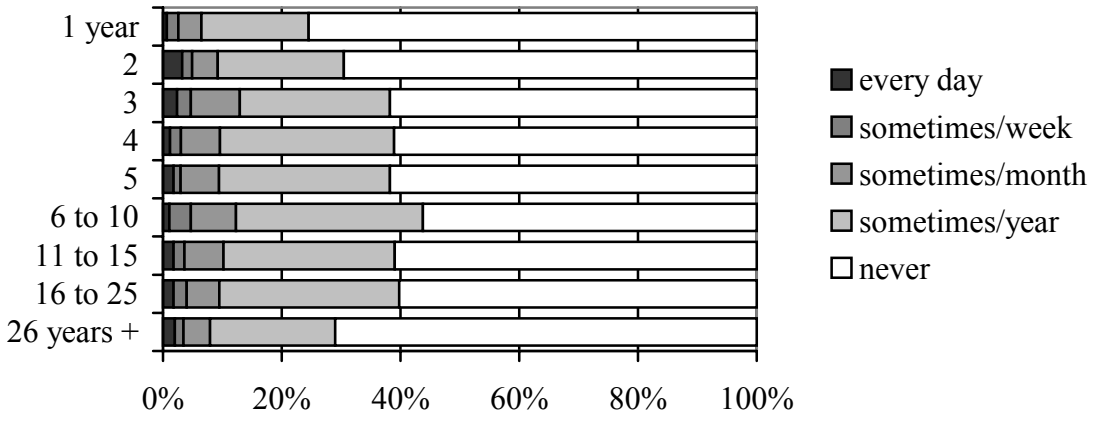
d) Qualification level. Registered nurses (with and without specializations) (Figure 4) expressed a higher ITL than the other team members. This result can be explained by the special opportunities offered to nurses having a specialisation, but also by their higher level of expectations regarding the working conditions (opportunities of professional development, recognition of their qualification, wages, ...). If the employer does not meet their expectations, these are likely to seek a more satisfying job.

Figure 4. Level of qualification by 'intent to leave'. (n_{total}=3,851, $n_{nurse+spec}$=788, $n_{reg.nurse}$=2,651, n_{aides}=372, $n_{no\ training}$=40)



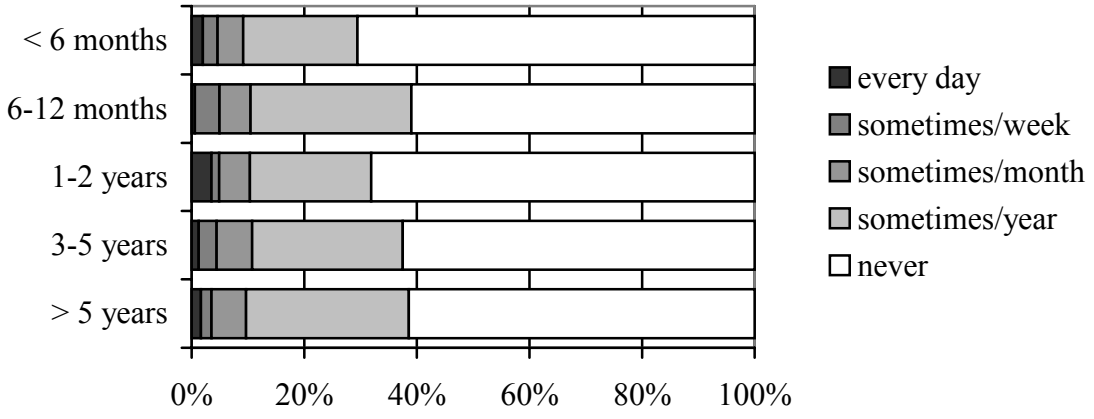
e) Seniority. Although most staff in the sample had been employed in nursing for a long time (mean: 14.9 years, no differences between types of institution), nurses did not remain in the same institution throughout their career (mean institutional seniority: 4.4 years; median: 5 years). This propensity to change from one institution to another can be explained by two factors: the general basic training which helps nurses to be adaptable to different work environments and the perpetual need to fill vacancies in the health care system. This mobility also explains the ongoing need for institutions to engage new nurses and to train them, increasing the perceptions of nursing shortage. Figure 5 indicates that ITL the nursing profession was already expressed at the beginning of the career. This was the case both for women and men.

Figure 5. Occupational seniority in relation to ITL. ($n_{total=}$3,944, n_{1year}=157, n_{2years},=185, n_{3years}=171, n_{4years}=165, n_{5years}=171, $n_{6\text{-}10years}$=553, $n_{11\text{-}15years}$=726, $n_{16+years}$=1,294, $n_{26+years}$=522)



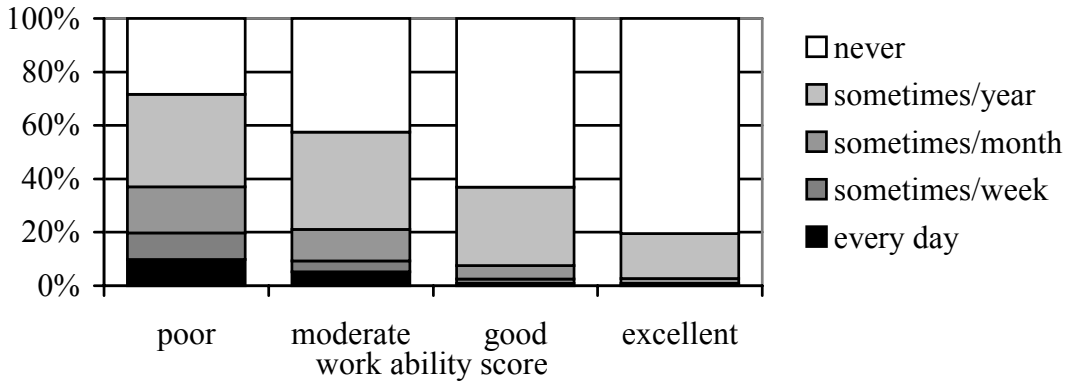
Intent to leave the nursing profession was not explained by years in service, even if after 5 years in the same institution, nurses think less frequently about leaving nursing.

Figure 6. Institutional seniority in relation to ITL. (n_{total}=4,053, $n_{< 6month}$=153, $n_{6\text{-}12month}$=183, $n_{1\text{-}2years}$=368, $n_{3\text{-}5years}$=578, $n_{> 5 years}$=2,771)



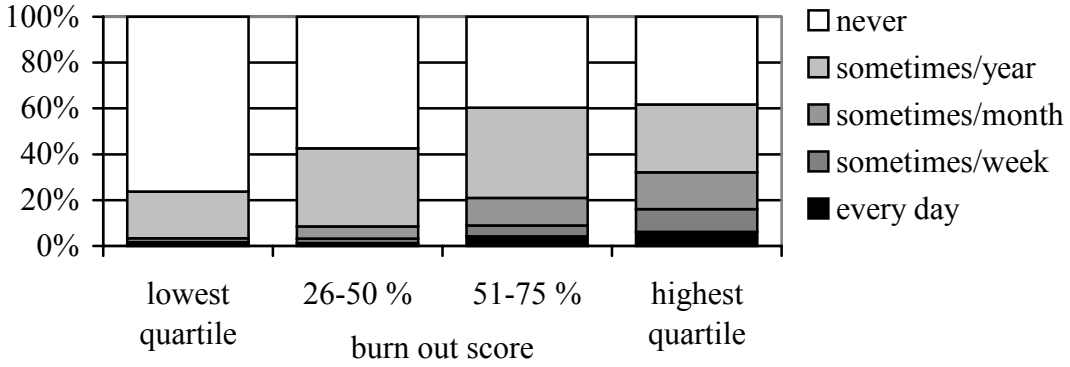
f) Health and work ability. Health and work ability were found to be predictors of 'intent to leave health care'. For men and women, low self rated health and low work ability were associated with higher intent to leave the nursing profession (Figure 7).

Figure 7. Work Ability Score (WAI) in relation to 'intent to leave nursing'. (n_{total}=3,625, n_{poor}=81, $n_{moderate}$=731, n_{good}=1,932, $n_{excellent}$=881)



g) Exhaustion. Burnout was also clearly associated with ITL (Figure 8), whatever the individual's nursing qualification. Note that 22.4% of women expressed high levels of burnout (score>50) in comparison with 13.1% of men (χ^2=19.04; 3 df; p<.001).

Figure 8. Burnout in relation to 'intent to leave nursing'. (n_{total}=3,812, $n_{score<25\%}$=1,483, $n_{score\ 26\text{-}50\%}$=1,458, $n_{score\ 51\text{-}75\%}$=790, $n_{highest\ score}$=81)



Discussion

There appears to be a potential problem of nursing shortage in Belgium because nurses, despite strong professional commitment frequently express intent to leave. Problems are different like are the strategies to prevent their respective effects. On the one hand, preliminary results indicate that solutions have to be found to prevent withdrawal of young and highly qualified nurses, but also to retain male nurses in the nursing profession (balance between the two genders is important for several reasons: status of professional vs. the traditional image of the vocation, heavy workload, …). On the other hand, particular attention should be paid to older nurses, who have developed clinical expertise, and how their

organisation operates. Proposing new solutions to their age-specific problems are particularly important in the context of nursing shortage.

Another part of the investigation which could add important contribution to the identification of associations between intent to leave and some significant exposure is to consider organisational factors. Preliminary multiple linear regression analyses revealed that if mental and physical health indicators were associated with intent to leave (standardized regression coefficients=.17, -.10, .05 respectively; $p<.01$), organizational attributes were even more associated with intent to leave, including affective commitment towards profession and institution, and job satisfaction (standardized regression coefficients=-.22, -.17, -.11 respectively; $p<.0001$). More sophisticated statistical modelling should be performed to investigate relationships between these factors. Beside paying more attention to nurses' welfare, more could be done to adapt organisations to nurses expectations, since a body of knowledge shows that commitment is closely linked to satisfaction and both are a response to leadership, job control, nurses autonomy, and organisational climate (Stordeur, 2001).

References

Béchet G (2003) On recherche des blouses blanches. Le Soir, February 11th.

De Troyer M (2000) *The hospital sector in Europe – Introductory report*. TUTB-SALTSA Conference 2000:25-27, Brussels.

Leroy X, Hubin M, Stordeur S, Draelants H & De Backer B (2003) *Manpower Planning – Offre et demande de travail dans le champ de la santé et de l'aide sociale en Communauté française et en Communauté germanophone de Belgique (2000-2010-2020)*. Tome 2. Bruxelles: Université catholique de Louvain.

Stordeur S (2001) *Leadership transformationnel des infirmières en chef et contexte de travail: impact sur l'équipe infirmière et la satisfaction des patients*. Thèse de doctorat en Santé Publique, Université catholique de Louvain. Bruxelles: UCL.

17 Intent to leave nursing in Germany

Hans-Martin Hasselhorn, Peter Tackenberg, Andreas Büscher, Stephanie Stelzig, Angelika Kümmerling and Bernd Hans Müller

Introduction

In 2001, there were 1,183 million people working in the nursing profession in Germany (destatis, 2002a). About 40% of them were working in hospitals and a further 40% in institutions for long-term care. The remaining 20% were employed in home care services (destatis, 2002b). The main professional categories were registered nurses and old peoples (geriatric) nurses, comprising 59% and 22% respectively of the active work force in nursing. Nursing aides accounted for 19% (destatis, 2002c).

It may well be said that the German health care sector is currently in a period of transition. Hospitals are facing the implementation of a DRG (Diagnoses Related Groups) based reimbursement system which is associated with profound insecurity about the economic future of the enterprises (DKI, 2003). For all types of health care institutions, the debate about appropriate nursing staffing levels is ongoing (Mezger, 2003). In institutional long-term care there was a lengthy debate concerning the adequate ratio between qualified nurses and nursing home residents (BMFSJF, 2002; dip, 2002; dip, 2003; DKI, 2003).

In the last decade, the working conditions of the nursing profession have continued to change in Germany. Recent studies show that both the physical and the psychosocial workload has increased (BGW, 2001). The underlying causes are assumed to be increased economical constraints resulting in higher work density with the same staffing level and increasing demands in caring for sicker groups of patients (Zimber, 2003).

The shortage of nurses and insufficient staffing are issues high on the agenda of the German health care system. In all settings it is reported that recruitment of qualified nurses often presents problems. This is expected to increase substantially in the coming years (DKI, 2003). In spite of great efforts to assure sufficient facilities for the training of nurses, the interest in the nursing profession has decreased substantially among young people, especially in the western part of the country. There, not only the number of applicants is decreasing, but also their qualification. An increasing proportion of training places remain unoccupied, e.g. an exceptional 23% in North Rhine Westphalia in 2000 (MFJFG NRW, 2001).

Professional international migration is not a major issue in German health care. The number of registered nursing staff born outside Germany is 8% and thereby lower than in the general working (female) population (7.4%). The

proportion is some-what higher among lower qualified nurses (10.3%) (Hasselhorn et al., 2003).

10,000 ‘green cards’ were issued in 2001 aimed at attracting 10,000 home aides from Eastern European countries to provide residential and nursing care, however only 5,000 people made use of them. It is not likely that migration will solve the problem of nursing shortage in Germany.

A promising way of avoiding future lack of nursing professionals might be to enable nursing staff to remain longer in their profession. However, this requires a differentiated investigation into the reasons and the circumstances for premature departure from the nursing profession. The NEXT-Study is the first study to investigate this issue to a greater extent in Germany. Here, the NEXT-Study is being conducted by two institutions, the Institute of Nursing Science at the University of Witten and the Department of Safety Engineering at the University of Wuppertal.

Methods

Recruitment of institutions

Different approaches were used to select the German participating institutions. Three different registers for hospitals, nursing homes and home care services had to be used (Altenheim Adressbuch, 2001; Deutsches Krankenhaus Adressbuch, 2002; Verzeichnis ambulanter Pflegedienste, 2002). 281 hospitals, home care services and nursing homes were randomly selected and asked to participate. Of those, 37 showed interest and 28 were finally included in the study. Because the sample did not represent the distribution of institutions within the German Health Care system sufficiently, a second approach had to be developed. Welfare organisations on the national level were asked to distribute information on the NEXT-Study within their health care facilities. In addition, regional institutions around Wuppertal and Witten were invited to participate. This way, an additional 154 institutions were asked to participate and 47 agreed to participate in the study. Precondition for participation was written confirmation of active participation signed both by administrative and staff representatives of the institutions (executive boards and works committees).

In the large hospitals, the number of staff to be included in the study was – for practical reasons – limited to 500 (once 700) nurses. In medium-sized hospitals, the number of staff was limited to 400 (once 133) nurses. In all other institutions, all employed nursing staff were included in the study base. No institution has withdrawn from the study participation as of October 2003.

The selected study base did not represent the German distribution of nursing staff (destatis, 2001) in the three types of institutions investigated in NEXT: nursing staff in hospitals were over represented (74.9% in this sample vs. about 40% in Germany) and staff from nursing homes (15.2% vs. 40%) and home care

institutions (9.9% vs. 20%) were under represented. The main reason for this deviation was feasibility. Home care institutions are rather small institutions with – on average – about 13 nursing staff members. The inclusion of more institutions was practically impossible. However, this deviation (and the dominating role of hospitals staff in this study) must be kept in mind when regarding the results. Each institution determined an own field manager who keeps contact with NEXT and promotes the participation by distributing posters and flyers and organising institutional informative meetings.

Participation

In Germany, 3,565 (55.0%) of those approached returned the questionnaire (Table 1). The response rate in the different institutions ranged from 12.8% to 100% (mean 52%, median 54%). Participation was highest in large hospitals and lowest in the three medium sized hospitals. This may have been due to internal factors such as local organisation and commitment to the study.

Data entry was carried out manually. Plausibility tests checked for outliers and implausible data. Implausible answers (e.g. 50 night shifts per month) were treated as missing values.

Table 1. Overview of participating institutions and staff in the German 'basic assessment'.

institution	number of institutions	n staff approached	n staff responded	response rate	range of response rates
university hospital	4	2,200	1,368	62.2%	59.6%–64.4%
hospital > 400 beds	3	648	269	41.5%	12.8%–51.9%
hospital < 400 beds	9	1,775	1,035	58.3%	38.0%–82.6%
nursing home	29	1,206	531	44.0%	17.5%–83.3%
home care	30	655	354	54.0%	17.1%–100%
unclassified			8	-	-
all	*75*	*6,484*	*3,565*	*55.0%*	*12.8%–100%*

Statistical analysis

The following data analysis was conducted with SPSS 10.0 and 11.0. The significance of the differences in prevalence was calculated by Chi^2-test and in means by analysis of variance. Where appropriate, the sample was dichotomised with respect to the intensity of thinking about leaving the profession. Those considering this 'several times per month and more' were compared to those considering it less often or not at all. The underlying reasoning for the determination of the cut off was that the occasional consideration (yearly) of such a step may be regarded as rather natural for most professionally active people. In contrast, consideration several times per month was already regarded to indicate a serious

will to leave the profession. Due to the large size of the sample, the limit for significance was set by alpha <.01.

Results

Nursing staff working in hospitals comprised 74.8% of all participants, those working in nursing homes and in home care were 15.3% and 9.9% respectively (Table 2). With the exception of hospitals, the mean age of female nursing staff was significantly higher than that of their male colleagues (p<.001). Nursing staff in hospitals were on average significantly younger than staff in nursing homes and home care institutions (p<.001).

Table 2. Participants in Germany by type of institution, gender and age.

type of institution		n	%	mean age	stdev. age
hospital	female	2,159	81.5	38.2	9.3
	male	491	18.5	38.5	8.5
	all	*2,650*	*100.0*	*38.3*	*9.2*
nursing home	female	477	88.0	42.9	9.4
	male	65	12.0	40.1	10.1
	all	*542*	*100.0*	*42.6*	*9.6*
home care	female	327	92.1	41.6	9.0
	male	28	7.9	40.3	10.0
	all	*355*	*100.0*	*41.5*	*9.1*
all	*female*	*2,963*	*83.5*	*39.3*	*9.5*
	male	*584*	*16.5*	*38.8*	*8.8*
all	*all*	*3,565*	*100.0*	*39.2*	*9.4*

Intent to leave

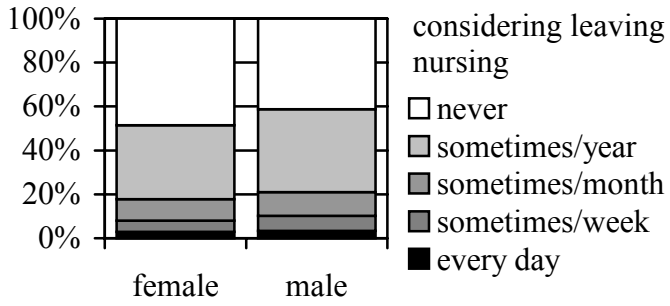
Of the 3,565 respondents, 8.4% of all participants thought of giving up nursing completely ('intent to leave', ITL) '*several times per week'* or *'daily'*, an additional 10% had considered this '*several times per month'* (Table 3). However, ITL varied with respect to a) gender, b) age, c) type of institution, d) qualification, e) seniority, f) health and work ability, and g) exhaustion ('burnout'). Below, these aspects will be looked at in relation to 'intent to leave the profession'.

Table 3. Response distribution to the question: 'How often during the course of the past year have you thought about giving up nursing completely?'. (337 'not applicable', 97 missing values)

response category	frequency	percent
never	1,482	47.3
sometimes/year	1,073	34.2
sometimes/month	312	10.0
sometimes/week	171	5.5
every day	93	3.0
all	*3,131*	*100.0*

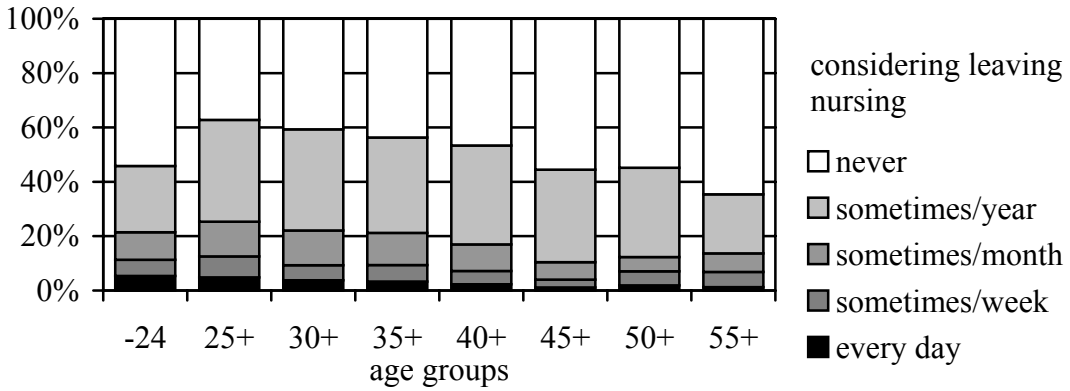
a) Gender. Male respondents had a somewhat higher tendency to consider leaving their profession (Figure 1). However, this effect was not significant. The gender differences were mainly due to the age groups from 25 to 40 years, where 'intent to leave the profession' was more prevalent in men than in women. It did not depend on the level of nursing qualification.

Figure 1. Response by gender: 'How often during the course of the past year have you thought about giving up nursing completely?'. (n=3,127, n_{women}=2,597, n_{men}=530)



b) Age. Age was clearly associated with intent to leave (Figure 2), however, not in a linear way. Younger nurses showed a higher intent to leave with maximum levels in the age groups of 25 to 29 years. Nursing staff between 45 and 49 years of age considered leaving their profession the least. Different patterns were observed when differentiating between the types of institutions: In nursing homes and in home care, the younger participants considered leaving their profession much less often and older much more often than those working in hospitals.

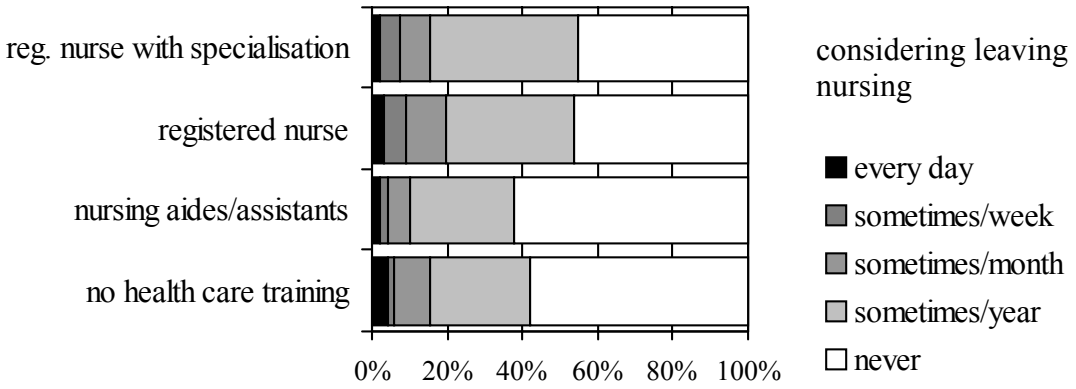
Figure 2. Response by age: 'How often during the course of the past year have you thought about giving up nursing completely?'. (n_{total}=3,537, n_{-24}=144, n_{25+}=454, n_{30+}=398, n_{35+}=609, n_{40+}=613, n_{45+}=450, n_{50+}=268, n_{55+}=161)



c) Type of institution. Nursing staff in hospitals considered leaving nursing to a higher extent (19.1% considering this often) than those working in nursing homes (15.6%) and home care institutions (10.8%). However, the difference between the type of institutions was not significant. In order to investigate differences between single institutions, those 47 institutions with 10 or more respondents were analysed: There, the proportion of nursing staff considering leaving the profession *several times per month or more often* ranged from 0 to 50.0% (median 16.7%). In two institutions none of the participants considered leaving the profession *several times per month or more often*. They were, however, small institutions with 12 and 19 respondents, respectively. Otherwise, the rate varied substantially – even between larger institutions. For example, in one institution, exactly half of the 36 participants considered leaving the profession often (50%), whereas in another institution only five out of 107 participants (4.7%) had thought about this option. This implicates that there are 'attractive' institutions even with respect to the aspect 'intent to leave the *profession'*. Indeed, in institutions with a low proportion of nurses who often consider leaving the profession, the mean values were higher for e.g. *job satisfaction* (r=.51), *quality of leadership* (r=.45) and the *quality of interpersonal relations* (r=.44). Furthermore, lower mean values were found for relevant factors such as the *effort reward ratio* (r=.50, see chapter 14) and the *work-home conflict* (r=.41, see chapter 9) *(Pearson correlation for aggregated data on institution level, all p<.001).*

d) Qualification level. The wish to leave the profession was most pronounced among registered nurses and registered nurses with additional specialisation (Figure 3). Age could not account for these differences because this observation was similar for all age groups (not shown).

Figure 3. Level of qualification by 'intent to leave'.
(n_{total}=3,015, $n_{reg.\ nurse\ with\ spec}$=568, $n_{reg.nurse}$=2,163, n_{aides}=213, $n_{no\ training}$=71)



e) Seniority. The wish to leave the nursing profession seems to be prevalent already at the start of the professional career of nurses ('occupational seniority', Figure 4). In our sample it culminated in the second and 4th year (without years of education). Then, it slightly decreased. This was the case both for women and men. Duration of employment in the institution (institutional seniority) was also associated with ITL. Those with higher institutional seniority considered leaving their profession less frequently (Figure 5).

Figure 4. Occupational seniority (without years of nursing education) in relation to 'intent to leave nursing'. (n_{total}=3,131, n_{1year}=153, n_{2years}, 162, n_{3years}=156, n_{4years}=149, n_{5years}=156, $n_{6\text{-}10years}$=650, $n_{11\text{-}15years}$=584, $n_{16+years}$=314)

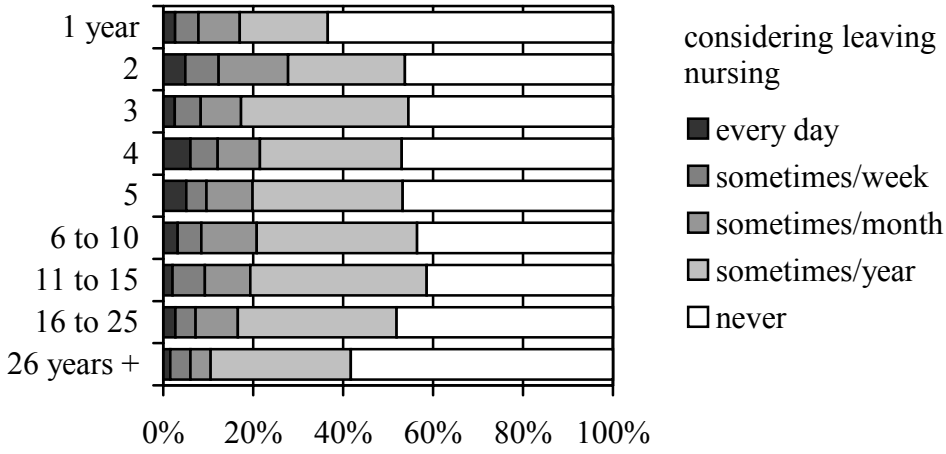
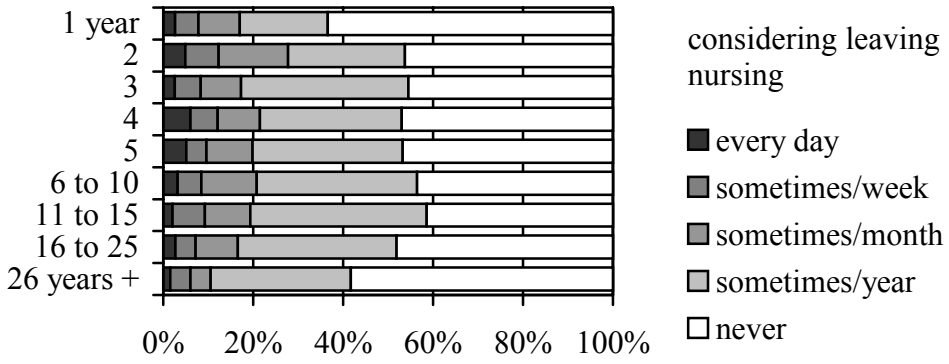


Figure 5. Institutional seniority in relation to 'intent to leave nursing'. (n_{total}=3,113, $n_{<6months}$=117, $n_{6\text{-}12months}$=138, $n_{1\text{-}2years}$=367, $n_{3\text{-}5\ years}$=522, $n_{>5years}$=1,969)

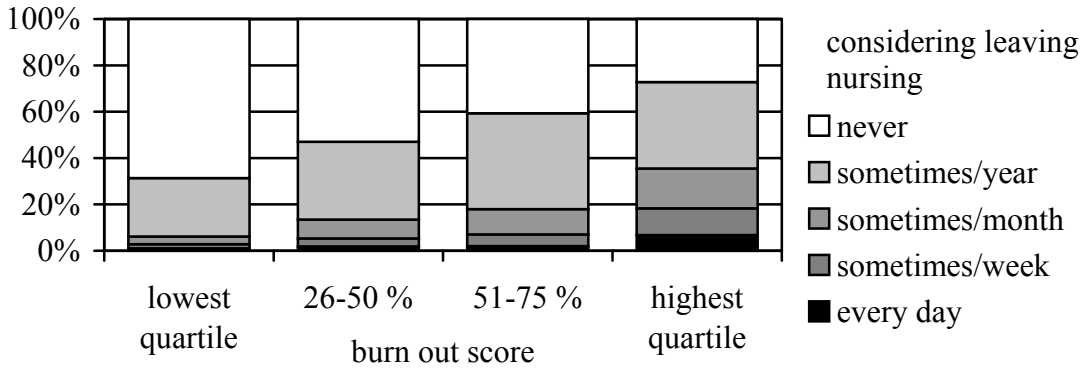


f) Health and work ability. Health and work ability were found to be predictors of 'intent to leave health care'. Low self rated health (not shown) and low work ability (Figure 6) was associated with a higher intent to leave the nursing profession. This was the same for men and women.

Figure 6. Work Ability Score (WAI) in relation to 'intent to leave nursing'. (n_{total}=2,975, $n_{wai\text{-}28\ (poor)}$=213, $n_{wai\text{-}36\ (moderate)}$=440, $n_{wai\text{-}43\ (good)}$=1,801, $n_{wai\text{-}44+\ (excellent)}$=521)

g) Exhaustion. Burnout as an indicator for mental exhaustion was also clearly associated with intent to leave the profession (Figure 7). This was the case for both women and men. The association was more pronounced among qualified nurses than among those with low or no nursing qualifications. In spite of high burnout levels, the latter were far less inclined to consider leaving the nursing profession. The pattern of associations between burnout and ITL was identical in all institutions, however, the increase was highest in nursing home staff.

Figure 7. Burnout in relation to 'intent to leave nursing'.
(n_{total}=3,097, $n_{lowest\ quarilet}$=664, $n_{26\text{-}50\%}$=957, $n_{51\text{-}75\%}$ =696, $n_{highest\ quartile}$=780)



Discussion

Our results indicate that German nursing staff are rather attached to their profession. Nevertheless, the *intense* consideration to leave the nursing profession is considerable at 18.5%. Among those wanting to leave, two risk groups emerge: the *motivated* leaver (young, well educated) and the *resigning* leaver (bad health, low work ability, burned out). From an organisational point of view, the first group may be an important target group.

The commitment of nursing staff to their profession may be regarded as a positive sign and as a fortunate opportunity for German health care. There seems to be a high potential to remain in the profession which might be taken advantage of for as long as possible. The NEXT data may help to select targets to focus on for intervention.

In this contribution, we have described the situation of nursing staff and highlighted strong associations between intent to leave and some significant exposure and outcome variables. We have shown that there are 'attractive' and 'unattractive' institutions. For interventive action, a more differentiated view will be necessary, looking closer at institutions, at subgroups and at possible risk groups. Furthermore, multivariate analysis will be necessary to assess the interaction of exposure variables.

In this cross sectional part of the NEXT-Study, we cannot estimate the role of the healthy worker effect. The future parts of the NEXT-Study need to be awaited to assess the size and role of actual departure from the nursing profession and its association with exposures, outcomes and 'intent to leave'.

References

Altenheim Adressbuch 2001. Hannover: Vincentz Verlag.

Berufsgenossenschaft für Gesundheitsdienst und Wohlfahrtspflege – BGW & Deutsche Angestelltenkrankenkasse – DAK (2001) *BGW-DAK Gesundheitsreport 2001*. Hamburg: BGW.

Bundesinstitut für Berufsbildung – BIBB & Institut für Arbeitsmarkt- und Berufsforschung – IAB (2002) *Arbeitssituation, Tätigkeitsprofil und Qualifikationsstruktur von Personengruppen des Arbeitsmarktes. BIBB/IAB-Erhebung 1998/99*. Nürnberg: IAB

Bundesministerium für Familie, Senioren, Frauen und Jugend – BMFSFJ (2002) *Qualitätsmängel und Regelungsdefizite der Qualitätssicherung in der ambulanten Pflege*. Stuttgart: Kohlhammer-Verlag.

Deutsches Institut für angewandte Pflegewissenschaft e.V. – dip & Forschungsgruppe Metrik (2003) *Pflegethermometer 2003*. Köln: dip.

Deutsches Institut für angewandte Pflegewissenschaft e.V. – dip (2002) *Pflegethermometer 2002*. Köln: dip.

Deutsches Krankenhaus Adressbuch 2001. Freiburg: Rombach Druck & Verlagshaus.

Deutsches Krankenhaus Institut – DKI (2003) *Krankenhausbarometer 2002*. Bonn: DKI.

DM Werbetechnik (2002) *Verzeichnis ambulanter Pflegedienste 2001*. http://www.pflegedienst.org./DB/: last access: 04-16-2002.

Hasselhorn HM, Tackenberg P, Müller BH (2003) Vorzeitiger Berufsausstieg aus der Pflege in Deutschland als zunehmendes Problem für den Gesundheitsdienst - eine Übersichtsarbeit. *Gesundheitswesen* 65:40-46

Mezger M (2003) Personalsituation - und täglich grüßt der Stellenabbau? *Die Schwester/Der Pfleger* 7(42):546-549.

Ministerium für Frauen, Jugend, Familie und Gesundheit des Landes Nordrhein-Westfalen – MFJFG NRW (2001) *Landesberichterstattung Gesundheitsberufe NRW 2001. Situation der Ausbildung und Beschäftigung.* Düsseldorf: MFJFG NRW.

Statistisches Bundesamt Deutschland – destatis (2001) *Krankenhäuser in Deutschland bezogen auf die Einrichtungsgröße*. http://www.gbe-bund.de

Statistisches Bundesamt Deutschland – destatis (2002a) *Gesundheitspersonal nach Berufen.* http://www.destatis.de: last update 04-24-03.

Statistisches Bundesamt Deutschland – destatis (2002b) *Mikrozensus (2000).* http://www.destatis.de: last update 04-24-03.

Statistisches Bundesamt Deutschland – destatis (2002c) *Gesundheitspersonal nach Berufen*. http://www.destatis.de: last update 04-24-03.

Zimber A (2003) Arbeit und Gesundheitsschutz. *Pflege aktuell* 7/8:380-384, 2003.

18 Intent to leave nursing in Finland

Marjukka Laine, Jaana Pentti and Gustav Wickström

Introduction

In 2001, there were 120,000 employees working in the nursing professions in Finland (Tilastokeskus, 2002 [Statistics Finland 2002]). Of them, 45% worked in hospitals, more than a third in institutional long-term care, and nearly one fifth in primary health care (out-patient care) (Wickström et al., 2000). The main professional categories were registered nurses, including also public health nurses and midwives, and practical nurses (the basic vocational qualification in social and health care). The shares of these two categories were 48% and 47% of the active work force in nursing, respectively, while the share of nursing aides was 5%. The main employers of the nursing work force are municipalities: 80-85% of the nurses work either for municipalities or municipal federations. (Tilastokeskus, 2002 [Statistics Finland 2002].)

In recent years, there has been a lot of debate in Finland about the functioning of health care, especially about the public health care services, as well as about the need for additional resources. The service system is constantly under pressure: the increasing proportion of citizens aged 80 years or more will increase the need for care. Long-term unemployment, displacement and increasing drug abuse also increase the challenges of the social and health care services. At the same time, the technical development of diagnostic and therapeutic procedures continues to increase the costs.

During the 1990's, the average age of the staff in health care services rose as only few young employees were hired during that period. In the near future, many employees will reach retirement age. Thus, there is a need to increase the number of trainees in several social and health care professions, for example, many more registered nurses, public health nurses and practical nurses will be needed. More employees are needed especially to provide the care services needed by people aged over 65. (Sosiaali- ja terveysministeriö, 2001 [Ministry of Social Affairs and Health 2001].)

The attraction of the branch has traditionally been strong among young people, and there have always been more applicants for the training than can be accepted. In recent years, however, the number of applicants has decreased, although there is not yet a lack of qualified applicants. (Opetushallitus, 1999-2002 [National Board of Education 1999-2002].)

The turnover rate among nurses has been rather stable during the 1990's. According to drop-out figures, the annual turnover rate was about 10% among

municipal social and health care employees (Sosiaali- ja terveysministeriö, 2001 [Ministry of Social Affairs and Health 2001]). About 5% of the nurses trained in Finland work abroad; the number returning each year is roughly the same as that of those leaving (Vaalgamaa and Ohtonen, 2002).

To ensure the availability and quality of health care services in the future, an important challenge is the availability of competent personnel. This requires making the field more attractive to young people, and actively supporting the work ability and motivation of those presently working in the field. To keep the employees in health care work, it is important to investigate the reasons and the circumstances for premature departure from the nursing profession. The NEXT-Study is the first research project directed towards this issue on a national scale in Finland. It is conducted by the Finnish Institute of Occupational Health.

Methods

Defining the sample size and collecting the sample

In order to obtain a geographically representative survey sample, in relation to the type of institution, and in relation to the distribution of employees in the municipal and private sector, the following decisions were made:

1) The size of the sample was set at 5000, so that with a turnover rate of 10%, 500 leavers could be covered by the study.
2) Six geographical areas (hospital districts) were selected from different parts of the country: Lapland in the North, the Vaasa district in the West, the district of Central Finland, North Karelia in the East, the Turku district in the South-West, and the Helsinki district in the South.
3) On the basis of available statistics, calculations were made to determine the right proportion of nurses to be approached in the municipal and private sector in each district.

Recruitment of institutions

The addresses of the municipal and private out-patient health care institutions, hospitals, health centre wards, old people's homes and nursing homes in these districts needed for recruiting the institutions were obtained from the registers. The matrons or equivalent in all hospitals and municipal health centres in the selected districts were contacted by post and asked about the willingness of their institution to participate in the study. The matrons or the managers of long term care institutions and private ambulatory care organisations were approached in the same way. These institutions were chosen from different districts either randomly or according to their size.

Some types of institutions were slightly over-represented (hospitals and health centres), and others under-represented (nursing homes and old people's homes), although a second approach round was made to get more institutions to partici-

pate. In the final selection of institutions to be included, also the requirements that the sample should represent organisations of different sizes as well as possible, and that the organisations should be owned either by one single municipality or municipal federations were taken into account.

The final group of participating institutions thus consisted of four university hospitals, three central hospitals, three regional hospitals, one rehabilitation centre, 14 municipal health centres, 10 private out-patient care organisations and 30 long term-care institutions (both municipal and private). In the large organisations, the number of staff to be included in the study was limited to 300-600 for each organization. In the other institutions, all employed nursing staff was included in the study base. Eight institutions withdrew from participation in the study at the beginning. When it was time for the institutions to deliver the first lists of nurses the contact persons did not do so, either referring to too much work already, or not giving any explanation at all. To obtain an adequate number of nursing staff in spite of this, the number of staff to be included in the study was increased in the large organisations in these districts.

The contact persons of the participating institutions delivered the lists of nurses' names to the research group. The questionnaires were sent either by post to the respondents' home address or to the workplace where the contact person delivered them to the respondents. Each nurse returned the filled-in questionnaire herself by mail to the Institute of Occupational Health. Every respondent was given a personnel identification code and the code was added to each form to assure the linkage of same respondent's various questionnaires.

The study base represents the Finnish nursing staff well. Nurses working in hospitals and in long-term care wards were slightly over-represented in the sample (52% in the NEXT sample vs. about 50% in Finland), slightly under-represented in out-patient care (32% vs. 35%), and correctly represented in nursing homes and in old people's homes (16% vs. 15%-20%). As to the age distribution of the sample, the proportion of nurses aged 45 years or over was slightly higher in the sample (48%) than in the national distribution (42%), while the proportion of the youngest nurses (under 25 years) was smaller (3% in the sample vs. 8% in the country). When comparing respondents' professions to the national distribution of health care professions, it can be seen that the profession of 'nursing and midwifery' is notably over-represented (58% vs. 49%), while the group of practical nurses (37% vs. 43%) as well as nursing aides (5% vs. 9%), is under-represented.

Participation

In Finland, 3,970 nurses out of 5,158 answered the questionnaire (77%). The response rate varied only a little between various care sectors. It was highest among those who worked in old people's homes and nursing homes (82%) and

lowest in hospitals (74%). The response rate was excellent (98%) in the institutions where the number of personnel was under 10, and lower in large institutions (73%).

The number of various types of health care organisations participating in the study, and the number of respondents in each type of organisation are presented in Table 1.

Table 1. Overview of participating institutions and staff.

institution	number of institutions	n staff approached	n staff responded	response rate	range of response rates
university hospital	4	1,301	958	73.6 %	67.5%-76.0 %
central hospital	3	1,156	831	71.9 %	65.7%-78.3 %
regional hospital*	4	489	391	80.0 %	74.7%-95.0 %
municipal health centre**	14	1,516	1,189	78.4 %	65.9%-100 %
private out-patient care institution	10	130	121	93.1 %	88.5%-100 %
nursing home/old people's home	30	566	462	81.6 %	28.6%-100 %
institute unknown			18		
all	*65*	*5,158*	*3,970*	*77.0 %*	*28.6%-100 %*

* (including also one rehabilitation centre) **(including out-patient care and in-patient care)

Data entry was done by optical reader. Implausible answers (e.g. year of birth 1910) were treated as missing values.

Statistical analysis

The data analysis was carried out with SPSS 11.5. The significance of the differences in prevalence was calculated by Chi^2-test and in means by two-factorial ANOVA.

Results

Nearly 70% of the respondents worked in hospitals or in hospital-type wards (municipal health centre wards), 16% in nursing homes or in old people's homes, and also 16% in out-patient care, either in municipal or private health centres (Table 2). Of the respondents, 95% were women. Nearly 60% of the respondents had a post-secondary or higher vocational level training (nurses, specialized nurses and midwifes), 37% of the respondents had an upper secondary level

training (called here ‘practical nurse’), and 5% were nursing aides, who have a shorter than one year training or no official health care training at all.

The mean age of the respondents was 43.9 years. Almost half of the respondents were 45 years or older. The institutions did not differ as to age. The mean age of women was 44, while it was 39 for men. The mean age of women was significantly higher than that of men in all three types of organizations (two-factorial ANOVA effect for gender ($F(1/3,874)=33.039$, $p<.001$)).

Table 2. Participants in Finland by type of institution, gender and age.

type of institution		n	%	mean age	stdev. age
hospital	female	2,485	94.3	43.7	9.91
	male	149	5.7	39.1	8.25
	all	*2,634*	*100.0*	*43.5*	*9.88*
old people’s homes	female	593	96.0	44.1	10.33
	male	26	4.0	36.7	10.77
	all	*619*	*100.0*	*43.8*	*10.45*
primary out-patient care	female	609	97.1	45.9	8.98
	male	18	2.9	39.8	9.16
	all	*627*	*100.0*	*45.8*	*9.03*
all	*female*	*3,687*	*95.0*	*44.2*	*9.86*
	male	*193*	*5.0*	*38.7*	*8.70*
all	*all*	*3,880*	*100.0*	*43.9*	*9.87*

Intent to leave

Of the 3,920 respondents, 5.8% thought of giving up nursing completely (‘intent to leave’, ITL) *sometimes a week* or *daily*, and 8.4% considered this *sometimes a month* (Table 3).

Table 3. Response distribution to the question ‘How often during the course of the past year have you thought about giving up nursing completely?’. (50 missing)

answering category	frequency	percent
never	1,898	48.4
sometimes/year	1,466	37.4
sometimes/month	329	8.4
sometimes/week	146	3.7
every day	81	2.1
all	*3,920*	*100.0*

ITL varied with respect to gender, age, type of institution, seniority, health and work ability, and exhaustion (‘burnout’). These aspects are related to ‘intent to

leave the profession'. Where appropriate, the sample was dichotomised with respect to the intensity of thinking about leaving the profession. Those thinking of this 'sometimes a month' or more often (14%) were compared to those considering it less often (86%).

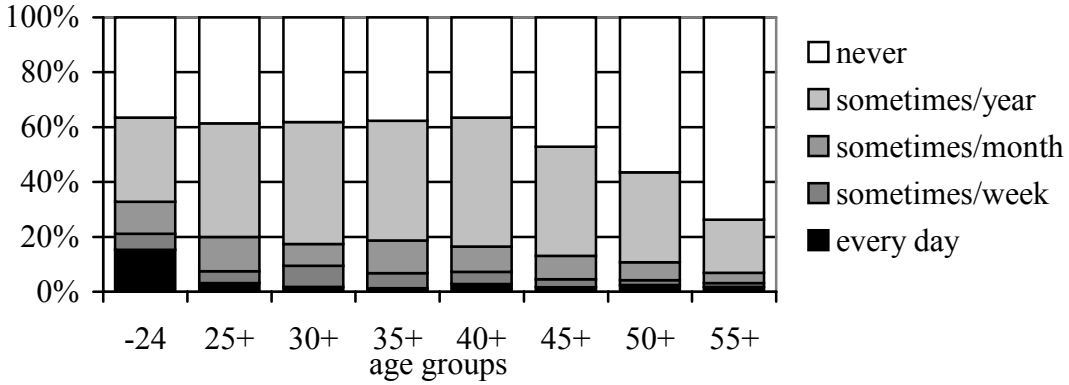
Intent to leave by gender and age

Men considered leaving their profession more often than women (Chi^2, $p<.01$). This was the case for the total sample, but not in all types of institutions; only in hospitals.

Figure 1. Response by gender: 'How often during the course of the past year have you thought about giving up nursing completely?'. ($n=3,911$, $n_{women}=3,714$, $n_{men}=197$)

Age was clearly associated with ITL (Figure 2). Nurses in the younger age groups (<30 years) were the most willing to leave, while nurses in the age group of 55 years and above considered it most rarely. The correlation was strong and linear in hospitals, and strong but non-linear in nursing homes, while in primary out-patient care, ITL did not correlate at all with age. The correlation between age and ITL explains the gender difference as to intent to leave: male nurses were significantly younger than female ones.

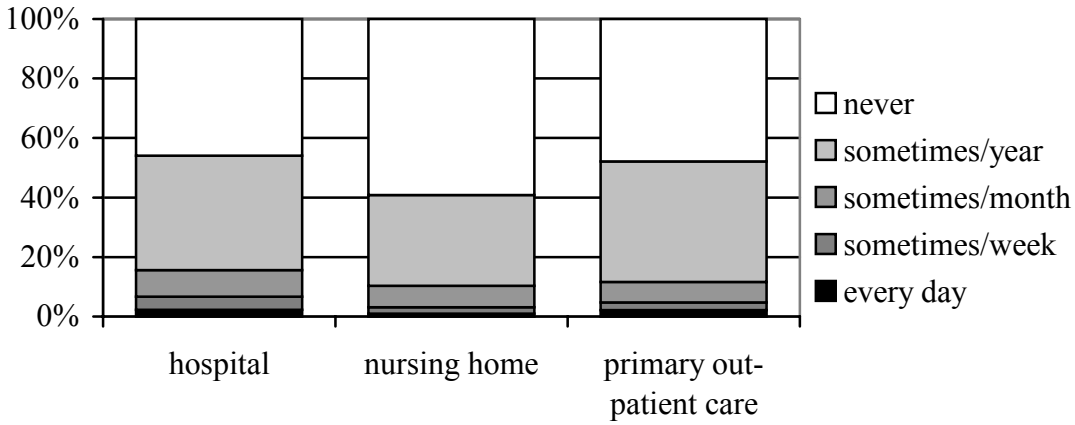
Figure 2. Response by age: 'How often during the course of the past year have you thought about giving up nursing completely?'. (n_{total}=3,883, n_{-24}=59, n_{25+}=370, n_{30+}=351, n_{35+}=469, n_{40+}=677, n_{45+}=678, n_{50+}=615, n_{55+}=664)



Intent to leave by type of institution

The difference in ITL between the types of institutions was significant (Chi^2, p<.001). Nursing staff in hospitals more often considered leaving nursing (16% had thought about it at least sometimes a month) than nurses working in primary out-patient care (12%) and nursing homes (10%) (Figure 3).

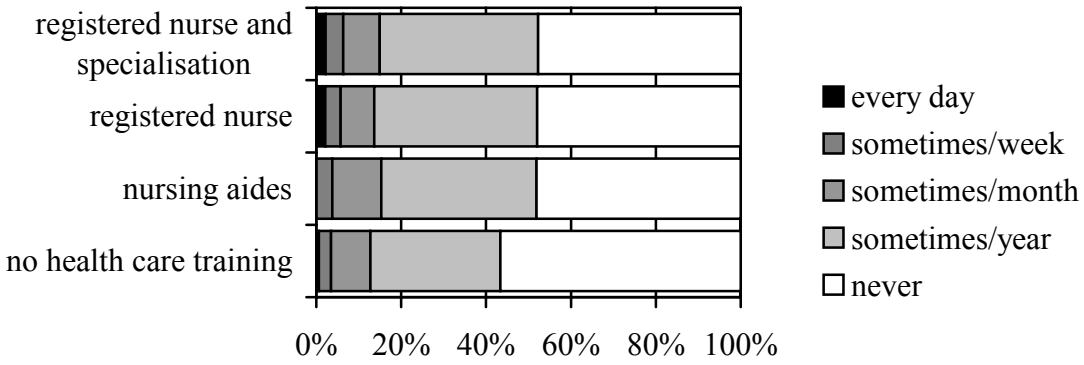
Figure 3. Frequency of 'intent to leave the nursing profession' by type of institution. (n_{total}=3,879, $n_{hospital}$=2.641, $n_{nursing\ home}$=612, $n_{primary\ out\text{-}patient\ care}$=626)



Intent to leave by qualification level

The qualification, when comparing the levels presented in Figure 4, was not associated with ITL. When practical nurses (n=1,182) were separated out of the nurses who have the qualification of post-secondary or polytechnic level, there was a difference between these two groups: practical nurses were less willing to leave their profession than the higher qualified registered nurses.

Figure 4. Level of qualification by 'intent to leav'. (n_{total}=3,819, $n_{nurse+spec}$=1,517, $n_{reg.nurse\ (including\ also\ practical\ nurses)}$=2,077, n_{aides}=52, $n_{no\ training}$=173)



Intent to leave by seniority

The thoughts about leaving nursing were most common in the beginning of the nursing career (among those who had worked 1 to 3 years in their profession) (Figure 5). After this, intent to leave was somewhat lower, remaining rather stable until it decreased in the two groups with the highest seniority. The association was significant (Chi^2, p<.001). Among men, ITL did not correlate with seniority (because there were so few respondents in some groups, the seniority categories were combined into three groups for comparisons: 1 to 5 years of seniority, 6 to 15 years, and over 15 years).

Seniority in the institution also correlated with ITL (Chi^2, p<.01) (Figure 6). Nurses with least or most seniority thought about leaving less often than others.

Figure 5. Occupational seniority (excluding time for nursing education) in relation to 'intent to leave nursing' (n_{total}=3,920, n_{1year}=105, n_{2years}=146, n_{3years}=149, n_{4years}=173, n_{5years}=140, $n_{6-10years}$=615, $n_{11-15years}$=626, $n_{16-25years}$=1,190, $n_{26+years}$=776)

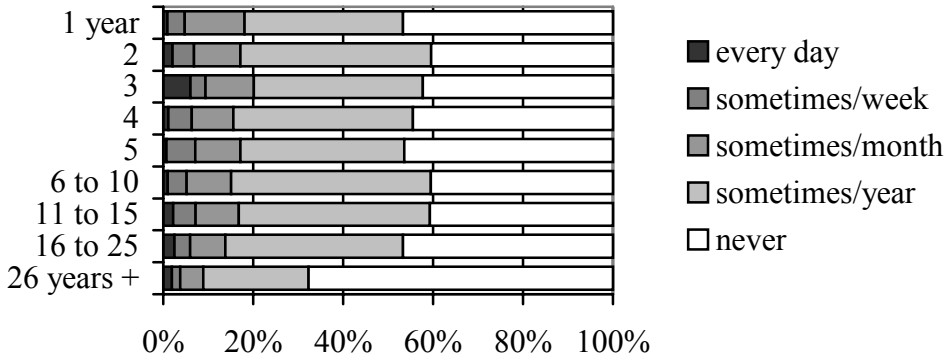
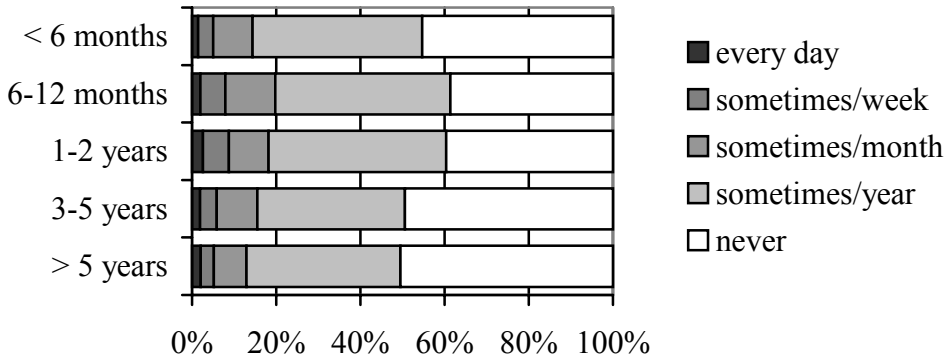


Figure 6. Institutional seniority in relation to 'intent to leave nursing'. (n_{total}=3,916, $n_{<6month}$=139, $n_{6-12month}$=202, $n_{-2years}$=424, $n_{3-5years}$=425, $n_{>5years}$=2,726)



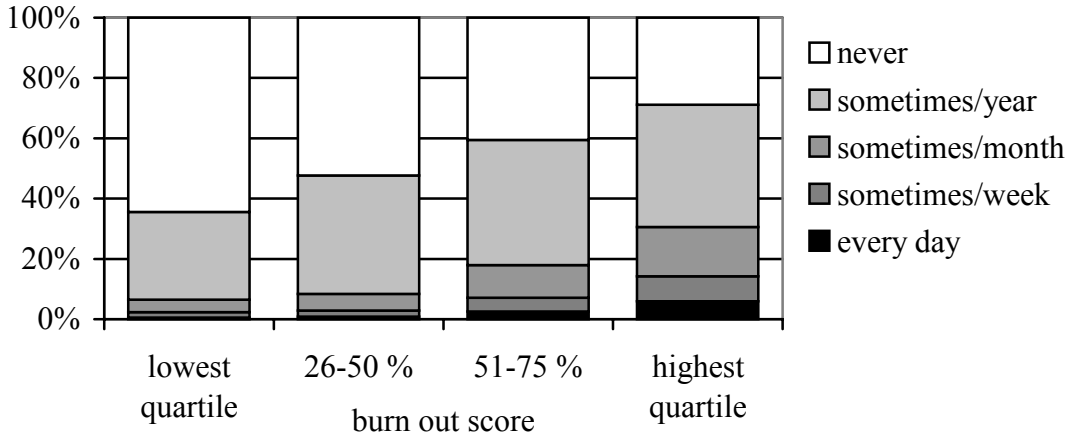
Intent to leave by health and work ability, and exhaustion

Work ability and health were associated with intent to leave, especially among women. Low work ability (Figure 7) and low self-rated health correlated with higher intent to leave nursing.

Figure 7. Work Ability Score (WAI) in relation to 'intent to leave nursing' (n_{total}=3,706, $n_{wai-28\ (poor)}$=149, $n_{wai-36\ (moderate)}$=330, $n_{wai-43\ (good)}$=2,154, $n_{wai-44+\ (excellent)}$=1,073)

Burnout as an indicator of mental exhaustion correlated significantly with intent to leave the profession (Figure 8), among both women and men, but not in all qualification level groups. Registered nurses and specialized nurses with higher burnout levels reported higher intent to leave than those with low burnout levels. No correlation between burnout and ITL was found among the respondents with lower or no nursing qualification

Figure 8. Burnout in relation to 'intent to leave nursing'. (n_{total}=3,880, $n_{lowest\ quartile}$=1,046, $n_{26\text{-}50\%}$=1,057, $n_{51\text{-}75\%}$=1,153, $n_{highest\ quartile}$=624)



Discussion

Intent to leave the nursing profession is not common among nursing staff in Finland. Altogether 86% of nurses had thought about it only sometimes a year or never. In spite of various stress factors in nursing work (haste, physical load, low possibilities to affect one's work) (Piirainen et al., 2003, Wickström et al., 2000), most nurses seem to be satisfied and motivated in their work. However, according to the results of this study, some findings can be highlighted. Thoughts about leaving are more common among men, among younger nurses, among those working in hospitals, among those with higher qualification, and among nurses with decreased health and work ability, and higher levels of exhaustion.

When comparing the genders it must be taken into account that the share of men was only 5%. As the tasks of the male nurses are somewhat different from those of female nurses, many of them working in first-aid outpatient departments or mental hospitals (Tilastokeskus, 2003 [Statistics Finland 2003]), this gender difference may be related to work tasks. Male nurses may also have better possibilities to find another job, perhaps with a better salary, as they are in shorter supply than female nurses. Moreover the younger age of male nurses may have an effect on this.

It is not surprising that the young nurses are most inclined to leave nursing, as they are still seeking their role in working life. Those who stay in the field do so because they like the work or do not see suitable alternatives. Why intention to leave did not correlate with age in primary out-patient care is an interesting question. Possibly, the tasks are more suitable for younger employees than for older ones. Hospitals may be looked upon as large organizations where the task of an individual employee is to promote the function of the whole organization in

a certain place. As the turnover rate of patients rises, the possibilities to get to know individual patients decrease. This may reduce work satisfaction.

With this first report on the basic assessment of the NEXT-Study, we have highlighted the question of intent to leave the nursing profession. However, more analysis is needed to find out the determinants of ITL. The following step in the study will be to look at the forthcoming results of the longitudinal assessment by which it will also be possible to find out whether there are actual leavers from nursing work.

References

Tilastokeskus. *Työvoimatutkimuksen aineistot vuosilta 2001-2003*. [Statistics Finland 2001-2003.]

Wickström G, Laine M, Pentti J, Elovainio M, Lindström K (2000) *Työolot ja hyvinvointi sosiaali- ja terveysalalla - muutokset 1990-luvulla*. Työterveyslaitos, Helsinki. [Finnish Institute of Occupational Health, Helsinki.]

Sosiaali- ja terveysministeriö (2001) *Sosiaali- ja terveydenhuollon työvoimatarpeen ennakointitoimikunnan mietintö*. Komiteanmietintö 2001:7, Helsinki. [Ministry of Social Affairs and Health. Report by the Committee on Estimation of Labour Demand in Social Welfare and Health Care. Committee report 2001:7.]

Opetushallitus 1999-2002 [National Board of Education 1999-2002] *Yhteishaun ensisijaisesti hakeneet ja aloittaneet koulutusaloitain ja opintoaloittain vuosina 1998-2001*. Yhteishakujärjestelmien rekisterit.

Piirainen H et al. (2003) *Työ ja terveys -haastattelututkimus v. 2003*. Työterveyslaitos, Helsinki (painossa). [Work and Health survey 2003, Finnish Institute of Occupational Health, in press.]

Vaalgamaa K, Ohtonen J (2002) *Terveydenhuollon ammattihenkilöt 31.12.2001.* Tilastoraportti 5/2002, Stakes [National Research and Development Centre for Welfare and Health].

19 Intent to leave nursing in France

Madeleine Estryn-Behar[1], Olivier Le Nézet[1], Anne Affre[2], Patricia Arbieu[3], Monique Bedel[3], Nicole Bonnet[2], Francis Derrienic[2,,] Catherine Fayet[3], Gilles Gadier[3], Marc Loriol[2], Roger Salbreu[2], Eric Ben-Brick[1], Jean-François Caillard[2] and the PRESST-NEXT-Study's follow-up committee.

[1] Service central de médecine du travail de l'AP-HP, Hôtel-Dieu, 1, place du parvis Notre Dame 75004 Paris France. [2]Research and occupational health institutions (NDBS, INSERM, CNRS, AIRHM, CHU Rouen) [3] Trade unions (CGT, CFTC, SUD, FO)

Introduction

According to the national statistics of health care institutions (Statistique annuelle des établissements de santé SAE, Thomson, 1999), 655,312 paramedical health care workers (HCW) salaried in medico-social old peoples' homes belonging to an hospital of the public sector are also included in the SAE. This is not the case of public medico-social institutions not linked to an hospital, of those taking care of old people and belonging the a local or regional state administration (statut de fonctionnaires Titre II et III). All medico-social workers of the private sector are not included in the SAE. The last exhaustive study by the DREES about medico-social and social institutions taking care of old people was analysed in 1996. That study is based on 212,402 worker (Audric & Niel, 2002). Among them, 140,587 are paramedical HCWs, of whom 34,485 are included in SAE. So, the total of paramedical health care workers and midwifes, makes a total of 763,847 health care workers in France. We have no official data to analyse the probable increased in the paramedical sector between 1996 and 1999 (Sicart, 2001).

Table 1. Repartition of paramedical HCWs Medical and medico-social sectors.

	publics institutions	private institutions	total sae (medical sector)	total not sae (medic. social sector)	total
head nurses	25,175	7,541	32,716 (5.0%)	720 (0.7%)	33,346 (4.4%)
state registered nurses	190,323	65,465	255,788 (39.0%)	8,430 (7.8%)	264,218 (34.6%)
nurse's auxiliaries	165,014	48,020	213,034 (32.4%)	29,624 (27.3%)	242,658 (31.8%)
agents (ash)	76,747	34,429	111,176 (17.0%)	66,328 (61.1%)	177,504 (23.2%)
others & psychol.	19,743	12,281	32,024 (4.9%)	3,433 (3.2%)	35,457 (4.6%)
midwifes	7,224	3,350	10,574 (1.6%)	10,574 (1.4%)	
total sae	*484,226*	*171,086*	*655,312*		
total not sae	*46,235*	*63,300*		*108,535*	
total general	*530,461*	*224,386*			*763,847*

The main professional categories were registered nurses and Nursing aides, comprising 34.6% and 31.8% respectively of the active work force in nursing. Staff with no health care training (agents de service hospitalier=ASH) counted for 23.2%. Head nurses counted for 4.4%, other qualifications, such as social workers, psychologists, physiotherapists, counted for 4.6%, midwives for 1.4%.

It may well be said, that the French health care sector is currently under transition, with reorganisation (Fessler & Frutiger, 2003), higher work density and debate about appropriate nursing staffing levels particularly after the high number of death during the hot climate in august 2003.

In the last decade, the working conditions of the nursing profession have continued to change in France. Recent studies show that both the physical and the psychosocial workload has increased (Estryn-Béhar, 1996; Estryn-Béhar et al., 2001). The shortage of nurses are issues high on the agenda of the French health care system. A promising way of assuring premature departure from the nursing profession might be to enable nursing staff to remain longer in their profession.

The NEXT-Study is being conducted by one institution, the Service Central de Médecine du Travail de l'Assistance Publique Hôpitaux de Paris. In order to understand the advantages and the particular difficulties of the various medical and social institutions in which HCWs practice, we created a follow-up committee composed of representing persons the various social partners and decision makers of the French health care system.

Methods

Recruitment of institutions

In order to represent the diversity of the occupational conditions in the French territory, we selected five different regions to create a partnership for a longitudinal study. These regions are distributed in the north as well as in the south of France and show specific characteristics in relation to this study. The Languedoc Roussillon region is a very sunny area where the proportion of people over 70 years of age is particularly high. It is an area which HCWs do not often leave. It is close to Spain, a country which could provide health care workers due to the transborder working agreements. The Rhone-Alps region is next to Switzerland, a country known to attract French health care workers due to its high wages. The Poitou Charente and Upper Normandy areas are two provincial regions in which health care workers remain to preserve contact with their families. These areas are located in the north and centre of France. Finally, the Ile-de-France region was retained for its large population, in Paris and the suburbs, and for its eminent role in the training of health care workers who come to the region to study but then leave rather quickly. In each area, a sample of the various types of institutions was chosen with the assistance of the governmental agency in charge of hospitalisation. The 56 institutions where selected to provide a sample represen-

ting the diversity in proportion to each type of structure of health care workers in France (Table 2). Questionnaires were sent by the post office to all health care workers remunerated by these institutions by October 1, 2002. The envelope that each health care worker received in its residence contained the questionnaire accompanied by a page of explanation and a prepaid envelope, addressed to the research team. Complete anonymity was thus preserved.

Table 2. Comparison of the sample with the repartition of the total HCWs in France.

type of institutions	national		questioned sample		responding sample	
public curative institutions	484,226	(63.7%)	10,150	(78.0%)	4,153	(77.3%)
private non commercial	80,209	(10.5%)	1,031	(7.9%)	502	(9.3%)
private commercial	90,877	(12.0%)	1,000	(7.7%)	378	(7.0%)
public caring institutions	34,704	(4.6%)	23	(0.2%)	9	(0.2%)
private caring institutions	70,398	(9.3%)	813	(6.2%)	334	(6.2%)
total	*760,414*		*13,017*		*5,376*	

Participation

The response rate, by institution, was unequal, 16 institutions had a response rate over 50% (among them 8 over 60%), 25 institutions between 30% and 50% and 14 under 30%. But the distribution of health care workers in the various structures was preserved (Table 1) We compared the answers of HCWs to 20 major questions, in the three groups. Only one of the 20 major questions used was significantly different. So we analysed the whole sample which finally relates to the answers of HCWs from 55 institutions, having excluded one institution (an old people's home) because only one employee answered.

Statistical analysis

The following data analysis has been conducted with SPSS 10.0 and 11.0. Differences in prevalence were calculated by Chi^2 test. The limit for significance was set by $p<.01$.

Results

HCWs working in public hospitals comprised 77.3% of all participants, those working in private curative non commercial institutions 9.3% and commercial 7%. Those working in caring institutions, for old people and handicapped people comprised 6.2% (Table 3).

Table 3. Participants in France by type of institution, gender and age.

type of institutions		n	%	mean age	stdev.age
university hospitals	female	1,591	89.0%	38.7	9.14
	male	197	11.0%	39.5	9.3
general hospitals	female	1,388	89.8%	38.6	9.46
	male	157	10.2%	39.6	8.85
local hospitals	female	353	94.1%	39.7	9.02
	male	22	5.9%	39.1	10.30
private clinics	female	342	92.7%	39.1	10.19
	male	27	7.3%	35.6	8.77
private nonlucrative hospitals	female	351	88.9%	39.8	10.28
	male	44	11.1%	40.6	9.61
psychiatric public hospitals	female	368	73.3%	41.2	9.48
	male	134	26.7%	43.5	8.42
old people's homes or institutions for handicapped people	female	326	96.4%	37.6	10.53
	male	12	3.6%	42.8	10.09
total	*female*	*4,719*	*88.8%*	*39.0*	*9.55*
	male	*593*	*11.2%*	*40.4*	*9.21*

The mean age of female nursing staff was significantly lower than that of their male colleagues. Nursing staff in psychiatric hospitals was significantly older than staff in other curing or caring institutions.

Intent to leave

Of the 5,376 respondents, 4,989 expressed clearly their opinion about their thought of giving up nursing completely. Among them, 7.3% of all participants thought of giving up nursing completely ('intent to leave', ITL) *weekly or daily*, an additional 8.1% considered this *monthly* (Table 4).

Table 4. Response distribution to the question: 'How often during the course of the past year have you thought about giving up nursing completely?'. (283 'not applicable', 104 missings)

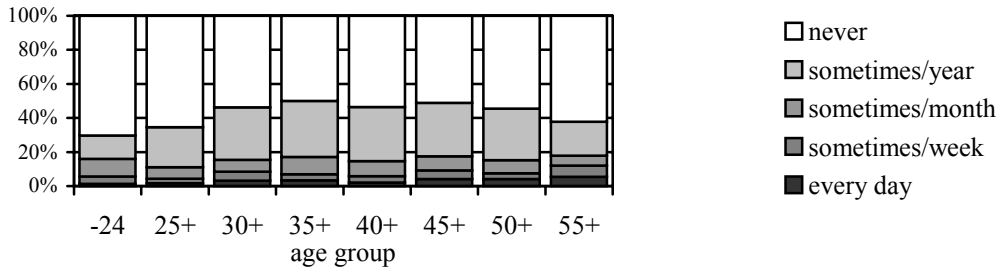
answering category	frequency	percent
never	2,767	55.5
sometimes/year	1,454	29.1
sometimes/month	402	8.1
sometimes/week	208	4.17
every day	158	3.17
all	*4,989*	*100.0*

However, ITL varied with respect to a) gender, b) age, c) type of institution, d) qualification, e) seniority, f) health and workability, g) exhaustion ('burnout'), h) work/family balance, i) work content and environment.

a) Gender. Responding men had no significant difference with women in 'intent to leave the profession'.

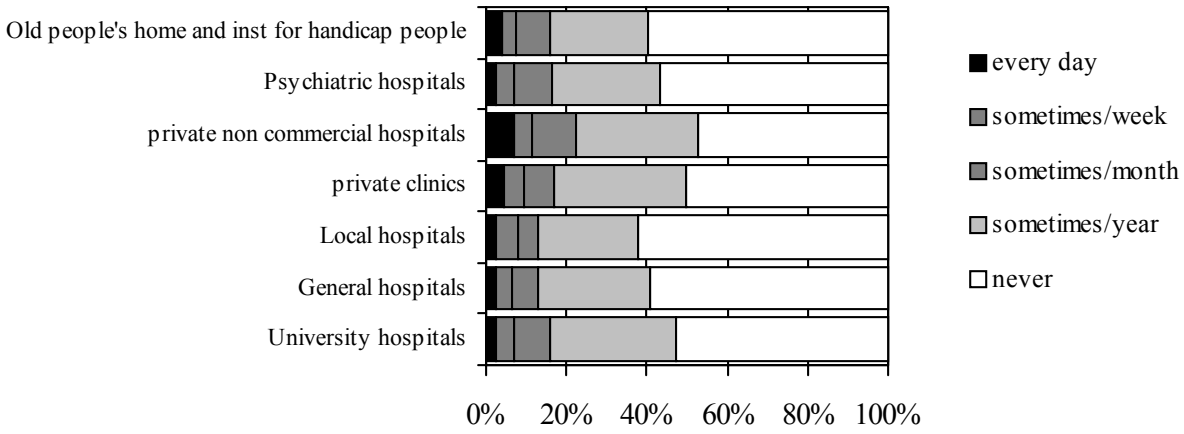
b) Age. Age was clearly associated with intent to leave ($p<.01$) (Figure 1), however, not in a linear way. Health care workers 30 to 55 showed a higher intent to leave with maximum levels in the age groups of 35 to 39 years.

Figure 1. Response by age: 'How often during the course of the past year have you thought about giving up nursing completely?'. (n_{total}=4,979, n_{-24}=162, n_{25+}=682, n_{30+}=816, n_{35+}=704, n_{40+}=841, n_{45+}=816, n_{50+}=647, n_{55+}=291)



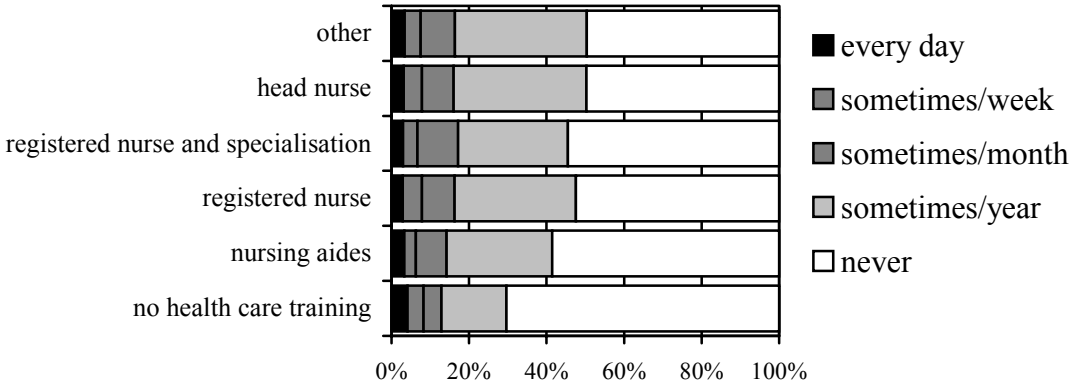
c) Type of institution. Nursing staff in private clinics and private non commercial hospitals considered leaving nursing to higher degree (9.0% and 11.4% considering this at least weekly) than those working in psychiatric hospitals (6.9%). $p<.001$ (Figure 2).

Figure 2. Frequency of 'intent to leave the nursing profession' by type of institution. (n_{total} =4,989, $n_{univ\ hosp}$=1,691, $n_{general\ hosp}$=1,470, $n_{local\ hosp}$ =343, $n_{priv.clin}$ =344, $n_{private\ non\ commercial}$=370, $n_{psychiatric\ hosp}$=462, $n_{old\ people's\ home\ and\ hancdicap}$=309)



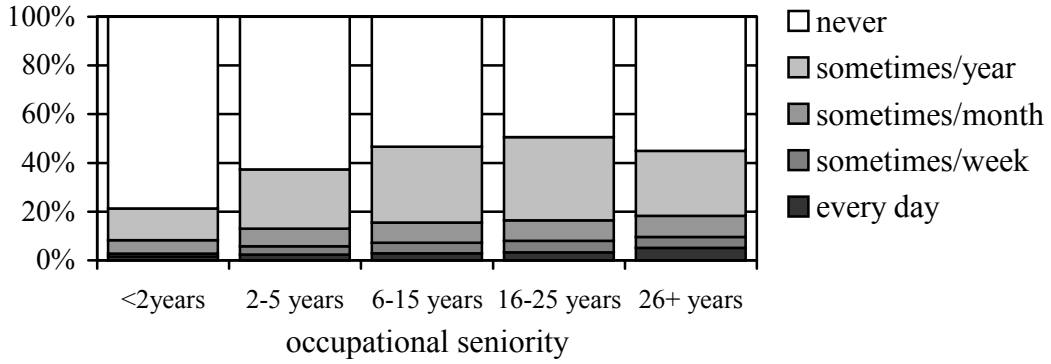
d) Qualification level. ITL was most pronounced among the more qualified HCWs than among nursing aids and personnel with no health care training (p<.001) (Figure 3).

Figure 3. Level of qualification by 'intent to leave'. (n_{total}=4,985, $n_{other.}$=294, $n_{head\ nurses}$=318, $n_{nurse+spec}$=268, $n_{reg.nurse}$=2,267, n_{aides}=1,426, $n_{no\ training}$=412)



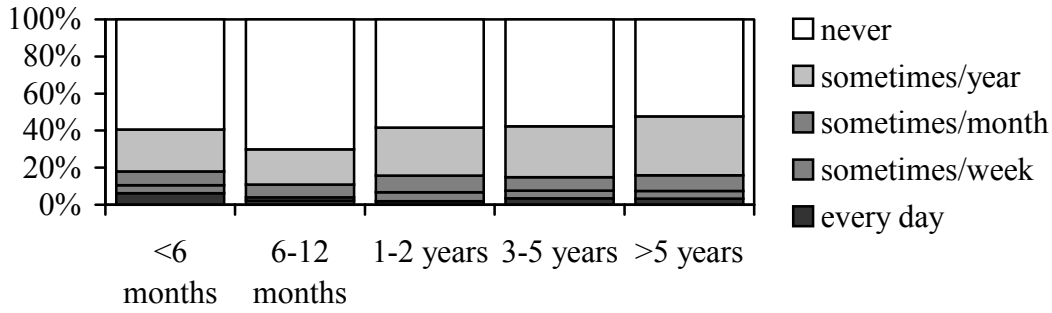
e) Seniority. Figure 4 indicates that the wish to leave the nursing profession is clearly associated with seniority (p<.001). After 2 years in the profession, already 37% think of leaving and around 50% after 5 years. This is the case both for women and men.

Figure 4. Occupational seniority (without time for nursing education) in relation to ITL. (n_{total}=4,955, $n_{<2year}$=254, $n_{2\text{-}5\ years}$=869, $n_{6\text{-}15years}$=1,569, $n_{16\text{-}25\ years}$=1,462, $n_{26+years}$=801)



Seniority to the institution is also associated with ITL. Those with more 6-12 months seniority in the institution consider leaving their profession less often (p<.001) (Figure 5).

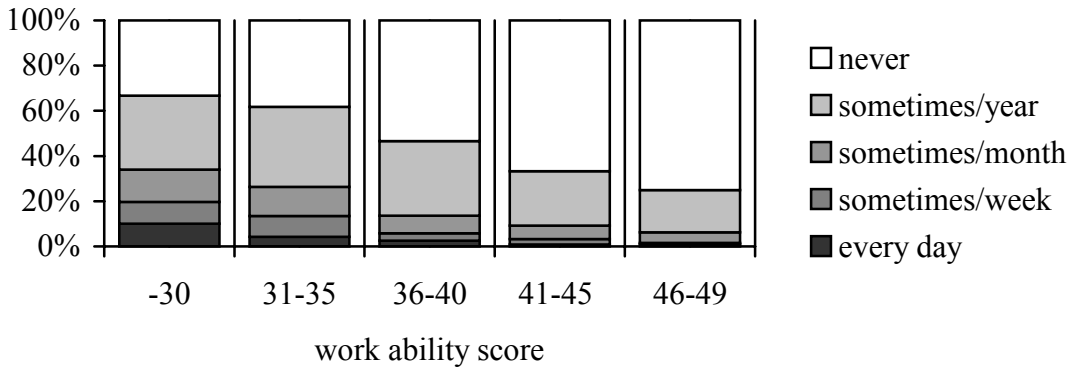
Figure 5. Occupational seniority (left, without time for nursing education) and institutional seniority (right) in relation to 'intent to leave nursing'. (n_{total}=4,977, $n_{<6month}$=239, $n_{6\text{-}12month}$=321, $n_{\text{-}2years}$=587, $n_{>5years}$=3,196)



f) Health and work ability. Health and work ability were found to be predictors of ITL. Low self rated health and low work ability were associated with higher intent to leave the nursing profession (p<.001) (Figure 6-7). This was the same for men and women.

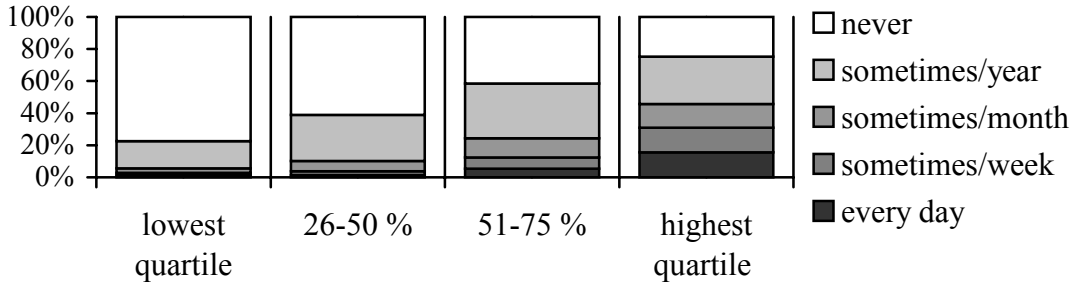
Figure 6. Self rated health in relation to 'intent to leave nursing'. (n_{total}=4,965, n_{poor}=201, n_{fair}=1,390, n_{good}=2,063, $n_{very\ good}$=1,021, $n_{excellent}$=290)

Figure 7. Work Ability Score (WAI) in relation to 'intent to leave nursing'. (n_{total}=4,032, $n_{wai\text{-}30}$=427, $n_{wai\text{-}35}$=718, $n_{wai\text{-}40}$=1,483, $n_{wai\text{-}45}$=1,211, $n_{wai\text{-}49}$=193)



g) Exhaustion. Burnout as an indicator for mental exhaustion was also clearly associated with intent to leave the profession (Figure 8). This was the case for women and men.

Figure 8. Burnout in relation to 'intent to leave nursing'. (n_{total}=4,911, $n_{lowest\ quart.}$=623, $n_{26\text{-}50\%}$=2,496, $n_{51\text{-}75\%}$=1,663, $n_{highest\ quartile}$=129)



Some detailed aspects of health were of major importance (Table 5).

Poor *physical health* has a significant influence on ITL. Those HCWs who are always tired and who feel physically exhausted are, respectively, 20.9%, 26.1% to have frequent ITL. However, the incidence of these physical health problems increases significantly when the indices of physical load of work are highest.

Poor mental health also influences ITL significantly. Those HCWs who are emotionally exhausted are 34.1% to think often of leaving the profession. Those who are always "tired to work with the patients", always question themselves "on their ability to continue working with patients" are, respectively, 43.2% and 40.5% with frequent ITL. However those who have little autonomy, low social support, few possibilities for team work to build mutual respect and little psychological support, are much more often tired, empty or doubtful of about their ability.

h) Work/family balance. Among HCWS whose personal financial situation is very difficult, 17% declare a frequent ITL (Table 6). Among those whose close relations think that they make too many sacrifices for their work are 16.2% with frequent ITL.

Table 5. Influence of health on thought about giving up nursing completely.

		"How often during the course of the past year have you thought about giving up nursing completely"				
		Never	Never	Seldom	Very often	p
Feeling tired	never/almost never	21	76.2%	19.0%	4.8%	
	seldom	212	78.8%	17.0%	4.2%	
	sometimes	2,086	63.4%	33.0%	3.6%	
	often	2,367	49.0%	41.7%	9.3%	
	always	278	33.8%	45.3%	20.9%	<.001
Being physically exhausted	never/almost never	148	75.0%	23.0%	2.0%	
	seldom	858	67.8%	29.3%	2.9%	
	sometimes	2,432	57.3%	36.6%	6.1%	
	often	1,443	44.6%	44.0%	11.4%	<.001
	always	88	34.1%	39.8%	26.1%	<.001
Being emotionally exhausted	never/almost never	248	73.0%	21.8%	5.2%	
	seldom	1,044	68.0%	27.9%	4.1%	
	sometimes	2,343	55.7%	39.4%	4.9%	
	often	1,232	43.0%	43.8%	13.1%	
	always	85	27.1%	38.8%	34.1%	<.001
Being tired to work with patients	never/almost never	1,732	70,0%	26,6%	3,5%	
	seldom	1,430	57,4%	36,9%	5,7%	
	sometimes	1,351	44,3%	46,0%	9,8%	
	often	334	23,1%	56,9%	20,1%	
	always	37	18,9%	37,8%	43,2%	<.001
Questioning about ability to continue working with patients	never/almost never	1,505	77.7%	20.0%	2.3%	
	seldom	1,116	62.4%	33.8%	3.9%	
	sometimes	1,421	44.8%	48.1%	7.1%	
	often	707	26.4%	55.6%	18.0%	<.001
	always	126	16.7%	42.9%	40.5%	

The factors which depend on the balance between family and working life, with a strong percentage of ITL, are those: who have great difficulty carrying out their family obligations because of work (15.5%); who have great difficulty at home because of work (16.9%): who have great family difficulty because of the tensions of work (20%): whose personal life interferes with their work (13%); whose family tensions interfere with their work (19.4%) but these last two categories are very few persons.

Table 6. Influence of work/family balance in relation to 'intent to leave nursing'.

		"How often during the course of the past year have you thought about giving up nursing completely?"				
		total n	never	seldom	very often	p
Economic situation	very strained	165	49.1%	33.9%	17.0%	
	strained	712	51.0%	37.6%	11.4%	
	neither good nor bad	2,563	53.7%	39.6%	6.7%	
	good	1,442	61.0%	33.5%	5.5%	
	very good	79	65.8%	29.1%	5.1%	<.001
People close to me say I sacrifice too much for my job	strongly disagree	1,093	62.8%	31.7%	5.6%	
	disagree	1,947	57.8%	37.1%	5.1%	
	agree	1,391	50.4%	40.8%	8.8%	
	strongly agree	500	43.6%	40.2%	16.2%	<.001
Demands of work interfere with my home and family life	totally disagree 1	602	71.1%	24.9%	4.0%	
	2	913	64.2%	31.8%	4.1%	
	3	1,264	57.6%	36.5%	5.9%	
	4	1,082	50.3%	42.0%	7.8%	
	totally agree 5	1,075	42.2%	44.7%	13.0%	<.001
Amount of time my job takes makes it difficult to fulfil family responsibilities	totally disagree 1	980	67.8%	28.2%	4.1%	
	2	1,279	59.6%	35.3%	5.1%	
	3	1,318	53.3%	39.4%	7.4%	
	4	900	47.2%	42.8%	10.0%	
	totally agree 5	432	40.7%	43.8%	15.5%	<.001
Things I want to do at home do not get done because of the demands of my job	totally disagree 1	933	66.5%	29.7%	3.9%	
	2	1,235	58.9%	34.9%	6.2%	
	3	1,276	54.0%	40.4%	5.6%	
	4	978	49.2%	41.6%	9.2%	
	totally agree 5	516	43.4%	39.7%	16.9%	<.001
Job produces strain that makes it difficult to fulfil family duties	totally disagree 1	1,042	69.4%	26.9%	3.7%	
	2	1,348	60.0%	35.5%	4.5%	
	3	1,211	51.6%	41.5%	6.9%	
	4	917	45.8%	43.6%	10.6%	
	totally agree 5	405	39.5%	40.5%	20.0%	<.001
Family-related strain interferes with my ability to perform job-related duties	totally disagree 1	3,166	58.4%	34.7%	6.9%	
	2	1,104	52.0%	41.8%	6.3%	
	3	447	50.8%	40.5%	8.7%	
	4	129	44.2%	41.9%	14.0%	<.001
	totally agree 5	62	30.6%	50.0%	19.4%	

i) Work content and environment. Withdrawal of one's emotional investment is one of the signs of exhaustion or 'burnout' (Maslach's definitions in the helping professions). Many authors have shown that it is HCWs with the highest level of motivation in the beginning who suffers most from burnout (this occurs when

ethics of care are put too much at evil and in absence of emotional support for serious illness and death). It has also been shown that healing the suffering was very difficult. The departure of discouraged HCWs should not be accepted as it was normal. Indeed, 32.8% of HCWs which consider 'false' to say that they are 'proud to be health care workers', often (i.e. some times per week or each day) declare ITL, whereas this is the case for only 7.3% of the whole of the sample (Table 7).

Table 7. Influence of job pride on thought about giving up nursing completely.

		"How often during the course of the past year have you thought about giving up nursing completely?"				
		total n	never	seldom	very often	p
Pleased with work prospects	very unsatisfied	341	29.0%	44.9%	26.1%	
	unsatisfied	1,519	38.1%	50.6%	11.3%	
	satisfied	2,763	65.5%	31.2%	3.3%	
	highly satisfied	287	82.9%	15.0%	2.1%	<.001
proud to belong to this institution	totally inaccurate	396	28.3%	48.2%	23.5%	
	not so accurate	654	37.9%	50.9%	11.2%	
	partly accurate	1,684	52.0%	41.2%	6.8%	
	fairly accurate	1,427	65.0%	30.9%	4.1%	
	yes, total. accurate	741	74.6%	22.4%	3.0%	<.001
Proud to belong to the nursing profession	totally inaccurate	67	32.8%	34.3%	32.8%	
	not so accurate	108	29.6%	54.6%	15.7%	
	partly accurate	517	35.4%	50.9%	13.7%	
	fairly accurate	1,424	48.5%	44.8%	6.7%	
	yes, total. accurate	2,779	64.5%	30.1%	5.4%	<.001
Disappointed to be a nurse	totally inaccurate	2,228	72.6%	24.9%	2.5%	
	partly accurate	773	54.1%	41.4%	4.5%	
	partly accurate	1,209	42.2%	49.5%	8.3%	<.001
	fairly accurate	423	25.3%	56.7%	18.0%	
	yes, total. accurate	240	22.5%	40.0%	37.5%	
Discouraged to be in this institution	totally inaccurate	1,788	74.9%	22.8%	2.3%	
	not so accurate	1,019	58.8%	37.8%	3.4%	
	partly accurate	1,239	42.9%	48.7%	8.5%	
	fairly accurate	559	31.3%	53.1%	15.6%	
	yes, total. accurate	285	24.6%	42.8%	32.6%	<.001
Work is meaningful	to a very small extent	24	12.5%	41.7%	45.8%	
	not very much	55	25.5%	41.8%	32.7%	
	somewhat	207	31.9%	50.2%	17.9%	<.001
	to some extent	1,197	41.2%	48.4%	10.4%	
	to a large extent	3,490	62.6%	32.5%	4.9%	

The *disappointment with the profession* goes in the same direction: 37.5% of those who declare they are disappointed with the health care profession often think of leaving it. When this type of work is regarded as having very little meaning, hope is lost, 45.8% of these few HCWs who have lost hope often think

of leaving their profession. *Pride in the institution* where one works appears to be slightly related to ITL, since it is possible to move to another institution. It is noted, however, that 23.5% of those who declare the assertion of "pride to belong to this institution" is false have frequent ITL. Among those who declare that they are "discouraged to work in this institution" 32.6% have often ITL. The contents of the work itself strongly influence ITL profession (Table 8).

High percentages of ITL are associated with : little possibility of learning new things at work (24.5% often think of leaving); not finding their work varied (15.4%); always lacking time to carry out tasks (19.1%); having an unequal workload and always falling behind (17.4%); constant fear of making errors (15.3%); obtaining necessary information too late (16.4%); being stressed by inadequate information from a doctor regarding the medical condition of a patient frequently (16.4%) or very frequently (15.9%); not knowing what to tell to a patient or a family very frequently (13.3%); having uncertainty regarding the operation and functioning of specialised equipment very frequently (21.7% often think of leaving).

The work environment also plays a significant role, 20% of HCWs who have tense relations with their colleagues often think of leaving their profession definitively. Other environmental factors have a strong influence on the desire to leave the profession : being victim of harassment by senior staff (20% often think of leaving) or by colleagues (18.2%); being the victim of discrimination daily (20.5%); having colleagues who are not ready to help them (17.5%); having tense relations with senior staff (16.2%), with head nurses (16%) and with doctors (18%); not being able to discuss professional matters (16.3%)

Discussion

Our results indicate that French nursing staff is rather attached to its profession. The *intense* consideration of leaving the nursing profession is fairly rare with 7.3%. But certain aspects of work situation play a major role on insatisfaction and ITL. As they are in accordance with previous studies it is possible already to discuss measures improving work organisation, team work and psychological support, physical load, continuous education and social policies. The future parts of the NEXT-Study need to be awaited to assess the size and role of actual departure and it's association with exposures, outcomes and with 'intent to leave'.

Table 8. Influence of work content on thought about giving up nursing completely.

		"How often during the course of the past year have you thought about giving up nursing completely?"				
		total n	never	seldom	very often	p
Have the possibility of learning new things through work	to a very small extent	196	36.7%	38.8%	24.5%	
	not very much	367	44.1%	45.2%	10.6%	
	somewhat	1,009	50.8%	39.2%	9.9%	
	to some extent	1,507	52.1%	41.4%	6.5%	
	to a large extent	1,895	64.7%	31.1%	4.2%	<0.001
Worried about making mistakes	hardly ever	200	63.0%	29.0%	8.0%	
	seldom	876	61.8%	32.1%	6.2%	
	sometimes	2,077	58.9%	35.6%	5.5%	
	often	1,170	50.2%	42.7%	7.1%	
	always	636	43.4%	41.4%	15.3%	<0.001
Have a say in what type of task to fulfil	totally inaccurate	379	43.0%	41.2%	15.8%	
	not so accurate	708	44.8%	44.9%	10.3%	
	partly accurate	1,801	54.8%	38.0%	7.2%	
	fairly accurate	1,518	60.5%	35.0%	4.5%	
	yes, total. accurate	543	66.3%	28.2%	5.5%	<0.001
Receive information, which is relevant to work, insufficiently or too late	never	788	66.2%	28.9%	4.8%	
	less than once per week	2,144	57.2%	37.0%	5.7%	
	about 1 to 5 times/week	1,326	49.8%	42.2%	8.0%	
	about 1 to 5 times p. day	273	40.7%	47.6%	11.7%	<0.001
	constantly	324	52.5%	31.2%	16.4%	
Receive conflicting orders concerning the performance of work	never	1,141	67.7%	27.9%	4.4%	
	less than once per week	2,224	56.1%	38.0%	5.9%	
	about 1 to 5 times/week	1,169	47.5%	43.2%	9.3%	<0.001
	about 1 to 5 times p. day	212	41.5%	43.4%	15.1%	
	constantly	181	42.0%	38.7%	19.3%	
Uncertainty regarding the operation/functio-ning of specialized equipment	never	926	62.0%	31.5%	6.5%	
	sometimes	2,789	54.2%	39.3%	6.6%	<0.001
	frequently	378	50.8%	39.2%	10.1%	
	very frequently	152	46.7%	31.6%	21.7%	
	does not apply	546	57.5%	36.1%	6.4%	
Not knowing what a patient/ family ought to be told about the patient's medical condition	never	642	64.2%	28.8%	7.0%	<0.001
	sometimes	2,321	56.7%	37.8%	5.4%	
	frequently	989	51.3%	39.5%	9.2%	
	very frequently	475	45.5%	41.3%	13.3%	
	does not apply	405	55.6%	36.8%	7.7%	

References

Audric S., Niel X. La mobilité des professionnels de santé salariés des hôpitaux publics. Etudes et Résultats, DREES, Ministère de l'emploi et de la solidarité, 2002, 169, 8 pages

Estryn-Béhar M., Duger N., Vinck L. Les conditions de travail des femmes à l'hôpital ont-elles changé entre 1984 et 1998 ? Rev Epidemiol Santé Publique. 2001; 49: 397-400.

Estryn-Béhar M., Ergonomie hospitalière Théorie et pratique (1996), éd. ESTEM, Paris, 568 pages.

Fessler JM., Frutiger P., La tarification hospitalière à l'activité. Ed Lamarre, Rueil-Malmaison, 2003, 175 pages.

Sicart D. Les professions de santé au 1er janvier 2001 – Répertoire ADELI. Document de travail, série statistiques, 2001, 21, DREES , Ministère de l'emploi et de la solidarité.

Thomson E. Statistique annuelle des établissements de santé (SAE) 1999, Document de travail, série statistiques, 2001, 27, DREES , Ministère de l'emploi et de la solidarité, 139 pages.

20 Intention to leave nursing in the United Kingdom

Dinah Gould, Marina Fontenla, Simon Anderson, Laura Conway, and Kerstin Hinds

Introduction

Hospitals which employ a high proportion of qualified nursing staff demonstrate better standards of patient care and lower rates of morbidity and mortality than comparable institutions where fewer qualified nurses are employed (Buchan, 1994). However, in England and throughout the UK generally, qualified nurses have become a scarce resource, especially in large conurbations such as London where problems are compounded by the high cost of living and the distance of home from work (Buchan, 2000). Although the private and public health care services are affected alike by nursing shortages, attempts to redress the problem nationally have focused on the National Health Service (NHS) because it is responsible for delivering the bulk of health care, especially emergency and non-elective procedures, employs the majority of qualified nurses and is still held in high esteem by the British public. Moreover the current Labour government has a vested interest in promoting a publicly-funded service, free at the point of delivery, and the continuing existence of the NHS is seen as vital to its electoral success.

In the UK, all nurses receive the greater part of their training in the NHS and attempts to boost the number of qualified nurses have concentrated on attracting new recruits. The Government plans to attract an additional 20,000 qualified nurses by 2004 (National Health Service Plan, 2000) and a number of strategies have been employed including: attracting staff from overseas; widening the entry gate to new recruits (making it possible for those with non-standard entry requirements to enroll on training courses); and developing a 'skills' escalator' to enable unqualified health care assistants to achieve registration. Attempts to reduce attrition have included introducing 'family-friendly' policies which will appeal to women with young children and 'back to nursing' courses for those who ceased work in order to raise children (Buchan, 2002). This approach is considered particularly important because most clinical nursing posts are held by women and the inevitable shift work and unsocial hours are not compatible with family life. The extent to which these initiatives have been successful is still hotly contested. The latest figures indicate that the number of entrants to nursing courses is increasing, but it is also known that many newly qualified nurses never practice or soon leave the profession (Public Accounts Committee, 2002). Particular problems exist in areas such as intensive care and children's nursing,

where staff turnover is high. Those who remain in the profession continue to report widespread demoralisation linked to increased workloads, excessive working hours, poor pay and poor prospects for promotion, especially since the introduction of the 'internal market' in the health care reforms of 1991 (Seccombe et al., 1994). There is evidence that the public, despite valuing nurses' work, views nursing as an unattractive career option because of the long hours and heavy workload and the conviction that nurses are poorly paid (Arnold et al., 2003). This report revealed that recent media attention had increased public awareness of understaffing in hospitals and there is a widespread perception that nurses are much more poorly paid than is the case.

Retention as a means of increasing the available nursing workforce has received far less attention than recruitment policies. However, this issue is now beginning to become a focus for researchers. A recent report from the King's Fund drew attention to the increasing age of staff in the NHS (Meadows, 2002). All groups, including nurses, are retiring as early as possible. Reasons given by respondents in Meadow's study (*op cit*) were all those cited above, but particularly the desire for less physically and emotionally demanding employment and the poor image of nursing in the eyes of the public. There was concern that patient care was being compromised through under-staffing and lack of resources and incidents of violence from patients, especially in areas such as mental health and the accident and emergency department. Meadows (*op cit)* suggested a number of solutions aimed at increasing nursing retention derived from the private sector. These included 'targeted recruitment' designed to attract mature and older people to the NHS for the first time and focusing specifically on the needs of older people (over 45) at work, such as providing flexible options for retirement; better occupational health services; and improving opportunities for older employees to participate in programmes of continuing professional development. Unfortunately human resource managers in the NHS have reported that at present no special provision is being made for older nurses in the NHS (Watson, 2003). In fact, plans are now being mooted to increase the age of retirement for female nurses from 60 to 65 in order to reduce the nursing shortage. This move will not be popular, as retirement age increased from 55 to 60 in 1995 in line with EC directives.

From the discussion above, it is clear that the shortage of qualified nurses in the NHS in the UK has attracted enormous attention from policy-makers, researchers and the media. Similar concern has not been shown for the state of nursing recruitment and retention in the private sector and, indeed, private hospitals are often viewed in a negative light as they are sometimes perceived to 'poach' nurses away from the more 'deserving' NHS. Attracting and retaining unqualified health care assistants (HCAs), whether in the private or public sector, has similarly been overlooked. HCAs are widely regarded as an unfortunate but

inevitable consequence of the dearth of qualified nurses in the UK (Edwards, 1997; Pearcey, 2000). Their pay and conditions of service are poor, they receive minimal training, work largely without supervision, their opportunities for continuing professional development are scant and they feel under-valued and exploited (Thornley, 1997).

The NEXT-Study provides an opportunity to explore issues surrounding early departure from the nursing profession and its consequences for health care institutions. Almost 8,000 questionnaires were distributed between qualified and unqualified nursing staff in 33 institutions (comprising NHS and private hospitals as well as nursing homes) across England. The results of this study, described below, serve as a basis for the development of targeted measures on working conditions in order to promote retention.

Methods

Recruitment of institutions

For pragmatic reasons, it was decided to limit the scope of the sample to three groups: qualified nurses and health care assistants working in NHS Trusts (covering NHS hospitals); qualified nurses and other nursing staff working in nursing homes (both Nursing homes and Nursing care in Dual Registered homes); and qualified nurses and other nursing staff working in private hospitals. In the NHS sector, nurses and health care assistants working for Health Authorities, Primary Care Trusts or others employed by the NHS were not covered by the sample. It is estimated, however, that the eligible groups cover 91% of the total NHS nursing staff.

From a structural analysis undertaken by South Bank University, it was surmised that 32% of nurses and healthcare assistants work in nursing homes, 3% in private hospitals and 66% in the NHS (the vast majority of whom work in NHS Trusts and Primary Care Trusts). The sample design reflected these broad proportions, although, within the NHS, large hospitals were over-sampled. Nursing homes with fewer than 25 beds were excluded.

Because of higher than anticipated institutional refusal rates, the initial sampling took place in three stages, with a number of additional institutions being identified to replace those who declined to take part.

Because of Data Protection requirements in the UK, it was not possible for participating institutions to provide staff names and contact details directly to the research team. Consequently, all organisations that agreed to take part were asked to nominate a main contact person who would have responsibility for liaising with the NEXT team and for arranging for questionnaires and other materials to be distributed to individual staff members via internal mail. Because the actual distribution of questionnaires was outside the direct control of the research team, it was extremely difficult to ensure that it was done effectively

and according to the original timetable and arrangements. This almost certainly had an adverse effect on response rates, since it made it difficult to ensure an appropriate time lapse between the original mailing and the subsequent reminder stage. Moreover, as the project progressed, a number of the initial contact persons left their institutions and it was not always possible to identify a suitable replacement. For this and other reasons, 4 institutions chose to withdraw from the project after the beginning of fieldwork.

Participation

In total, then, 33 institutions took part in the study and questionnaires were distributed to 7,962 staff, 2,578 of whom (32%) returned the questionnaire. Response rates were highest among staff in private and NHS hospitals and lowest among those in nursing homes.

The low response rate for the study is likely to reflect a number of factors, including: staff workloads and the length of the questionnaire; the fact that a number of other recent studies have focused on similar themes (most NHS Trusts have dedicated Senior nurses working on retention and recruitment issues through focus groups, etc; in addition, HR departments issue their own Exit Questionnaire when nurses leave the institution) and the fact that the research team was unable to handle the sample and distribute the questionnaires directly.

Table 1. Overview of participating institutions and staff in the UK

institution	number of institutions	n staff approached	n staff responded	response rate	range of response rates
private hospital	4	234	79	33.8%	0%- 65.9%
nursing home	16	703	144	20.5%	0%- 68.0%
nhs hospital	13	7,025	2,355	33.5%	3.8%-82.6%
all	*33*	*7,962*	*2,578*	*32.4%*	*0%-82.6%*

Completed questionnaires were scanned and both manual and computer edits were carried out to check for accuracy of data entry. Plausibility tests checked for outliers and implausible data. Impossible answers (e.g. 50 night shift per month) were treated as missing values.

Statistical analysis

Data analysis was conducted using SPSS 10.0.

Results

The vast majority of all nursing staff participating in the study (91%) were from NHS hospitals, with just 3% from private hospitals and 6% from nursing homes. Comparison with the structural profile of the profession undertaken by South

Bank University, suggests that staff from nursing homes are under-represented in the achieved sample and those from the NHS over-represented.

Table 2. Profile of UK respondents by type of institution, gender and age.

type of institution		n	%	mean age	stdev. age
private	female	79	100	42.7	10.33
	male	-	-	-	-
	all	*79*	*100*	*42.7*	*10.33*
nursing home	female	137	95.1	42.4	12.41
	male	7	4.9	43.7	19.41
	all	*144*	*100*	*42.4*	*12.72*
NHS	female	2,177	93.1	40.4	9.97
	male	163	6.9	38.5	9.87
	all	*2,340*	*100*	*40.2*	*9.97*
all	*female*	*2,400*	*93.4*	*40.6*	*10.15*
	male	*170*	*6.6*	*38.8*	*10.36*
all	*all*	*2,578*	*100*	*40.4*	*10.17*

Just 7% of all participants were male, with no males at all responding from private institutions. This is, of course, an artefact of non-response bias by gender and the very small base size, rather than a reflection of the actual staff profile within this sector as a whole. Across the sample as a whole, the mean age of female nursing staff was slightly but significantly higher than of their male colleagues, and NHS nursing staff were significantly younger than staff in the other sectors.

Intent to leave

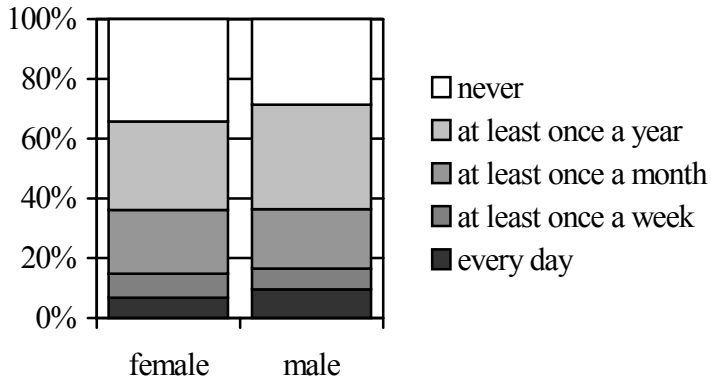
It is striking that 15% of all respondents said that they considered giving up nursing completely and starting a different kind of job (‘intent to leave’, ITL) either ‘every day’ (7%) or ‘at least once a week’ (8%) (see note 1). A further 21% said that they did so ‘at least once a month’. Thus around a third of nursing staff think about leaving the profession at least once a month (see note 2). Among particular sub-groups, however, this indicator of ITL was even higher. The following sub-sections look at the variation in intent to leave by a number of key variables: a) gender, b) age, c) type of institution, d) qualification, e) seniority, f) health, and g) exhaustion (‘burnout’).

Table 3. Response distribution to the question: 'How often during the course of the past year have you thought about giving up nursing completely and starting a different kind of job?'. (97 missings, 116 'can't say')

response category	frequency	percent
never	803	34.0
at least once a year	707	29.9
at least once a month	503	21.3
at least once a week	187	7.9
every day	165	7.0
all	*2,365*	*100.0*

a) Gender. There was no significant difference between male and female respondents in terms of apparent willingness to leave the profession.

Figure 1. Response by gender: 'How often during the course of the past year have you thought about giving up nursing completely and starting a different kind of job?'. (n=2,361, n_{women}=2,204, n_{men}=157)



b) Age. Although there was some variation across age groups, this was not linear. Those most likely to consider leaving the profession 'daily' or 'at least once a week' were aged 40 to 49, but similar proportions of those in the youngest and oldest age groups also did so. (Figure 2)

c) Type of institution. Staff working in nursing homes were significantly more likely than those in the other two sectors to consider leaving the profession (Chi-Square, p.<.05) – indeed, a quarter (25%) said that they did so at least weekly, including 9% who did so 'every day'. (Figure 3)

Figure 2. Response by age: 'How often during the course of the past year have you thought about giving up nursing completely?'. (n_{total}=2,359, n_{-24}=122, n_{25+}=277, n_{30+}=334, n_{35+}=412, n_{40+}=415, n_{45+}=310, n_{50+}=251, n_{55+}=238)

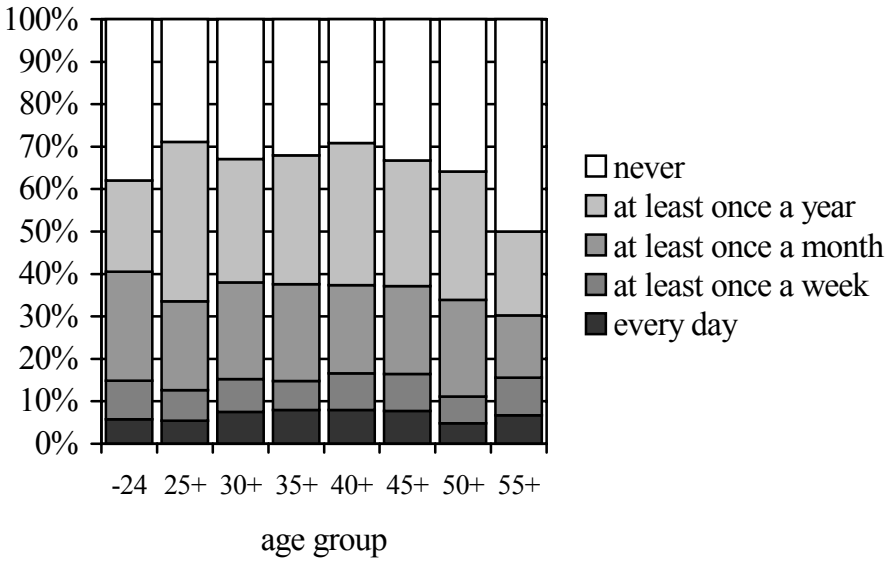
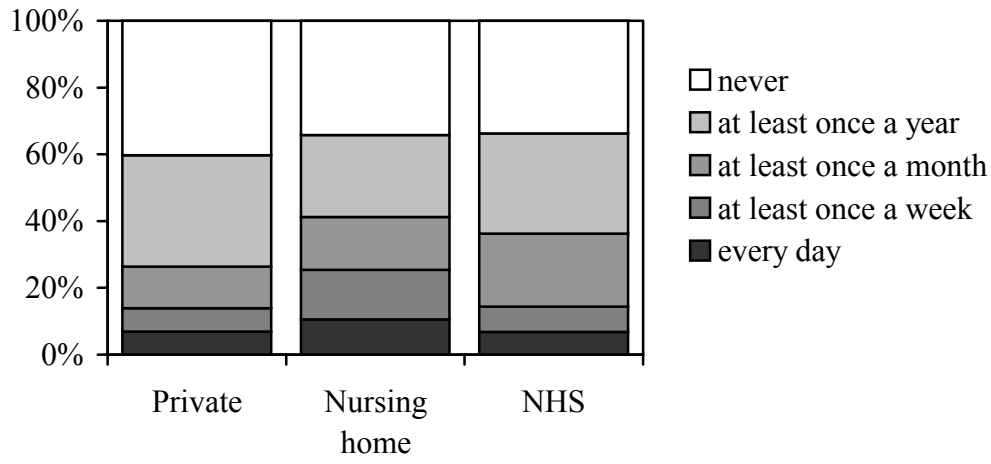
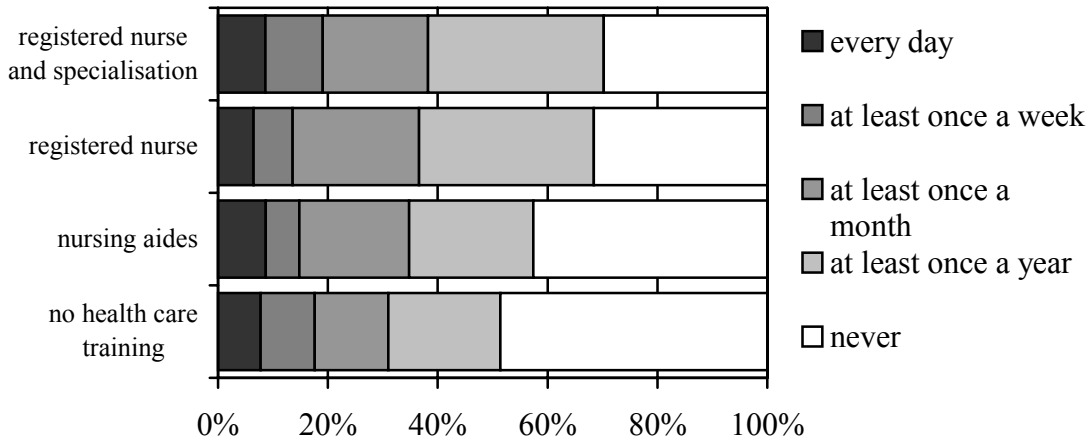


Figure 3. Response by age: 'How often during the course of the past year have you thought about giving up nursing completely?'. (n_{total}=2,481, $n_{private\ hospital}$=76, $n_{nursing\ home}$=129, $n_{nhs\ hospital}$=2,276)



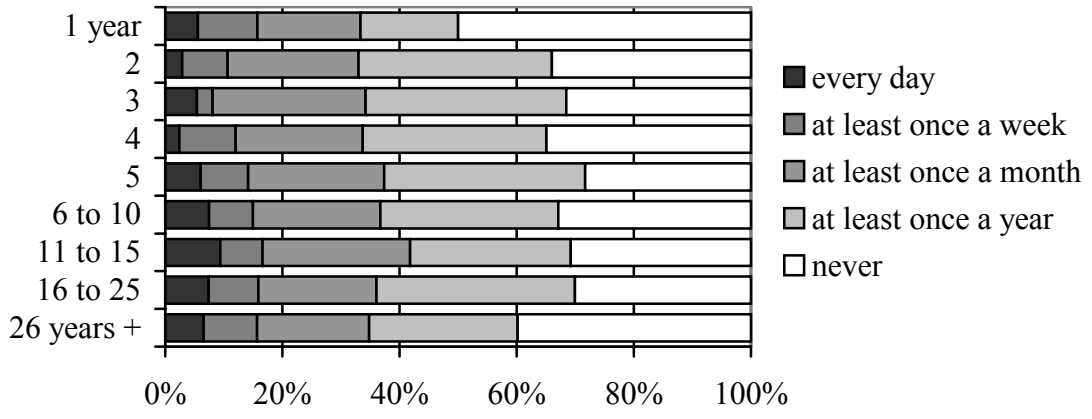
d) Qualification level. In general, those with lower qualifications were less likely than those with higher qualifications to consider leaving the profession – a pattern that cannot be explained by variations in the age composition of the different groups. (Figure 4)

Figure 4. Level of qualification by 'intent to leave'. (n_{total} =2,191, $n_{nurse+spec.}$=557, $n_{reg.nurse}$=1377, n_{aides}=115, $n_{no\ training}$=142)



e) Seniority. Similarly, the proportion of those considering leaving the profession at least weekly was lowest among staff with 2-4 years experience and highest among those with 11 or more years experience. Interestingly, however, 16% of those with a year or less experience also indicated that they considered leaving the profession at least once a week – although the proportion indicating that they 'never' do so was also highest among this group.

Figure 5. Occupational seniority (without time for nursing education) in relation to 'intent to leave nursing'. (n_{total} =2,310, n_{1year}=108, n_{2years}=113, n_{3years}=111, n_{4years}=83, n_{5years}=99, $n_{6\text{-}10years}$=441, $n_{11\text{-}15years}$=361, $n_{16\text{-}25years}$=685, $n_{26+years}$=319)



f) Health. Not surprisingly, self-related assessments of health emerged as strong predictors of ITL. As Figure 6 shows, those who reported themselves to be in 'excellent' health were least likely to consider leaving nursing and, generally speaking, the worse respondent's assessments of their health, the more likely

they were to consider leaving. (The exception to this pattern are those who rated their health as ‘poor’, though the reason for this is unclear.)

g) Exhaustion. A further strong indicator of intent to leave is staff burnout, with those in the highest quartile around six times as likely as those in the lowest to say that they consider leaving the profession ‘every day’ or ‘at least once a week’.

Figure 6. Self rated health in relation to ‘intent to leave nursing’.(n_{total}=2,354, n_{poor}=41, n_{fair}=435, n_{good}=1,039, $n_{very\ good}$=618, $n_{excellent}$=221)

Discussion

Health care in the UK is high on the political agenda and the value of employing qualified nurses is widely recognised (Buchan, 1994). Nevertheless, figures generated by the DoH indicate that there is a dearth of qualified nurses in the NHS and in other organisations delivering health care. Because nursing is now seen as an a unattractive career option, this is likely to remain a continuing problem despite valiant attempts to increase the number of new recruits and more recently, attention to factors intended to retain older nurses in the workforce (Meadows, 2002; Watson, 2003). The indifferent reception of institutions to the NEXT-Study in the UK reflects the pressures of work currently faced by organisations and individuals and the high turnover of nurses and their managers, so that participation is likely to have been perceived as an additional burden.

Moreover, policy-makers in the UK have been aware of the nursing shortage for longer than their counterparts in other European countries and, because the situation has been widely reported in professional journals and the media, and some steps have already been taken towards retaining older members of the profession, the NEXT-Study is less novel than in many of the other participating countries.

The findings, although not unexpected, leave no room for complacency. The high numbers of nurses expressing an intention to leave reflects the low levels of morale within the profession. This was highest in the 40-49 age banding and among the most experienced nurses, whom the Government has been advised to target in its campaigns for retention (Meadows, 2002). The relationship between nurses' self-rated health and intention to leave is also of interest as it reflects the physical demands placed on members of the work force and the need for improved occupational health services, especially for older nurses, which have been identified in recent reports (Meadows, 2002; Watson, 2003). Thus, although they are neither new or unexpected, the findings of the NEXT-Study in the UK will be a valuable contribution to the growing literature concerned with the state of the ageing nursing work force and will be welcomed by professional nursing organisations and the health care unions.

End notes

1. Where appropriate, the sample was dichotomised in relation to the intensity with which respondents appeared to be thinking about leaving the profession. Those thinking of giving up nursing completely 'weekly and more' were compared to those not considering it less often or not at all. The rationale for this cut-off was that occasional consideration (yearly, monthly) of such a step might be considered normal in most occupations. Considering such a step at least weekly, by contrast, can be seen as a more serious indicator of willingness to leave the profession.
2. Where appropriate, the sample was dichotomised in relation to the intensity with which respondents appeared to be thinking about leaving the profession. Those thinking of giving up nursing completely 'weekly and more' were compared to those not considering it less often or not at all. The rationale for this cut-off was that occasional consideration (yearly, monthly) of such a step might be considered normal in most occupations. Considering such a step at least weekly, by contrast, can be seen as a more serious indicator of willingness to leave the profession.

References

Arnold J, Loan-Clarke J, Coombs C, Park J, Wilkinson A & Preston D (2003) *Looking good? The attractiveness of the NHS as an employer to potential nurses and allied*

health professions staff. https://www.lboro.ac.uk/departments/bs/lookinggood accessed 30th September 2003.
Buchan J (1994) Lessons from America: United States magnet hospitals and their implications for UK nursing. *Journal of Advanced Nursing* 19: 373-384
Buchan J (2000) Planning for change: developing a policy framework for nursing labour markets. *International Nursing Review* 47: 1999-2004
Department of Health (2002) *The NHS Plan. A plan for investment, a plan for reform*. London: Stationary Office.
Edwards M (1997) The nurses' aide: past and future necessity. *Journal of Advanced Nursing* 26: 237-245
Meadows S (2002) *Great to be grey. How can the NHS recruit and retain older staff?* London: King's Fund.
Pearcy P (2000) Role perceptions of auxiliary nurses: an exploratory study. *NT Research* 5: 55-64
Public Accounts Committee (2002) *Educating and training the future health professional workforce in England.* https://www.publications.parliament.uk/pa/cm200102/cmselect/cmpubacc/609/60903.htm#a2 accessed 30th September 2003
Seccombe I, Patch A & Stock J (1994) *Workloads, pay and morale of qualified nurses in 1994*. Brighton: Institute of Employment Studies.
Thornley C (1997) *The Invisible Workers: An Investigation into the Pay and Employment of HCAs*. London: Unison.
Watson R Manthorpe J & Andrews J (2003) *Nurses over 50: Options, decisions and outcomes.* London: The Policy Press in Association with Joseph Rowntree Foundation.

21 Intent to leave nursing in Italy

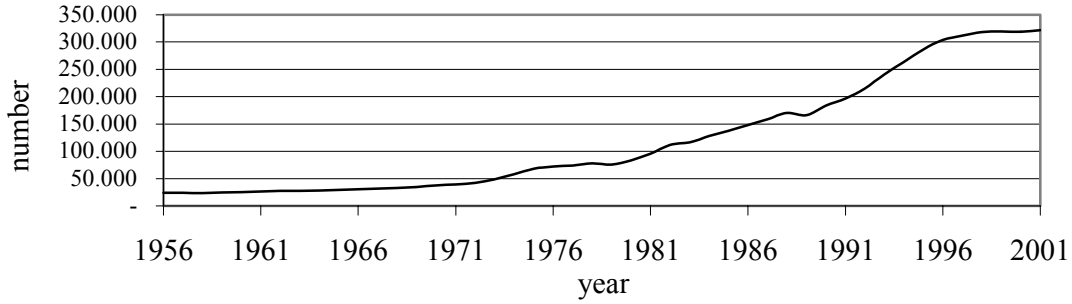
Donatella Camerino, Maura Lusignani, Sharon Coen, Paul Conway,
Nadia Selva, Lucia Savina Floridia and Pier Alberto Bertazzi.

Introduction

As of February 2001, in Italy there were 320,657 nurses working in the National Health System and in the private sector, 115,492 (36.0%) of them were employed in hospitals (Ministry of Health, 2001). According to the Ministerial Decree No. 739/1994, a nurse is defined as 'a health operator, holding a nursing diploma, enrolled in the nurses' register (IPASVI) and responsible for general nursing care'.

In Italy, registered nurses (302,737), health assistant nurses (7,571) and paediatric nurses (10,349) belong to the nursing profession (Federazione Nazionale Collegi IPASVI, 2001). However, the 'health assistant nurses', owing to their specific tasks, are not in the area of health professions but in that including technical and preventive professions (Law 251/10 August, 2000).

Number of IPASVI registered nurses in Italy from 1956 to 2001.



Traditionally, the Italian National Health System activities were hospital-centred. Nowadays, with the increasing number of non self-sufficient old people and chronic invalids health activities (including nursing) are turning towards districts, territorial mental health centres, home care, long-term care and hospices (Silvestro, 2002).

From February 1999, the Italian law No. 42 established that nurses must no longer perform auxiliary functions as regulated by job description. They rather have to accomplish activities and responsibilities according to nursing profession, its profile contents, educational regulations and ethical principles (De Carolis, 2003).

In 1992, the law No. 502 established the 3 years university training, which nurse can attend after obtaining a school-leaving certificate. In August 2000,

Law 251 redesigned the nursing education career, recognized the University degree in Nursing Sciences, thus providing nurses with autonomous profession, specific career to management and university teaching qualification (Fassari, 2003). In the academic years 2001/2002, there were 10,745 new positions offered in the Nursing Schools, not appropriately distributed between North and South, giving rise to high mobility of applicants. A high proportion of educational positions (23%) remains vacant in the North, in spite of regional advertising campaigns, while in the South all places are covered (Fortuno, 2002). The duty to continuing education (ECM), established by the Health Ministry with the aim to improve quality within health Institutions, has been activated between 2002-2003, with a total of 18,655 vocational training events. At present, ECM activities are still insufficient (not all training areas are covered) and non-homogeneous (they are not fairly distributed across National territory); moreover, they represent an economical burden to the single operator (Rocco, 2002).

The job demand often seems not pertinent to nursing care: someone is employed in bureaucratic practice, whereas others accomplish health support operator's tasks or even physician's ones. Nurses are considered responsible of health care processes and resource management. They have to decide on competence allocations, supervise performance and they are responsible for the results; ideally, they would not have to compensate for other professionals' manpower shortage (Palese, 2002). New health support personnel are expected to become available (State and Regions Agreement on financial stability, 8 August 2001) (Muttillo, 2003).

Due to law No. 189 - 30 (July 2002), the number of nurses from outside the European Union that can be admitted in Italy is independent from the established total number of acceptable immigrants. As of 7th February 2003, 2,538 foreigners resulted to have the equipollence of their nurse title, the knowledge of both Italian language and professional and Italian Health Care System regulations, which are necessary for being accepted in Italy as nurses and than enrolled in the IPASVI. These nurses arrived from Africa (336), Asia (104), European countries outside EU (1,764), North America (2), Oceania (2) and South America (300) (Aletto et al., 2002).

Relevant changes are occurring in the whole National Health System depending, among other things, on changes taken place in public employment rules, on the federalist reformation of the State and the consequent fiscal federalism, on the introduction of 'essential levels of care' (November 2001) and on new modality of quality control. Today, all these changes imply no clear perspectives about citizens' egalitarian rights to health in the different Italian regions: possible financial differences and inequalities within models of care could occur. The implementation of DRG (Diagnose Related Groups) based reimbursement

system has often privileged the economical aspects of health care management; however, efforts are being made aimed at improving quality of health care and at integrating territorial health care services (Silvestro, 2002).

The NEXT-Study gives us an opportunity to measure phenomena related to the nurses' shortage in Italy. In Italy, two institutions, namely the Department of Occupational Health and the Institute of Nursing Science at the University of Milan, are leading the study.

Methods

Recruitment of institutions

In order to select a representative sample of Italian nurses, we first decided to consider only personnel that are specifically trained in nursing, namely registered nurses, health assistant nurses, paediatric nurses, midwives, head nurses and nursing directors. To recruit the sample institutions, two main criteria were taken into account. First, the three different kinds of Institutions requested for the NEXT-Study (hospitals, nursing homes and home care) were sampled according to their proportional distribution on the National territory (North, Centre, South and Islands), particularly according to their different development within public and private sectors. Hospitals, nursing homes and home care facilities, as they are frequently belonging to the same Institution, sometimes turn out to be not clearly differentiated. The second criterion set that institutions had to be recruited according to their belonging to either urban or non-urban areas. These proportions have been calculated on the basis of data from the Italian Nurses' Federation (IPASVI), the National Institute of Statistics ISTAT and the Italian Association of Private Hospitals (AIOP).

After contacting the institutions, we recruited those where contact persons seemed more reliable and their administrations gave formal approval to participate in the study either in writing (15) or orally (5). Finally, 127 establishments as part of 16 Institutions (9 hospitals, 5 nursing homes and 2 home care services) were involved in the study. This sample can hardly be considered a fully representative sample of the Italian Institutions. On the other side, these turn out to be extremely cooperative.

In each of the recruited institutions, the NEXT-Study has been introduced by means of oral presentations, and advertising material (posters and leaflets) has been distributed in order to improve involvement of all those concerned. All employed nursing staff from the recruited institutions were than included in the study. Questionnaires, provided to each institution by the NEXT Italian responsible, were locally distributed to each nurse; after acceptance to participate to the study, each self-administered questionnaire has been gathered at the workplace in a sealed envelope and then sent back to the research institute.

Participation

In Italy, 5,645 (75.8%) out of approached nurses returned the questionnaire (Table 1). The *response* rate in the different institutions ranged from 29.9% to 97.3% (mean 72.4%, median 75.3%). Participation was highest in large hospitals and lowest in some private nursing homes. This may have to do with internal factors such as local organisation and lower commitment to the study.

Data entry was done by optical recognition machine and accurate manual data cleaning. Plausibility tests checked for outliers and implausible data. Impossible answers (e.g. 70 overtime paid hours per week) were treated as missing values.

Table 1. Overview over participating institutions and staff in the Italian 'basic assessment'.

institution	number of institutions	n staff approached	n staff responded	response rate	range of response rates
hospital > 400 beds	6	4,482	3,493	77.9%	71.1%–88.8%
hospital < 400 beds	3	1,973	1,516	76.8%	73.5%–88.5%
nursing home	5	402	257	66.9%	29.8%–87.1%
home care	2	590	378	64.1%	46.3%–97.2%
unknown			1		
all	*16*	*7,447*	*5,645*	*75.8%*	*35.9%–97.2%*

Statistical analysis

The descriptive data analysis has been conducted with SPSS 11.5 by means of Cross tables, Chi square test, U Mann Whitney test and ANOVA.

Methodological problem

The Italian version of the questionnaire is lacking of the item: '*How often during the course of the past year have you thought about giving up nursing completely*?' due to a technical misunderstanding occurred during the translation of the common questionnaire; we have then used as 'intention to leave' the item: '*How often during the course of the past year have you thought about giving up nursing completely and starting a different kind of job?*' In the whole international sample the two items present a high correlation ($r._{Pearson}$ .88); therefore, it seems possible to us to compare our results to the others.

Results

Out of the whole participating nursing staff, 85.3% is employed in hospitals, while 3.2% in long term care institutions and 11.4% in home care institutions (Table 2). The mean age of male participants was higher than that of female ones in both hospital and long term care ($p<.001$).

Table 2. Participant in Italy by type of institution, gender and age. (72 missing values)

type of institution		n	%	mean age	stdev. age
hospital	female	3,469	73.0	37.26	7.61
	male	1,285	27.0	39.25	8.67
	all	*4,754*	*100.0*	*37.80*	*7.96*
nursing homes	female	119	65.7	37.00	7.79
	male	62	34.3	37.76	7.76
	all	*181*	*100.0*	*37.25*	*7.77*
home care	female	543	85.1	40.95	*6.91*
	male	95	14.9	40.52	8.79
	all	*638*	*100.0*	*40.89*	7.21
all	*female*	*4,131*	*74.1*	*37.73*	*7.63*
	male	*1,442*	*25.9*	*39.27*	*8.64*
all	*all*	*5,573*	*100.0*	*38.13*	*7.93*

Intent to leave

Out of the 5,211 respondents, 10.8% thought of giving up nursing completely and starting a different kind of job ('intent to leave', ITL) *'several times per week' or 'daily'*, whilst for an additional 8.2% this is the case for *'several times per month'* (Table 3).

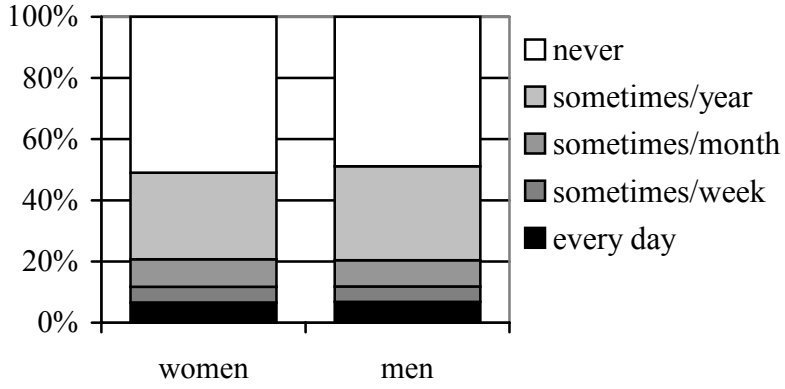
Table 3. Response distribution to the question: 'How often during the course of the past year have you thought about giving up nursing completely and starting a different kind of job?'. (346 missing, 88 not applicable)

answering category	frequency	percent
never	2,626	50.4
sometimes/year	1,508	28.9
sometimes/month	465	8.2
sometimes/week	266	4.7
every day	346	6.1
all	*5,211*	*100.0*

The sample was dichotomised with respect to the intensity of thinking about leaving the profession for another job: on one hand there are nurses that think about it 'sometimes a month/week or every day', one the other hand the ones not so often considering this opportunity. The non parametric test U test of Mann-Whitney showed that ITL varied according to a) age b) some work conditions, work proposals and easiness in getting a new job, c) scales depending on subjective evaluation as: 'job satisfaction', perception of own 'health', 'work ability' and exhaustion ('burnout') ($p<.05$ to$<.0001$). As regards to the aspects that characterized the samples across countries:

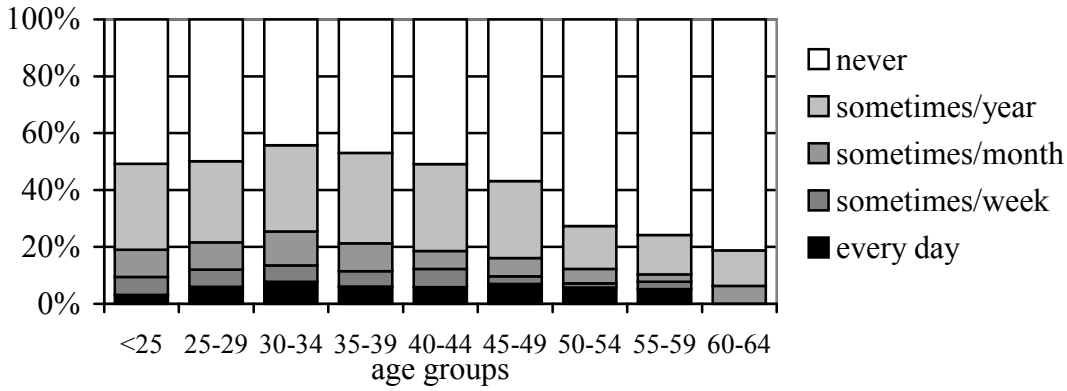
a) gender. The gender was not directly related to the 'intent to leave the profession for another job' (Figure 1).

Figure 1. Response by gender: 'How often during the course of the past year have you thought about giving up nursing completely and starting a different kind of job?'. (n=5,193, n_{women}=3,838, n_{men}=1,355)



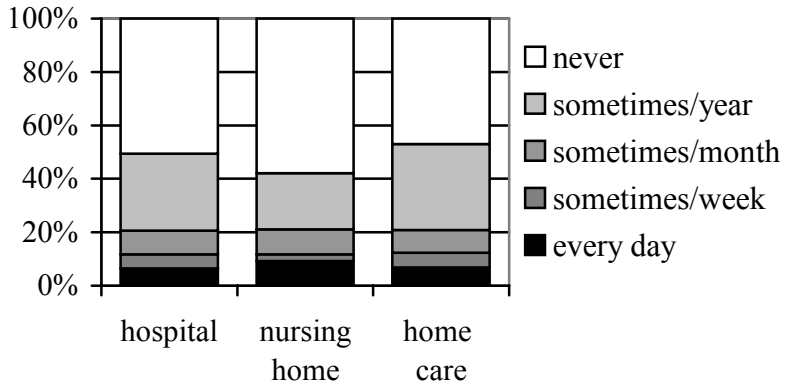
b) age. Age was associated with intent to leave (Figure 2), but not in a linear way. In the age group '30 to 34 years' nurses showed the highest intent to leave, with percentage significantly decreasing until the age group '50 to 54 years'.

Figure 2. Response by age: 'How often during the course of the past year have you thought about giving up nursing completely and starting a different kind of job?'. (n_{total}=3,537, n_{-24}=56, n_{25+}=627, n_{30+}=1,249, n_{35+}=890, n_{40+}=772, n_{45+}=383, n_{50+}=301, n_{55+}=110)



c) type of institution.
The ITL differences between the type of institutions (hospital, nursing home, home care) were not significant (Figure 3).

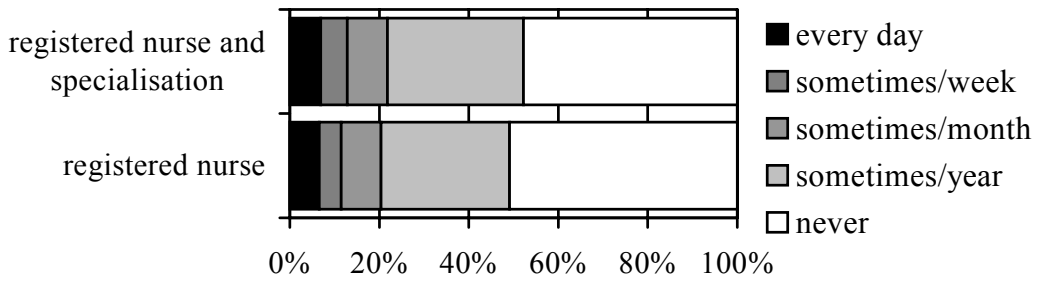
Figure 3. Frequency of 'intent to leave the nursing profession' by type of institution. (n_{total}=5,594, $n_{hospital}$=4,773, $n_{nursing\ home}$=181, $n_{home\ care}$=640)



d) qualification level. The 'intent to leave the profession for another job' does not present differences between the considered qualification levels (Figure 4).

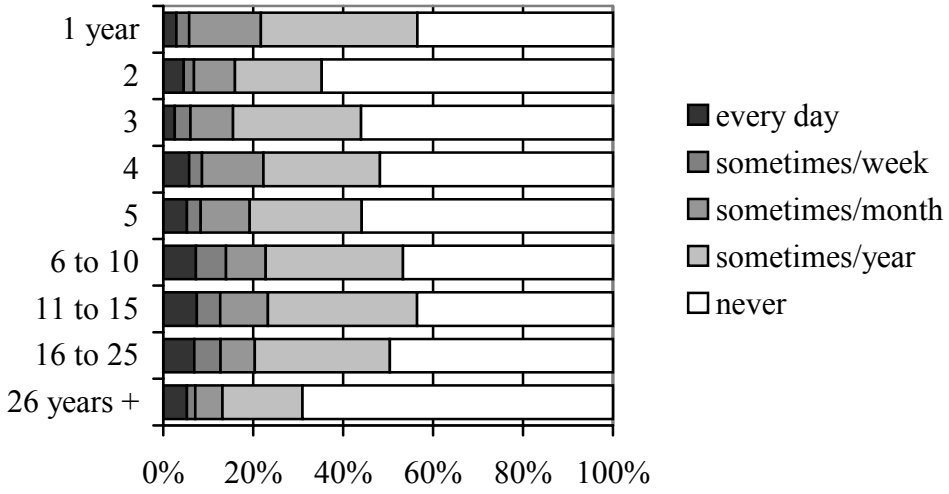
ITL differences between the 16 institutions involved in the Italian study ranged from 0 to 17.4 (median 11.3). In only one institution none of the participants considered leaving the profession every week or more often. This was a home care with 71 nurses, which is very similar to others belonging to the same institution. Else, the rate varied substantially – even between larger institutions. For example, in one institution with 900 nurses only 7.9% considered leaving the profession often, whereas in another institution with 727 nurses 11.1% thought to leave. This probably implicates that there are 'attractive' conditions even when the aspect 'intent to leave the profession for another job' is regarded.

Figure 4. Level of qualification by 'intent to leave for another job'. (n_{total}=5,154, $n_{nurse+spec}$=734, $n_{reg.nurse}$=4,420)

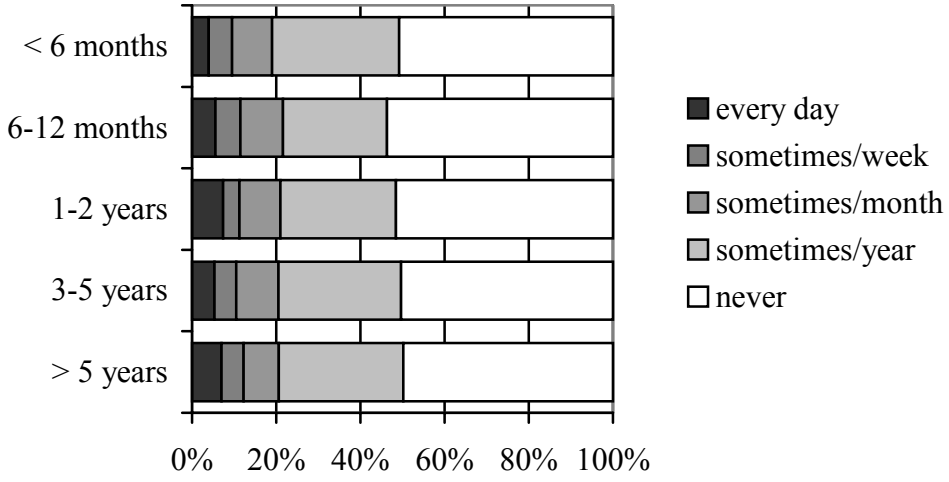


e) seniority. Occupational and institution seniority is strongly correlated to nurses' age (respectively $r_{Pearson}$ .86–.40). Figure 5 indicates that the 'intent to leave the nursing profession for another job' is higher after 6-10 years of work in the profession and after 5 years of permanence in the current employment (Figure 6).

Figure 5. Occupational seniority (without time for nursing education) in relation to 'intent to leave nursing'. (n_{total}=5,177, n_{1year}=69, n_{2years},=88, n_{3years}=116, n_{4years}=139, n_{5years}=229, $n_{6\text{-}10years}$=1,464, $n_{11\text{-}15years}$=1,147, $n_{16\text{-}25years}$=1,352 $n_{26+years}$=573)

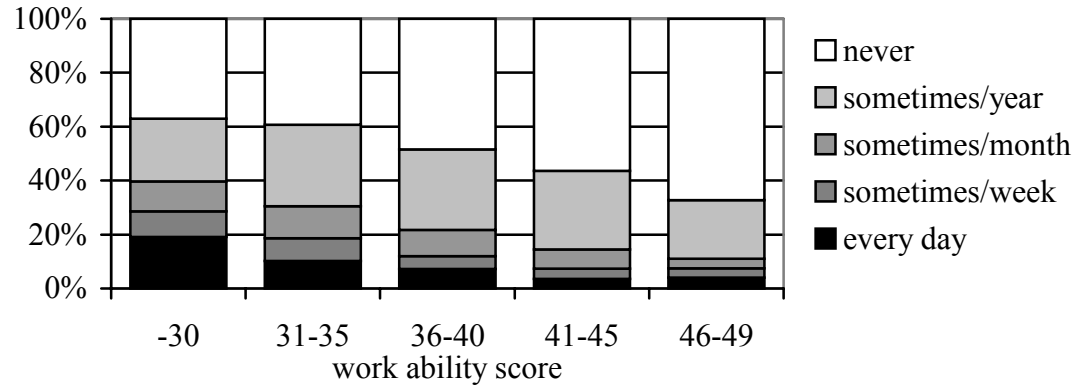


Figures 6. Institutional seniority in relation to 'intent to leave nursing for another job'. (n_{total}=5,170, $n_{< 6month}$=126, $n_{6\text{-}12month}$=287, $n_{\text{-}2years}$=543, $n_{2\text{-}3years}$=755, $n_{> 5 years}$=3,459)



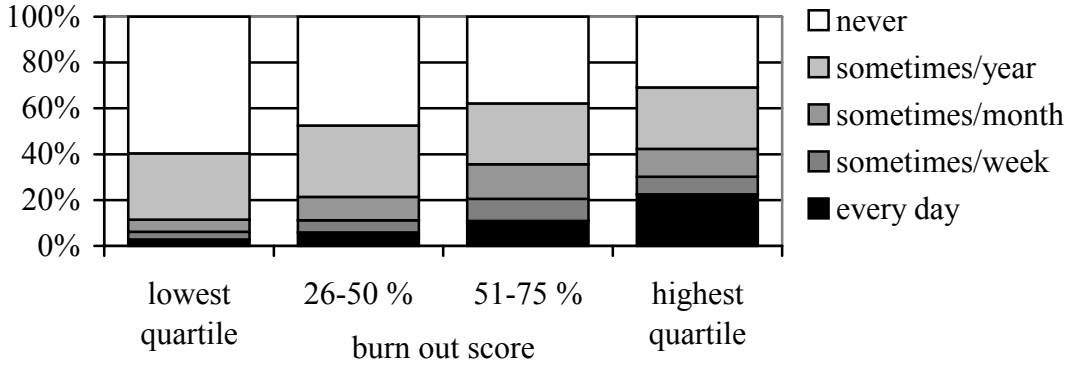
f) work ability. A lower 'work ability index' was associated with higher intent to leave the nursing profession. This was the same for men and women, even though women showed a significantly lower work ability score than men ($p<.001$) (Figure 7).

Figure 7. Work Ability Score (WAI) in relation to 'intent to leave nursing for another job'. ($n_{total}=3,995$, $n_{wai-30}=262$, $n_{wai-35}=570$, $n_{wai-40}=1,310$, $n_{wai-45}=1,655$, $n_{wai-49}=198$)



ad g) Exhaustion. Burnout was also clearly associated with intent to leave the profession (Figure 8). This was the case for women and men.

Figure 8. Burnout in relation to 'intent to leave nursing'. ($n_{total}=4,833$, $n_{lowest\ quart.}=2,173$, $n_{26-50\%}=1,549$, $n_{51-75\%}=697$, $n_{highest\ quartile}=414$)



In summary, 10.8% of Italian nursing staff 'often' considered to leave the nursing profession for another job while 8.2% considered this 'several times per month'. The main sources of variance with ITL were found with data such as age, working mobility between different departments, working overtime without any kind of compensation, going to work although ill, other caring responsibilities apart from job, new job offered, easiness to get another job in health care, exposure to risks, bad postures, performing tasks which do not

belong to the profession or for which the respondents did not feel qualified enough. High associations were also observed with subjective scales such as 'job satisfaction', 'burnout', 'work ability index', 'effort reward imbalance' and so on. As for the Italian sample, gender, position or kinds of institution (hospital, long term care home, home care) have no direct effects on the intention to leave the profession.

Discussion

In Italy, the demand of nursing is exponentially increasing, while more than 40,000 nurses are lacking. About 12,000 nurses retire every year, whereas the University and Health Ministry has programmed only 10,000 new entries/per year into the nursing educational program.

These preliminary results speak in favour of unsatisfactory conditions at work and their consequent negative effects on nurses' well being and health. Intent to leave appears to be facilitated by the chance to find another job, even if in the same sector. This finds support by the high internal mobility of Italian nurses, which generally takes place within either the same institution or the same regional area, and is often associated with active training. The shortage of personnel itself facilitates this situation. It is important to take into account changes occurring in both health care management and health sectors, to recognize adaptive or stress behaviours and to correctly interpret which kind of interventions could help nursing profession to adjust to changes. Recently, urgent provisions about health care personnel have been taken: nurses' category has been exempted from the general restriction of employment in the public health sector due to economical reasons (Financial act, 2003). Nursing innovation and career progression have been defined (law No. 1 - 21 December 2002), but they unfortunately do not have financial backing to be effective (Terminelli, 2002). Many hospitals cannot easily face this shortage: at the same time, many districts and long term care institutions have not been activated or they work under uncertain conditions. The shortage is worse in the north and the centre of Italy. This determines a high rate of migration of nurses from the south. Yet, southern nurses look forward to going back home as soon as possible, owing, among other things, to the high cost of living in Northern Italy (Palese, 2002).

References

Aletto L, Magri M & Muttillo G (2002) Esami per l'esercizio professionale degli infermieri extracomunitari. [Examinations for extra-UE nurses' professional practice]. *Io Infermiere* 3:15-23.

De Carolis S (2003) Un profilo 'autonomo'**.** [An 'independent' profile]. *I Quaderni de l'Infermiere* 5:11-13.

Fassari C (2003) Laurea e dirigenza [University degree and management]. *I Quaderni de l'Infermiere* 5:14-19.

Federazione Nazionale Collegi IPASVI: Infermieri – i numeri di una professione in emergenza. Indagine della Federazione Nazionale dei Collegi IPASVI sull'uso della risorsa infermieristica nel Servizio Nazionale. [A Nurses' Italian Federation survey on the use of nursing resources in the National Health Service]. Roma, Marzo 2001.

Fortunato E. (2002) La fotografia dei nuovi corsi di laurea. [A picture of the new degree courses]. *L'infermiere* 1:15-17.

Ministry of Health – Information and Statistical System Head Office for structural and technological investments. Directorate of Statistics, 2001.

Muttillo G (2003) OSS con formazione complementare. [Social Health Operators with complementary training]. *L'infermiere* 1:3-5.

Palese A (2002) La risorsa infermieristica nel Servizio Sanitario Nazionale. [Nursing resources in the National Health Service]. *I quaderni de l'Infermiere* 10:14-20.

Rocco G (2002) ECM: per gli infermieri è una grande opportunità. [ECM: a great opportunities for nurses]. *L'infermiere* 3:11-14.

Silvestro A (2002) Il progetto degli infermieri per una Sanità al servizio del cittadino. [Nurses' project for a citizen-targeted Health Care System]. *I quaderni de L'infermiere* 10:4-13.

Terminelli A (2002) Nessun divieto alle assunzioni degli infermieri**.** [No prohibitions to nurses' recruitment]. *L'infermiere* 1:3.

22 Intent to leave nursing in the Netherlands

Esther van der Schoot and Beatrice van der Heijden

Introduction

In 2001, 319,600 nurses, health care takers, and assistant nurses were working in the health care sector in the Netherlands (Van der Windt, 2002). This is approximately 4.6% of the total workforce (CBS, 2002). The percentage of nurses, health care takers, and assistant nurses was respectively, 63.2%, 18.7%, and 18.1%. 27.1% of the above-mentioned total population of 319,600 works in hospitals, 36.2% in nursing and old peoples' homes, and 36.3% in home care institutions (AZWINFO, 2002).

From 1991 until 2000 the average growth in health care personnel was about 1.8%. For the upcoming years (until 2005) it is expected that the health care workforce will grow with about 2.5%. Until 2004 the increase will temporarily be slightly higher (more than 3%) in order to diminish the existing waiting lists (Calsbeek et al., 2001; Van der Windt, 2002).

All work fields in the health care sector are reporting problems with obtaining nurses, health care takers and assistant nurses. In home care institutions the shortage is 1000 full time equivalents (fte), nursing and old peoples' homes report 1,900 fte, and in hospitals 1200 fte can hardly be filled up. The percentage of vacancies that can hardly be filled up for (assistant) nurses and health care takers, stayed almost the same in 2001 (in comparison with 2000) (Van der Windt, 2002).

10.9% of the (assistant) nurses and health care takers left their profession. This rate is higher compared with the fluctuation rate of the total working population. Moreover, the flow increases (slightly) faster compared with the one in the total economy. The same applies for the number of employees that change jobs within the same profession (7.2%) versus the number of (assistant) nurses and health care takers (5.4%) (AZWINFO, 2002; CBS, 2002; Van der Windt, 2002; Van Essen et al., 2001). Reasons frequently mentioned to look for another job in one's own profession are: the need for work (25%), more possibilities to develop oneself (24%), travelling time (22%), and career perspectives (20%).

Most internal mobility of (assistant) nurses and health care takers can be found in hospitals (10%) and nursing homes (10%). The ones in home care institutions and old people's homes are respectively 3% and 2% (Allaart et al., 2001).

(Assistant) Nurses and health care takers have different reasons to quit their job completely (Messchendorp et al., 2002; Van Dijk et al., 2002). Resignation is most frequently mentioned (especially in home care: 12.2%). Secondly, limited

contracts, followed by retirement, and retirement for health reasons. Dismissal is hardly mentioned in contrast to the total labor market (0.5% versus 1.2%) (Calsbeek et al., 2001).

Most people stop working completely due to health reasons (35%), followed by family motives (33%) and parenthood (28%). One's physical workload seems to play an essential role as well (11%). Only 8% reported work pressure as a reason to quit labor (AZWINFO, 2002).

In order to prevent premature departure of health care personnel in the Netherlands, the NEXT-Study has been performed. In the following sections we will go into the methodology of the study.

Methods

Recruitment of institutions

Different steps have been taken in order to select the Dutch participating institutions. Firstly, the country was divided in five regions (north, south, east, west and middle). Secondly, for each region, twenty hospitals, forty nursing and old peoples' homes, and twenty home care institutions were selected randomly. The selection was based upon information regarding the distribution of the population that was obtained from the Internet, and from the Chamber of Commerce, and by using addresses from national federations of health care institutions. Although we did our utmost to obtain a representative sample, it was necessary to make use of the so-called convenient sampling strategy. Due to two recently performed large surveys (Messchendorp et al., 2002; Van Dijk et al., 2002) many health care institutions, especially in the western part of the Netherlands, indicated that their employees were supposed to be research fatigue and therefore reluctant to cooperate. Moreover, following economic drawbacks, many institutions were in the middle of a fusion and/or reorganisation implying that the management team decided not to participate to scientific studies in order to prevent more unnecessary stress for their workforce.

After contacting the STO-network (Cooperating Top Clinical Hospitals (10) another three hospitals decided to participate in the NEXT-Study. In the end, 28 health care institutions (9 hospitals, 15 nursing and old peoples' homes, and 4 home care institutions) appeared to be interested to participate in our study. However, six old peoples' and nursing homes drew back before the final agreements were made.

The total Dutch sample consist of 4024 respondents. The distribution over type of institution is as follows: 63% in hospitals, 18.5% in nursing and old peoples' homes, and 18.2% in home care institutions. Unfortunately and due to a combination of factors that have been explained above, we have not obtained a representative spread of the different institutions by region.

Participation

For all participating health care institutions, a thorough discussion with a representative from the personnel department took place. We gave an explanation of the criteria for participation and we made samples of employees appropriate for the NEXT-survey.

In order to facilitate data gathering, in each participating institution a contact person has been pointed out. Most health care institutions distributed the questionnaires themselves among the respondents. For two institutions, the University of Twente sent the questionnaires to the home addresses of the respondents. Two other institutions took care themselves for sending the questionnaires to the home addresses of the respondents. In the remaining institutions, our contact persons made sure that the questionnaires were handed out at work meetings or distributed by means of the mailboxes at the health care institute. The contact persons have been asked several times by phone and in person to remind the respondents to fill out and to return the questionnaire.

Participation turned out to be low in general, and for some institutions (nursing and old peoples' homes) very low, due to sickness of the head nurse, who was also responsible for the NEXT-Study and/or a very high workload. One of the home care institutions was in a reorganisation process. This caused a lot of trouble regarding the distribution of questionnaires. The most important hindrance here was the fact that it was not documented to whom the questionnaires were handed out.

In general, the response rate of (assistant) nurses and health care takers working in home care is lowest. Inquiry pointed out that the questions were not too appealing due to specific formulations, such as: 'A doctor ordering what appears to be inappropriate treatment for a patient.' and 'Uncertainty regarding the operation and functioning of specialised equipment.' Apparently, these type of questions refer to situations that are not so common in home care settings.

Table 1. Overview over participating institutions and staff in the Dutch 'basic assessment'.

institution	number of institutions	n staff approached	n staff responded	response rate	range of response rates
hospitals	9	5019	2520	50,2%	41.4% - 83.3%
nursing and old peoples' homes	9	1138	753	66,2%	10.0% - 52.0%
home care institutions	4	3054	745	24.4%	12.6% - 46.5%
unclassified	0	0	1		
total	*22*	*9211*	*4019*	*43.6%*	*10.0% - 83.3%*

Data entry
Data entry was done manually by a specialised data entry agency, fully based upon the codebook as developed by the NEXT-consortium. After receiving the computerised data set, the University of Twente cleaned the data.

Statistical analysis
The following data analyses have been conducted with SPSS 10.0 and 11.0.

Results

Nursing staff working in hospitals comprised 62.7% of all respondents, those working in old peoples' homes and nursing homes comprised 18.8%, and those working in home care comprised 18.5% (see Table 2). The average age of the total sample is 39.19 years.

Table 2. Participants in the Netherlands by type of institution, gender and age.

type of institution	sex	n	%	mean age	st. dev. age
hospitals	female	2,184	86.9	39.21	9.73
	male	330	13.1	38.13	9.41
	all	*2,514*	*100.0*	*38.13*	*9.39*
old peoples'	female	716	95.1	39.20	9.82
and nursing	male	37	4.9	38.39	9.58
homes	*all*	*753*	*100.0*	*38.04*	*9.92*
home care	female	736	99.2	39.22	9.82
	male	6	0.8	42.31	9.41
	all	*742*	*100.0*	*43.97*	*9.23*
all	*female*	*3,636*	*90.7*	*39.21*	*9.82*
	male	*373*	*9.3*	*39.03*	*8.89*
all	*all*	*4,009*	*100.0*	*39.19*	*9.73*

Intent to leave
Of the 3951 respondents, 3.6% thought of giving up nursing completely ('intent to leave', ITL) *daily* or *weekly*, an additional 5.3% considered this *monthly* (see Table 3). However, ITL varied with respect to a) gender, b) age, c) type of institution, d) qualification, e) seniority, f) health and work ability, and g) exhaustion ('burnout').

Below, these aspects will be looked at in relation to 'intent to leave the profession'. Where appropriate, the sample was dichotomised with respect to the intensity of thinking about leaving the profession. Those thinking of this 'weekly and more' were compared to those considering it less often or not at all. The underlying reasoning for the determination of the cut off point was that the occasional consideration (yearly, monthly) of such a step might be regarded as rather

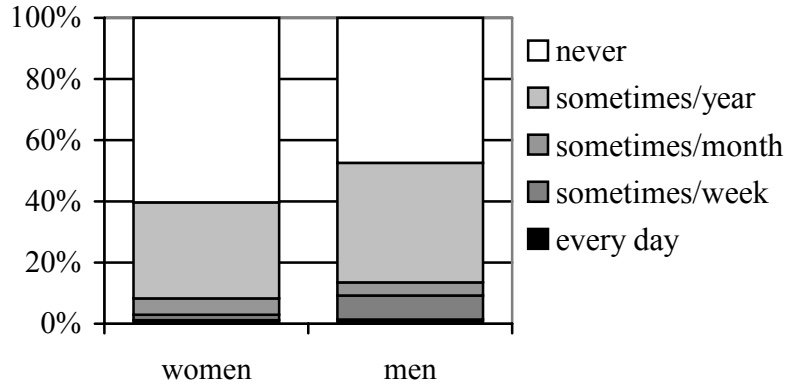
natural for most professionally active people. In contrast, weekly consideration was regarded to indicate a serious will to leave the profession.

Table 3. Response distribution to the question: 'How often during the course of the past year have you thought about giving up nursing completely?'. (291 'not applicable', 68 missing)

answering category	frequency	percent
never	2,162	59.1
sometimes/year	1,175	32.1
sometimes/month	194	5.3
sometimes/week	83	2.3
every day	46	1.3
all	*3,660*	*100.0*

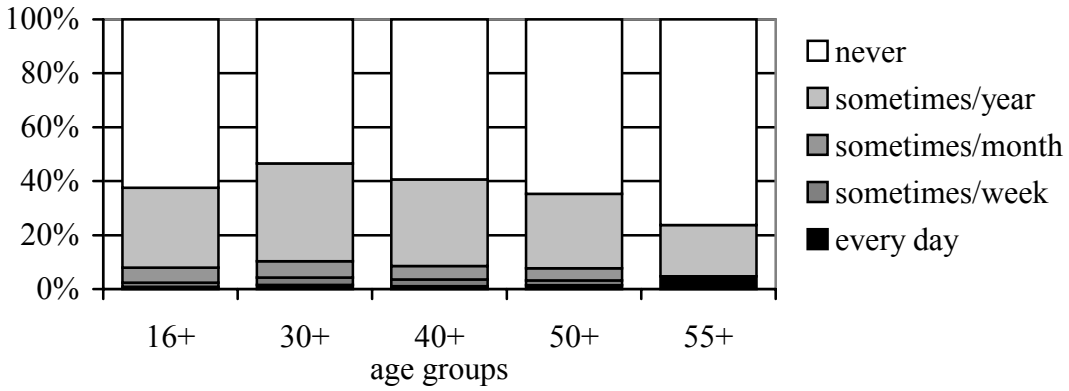
a) Gender. Responding men appear to have a somewhat higher tendency of considering leaving their profession. 7.8% of them considers leaving the profession weekly versus 1.7% of their female counterparts.

Figure 1. Response by gender: 'How often during the course of the past year have you thought about giving up nursing completely?'. (n = 3653, n_{women} = 3307, n_{men} = 346)



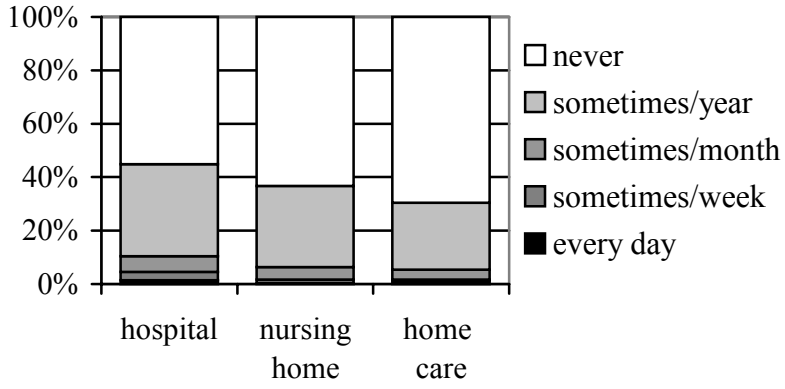
b) Age. Age is clearly associated with intent to leave (see Figure 2), however, not in a linear way. Younger nurses show a relatively high intent to leave with maximum levels among nurses in their thirties. Nursing staff in the highest age group (55+) consider leaving their profession the least.

Figure 2. Response by age: 'How often during the course of the past year have you thought about giving up nursing completely?'. (n = 3650, n_{16+} = 762, n_{30+} = 1162, n_{40+} = 1152, n_{50+} = 553, n_{55+} = 21)



c) Type of institution. Nursing staff in hospitals considered leaving nursing to a higher degree (3.1% considered this at least weekly) compared with those working in nursing and old peoples' homes (1.3%), and in home care (0.3%). Working within home care institutions appears to be 'most attractive'. In this sector 69.6% of the nurses indicated that they never considered leaving the profession versus 55.1% in hospitals and 63.3% in nursing and old peoples' homes.

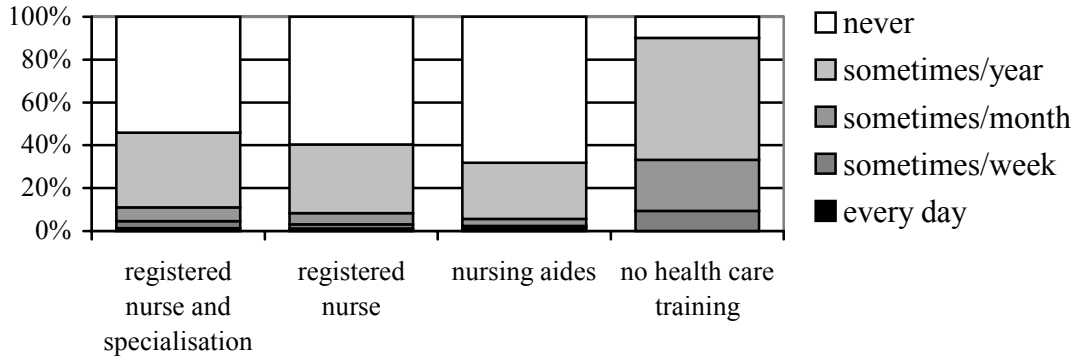
Figure 3. Frequency of 'intent to leave the nursing profession' by type of institution. (n_{total} = 3660, $n_{hospital}$ = 2359, $n_{nursing\ home}$ = 676, $n_{home\ care}$ = 625)



d) Qualification level. The wish to leave the profession is most pronounced among nurses with no health care training (see Figure 4). 26.3% of them thinks monthly of leaving the profession, and even 63.2% reported to consider it on a weekly basis. Nursing aids report the lowest intention to leave. 68.2% of them

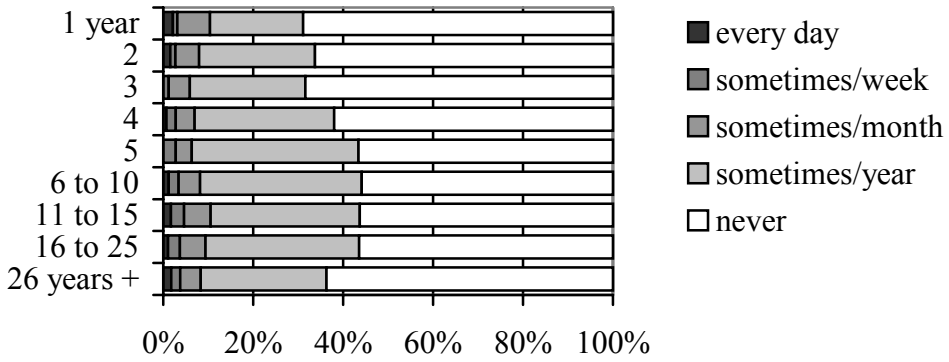
indicated that they never consider giving up the profession. The differences between the two types of registered nurses appear to be minimal.

Figure 4. Level of qualification by 'intent to leave'. (n_{total} = 3625, $n_{nurse+spec.}$ = 972, $n_{reg.nurse}$ = 2301, n_{aides} = 333, $n_{no\ training}$ = 19)



e) Seniority. Figure 5 shows that the wish to leave the nursing profession is already prevalent among nurses in their earlier career stages. This tendency seems to increase over the years with a so-called 'peak' after 6-10 years of *se*niority. Nurses with the highest occupational seniority seem to report a somewhat lower wish to leave the profession.

Figure 5. Occupational seniority (without time for nursing education) in relation to 'intent to leave nursing'. (n_{total} = 3660, n_{1year} = 193, n_{2years} = 190, n_{3years} = 171, n_{4years} = 142, n_{5years} = 143, $n_{6\text{-}10years}$ = 689, $n_{11\text{-}15years}$ = 716, $n_{16\text{-}25years}$ = 1019, $n_{26+years}$ = 397)

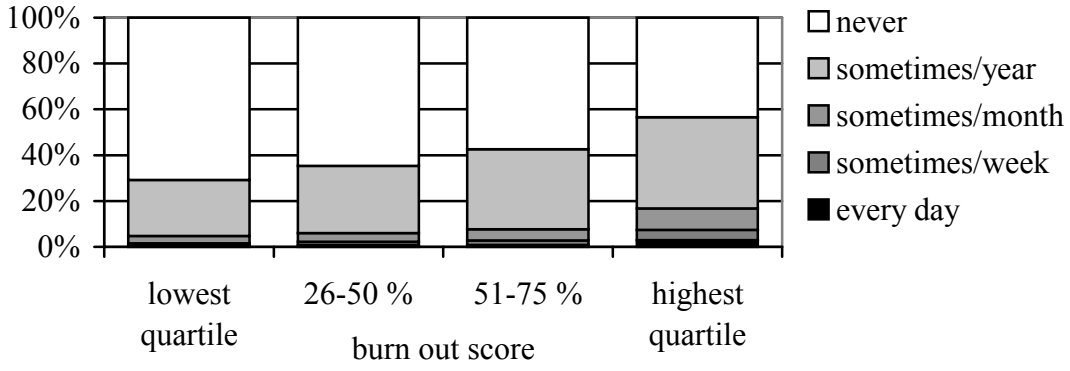


f) Work ability. Work ability appears to be a rather strong predictor of 'intent to leave the nursing profession'. A lower work ability is associated with a higher intent to leave.

Figure 6. Work Ability Score (WAI) in relation to 'intent to leave nursing'. $n_{total} = 3588$, $n_{poor\ (7\text{-}27)} = 85$, $n_{moderate\ (28\text{-}36)} = 162$, $n_{good\ (37\text{-}43)} = 1925$, $n_{excellent\ (44\text{-}49)} = 1416$)

g) *Exhaustion.* Burnout as an indicator for mental exhaustion is also clearly associated with intent to leave the profession (see Figure 7). A higher burnout score is associated with a higher intent to leave the nursing profession. 9.4% of the nurses with the highest burnout scores think about leaving the profession monthly, while 4.5% reports to consider it even weekly.

Figure 7. Burnout in relation to 'intent to leave nursing'. ($n_{total} = 3637$, $n_{lowest\ quartile} = 841$, $n_{26\text{-}50\%} = 1101$, $n_{51\text{-}75\%} = 752$, $n_{highest\ quartile} = 943$)



Discussion

Our results indicate that the Dutch nursing staff is rather attached to their profession. A very serious consideration to leave, that is to say, thinking of it on a daily or weekly basis, is rather rare among nurses (3.6%). However, among those who do consider leaving the profession, some risk factors that are worth mentioning, come up.

As a lack of health care training seems to go together with a high intent to leave it is important to pay attention to schooling and development opportunities for nurses. Higher burnout scores and a lower work ability endanger nurses' attachment to their profession as well.

Men seem to be in a little disadvantage compared with women. Moreover, the intention to leave seems to be highest among nurses working in hospitals. As the wish to leave the profession is already prevalent among nurses in early career stages it is advisable to pay attention to the prevention of risk factors immediately after entry in the labor market.

The relatively high attachment of nurses in our sample to their profession may be seen as a positive sign. Yet, due to the enormous shortage of nursing staff, we have to find measures that consolidates their commitment in order to keep them in the profession in the long run.

In future stages of the longitudinal NEXT-Study we will consider the role of the so-called healthy worker effect, and we will report the actual departure from the nursing profession. Moreover, the relationship between different individual, work-related and institutional factors on the one hand, and premature departure on the other hand, will be investigated. In order to obtain a more differentiated view, subgroups of nurses, more specifically possible risk groups, will be studied.

References

Allaart PC, Van Essen E, Meihuizen HE, Peters F & De Voogd-Hamelink AM (2001) Trendrapport vraag naar arbeid in zorg en welzijn 2000 [Trend report on the demand of labor in health care and social well being 2000]. In: Van Essen E, Meihuizen HE & Peters F *Arbeid in zorg en welzijn. Integrerend OSA-rapport 2001* [Labor in health care and social well being. Integrating OSA-report 2001]. Den Haag: OSA.

AZWINFO (2002) *Labor market information health care and well being*. http://www.azwinfo.nl.

Calsbeek HL, Hingstman H, Talma, H & Van der Windt W (2001) Feiten over verpleegkundige en verzorgende beroepen in Nederland [Facts about nursing and health care occupations in the Netherlands]. In: Van der Windt W *Regiomarge 2001. Een arbeidsmarktverkenning van verpleegkundigen, verzorgenden en sociaal pedagogen* [An exploration of the labor market of nurses, health care takers and social pedagogues]. Utrecht: Sector lijsten van zorg en welzijn.

CBS (2002) *Central agency for statistics in the Netherlands*. http://www.cbs.nl.

Messchendorp HJ, Van der Weerd E, Steenbeek R, Dinkgreve R, Meulenkamp T & Mettendaf A (2002) *Werk in beeld, brancherapport 2002: Medewerkersraadpleging CAO arbeid en gezondheid verpleeg- en verzorgingshuizen* [Labor monitored, sector report 2002: Staff consultation CAO labor and health care nursing and old peoples' homes]. Utrecht: Prismant.

Van Dijk JK, Messchendorp HJ, Koopman MI, Steenbeek R & Van Til CT (2002) *Personeel in beeld: De arbeidsbeleving van medewerkers in ziekenhuizen, revalidatiecentra en andere instellingen die vallen onder de CAO-Z* [Health care staff monitored: Work experiences of health care staff in hospitals, revalidation centra and other institutions of the CAO-Z]. Utrecht: Prismant.

Van Essen E, Meihuizen HE & Peters F (2001) *Arbeid in zorg en welzijn. Integrerend OSA-rapport 2001* [Labor in health care and social well being. Integrating OSA-report 2001]. Den Haag: OSA.

Van der Windt W (2002) *Regiomarge 2001. Een arbeidsmarktverkenning van verpleegkundigen, verzorgenden en sociaal pedagogen* [An exploration of the labor market of nurses, health care takers and social pedagogues]. Utrecht: Sector lijsten van zorg en welzijn.

23 Who wants to leave nursing in Poland?

Maria Widerszal-Bazyl, Piotr Radkiewicz, Janusz Pokorski, Joanna Pokorska, Halszka Ogińska and Ewa Pietsch

Introduction

In 2001, in Poland, there were 186,491 employed nurses (Mały Rocznik Statystyczny, 2003). A decisive majority, according to estimates in 1999 – 98.8% (Centrum Organizacji i Ekonomiki Ochrony Zdrowia, 1999), were women. Consequently, we had 51 nurses per 10 thousand inhabitants (data from 1999), which means that this figure was lower then in several northern EU countries such as Finland (216.3), Norway (184.1), Belgium (106.9), Germany (95.7), Sweden (82.1) at the same period. The above index had similar value in countries such as France (49.7), Italy (48.7) and UK (50.5) (Mały Rocznik Statystyczny, 2003).

Since 1997, a small decrease in the number of employed nurses can be observed. Between 1997 and 2001, the number of nurses in sequential years was: 217,200; 213,100; 197,200; 189,600; 186,500 (Mały Rocznik Statystyczny, 2003). It should be noted, however, that the decreasing trend concerns not only employment of nurses but also other employees in health care system, for example physicians (Mały Rocznik Statystyczny, 2003).

According to estimates (Centralny Instytut Ochrony Pracy, 2002) most nurses work in in-patient health care, mainly hospitals (72%), fewer in out-patience health care (23%) and only a small portion in social welfare facilities (5%) including homes for the elderly and chronically ill.

The Polish health care system, like Polish economy in general, is going through a deep transformation. During the 1990s, it was substantially decentralized. One of the major structural changes was the establishment of 16 regional health insurance funds (‘Kasy Chorych’). Each of them had significant autonomy and was responsible for the administration of health care issues in a given region of the country (Health Care Systems in Transition. Poland 1999). These changes did not lead to higher effectiveness of management and were criticized by various circles. As a result, the health care system was again centralized: the regional health insurance funds were eliminated and in their place one general National Health Fund was established (Dziennik Ustaw, 23.01.2003, Nr 45, poz.391). The reforms also brought property and structural transformations. The process of privatization concerns hospitals only to a small extent: in 2002, out of total number of hospitals only 8% were private, in 2001– 6%, in 2000 – 4% (Mały Rocznik Statystyczny, 2003). Property transformation can be seen very clearly in out-patient health care. In 2000, out of 8,188 out-patient units, 42%

were non-public (Podstawowe dane z zakresu Ochrony Zdrowia w 2001), and in 2003 out of 14,858 such units – 74% were non-public (Rejestr ZOZ, 2003). Apart from privatization, there is a dynamic development of new forms of out-patient activities, i.e. medical practices which provide consultation in the frame of public resources. For example in 2000, in urban areas there were 4,211 medical practices and in 2001 as many as 5,136 (Podstawowe dane z zakresu Ochrony Zdrowia w 2001).

Despite efforts to improve health care system, the condition of many units is still bad. Thus, working conditions of the nurses employed there are difficult. They often have no possibility to provide good treatment and care, and moreover they receive low wages (Oświadczenie OZZPIP, 2002). In some cases, because of the bad financial situation of the unit, the employers decrease already low wages or occasionally delay payment for long periods (Oświadczenie OZZPiP, 2002). During the last years nurses' dissatisfaction has taken violent forms. Nurses' strikes and demonstrations, including street and railway blockades, spread all over the country (Stelmach, 2001). The strikers demanded, first of all, higher wages. The majority of Polish people perceived nurses' protests as justified (CBOS, 2000). Nurses' dissatisfaction continues.

Despite difficult working conditions it seems that the act of leaving the profession is not a frequent phenomenon among Polish nurses; to the contrary, they rather worry to lose the job (Chamber of nurses, 2003). The sense of insecurity is reinforced by difficult situation of the Polish labour market with its high unemployment rate.

The system of nurses' education is also undergoing transformation. It has to be adjusted to EU regulations. This is why pre-university nursing education will be discontinued this year (2002/03 is the last academic year for these schools) and simultaneously education at university level increases (Naczelna et al., 2003). It is estimated that 25 new nurses' education units will be created at academic level.

It seems that nurses' migration to the EU countries is a phenomenon of a low scale (for example the project 'Polish nurses in the Netherlands' signed by health ministries of both countries offers jobs for only 50 nurses in the period between 01.2003 and 01.2005). However, the problem of Polish nurses migration has not been studied systematically.

The NEXT-Study is the first such large study of Polish nurses. It will allow to find – among other things – whether the early job exit is an equally important phenomenon among Polish nurses as among nurses from other countries and what are the specific reasons for it. In Poland, it is being carried out by the Central Institute for Labour Protection - National Research Institute, Warsaw, and Collegium Medicum of the Jagiellonian University in Krakow.

Methods

Recruitment of institutions

In a composition of the sample of health care institutions several criteria reflecting structure of the nurses' population were taken into account. The percentages of nurses and midwives in Poland employed by various types of units, according to the results of the initial survey, were: hospitals – 72%; out-patient clinics – 23%, and social welfare homes – 5%. Home care in Poland, in its majority, is still executed by nurses employed in out-patient care. In case of hospitals their size was taken into account (large hospitals, employing over 400 nurses, and small ones, under 400 nurses).

Next step of the recruitment process headed towards assuring geographic representativeness of the sample. According to the percentages of nurses in relation to the total nurses' population, regions of Poland were divided into three groups: (a) two large regions encompassing 26.5% of the whole population; (b) seven medium regions with 49.1% of the population; and (c) seven small regions including 24.4% of all Polish nurses. Another operation aimed at improving geographical representativeness was a division made taking into consideration the size of community. Four categories were distinguished: large cities (over 200 thousands of inhabitants), medium towns (50-200 thousands), small towns (under 50 thousands), and villages.

The recruitment procedure started from the telephone call to chosen institutions. In the bigger institutions e.g. hospitals and some out-patient care institutions; the idea of the study was explained firstly to the head nurse. After the initial consent, appropriate managers were contacted. In case of expressing positive attitude, personally addressed letters, explaining in details the procedure of the study, were directed to all those decisive persons. Letters were accompanied by a leaflet explaining the NEXT-Study procedures and scope, and the copy of the questionnaire.

Since in many smaller units the position of the superior nurse was cancelled, the collective agreement of the majority of nurses was required. In many small units the contact person was a director of the unit.

During the first stage of recruitment procedure over 300 units, chosen on the basis of the Polish health service directory, were approached. 204 of them expressed their interest in participation in the study. In this group there were 19 hospitals (including one university hospital), 23 social welfare homes and 162 out-patients units. Due to current structural changes in the health service, many of out-patient care institutions were of a very small size (employing 1-5 nurses). 9,140 questionnaires were distributed to participating units; 7091 nurses received questionnaires. The above difference results from the fact that several institutions, including one hospital, withdrawn from the study in spite of preliminary expressed agreement.

Participation
4,150 nurses sent back the questionnaires in special prepaid envelopes. Among them there were 3,049 hospital nurses, 147 welfare home nurses, and 954 nurses employed in out-patient service. The response rate amounted 59%.

Results

The preliminary Polish sample consisted of 3,263 nurses. They worked in hospitals (83%) and employed in outpatient clinics (11%), home care (3%) and nursing home (3%). The content of the final sample (data entry in progress) will change to be representative of types of institutions employing nurses. Table 1 shows that 99% of the sample were women. It means that, as far as gender structure is concerned, the preliminary sample was representative of the country: according to the estimates 99.8 % of Polish nurses are women. The mean age of subjects was 39.5 with the age categories 36-40 and 41-45 as the most numerous (46% together).

Table 1. Participants in Poland by type of institution, gender and age.

type of institution		n	%	mean age	stdev. age
hospital	female	2,598	99.1	38.87	7.32
	male	24	0.9	35.79	6.58
	total	*2,622*	*100.0*	38.84	7.32
nursinghome	female	88	94.6	38.45	9.13
	male	5	5.4	30.20	2.49
	total	*93*	*100.0*	38.01	9.09
home care	female	97	100.0	43.80	7.58
	male	-	-	43.80	7.58
out-patient care	female	343	99.7	43.78	6.97
	male	1	0.3	-	-
	total	*344*	*100.0*	43.77	6.96
all	*female*	*3,126*	*99.0*	*39.55*	*7.55*
	male	*30*	*1.0*	*35.10*	*6.47*
all	*total*	*3,156*	*100.0*	39.51	7.55

Intent to leave
As could be expected, in Poland, the intent to leave nursing profession was not a frequent phenomenon. Out of the 2787 respondents only 6.2% persons thought of giving up nursing completely having such thoughts rather often: every day or several times a week. It is worth noting that the above percent is lower then in several other countries, for example Germany (8.4%). When we define 'the intent to leave' in a broader sense including respondents who thought about leaving several times a month, the above-mentioned difference between Poland and Germany is even greater (11.8 and 18.5, respectively).

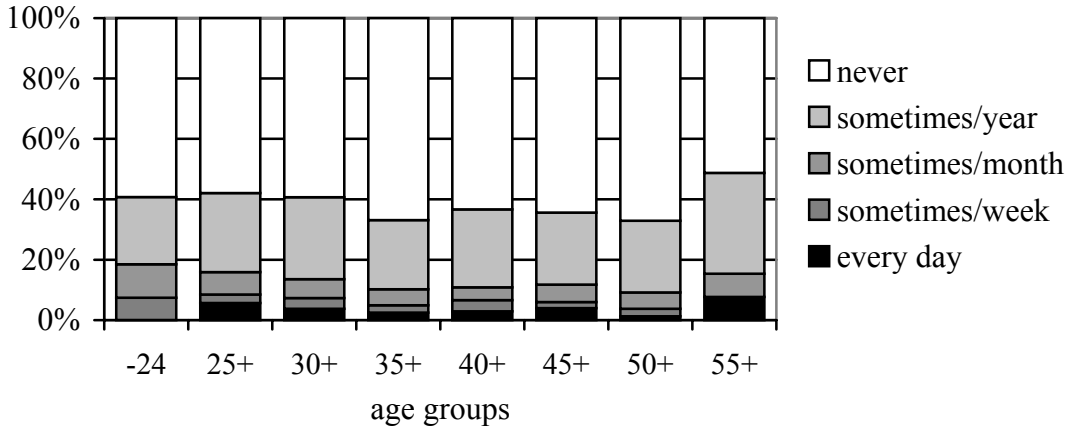
Table 2. Response distribution to the question: 'How often during the course of the past year have you thought about giving up nursing completely?'. (272 'not applicable', 204 missings)

answering category	frequency	percent
never	1,763	63.3
sometimes/year	695	24.9
sometimes/month	156	5.6
sometimes/week	82	2.9
every day	91	3.3
all	*2,787*	*100.0*

Below, we will try to characterize what kinds of people think of leaving nursing mostly, taking into account their a) age, b) type of institution, c) seniority, d) health and work ability, e) exhaustion, f) job offer in health care, g) job satisfaction.

a) *Age.* Nurses, who often think about leaving their profession, belong either to the oldest studied age group, above 55 years (8.5% of that group thinks about leaving 'every day'), or to the youngest one, below 30 (8% of that group thinks about leaving 'every day' or 'several times a week'). However, the relation between the intent to leave and age was insignificant.

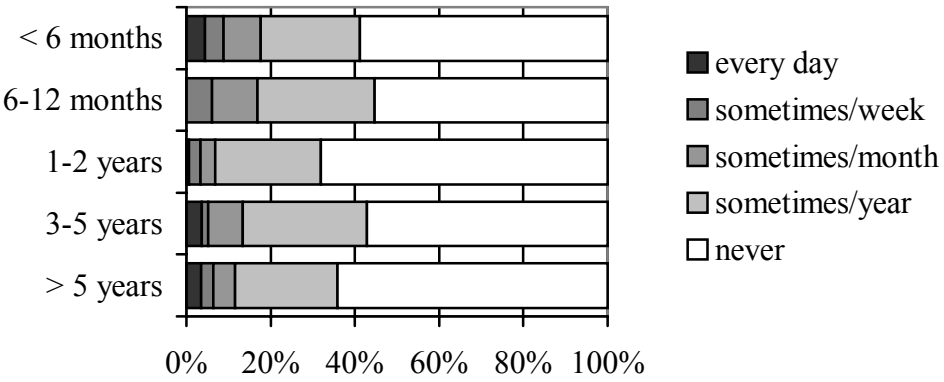
Figure 1. Response by age: 'How often during the course of the past year have you thought about giving up nursing completely?'. (n_{total}=2,752, n_{-24}=27, n_{25+}=283, n_{30+}=450, n_{35+}=646, n_{40+}=617, n_{45+}=450, n_{50+}=240, n_{55+}=39); χ^2=35.6; p=.15



b) Type of institution. Bearing in mind that we deal with 75-80% of the final sample, the results below should be treated with some caution. Preliminary results showed that nurses considering leaving the profession at least several times a year appear to be working most often in hospitals (37%) in comparison to other types of institutions (nursing home -30% , home care -31%, outpatient care -32%). However, the relation between the intent to leave and the type of institution was insignificant.

c) Seniority. There were no significant relations between seniority within the profession and the intent to leave nursing. However, the seniority within the institution is significantly associated with the wish to leave nursing: people working 6-12 months and 3-5 years think about leaving most often (χ^2=26.7; p<.05).

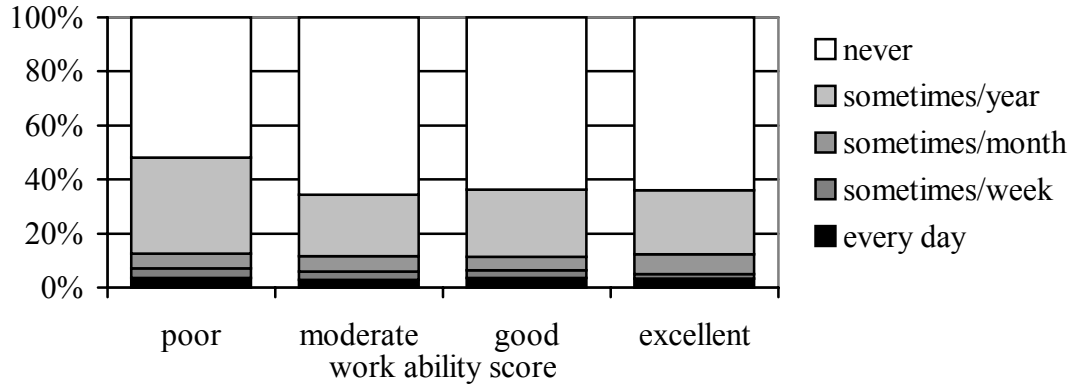
Figure 2. Institutional seniority in relation to 'the intent to leave nursing'. (n_{total} = 2,769, $n_{<6\ months}$=750, $n_{6\text{-}12\ months}$=692, $n_{1\text{-}2\ years}$=156, $n_{3\text{-}5\ years}$=80, $n_{>5\ years}$=91); χ^2=26.7; p<.05



d) Health and work ability. Unexpectedly, it turned out that people who perceived their general health as rather poor thought about leaving nursing as often as those who evaluated their health positively. The relation between the intent to leave and health perception wasn't statistically significant.

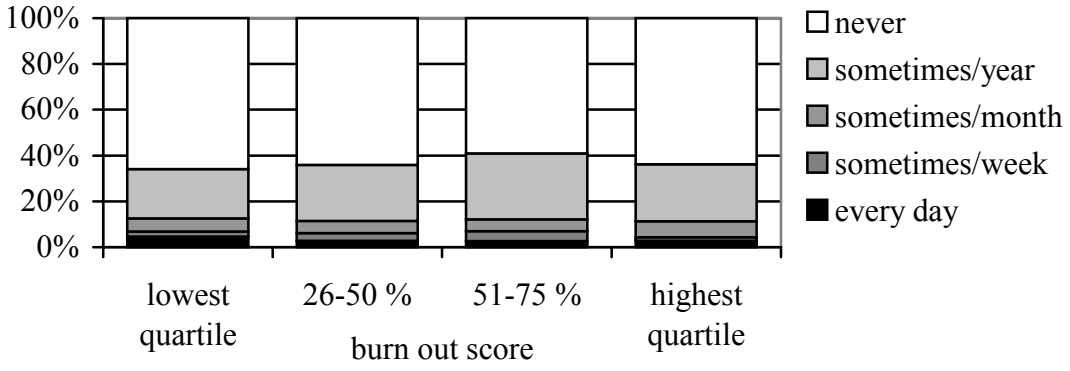
On the other hand, significant relation between the work ability index and the intent to leave appeared: the higher the work ability the lower the intent to leave (χ^2=26.7; p<.01).

Figure 3. Work Ability Score (WAI) in relation to 'the intent to leave nursing'. (n_{total} =2,639, $n_{wai\text{-}28(poor)}$ =280, $n_{wai\text{-}36}$=988, $n_{wai\text{-}43}$=1096, $n_{wai\ 45+\ (excellent)}$=275); χ^2=26.7; p<.01



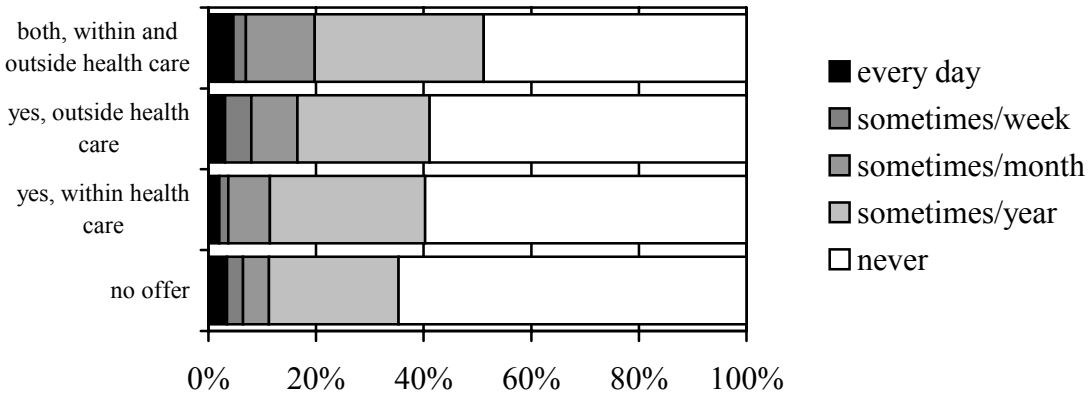
e) Exhaustion. Exhaustion –the essence of the burnout phenomenon was also found to be associated with the intent to leave. Nurses with high levels of exhaustion declared more intense intent to leave then those with low levels.

Figure 4. Burnout in relation to 'the intent to leave nursing'. (n_{total}=2,663, $n_{lowest\ quart.}$=690, $n_{26\text{-}50}$ =644, $n_{51\text{-}75}$=681, $n_{highest\ quartile}$=648); χ^2=29.7; p<.01



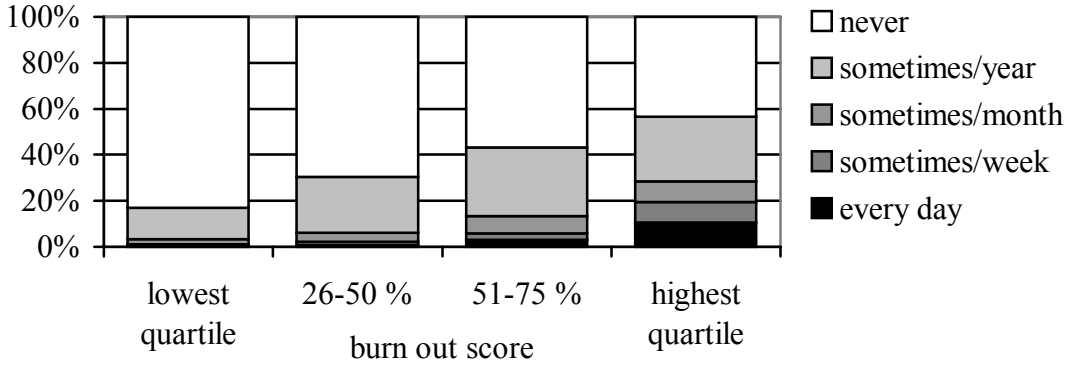
f) Job offer in health care. It was also found that the intent to leave is associated not only with indicators of nurses' physical and mental well being such as perceived work ability and exhaustion, but also with their evaluation of their situation on the job market. Those respondents whose situation is better, because they had some job offers, declared higher intention to leave than those with no such offers.

Figure 5. Job offer outside institution in relation to 'the intent to leave nursing'. (n_{total}=2,764, $n_{no\ offer}$ =2217, $n_{within\ health\ care}$=298, $n_{-outside\ health\ care\ 2years}$=163, $n_{within\ and\ outside\ health\ care}$ =86), χ^2=29.8; p<.01



g) *Job satisfaction.* Satisfaction may be grasped as including: work prospects, physical working conditions, the way abilities are taken advantage of, opportunities to give patients the care they need. Job satisfaction defined in such way turned out the best negative predictor of the intent to leave profession. The higher job satisfaction, the lower intent to leave (χ^2=314.1; p<.001).

Figure 6. Job satisfaction in relation to 'the intent to leave nursing'. (n_{total}=2,728, $n_{lowest\ quart.}$=491, $n_{26\text{-}50}$ =837, $n_{51\text{-}75}$=922, $n_{highest\ quartile}$=478); χ^2=314.1; p<.001



Discussion

The preliminary results show that Polish nurses are much attached to their profession, more than nurses in other countries, such as for example Germany. However, it should be born in mind that job attachment can stem from positive reasons (such as job satisfaction, meaningfulness of work) as well as from negative ones (lack of better alternatives on job market). In the case of Polish

nurses, the negative reasons seem to be most important. Because of high unemployment rate, situation on the Polish job market is extremely difficult. It can be assumed that when it improves, the intention to leave will increase. According to this line of thinking it was found that nurses with better job offers showed higher intent to leave the profession than those with no job offers.

The intent to leave nursing in Poland was found to be associated with different kinds of factors: first, with some aspects of nurses' mental and physical well-being (work ability, exhaustion, job satisfaction), second, with job market situation (job offer in health care). It is worth noting that in the Polish sample quantitative demands alone as well as physical health alone were not related to the intent to leave. So, we can assume that in the Polish sample that phenomenon depends to a great extant on overall psychosocial working conditions (which include not only demands, but also work prospects, interpersonal relations, as well opportunities to give patient good care and others). The notion of job satisfaction encompasses all the above components, so it was found to be related to the intent to leave. It follows that in order to influence the intent to leave many elements of psychosocial working conditions should be improved. Further NEXT analysis will help to develop specific ways to improve nurses' work conditions.

References

CBOS (2000) (Public Opinion Research Center) Opinie o protestach pielęgniarek (Opinions about nurses' protests). Manuscript.

Centralny Instytut Ochrony Pracy (2002) (Central Institute for Labour Protection) Report: Polish Structure Description. Project NEXT. Manuscript.

Centrum Organizacji i Ekonomiki Ochrony Zdrowia (1999) (National Centre for Health System Management) Raport końcowy z analizy ankiet dotyczących restrukturyzacji zatrudnienia w ochronie zdrowia (The final report on the analysis of the questionnaires concerning employment changes in health care). Manuscript.

Chamber of Nurses and Midwives representatives (Personal information from 14.08.2003)

Dziennik Ustaw (Journal of Laws) z dnia 23.01.2003, Nr 45, poz.391

Health care systems in transition – Poland (1999) European Observatory on health care systems. Copenhagen: WHO Regional Office for Europe.

Mały Rocznik Statystyczny 2003 (Concise Statistical Yearbook of Poland 2003). Warszawa: Główny Urząd Statystyczny (Central Statistical Office).

Naczelna Rada Pielęgniarek i Położnych (2003) Funkcjonowanie systemu kształcenia przeddyplomowego pielęgniarek i położnych w okresie przejściowym (Nurses' and midwives education in the transition period). Manuscript.

Oświadczenie OZZPiP z dn.27.09.2002 (The statement of the Management of the Nationwide Nurses' and Midwives' Trade Union on 27.09.2002). Manuscript.

Podstawowe dane z zakresu ochrony zdrowia w 2001 r. (2002) (Basic data on health service and social welfare). Warszawa: Główny Urząd Statystyczny (Warsaw: Central Statistical Office).
Rejestr ZOZ (2003) (The register of out-patient health care units) http://www.rejestrzoz.gov.pl/teryt/raporty (last access: 2003-08-14).
Stelmach A (2001) Pielęgniarki w pogotowiu (Nurses in alert). Gazeta Wyborcza, 22-23.12

24 Sustainable health among Swedish nurses

Malin Josephson, Per Lindberg, Grethe Fochsen and Eva Vingård

The Swedish participation in the NEXT -Study is part of the ongoing HAKuL project (Healthy Work in the Public Sector), a longitudinal Swedish cohort study of sustainable health for working in the public sector. The HAKuL project started two years before the NEXT study. Further on, baseline data were collected using a questionnaire other than the one used in the NEXT-Study. Thus the following presentation will differ from the other national chapters.

Description of the Swedish nursing force

Around nine per cent of the working population in Sweden is employed in the health care and social welfare sector. The main employers are county councils responsible for somatic and psychiatric care (primary as well as inpatient care) and local municipalities responsible for geriatric care and social welfare (Landstingsförbundet & Svenska Kommunförbundet, 2000).

Around 90,000 registered nurses and 120,000 assistant nurses are employed in the health care and welfare organised by county councils and municipalities (Landstingsförbundet & Svenska Kommunförbundet, 2000; Landstingsförbundet, 2003) (Table 1).

Table 1. Numbers of employed registered nurses, assistant nurses and home-based carers in year 2000.

	county council (hospital and primary care)	municipalities (geriatric care and social welfare)	private care
registered nurses	73,600	15,300	around 7,000
assistant nurses	48,000	72,200	?
home-based carers	-	85,700	?

Working hours

About 70 per cent of the registered nurses and 40 per cent of the assistant nurses and home-based carers are full-time employed. However, around 20 per cent of those employed full-time are actually working part-time, mainly due to partial parental leave. The norm for a full-time job in the health care sector is 38-40 hours/week. Full-time employment is more frequent among employees within primary and inpatient care compared to geriatric care and social welfare (Landstingsförbundet & Svenska Kommunförbundet, 2000).

Age structure
The employees in the health care sector have been rapidly ageing during the 1990s. The latest figures show that somewhat more than 30 per cent of the Swedish registered nurses, as well as the assistant nurses, are 50 years of age or older (Landstingsförbundet & Svenska Kommunförbundet, 2000). Only around 20 per cent of the registered nurses are younger than 35 (Landstingsförbundet, 2003).

Gender structure
In Sweden, an equal proportion of women and men have gainful employment outside the home. However, the labour market is strictly gender segregated. In the health care sector, 90 per cent of the registered nurses and the assistant nurses are women. Gender distribution does not differ significantly between registered nurses and assistant nurses, and has not changed since 1995 (Landstingsförbundet & Svenska Kommunförbundet, 2000; Landstingsförbundet, 2003).

Proportion of immigrants
Figures from 1998 show that nine per cent of the assistant nurses and home-based carers, and eight per cent of the registered nurses, are immigrants (Landstingsförbundet & Svenska Kommunförbundet, 2000).

Sick leave
In the general population there has been a continuing increase in the number of cases on long-term sick leave, as well as the number granted disability pensions. Long periods of sick leave are more frequent and have in addition increased more rapidly among women than among men (Riksförsäkringsverket, 2003).

For several years musculoskeletal disorders have been the most common reasons for sick leave and disability pension. However, during the last few years the number and the proportion of people on sick leave due to mental problems such as “burnout”, has increased (Riksförsäkringsverket, 2000; Landstingsförbundet, 2001; Riksförsäkringsverket, 2003). A recent study showed that around half of the sicklisted county council employees regard their work as a contributing factor to their health problems (Eklund, 2003).

Sweden has a high rate of sick leave compared to other countries. According to the Swedish National Insurance Board, two important factors contributing to this are a high level of employment among people older than 50 years of age, and the high frequency of gainful employment among women. Within the health care sector assistant nurses and home-based carers show a high proportion of sick leave compared with other occupational groups (Riksförsäkringsverket, 2003, Riksförsäkringsverket, 2002).

Turnover

The turnover rate in the health care sector in Sweden is rather stable. Around seven per cent of the registered nurses and nine per cent of the assistant nurses quit their job annually (Landstingsförbundet & Svenska Kommunförbundet, 2000). However, recently presented figures show that very few of the registered nurses leave their occupation for employment in other occupational sectors (Socialstyrelsen, 2003).

Education trends

Registered nurses have a college education, assistant nurses have an upper secondary school education, and home-based carers receive short training courses or in some cases have no special training.

In recent years there has been an increase in applications to college programmes to train registered nurses. However, there are not enough training places, and too few registered nurses graduate in order to meet the demand from the health care and social welfare sector. For training to become an assistant nurse, the situation is alarming, the applications for the training courses, number of training places and number of students have decreased (Svenska regeringen, 1999; Svenska Kommunförbundet, 2002; Johnreden, 2002).

Method

The Swedish participation in the NEXT study is part of the ongoing HAKuL project (Healthy Work in the Public Sector), a longitudinal Swedish cohort study of sustainable health for working in the public sector (HAKuL-projektet, 2003). Hospitals in three different regions of Sweden, primary care in one county council, and geriatric care in five municipalities, are represented in the study. The study group consists of 4003 registered nurses, assistant nurses and home-based carers. They work with both in- and outpatients, within primary care, as well as within somatic, psychiatric and geriatric care. The institutions vary considerably in size, and hence in organisational structure, from small work sites with 2-3 district nurses to hospitals with several hundred employees. The age and gender distributions in the HAKuL study are approximately the same as the national figures, except for the nurses, who in the HAKuL study are somewhat older (Table 2).

The HAKuL project started two years before the NEXT-Study and the questionnaire survey was carried out stepwise between November 1999 and January 2001. During the following three years all sick leave is recorded, the participants answer additional questionnaires and all who quit their jobs receive the NEXT questionnaire for leavers. The project also involves interventions in the work environment and work organisation, as well as extensive improvements in rehabilitation for those on sick leave.

Table 2. The participating institutions and number of employed registered nurses and assistant nurses.

	registered nurses			
	number	proportion women	proportion 50 years or older	proportion 30 years or younger
employed in hospitals	621	91%	40%	8%
employed in primary care	272	99%	53%	2%
employed in geriatric care	182	96%	37%	6%
total	*1,075*	*93%*	*42%*	*6%*

	assistant nurses			
	number	proportion women	proportion 50 years or older	proportion 30 years or younger
employed in hospitals	626	79%	49%	2%
employed in primary care	80	100%	66%	-
employed in geriatric care	1,104	91%	25%	20%
total	*1,810*	*83%*	*32%*	*16%*

	home-based carers			
	number	proportion women	proportion 50 years or older	proportion 30 years or younger
employed in geriatric care	1,118	95%	36%	17%

The survey questionnaire covered items about health, job factors, lifestyle and the balance between demands from the family and from work. In the present chapter, results from the survey questionnaire concerning sustainable health are presented. The response rate was 83 per cent, 3,072 females and 252 men.

For this report we have analysed three questions from the WAI index (Ilmarinen & Tuomi, 1992): (1) “From the standpoint of your health, do you believe that you will be able to do your current job two years from now?” The response alternatives were “unlikely”, “not certain” and “relatively certain”. (2) “How do you rate your current work ability with respect to the physical demands of your work?” and (3) “How do you rate your current work ability with respect to the mental demands of your work?” The response alternatives for the two latter questions were “very poor”, “rather poor”, “moderate”, “rather good” or “very good”.

Results

Older registered nurses and assistant personnel in geriatric care, reported the highest frequency of uncertainty about their ability to do their current job two years from now, from the standpoint of how they perceived their health (Table 3).

Table 3. Proportion of 'unlikely' or 'not certain' responses to the item "From the standpoint of your health, do you believe that you will be able to do your current job two years from now?"

	registered nurses that felt it was unlikely / were not certain if they would be able to do their current job two years from now			
	number	proportion of all	proportion of those < 50 years	proportion of those ≥ 50 years
employed in hospitals	513	16%	12%	21%
employed in primary care	236	11%	8%	14%
employed in geriatric care	158	18%	14%	26%
total	*907*	*15%*	*12%*	*20%*

	assistant nurses that felt it was unlikely / were not certain if they would be able to do their current job two years from now			
	number	proportion of all	proportion of those < 50 years	proportion of those ≥ 50 years
employed in hospitals	517	21%	19%	24%
employed in primary care	70	13%	0%	21%
employed in geriatric care	949	20%	17%	28%
total	*1,536*	*20%*	*17%*	*25%*

	home-based carers that felt it was unlikely / were not certain if they would be able to do their current job two years from now			
	number	proportion of all	proportion of those < 50 years	proportion of those ≥ 50 years
employed in geriatric care	851	29%	26%	35%

Very poor, rather poor or moderate work ability with respect to the physical demands of work was reported by 17 per cent of the registered nurses, 21 per cent of the assistant nurses and 29 per cent of the home-based carers.

Very poor, rather poor or moderate work ability with respect to the mental demands of work was reported by 21 per cent of the registered nurses, 20 per cent of the assistant nurses and 23 per cent of the home-based carers.

Discussion

The participants in the survey work in different parts of Sweden, from the south to the north. The structure of the study group, occupations, gender, age distributions and type of care are roughly the same as for the whole of Sweden. One drawback of the sample is that it was not possible to recruit an institution from a major city. Labour market conditions can be quite different in small towns compared with bigger cities.

As those who participated in the survey were actively working, the results from the questionnaire underline that health for working among nursing personnel is failing. (Individuals on long spells of sick leave or on leave for other reasons did not answer the questionnaire.) From the standpoint of how they perceived their health, one in five was uncertain about their ability to do their current job two years from now. If the beliefs of the registered nurses and assistant nurses are fully confirmed, the health care sector will lose 18 per cent of all trained nursing personnel, mainly in geriatric care, within a period of two years. The proportion among nurses younger than 50 years of age was 15 per cent, and among those 50 years or older the figure was 23 per cent.

The sick leave rate is high in health care and social welfare, and has increased sharply since the downsizing during the last decade. There are many indications that improvements in the working conditions would contribute to a decreased sick leave rate (Bourbonnais and Mondor, 2001; Ala-Mursula, 2002; Eklund, 2003). But good working conditions with influence over the work situation and opportunities for professional development could also be a strategic measure in order to recruit nursing personnel (Svenska regeringen, 1999; Svenska Kommunförbundet, 2002; Johnreden, 2002).

There are various reasons for the shortage of nurses in Sweden as well as in other European countries; some are well known and some have not yet been identified and described (Janiszewski Goodin, 2003). The number of elderly people is rapidly growing, and consequently the need for health care is increasing. At the same time many of those who work in the health care sector are about to retire within the next few years and the output from the educational institutions for nursing is too limited. Stopping the increasing rate of sick leave and early retirement, and making health-care work attractive for women and men of the young generation are among the great challenges in the health care sector today.

References

Ala-Mursula L et al. (2002) Employee control over working times: associations with subjective health and sickness absences. *Journal of Epidemiology Community Health* 56:272-278.

Bourbonnais R & Mondor (2001) Job strain and sickness absence among nurses in the province of Québec. *American Journal of Industrial Medicine* 39:194-202.

Eklund M (2003) *Arbetsförhållanden - orsak till sjukskrivning?* [Working conditions - a cause of sick-leave?]. Riksförsäkringsverket: Stockholm.

HAKuL-projektet (2003) *www.personskadeprevention.nu/hakul*. 2003.

Ilmarinen J & Tuomi K (1992) Work ability of aging workers. *Scandinavian Journal of Work, Environment & Health* 18 Suppl 2:8-10.

Janiszewski Goodin H (2003) The nursing shortage in the United States of America: an integrative review of the literature. *Journal of Advanced Nursing* 43:335-350.

Johnreden A-C (2002) *Den framtida personalförsörjningen inom vård och omsorg* [Staff supply in health care and welfare in the future]. Arbetsmarknadsstyrelsens utredningsenhet: Stockholm.

Landstingsförbundet (2001) *Några fakta om sjukfrånvaron i landsting och regionerna 2001* [The Swedish Federation of County Councils]. Stockholm.

Landstingsförbundet (2003) *Statistisk årsbok för landsting 2003* [The Swedish Federation of County Councils Statistic Yearbook for County Councils 2003]. Stockholm.

Landstingsförbundet & Svenska kommunförbundet (2000*) Fakta om vård- och omsorgspersonal i kommuner och landsting* [The Swedish Federation of County Councils & The Swedish Association of Local Authorities Facts about employees in health care and welfare]. Stockholm.

Riksförsäkringsverket (2000) *Långtidssjukskrivna - bakgrund, diagnos och återgång till arbetet. Utvecklingen från slutet av 1980-talet till 1999* [National Social Insurance Board Long term sick listed - background, diagnoses and return to work]. Stockholm.

Riksförsäkringsverket (2002) *Svensk sjukfrånvaro i ett europeiskt perspektiv* [National Social Insurance Board Sickness absence in Sweden in an European perspective]. Stockholm.

Riksförsäkringsverket (2003) *Social Insurance Annual Report, Budget Year 2002* (Extract) [National Social Insurance Board]. Stockholm.

Socialstyrelsen (2003) *NPS 2003: Tilläggsrapport Tillgång på sjuksköterskor, barnmorskor och läkare* [National Board of Health and Welfare Supply of registered nurses, midwives and physicians]. Stockholm.

Svenska kommunförbundet (2002) *Kommunala framtider- en långtidsutredning om behov och resurser till år 2050* [The Swedish association of local Authorities. The future for local authorities - a long-term inquiry about needs and resources until year 2050]. Stockholm.

Svenska Regeringen (1999) *Proposition Ds 1999:44* [Swedish Government]. Stockholm.

25 Intent to leave nursing in Slovakia

Maria Kovarova, Alzbeta Hanzlikova, Marian Rimarcik and Marek Jurkovic

Introduction

In 2002, there were 40,059 people working in the nursing profession in Slovakia. (Slovak Health Department, 2003; Ministry of Labour, 2003) 66.2% of them were working in hospitals and 9.1% in institutions for long-term care. The remaining 24.7% were employed in non-institutional workplaces and only 0.8% were employed in home care nursing agencies. There is no reliable data on number of nursing aides.

The Slovakian health care sector is currently under transition. The main goals of the new health care reform are to introduce changes in terms of financial stabilisation of the system, to mobilise resources, to raise the efficiency of the system and to decrease the expectations of citizens. In relation to these efforts, there is an ongoing process of reconstruction of the health care network. Reducing the number of acute care beds, shortening hospital duration for acute patients and increasing the number of long-term care beds will have an impact on the size and need of nursing staff (Zajac & Pažitný, 2003).

In the Slovak Republic the vast majority of nurses are employed in acute care hospitals. The existing three types of hospitals differ with respect to the number of departments and wards as well as to the catchment area for which they provide health care services. The average number of nurses ranges from about 100 to 1,000. During the last year there was a substantial cut in the number of nursing staff in many hospitals.

There is an ongoing debate regarding appropriate nursing staffing levels in all types of health care institutions. In institutional long-term care, there has been lengthy discussion concerning the adequate job categorisation of qualified nurses. Currently these nurses are categorised as care givers, rather than registered nurses (Tomanová, 2002).

Working conditions for Slovak nurses have - in general - not significantly improved in several decades. Recent studies show that in all nursing professions, physical and psychosocial exposure has increased (compared between branches as well as in groups). Šulcová and Hubačová (1999) found that 70% of geriatric and 47% of oncology nurses mostly stand (work stood up) during shifts, and 51% of all nurses experience physical overload. Working activities of health professionals monitored in surgical and orthopaedic surgery wards showed that the work of scrub nurses during the following 117 shifts resulted in body overload, especially during weekend shifts (Hubačová et al., 1999a).

Furthermore, investigations from nurses working fulltime shift at geriatric and long-term wards showed that their workload was comparable to that of medium to heavy work in industrial settings (Hubačová et al., 1999b). Nurses in hospitals face high level of psychosocial load due to shift work, insufficient work organisation, and inadequate contact with the immediate supervisor (Šulcová & Hubačová,1999).

Moreover, the health care sector involves a higher work load with decreasing staff level and increasing demands in caring for sicker groups of patients. The problem is expected to increase in the coming years.

The last 2-3 years have demonstrated a tendency for young people to show decreasing interest in the nursing profession. Despite this, during the last decade a great deal of effort has been made to assure sufficient facilities for nursing training. There are 36 nursing schools/colleges in Slovakia, 30 of which currently offer nursing training. Five of them will undergo substantial organisational changes within a short time to join the higher educational system. In the near future there will be ten university based higher educational institutions offering a degree in nursing in Slovakia.

Not only graduates, but also mature Slovak nurses face problems related to scarcity of new job opportunities both within the health care and the social care system. Nurses are in many cases forced by the system to leave their job prematurely, often the profession.

Some of them are recruited by foreign hospitals that offer better acceptance and better financial compensation. Others join community care abroad. Even though professional international migration is a major issue in Slovakia, there are no precise and official data available; only estimations (Zdravotné sestry, 2003).

In September 2003, the Slovak Health Department distributeda questionnaire to each hospital to collect the most recent data on nurse staffing. Furthermore, the new Register of Nurses initiated by the Slovak Chamber of Nurses will create a legal basis for an updated database on nursing mobility within the country as well as internationally.

The Slovakian contribution to the NEXT-Study is being conducted by the Department of Social Medicine at the Faculty of Medicine of the PJ Šafarik University in Košice.

Methods

Recruitment of institutions

To select the Slovakian institutions we used the Register of the Slovak Health Department and the Institute of Health Information and Statistics in Bratislava. The total number of acute hospitals (type I, II, III and university hospitals) was 80 in 2001. The total number of nursing homes was 300. A total of 144 community/home care institutions functioned at the time in the country. The exact num-

ber of nurses working in each institution was found by contacting the human resource departments. According to the eight geographic regions and types of institutions, 93 institutions with 6,382 nurse employees were selected.

Of the 93 selected institutions (hospitals, home care services and nursing homes) who were asked to participate, 82 showed interest and were finally included into the study. The sample sufficiently represented the distribution of institutions in the Slovak health care. On a national level, the Slovak Chamber of Nurses and Midwives was asked to support the study and to distribute information on the NEXT-Study. Additionally, two articles in nursing journals supported the project.

Precondition for participation was a written confirmation of active participation signed both by administrative and staff representatives of the institutions (executive boards and workers' committees).

In the participating institutions the total number of staff was included in the study base. The selected study base almost perfectly represents the Slovakian distribution of nursing staff in 2001. In the three types of institutions investigated in NEXT, nursing staff were represented as the following: in hospitals 83.0% in this sample vs. 82.2% in Slovakia; in nursing homes 13.9% vs. 15.9% and in home care institutions 2.2% vs. 1.9%.

Participation

In Slovakia, 3,600 (53.2%) of those approached returned the questionnaire, out of this number 3,396 were filled out by the nurses. The *response* rate in the different institutions ranged from 46.5% to 63.9% (Table 1). Participation was highest in community and home care settings and the lowest in the long-term institutions. This may be due to commitment to the study within the institution. In long-term care institutions the status of nurses is perceived to be very low. Nurses in these institutions are considered to be only caregivers not nurse professionals.

Data entry was carried out manually. Plausibility tests checked for outliers and implausible data. Implausible answers were treated as missing values.

Table 1. Overview of participating institutions and staff in the Slovak "basic assessment".

institution	number of institutions	n staff approached	n staff responded	response rate
hospitals	22	5,248	2,813	53.72
nursing home	44	1,015	472	46.50
home care	16	119	76	63.87
all	*82*	*6,382*	*3,361*	*52.70*

Statistical analysis
The following data analysis has been conducted with SPSS 11.0.

Results

Nursing staff working in hospitals comprised 83% of all participants, 13.9% and 2.2% of staff were working in old peoples' homes and in home care respectively. Females were on average older than their male colleagues (ANOVA, $p<.01$). Post hoc Bonferoni-analysis shows that nursing home staff in general was significantly younger than staff in hospitals ($p<.05$).

Table 2. Participant in Slovakia by type of institution, gender and age.

type of institution		n	%	mean age	stdev. age
hospital	female	2,743	97.5	38.3	10.7
	male	70	2.5	35.4	11.4
	all	*2,813*	*100.0*	*38.2*	*10.7*
old peoples' homes	female	463	98.1	39.8	10.1
	male	9	1.9	35.1	8.8
	all	*472*	*100.0*	*39.7*	*10.1*
home care	female	76	100.0	40.7	10.5
	male	0	0	0	0
	all	*76*	*100.0*	*40.7*	*10.5*
all	*female*	*3,282*	*97.6*	*38.6*	*10.6*
	male	*79*	*2.4*	*35.3*	*11.1*
	all	*3,361*	*100.0*	*38.5*	*10.6*

Intent to leave
Of the 3,396 respondents, 5.3% of all nurses had thought about giving up nursing completely ("intent to leave", ITL) weekly or daily, an additional 6.4% considered this monthly (Table 3). We analysed whether, *"intent to leave the profession"* varied or not with respect to a) gender, b) age, c) type of institution, d) qualification, e) seniority, f) health and work ability, and g) exhaustion ("burn-

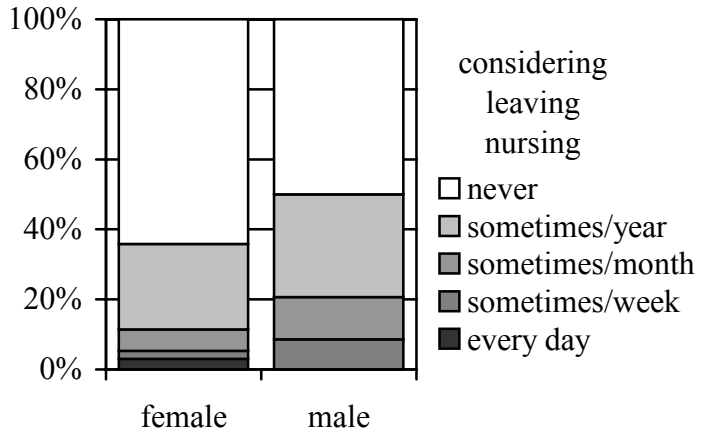
out"). In the following pages, these aspects will be described in relation to *intent to leave the profession*.

Table 3. Response distribution to the question: "How often during the course of the past year have you thought about giving up nursing completely?". (717 missing data)

response category	frequency	percent
never	1,709	63.8
sometimes/year	656	24.5
sometimes/month	171	6.4
sometimes/week	65	2.4
every day	78	2.9
all	*2,679*	*100.0*

a) Gender. Although female respondents had a somewhat higher tendency to consider leaving their profession (Chi^2, $p<.01$), considering the sample size, the presence of cells with less than 5 responses and the magnitude of Cramer's V (0.07), this effect was not relevant.

Figure 1. Response by gender: "How often during the course of the past year have you thought about giving up nursing completely?". (n=2,674, n_{women}=2,616, n_{men}=58)



b) Age. Age was associated with intent to leave (Figure 2). Younger nurses showed a higher intent to leave with maximum levels in the age group of up to 24 years. Nursing staff over 55 years of age considered leaving their profession the least. Quite similar patterns were observed when differentiating between the types of institutions.

c) Type of institution. Although respondents from nursing homes had a somewhat higher tendency to consider leaving their profession (Chi^2, $p<.01$), in relation to the sample size, the presence of cells with less than 5 responses and the magnitude of Cramer's V (.066), this effect was not relevant.

Figure 2. Response by age: "How often during the course of the past year have you thought about giving up nursing completely?". (n_{total}=2,606, n_{range}=64-1,662) n_{-24} = 91, n_{25+}=364, n_{30+}=484, n_{35+}=451, n_{40+}=456, n_{45+}=408, n_{50+}=296, n_{55+}=56)

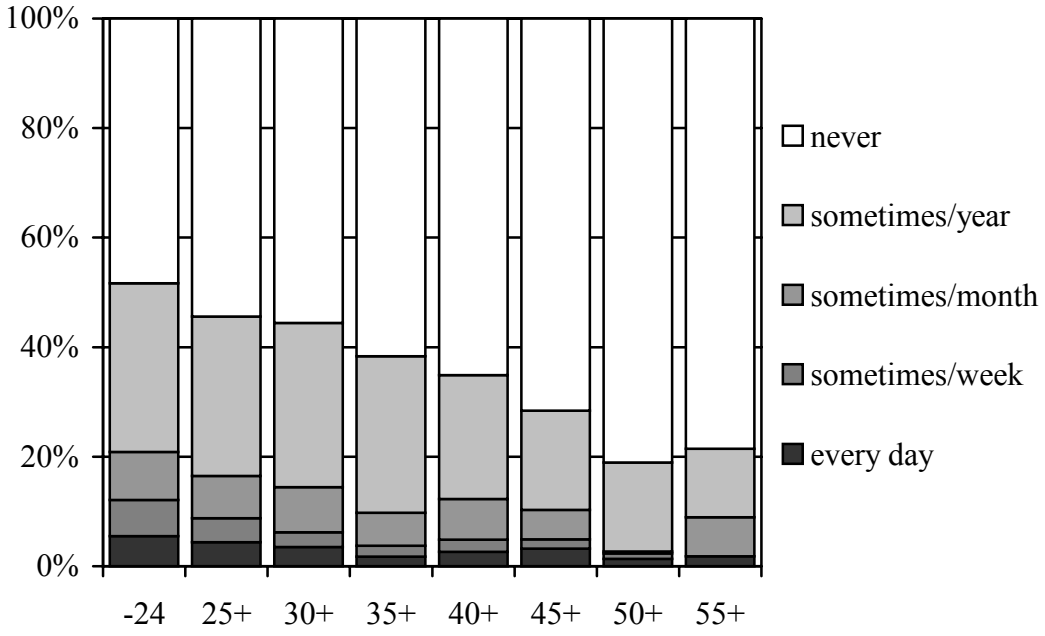
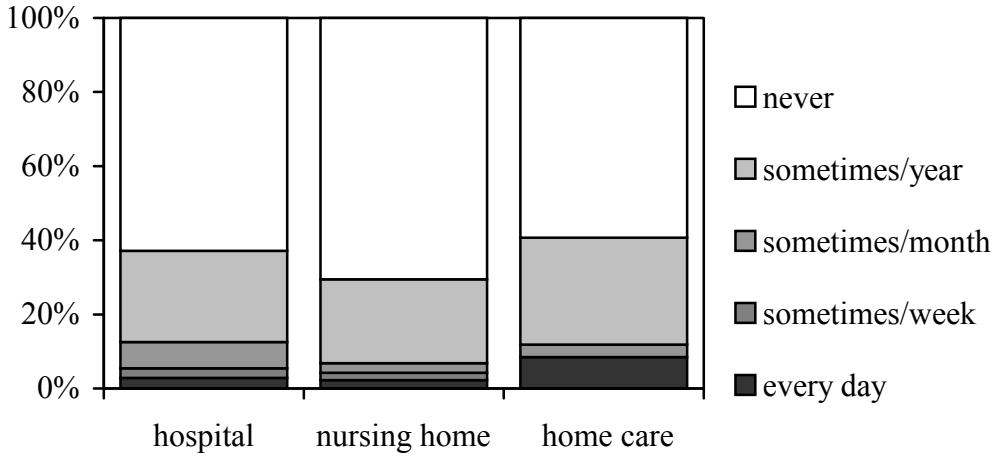
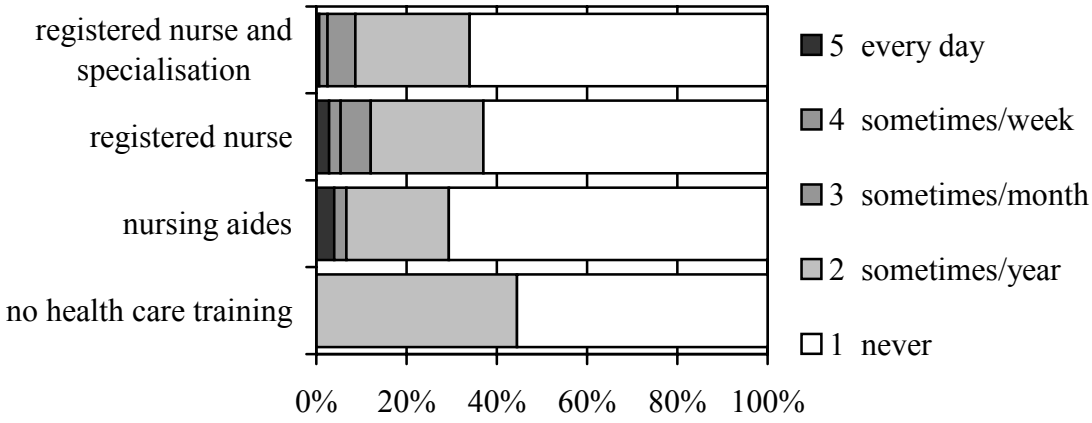


Figure 3. Response by type of institution: "How often during the course of the past year have you thought about giving up nursing completely?". (n_{total} =2,667, $n_{hospital}$=2,255, $n_{nursing\ home}$=353, $n_{home\ care}$=59)



d) Qualification level. Qualification level of nurses had no influence on the wish to leave the profession (Figure 4).

Figure 4. Response by level of qualification: "How often during the course of the past year have you thought about giving up nursing completely?". (n_{total}=2,179, $n_{nurse+spec.}$=162 $n_{reg.nurse}$=1,933, n_{aides}=75 , $n_{no\ training}$=9)



e) Seniority. Figures 5 and 6 indicate that both occupational and institutional seniority was associated with intent to leave the nursing profession. Intent was higher at the beginning of their professional career. Those with less seniority in the institution had thought more about leaving the profession.

Figure 5. Occupational seniority seniority in relation to the question: "How often during the course of the past year have you thought about giving up nursing completely?". (n_{total} =2,624, n_{1year}=58, n_{2years}=30, n_{3years}=42, n_{4years}=39, n_{5years}=54, $n_{6\text{-}10years}$=406, $n_{11\text{-}15years}$=504, $n_{16\text{-}25}$=920, n_{26+}=571)

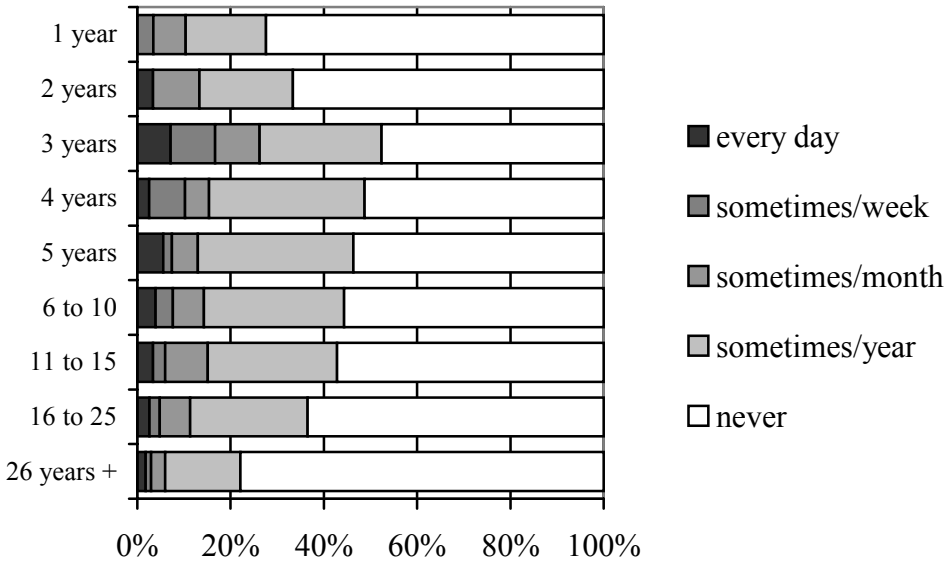
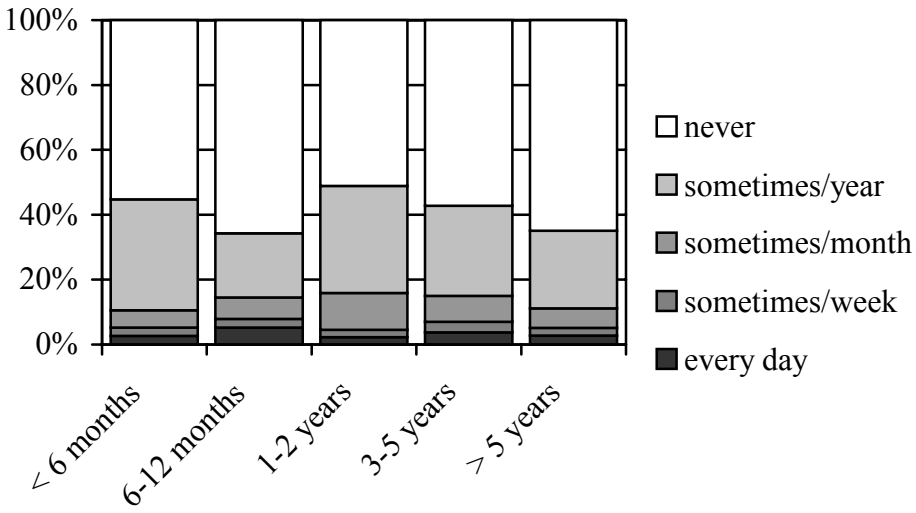


Figure 6. Institutional seniority in relation to the question: "How often during the course of the past year have you thought about giving up nursing completely?". (n_{total}=2,677, $n_{< 6month}$=38 , $n_{6-12month}$=76, $n_{1-2years}$=88 , $n_{3-5years}$=213, $n_{> 5 years}$=2,262)



f) Health and work ability. Health and work ability were not found to be predictors of *intent to leave health care*. Although the relationship between *work ability* and *intent to leave* were significant (p<.05), the contingency coefficient was very low (.09) as well as Cramer' s V (.05).

Figure 7. Self rated health in relation to the question: "How often during the course of the past year have you thought about giving up nursing completely?". (n_{total}=2,643 , n_{poor}=84, n_{fair}=844, n_{good}=1,226 , $n_{very\ good}$=425 , $n_{excellent}$ 64)

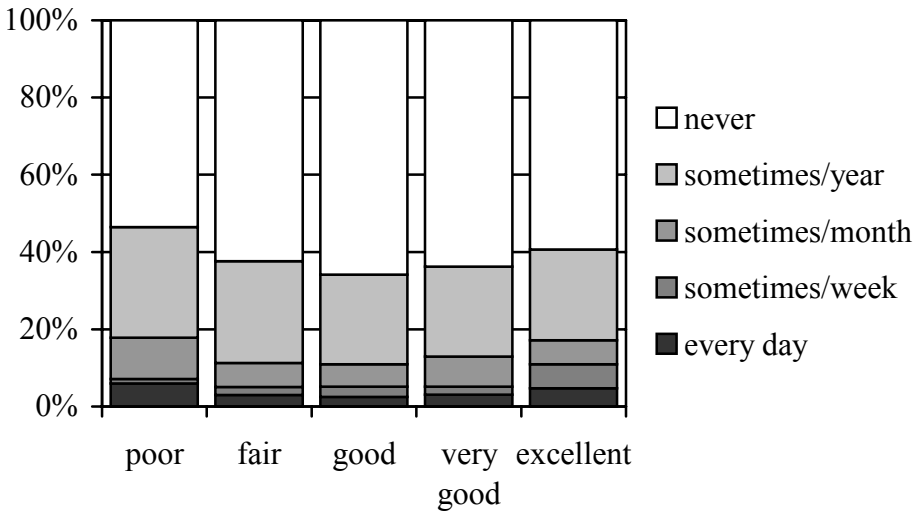
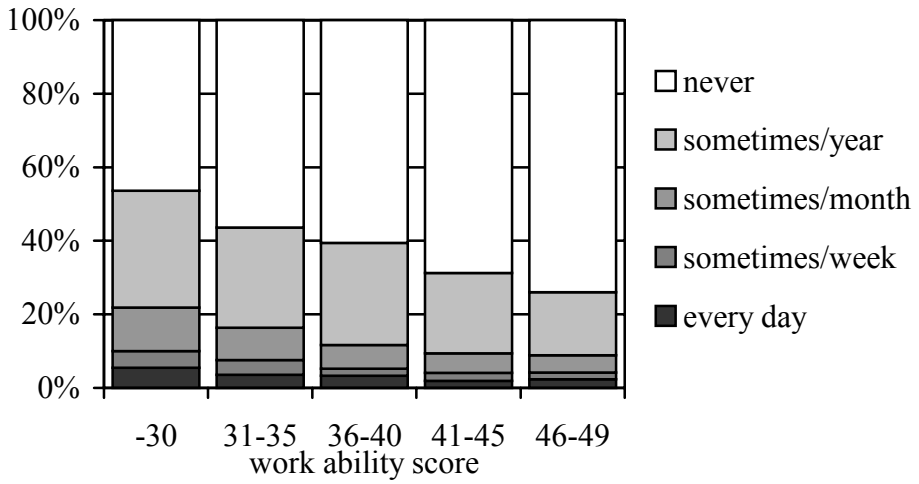
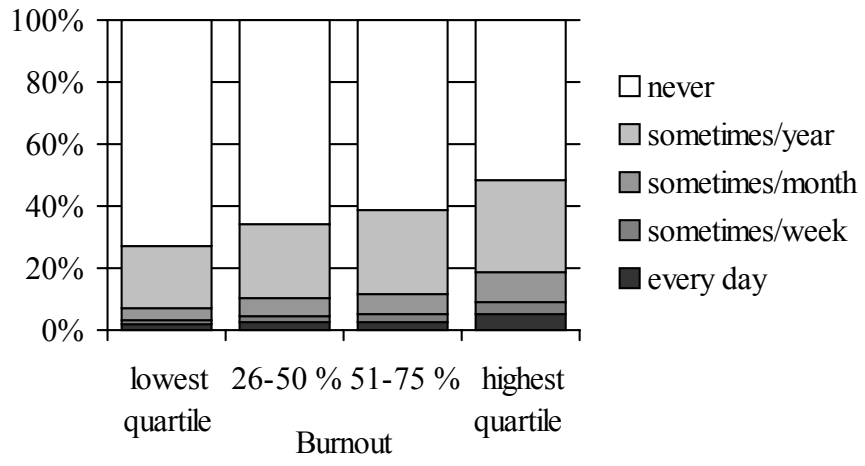


Figure 8. Work Ability Score (WAI) in relation to the question: "How often during the course of the past year have you thought about giving up nursing completely?". (n_{total}=2,462, n_{wai-30}=80, n_{wai-35}=397, n_{wai-40}=867, n_{wai-45} =903, n_{wai-49}=215



g) Exhaustion. Burnout as an indicator of mental exhaustion was not found to be a variable clearly associated with intent to leave the profession (Figure 9). Even though the relationship between the two variables was statistically significant, the contingency coefficient (0.1) indicates a very weak relationship.

Figure 9. Burnout in relation to the question: "How often during the course of the past year have you thought about giving up nursing completely?". (n_{total}=2,575, $n_{lowest\ quart}$=716, $n_{26\text{-}50\%}$=602, $n_{51\text{-}75\%}$ =671, $n_{highest\ quartile}$=586)



Discussion

Our results indicate that Slovak-nursing staff are rather to their profession. The *intense* consideration to leave the nursing profession is fairly rare at 5.3%.

Young nurses present a high-risk group among those wanting to leave. Most of them had obtained qualifications up to higher education standard, i.e.at university level, which was not the case for older nurses. Organisations should place more emphasis on motivating highly educated young nurses to remain in the health care system. Lack of such nurses may lead to a lower quality of nursing care in a few years.

Nevertheless, further analysis is still needed to reveal the underlying reasons for the premature exit of nurses from the profession in the Slovak Republic. The Next-Study frame serves as a good basis to achieve a greater understanding into the problem and to take appropriate preventive measures in practice.

References

The Slovak Health Department – Register of the Personnel Department (2003).

Register of the Ministry of Labour, Social Affairs and Family of Slovak Republic (2003).

Zajac R, Pažitný P(2003) Health Reform Process in Slovakia – EMK workshop, Budapest, 3.6.2003.

Tomanová V (2002) Stanovisko k zdravotnej starostlivosti v zariadeniach sociálnych služieb.Ministersvo práce, sociálnych vecí a rodiny SR, 25.9.2002.

Šulcová M, Hubačová L (1999) Hodnotenie vplyvu práce a pracovných podmienok na pracoviskách v zdravotníctve a pracovnej záťaže zdravotníckych profesií s osobitným zreteľom na pracovné riziká. Zdravotnícke noviny 16, (IV/XLVIII), 22. apríl 1999.

Hubačová L, Šulcová M, Hettychová Ľ, Ritter J, Henčeková D, Vargová M, Wsólová L.(1999) Evaluation of Physical Strain of Operating Theatre Personnel. Slovenský LEKÁR, 8-9: 344-348.

Hubačová L, Roda Š, Šulcová M, Janoušek M, Vargová M, Henčeková D, Fejdová K. (1999) Physical and Neuropsychical Demands of Work at the Geriatric Ward and Ward for the treatment of Long-term Patients. Pracovní Lékaství,3 (51) :107-113.

Zdravotné sestry. Národná obroda 21.júl2003.

26 Intent to leave nursing in Norway

Kari Anne Holte and Aslaug Mikkelsen

Introduction

The nursing professions (registered nurses and assistant nurses) constitute the main group of the health care workers in Norway. In 2002 there were 87,203 registered nurses. About 85% of the working registered nurses worked in the health and social services, where 54% were employed in Regional Health Authorities and 37% in the community health care (Statistics of Norway, 2002a). There were 82,900 registered assistant nurses. About 81% of the working assistant nurses were employed in the health and social services, where the majority (73%) were employed in the community health care, and 20% were employed in Regional Health authorities (Statistics of Norway, 2002a).

Large reforms have been performed in the health service sector the last years. The mental health services are in the middle of an eight year program aimed at increasing and improving both quantity and quality of services. In general services, fee-for-service has replaced general grants as the main source of income, in order to improve efficiency. Patients' rights have been strengthened which include the right to choose where they want to receive treatment (SAMDATA, 2002).

The main reform is however an organisational reform. The responsibility for planning and running the general hospitals and specialised mental health services was until 2002, held by the 19 Norwegian counties. From January 1st 2002 the Norwegian central government got this responsibility. The planning and running of the general hospitals and the specialised mental services were from now organised in five governmentally controlled Regional Health Authorities (RHA), organised as enterprises (SAMDATA, 2002.) The expectations to the RHA have been high. They shall provide services according to policy, goals and values but also facilitate change, attend to consumers' (patients') rights and welfare, create a professional and modern mode of leadership and at the same time have a close co-operation with deeply rooted professional interests, and finally to increase volume of services and reducing waiting lists and reduce costs (SAMDATA, 2002).

In 2001, there were 1,400 vacant positions for assistant nurses, and 2,650 for registered nurses (Statistics of Norway, 2002b). Estimates show that within the next years there may be a increasing lack of workers in the health care sector, especially assistant nurses. This is mainly due to the fact that there has been a reduction in the number of people accomplishing these educations and at the

same time many elderly workers will retire in the near future. In the recent years there has been an increase in student places for the education of registered nurses. Due to this the increasing demands for registered nurses may be met in the years to come. However the expected increase in number of elderly people in Norway after 2010 will increase the general demands for workers in the health and social services (Statistics of Norway, 2002b).

Methods

The Norwegian research team is *associated* member of the NEXT-Study group. It does not receive funding from the European Commission and has performed the presented investigation on their own in the course of a cross sectional assessment on behalf of the Western Norway Regional Health Authorities. This survey was initiated by the RHA itself and carried out by Rogaland Research Institute. The RHA consist of large, medium and small sized hospitals and decentralised services within the specialised mental health services. All employees in four out of five suborganisational units, received the questionnaire, in total 15,500 employees. The questionnaire included about 80% of the items asked in the Q0 questionnaire from the NEXT-Study. In Norway, no other parts of the NEXT investigation (e.g. follow up investigations or organisation analysis) will be performed.

Recruitment

The participants in the study were recruited from the population of a large survey in the Western Norway Regional Health Authorities. A database for the NEXT-Study was prepared by excluding all other staff than registered nurses and assistant nurses. This was also the case for questions not included in the NEXT – Q0 questionnaire. Registered nurses and assistant nurses in the community health services, mostly elderly care either in long term institutional care or long-term home-based care, were not recruited in this study. The results may therefore be representative only for health care workers in the RHA.

Participation

The overall response rate for the whole survey was low, only 37.5%. For the NEXT-Study 2,733 employees returned the questionnaire (registered nurses n=2,162, assistant nurses n=571). Data entry was done optically. Plausibility tests were performed and checked for outliers and implausible data.

Statistical analysis

The following analysis has been conducted with SPSS 11.5.

Results

Intent to leave

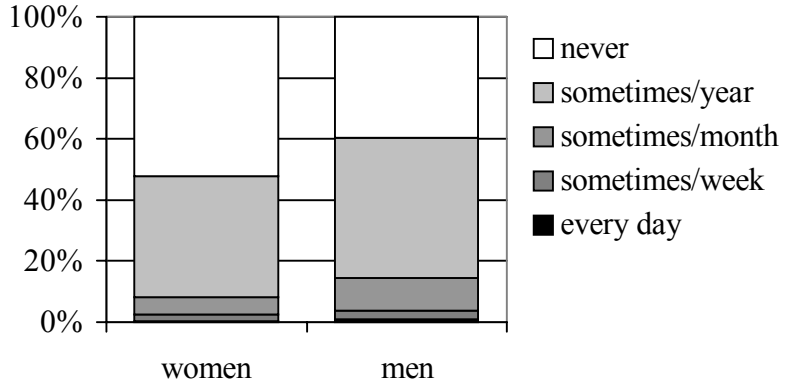
Of the 2,733 respondents, 2.3% of all participants thought of giving up nursing completely several times peer week or daily and additional 6.2% considered this several times per month (Table 1).

Table 1. Response distribution to the questions: 'How often during the course of the past year have you though about giving up nursing completely?'. (440 does not apply and 101 missing)

answering category	frequency	percent
never	1,121	51.1
sometimes/year	876	40.0
sometimes/month	136	6.2
sometimes/week	50	2.3
every day	9	0.4
all	*2,192*	*100.0*

a) Gender. Male employees had a stronger tendency of considering leaving their profession than women ($Chi^2<.05$). The gender effect was strongest for the age groups 16-29 years and 50-54 years.

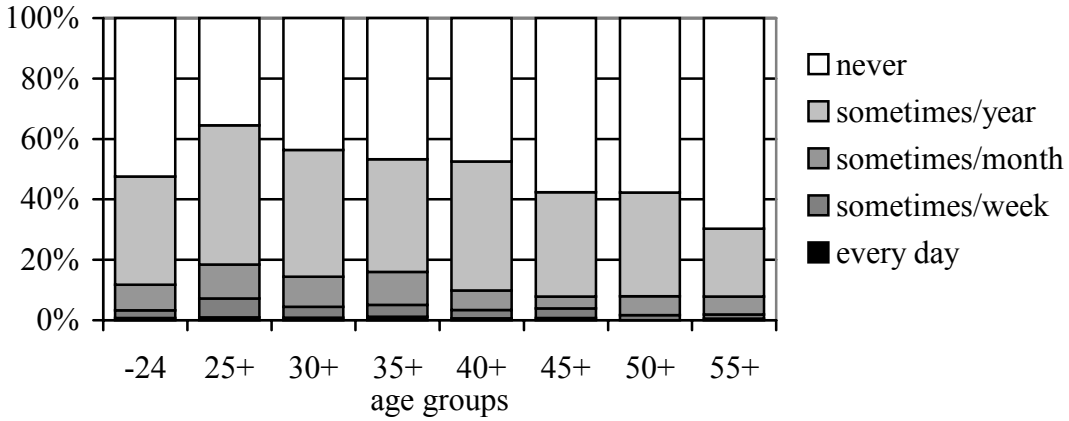
Figure 1. Response by gender: 'How often during the course of the past year have you though about giving up nursing completely?'. (n=2,186, n_{women}=2,007, n_{men}=179, missing=547)



b) Age. Nursing staff in the age group 25-29 years showed the highest intent to leave the profession followed by the age groups from 35-39 years. Nursing staff from 55 years considered to leaving their profession least ($Chi^2<.001$). When considering nurses and other nursing staff separately, registered nurses in the age

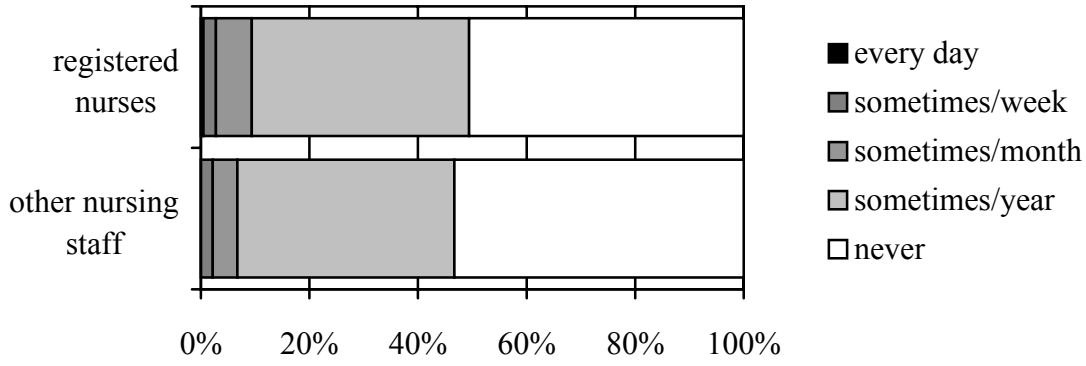
25-29 years and the age group from 35-39 years showed the highest intent to leave. For other nursing staff the age groups 30-34 and 35-39 showed the highest intent to leave the profession. In both groups those 55 years and older showed the least intent to leave their profession.

Figure 2. Response by age: 'How often during the course of the past year have you though about giving up nursing completely?'. (n=2,192, missing=541)



c) Qualification. There was a tendency that the intent to leave the profession was most pronounced among registered nurses (Figure 3). However this tendency was not significant (Chi^2=.3).

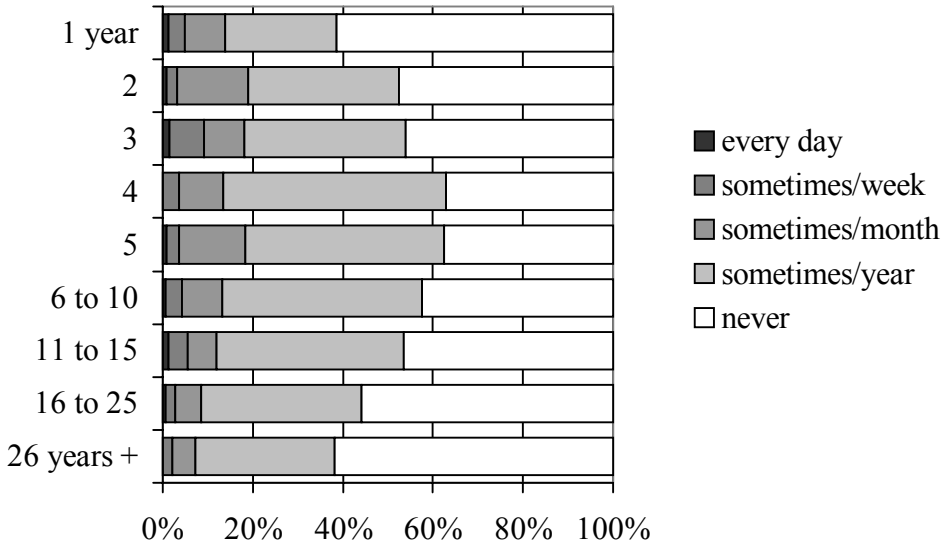
Figure 3. Response by qualification: 'How often during the course of the past year have you though about giving up nursing completely?'. ($n_{reg\ nurse}$=1,774, n_{other}=481, missing=541)



d) seniority. Figure 4 indicates that for occupational seniority the intent to leave was less likely for those that have had an occupational career for at least 16 years. The intent to leave was highest among those that were in the beginning of their professional career and especially for those that has been in their occupation

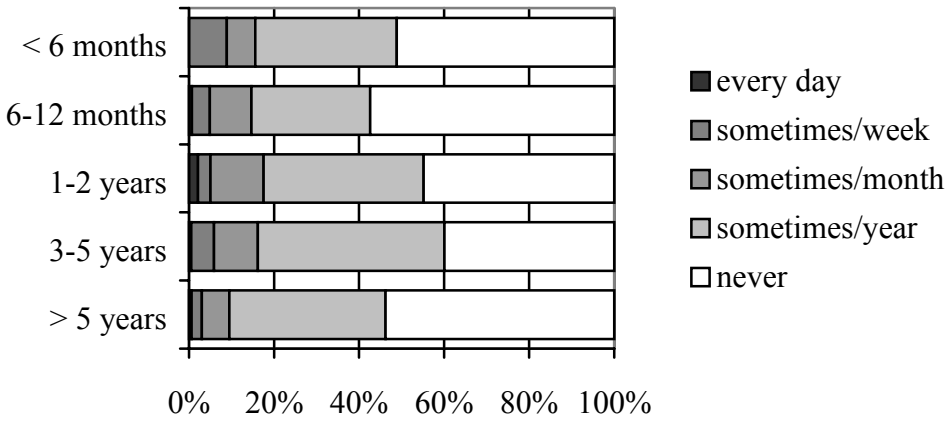
between 2 and 4 years. From five years it slightly decreased. The differences were significant (Chi^2<.001).

Figure 4. Response by occupational seniority: 'How often during the course of the past year have you though about giving up nursing completely?'. (n=2,192, missing=541)



Considering institutional seniority (Figure 5) the intent to leave the profession completely was highest for those employees that had less than three years within the organisation (Chi^2=.001). It was least likely to leave the profession for those that had been in the organisation for more than five years.

Figure 5. Response by institutional seniority: 'How often during the course of the past year have you though about giving up nursing completely?'. (n=2,191, missing=542)



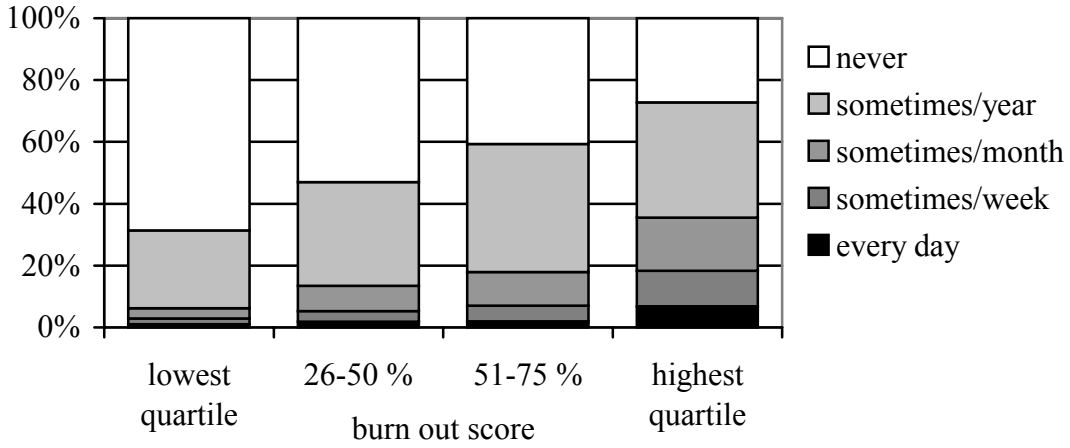
e) Health. Low self-rated health was associated with higher intent to leave the nursing profession (Chi^2<.02). This was more pronounced for women (Chi^2<.05)

than for men and more pronounced in the age group from 30 to 40 years old (Chi^2<.02). No differences were found between registered nurses and other nursing staff.

Figure 6. Response by health: 'How often during the course of the past year have you though about giving up nursing completely?'. (n=2,147, missing=586)

f) Exhaustion. Exhaustion was clearly associated with higher intent to leave (Chi^2<.001). It was more pronounced among female than male workers. Exhaustion was equally associated with higher intent to leave when registered nurses and other nursing staff were analyzed separately. No differences were found between age groups.

Figure 7. Response by health - exhaustion: 'How often during the course of the past year have you though about giving up nursing completely?'. (n=2,145, missing=588)



Discussion

The results from the Norwegian nurses study shows that the intention to leave is low. Of the 2,733 nurses that completed the questionnaire, only 2.3% thought of giving up their profession every day or weekly and additional 6.2% thought of giving up their profession several times a month. The intention to leave was higher among registered nurses than other nursing staff, and men had a higher intention to leave than women in all the hospitals included in the sample. The intention to leave was highest in the age group 25-29 and 35-39, and lowest for the employees over 55 years. Low self rated-health, and exhaustion were associated with higher intention to leave.

The result shows that Norwegian nursing staff is attached to their profession. The intention to leave among the nurses in Norway is so low that it is hard to expect. Some turnover in organizations is necessary to be able to recruit and get new impulses from newly educated nurses. The results show that it is younger nursing staff that has the highest intent to leave. This will however be the important target group performing interventions aiming to decrease the exit from the occupation.

The study has some limitations. The population in this study is from the Western Norway Regional Health Authorities. Nursing staff within the community health services were therefore not included in the study. If this group had been included in the study it may have influenced the results.

References

Official Statistics of Norway (2002a). http://www.ssb.no/emner/06/01/hesospers/.

Official Statistics of Norway (2002b) *Arbeidsmarkedet for helse og sosialpersonell fram mot år 2020. Modelldokumentasjon og beregninger med HELSEMOD (in Norwegian)*. Oslo: Norway.

SAMDATA (2002). http://www.samdata.sintef.no/SAMDATA_sykehus/2001/index.htm.

27 Psychometric properties of the scales used in the NEXT-Study

Angelika Kuemmerling, Hans-Martin Hasselhorn, Peter Tackenberg and the NEXT-Study Group

Introduction

The main assessment instruments used in the NEXT-Study were self- administered questionnaires. They were used to assess central aspects of the work environment as well as individual resources. In this presentation, we describe the selection, treatment and psychometric properties of the scales used in the 'basic questionnaire': between October 2002 and July 2003 this questionnaire was distributed to more than 77,000 nurses in 10 European countries. This report is based on data from 38,802 respondents (Table 1).

Table 1. Participants in the NEXT-Study.

country	abbreviations	number of participants
Belgium	BE	4,257
Germany	D	3,565
Finland	FIN	3,970
France	FR	5,376
United Kingdom	GB	2,578
Italy	IT	5,645
Norway	N	2,733
Netherlands	NL	4,019
Poland	PL	3,263
Slovakia	SLK	3,396
all		*38,802*

Methods

The NEXT-Study Group has attempted to take advantage of existing validated scales covering relevant aspects of the NEXT model (see chapter 1). A large number of scales were pre-tested in up to 6 pre-tests in 3 countries. Finally, 22 scales were chosen (Table 2). In some cases these scales had been specifically tailored towards the nursing or health care professions (e.g. *emotional demand scale* by de Jonge and colleagues. (1999) or the *uncertainty concerning treatment* (Gray-Toft & Anderson, 1981) scale. Otherwise, generic scales were used. In a few cases, scales had to be slightly adapted to the needs of the NEXT-Study (see

below). Four scales have been developed by the NEXT-Study Group on the basis of pre-tests and psychometric assessments of the final database.

Five of the existing scales used in the NEXT basic questionnaire were taken from the Copenhagen Psychosocial Questionnaire (COPSOQ) which was developed by Kristensen and colleagues (Kristensen 2000). Here, selected scales were taken from the medium length version (26 scales and 95 items) which has been labelled as the 'questionnaire for work environment professionals'. All other scales were single scales as described below.

Table 2. Overview of scales used in the NEXT-Study.

scale	source
exposure	
meaning of work	COPSOQ (Kristensen, 2000)
possibilities for development	COPSOQ (Kristensen, 2000)
quantitative demands	COPSOQ (Kristensen, 2000)
influence at work	NEXT
emotional demands	De Jonge et al. (1999)
quality of leadership	COPSOQ (Kristensen, 2000)
interpersonal relations	NEXT
social support from supervisor	v.d. Heijden (1998)
social support from colleagues	v.d. Heijden (1998)
uncertainty concerning treatment	Gray-Toft & Anderson (1981)
lifting and bending	NEXT
individual resources	
work-family conflict	Netemeyer (1996)
family-work conflict	Netemeyer (1996)
satisfaction with payment	NEXT
effort	ERI (Siegrist, 1996)
reward	ERI (Siegrist, 1996)
overcommitment	ERI (Siegrist, 1996)
job satisfaction	COPSOQ (Kristensen, 2000)
positive/negative affectivity	Watson et al. (1988)
institutional commitment	Allen & Meyer (1990)
professional commitment	Allen & Meyer (1990)
work ability index (WAI)	Tuomi et al. (1998)
personal burnout	Borritz & Kristensen (2001)
general health	COPSOQ (Kristensen, 2000), SF36 (Ware et al., 1992)
disability (due to back pain)	Korff (1992)

In the following section a complete overview of all scales is given. This includes a presentation of the items and response categories. The psychometric properties have then been documented separately for each country. The scales have been constructed as mean scores if not indicated otherwise.

Psychometric data on scales

Meaning of work - COPSOQ

The scale *meaning of work* consists of three items (‘*is your work meaningful?*’, ‘*do you feel that the work you do is important?*’, ‘*do you feel motivated and involved in your work?*’). The possible scale range was from 1 (‘*to a very small extent*’) to 5 (‘*to a large extent*’). No missing items were allowed for calculation of the means.

Table 3. Psychometric properties for the scale ‘meaning of work’.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,136	4.40	.64	-1.12	1.33	.66-.71	.83
D	3,526	4.28	.66	-1.40	2.93	.54-.62	.74
FIN	3,929	4.38	.62	-1.15	1.46	.58-.73	.81
FR	5,345	4.55	.59	-2.01	5.49	.57-.63	.75
GB	2,548	4.45	.66	-1.64	3.21	.64-.70	.81
IT	5,397	4.17	.81	-1.14	1.21	.56-.67	.78
N	2,676	4.65	.51	-1.91	5.09	.65-.73	.82
NL	3,960	4.20	.58	-.80	2.25	.59-.75	.82
PL	3,106	3.99	.80	-.86	.73	.49-.60	.72
SLK	3,249	4.26	.69	-1.15	1.24	.45-.64	.70

Possibilities for development

Nurses’ *possibilities for development* have been measured by the COPSOQ scale with four items *(‘does your work require to take the initiative?’, ‘do you have the possibility of learning new things through your work?’, ‘can you use your skills or expertise in your work?’and ‘is your work varied?’).* The scale range was from 1 (low possibilities for development) to 5 (high possibilities). Response categories were ‘*to a very small extent*’, ‘*not very much*’, ‘*somewhat*’, ‘*to some extent*’ and ‘*to a large extent*’. For construction of the scale, one missing item per participant was allowed.

Table 4. Psychometric properties of the scale 'possibilities for development'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,224	3.86	.67	-.61	.22	.46-.60	.74
D	3,545	3.97	.71	-1.02	1.23	.48-.60	.75
FIN	3,957	3.95	.69	-.61	.14	.49-.69	.79
FR	5,352	3.92	.75	-.92	.76	.48-.59	.74
GB	2,565	4.21	.67	-1.16	1.65	.49-.65	.77
IT	5,514	3.43	.82	-.44	-.05	.47-.60	.74
N	2,693	4.37	.54	-1.43	3.35	.45-.60	.74
NL	4,004	3.70	.65	-.58	.27	.42-.59	.72
PL	3,190	3.63	.81	-.50	.01	.46-.64	.76
SLK	3,303	3.86	.75	-.55	-.20	.44-.59	.72

Quantitative demands - COPSOQ

The scale *quantitative demands* used in NEXT consists of five items. Four of them derive from the quantitative demand scale in the COPSOQ *('how often do you lack time to complete all your work tasks', 'can you pause in your work whenever you want', 'do you have to work very fast', 'is your workload unevenly distributed so that things pile up')*. The last item *('do you have enough time to talk to patients')* has been added by the NEXT-Study Group on the basis of validity tests. The aim was to develop a scale that meets the special demands of nursing profession. Responses had to be given on a five-point scale. Answer categories ranged from '*hardly ever*' to '*always*'. One missing item per subject has been accepted for scale calculation.

Table 5. Psychometric properties for the scale 'quantitative demands'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,033	3.31	.60	-.23	.14	.32-.59	.71
D	3,449	3.43	.65	-.38	-.12	.38-.57	.71
FIN	3,911	3.32	.56	-.27	.27	.41-.54	.71
FR	5,090	3.18	.67	-.18	-.16	.39-.57	.75
GB	2,478	3.26	.64	-.07	-.17	.43-.56	.72
IT	5,100	3.29	.66	-.10	-.09	.33-.58	.68
N	2,588	3.12	.53	-.23	.31	.34-.47	.66
NL	3,921	2.99	.55	.00	-.08	.28-.55	.70
PL	2,947	3.42	.65	-.20	-.13	.38-.54	.69
SLK	3,164	3.36	.56	-.13	-.07	.31-.44	.62

Influence at work

The four-item scale *influence at work* contains modified items based on the Swedish version of the Demand-Control questionnaire (Theorell et al., 1988). (‘*I have a say in what type of task I am asked to fulfil*’, ‘*I can decide for myself how to fulfil the tasks given to me*’, ‘*I can set my own work pace*’, ‘*I have a say in when I fulfil the tasks given to me*’). The respondents were asked to estimate the degree of agreement to the statements on a scale range from 1 to 5. Five indicates having a high influence at work. Response categories ranged from ‘*totally inaccurate*’, ‘*not so accurate*’, ‘*partly accurate*’, ‘*fairly accurate*’, to ‘*totally accurate*’. One missing item per participant was allowed for scale construction.

Table 6. Psychometric properties for the scale ‘influence at work’.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,213	3.12	.76	-.16	-.18	.45-.62	.76
D	3,532	3.02	.86	.12	-.32	.48-.67	.80
FIN	3,939	2.79	.77	.13	-.24	.60-.70	.82
FR	5,326	3.16	.89	-.11	-.32	.56-.70	.81
GB	2,547	3.21	.88	-.07	-.42	.60-.70	.84
IT	5,498	3.08	.93	-.11	-.51	.64-.73	.84
N	2,676	3.48	.82	-.47	-.18	.55-.64	.79
NL	4,006	3.19	.66	-.17	-.19	.41-.55	.71
PL	3,153	2.92	.94	.09	-.46	.58-.71	.83
SLK	3,097	2.87	.97	.28	-.45	.58-.68	.82

Emotional demands

Emotional demands in the nursing profession have been measured using a four-item scale developed specifically for health care professions by de Jonge (1999). Participants were asked to indicate on a five point scale how often they were confronted with ‘*death*’, ‘*illness or any other human suffering*’, ‘*aggressive patients*’ and ‘*troublesome patients*’ in their work. Response categories ranged from ‘*never*’ to ‘*always*’.

Table 7. Psychometric properties for the scale 'emotional demands'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,225	3.54	.56	-.42	1.55	.30-.53	.64
D	3,527	3.62	.60	-.30	1.04	.30-.58	.64
FIN	3,945	3.47	.69	-.12	-.20	.42-.68	.74
FR	5,305	3.62	.67	-.69	1.17	.34-.58	.69
GB	2,544	3.33	.73	-.28	.20	.43-.59	.72
IT	5,302	3.11	.74	-.25	.20	.37-.49	.64
N	2,682	2.99	.65	-.34	.10	.25-.57	.67
NL	3,969	3.45	.54	-.65	.89	.40-.47	.65
PL	3,105	3.53	.76	-.50	.20	.48-.67	.77
SLK	3,145	3.41	.79	-.60	.30	.51-.69	.78

Quality of Leadership - COPSOQ

The nurses' perception of the *quality of leadership* has been assessed by a four-item scale *(to what extent would you say that your immediate superior –'makes sure that the individual member of staff has good development opportunities*', -'*gives high priority to job satisfaction*', -'*is good at work planning*', -'*is good at solving conflicts*')*.* This scale was also taken from the COPSOQ. The scale range was set from 1 (poor quality) to 5 (high quality). Response categories were '*to a very small extent*', '*not very much*', '*somewhat*', '*to some extent*', and '*to a large extent*'. For scale construction one missing item has been allowed.

Table 8. Psychometric properties for the scale 'quality of leadership'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,101	3.57	.99	-.60	-.23	.77-.81	.90
D	3,484	3.52	1.06	-.62	-.46	.77-.82	.91
FIN	3,909	3.12	.92	-.30	-.49	.73-.82	.90
FR	5,269	3.06	1.10	-.12	-.96	.75-.81	.90
GB	2,521	3.67	.99	-.69	-.12	.74-.83	.91
IT	5,168	3.04	1.18	-.19	-1.04	.79-.83	.92
N							
NL	3,886	3.06	.79	-.35	.02	.65-.78	.87
PL	3,103	2.80	1.09	.09	-.85	.75-.84	.92
SLK	3,177	3.52	1.10	-.59	-.61	.68-.82	.89

Interpersonal relations

The *quality of interpersonal relations* between nurses and five relevant groups in their work environment *(*'*nursing management*', '*the sister/charge nurse*', '*colleagues*', '*doctors*' *and* '*administration*'*)* was assessed using a five-point scale ranging from 1 *(*'*hostile and tense*'*)* to 5 *(*'*friendly and relaxed*'*)*. No missing item was allowed.

Table 9. Psychometric properties for the scale 'interpersonal relations'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	3,925	3.73	.62	-.14	-.08	.38-.49	.69
D	3,208	3.63	.63	-.05	-.15	.43-.45	.69
FIN	3,767	3.50	.60	.06	.04	.36-.55	.71
FR	4,891	3.32	.66	-.12	.12	.29-.51	.68
GB	2,411	3.80	.67	-.16	-.29	.51-.58	.77
IT	4,837	3.25	.71	.09	.03	.43-.53	.73
N	1,856	4.26	.58	-.58	-.18	.47-.56	.76
NL	3,463	3.70	.55	.16	.06	.40-.51	.69
PL	2,961	3.39	.73	.10	-.04	.41-.59	.75
SLK	2,863	3.69	.76	-.14	-.30	.46-.59	.76

Social Support

The degree of social support nurses receive from their supervisor and the colleagues has been assessed by two scales developed by van der Heijden (1998, 2002).

Social support from the superior

Four items measured *social support from the superior (*'*is your immediate supervisor able to appreciate the value of your work and its results?*' '*does your immediate supervisor express an opinion on your work?*' '*does your immediate supervisor give you supportive advice?*', and '*in general, is your immediate supervisor ready to help you with the performance of your tasks?'*)*. Response categories for the first three questions were to be given on a scale from 1 (*never*) to 5 (*often*). For the last question they ranged from 1 *(*'*shows little willingness to help me*'*)* to 5 *(*'*is very willing to help me*'*)*. One missing item per participant has been accepted for scale construction.

Table 10. Psychometric properties for the scale 'social support from superiors'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,197	3.40	.88	-.37	-.20	.54-.74	.81
D	3,523	3.26	.96	-.28	-.59	.62-.75	.86
FIN	3,920	3.13	.90	-.18	-.48	.65-.81	.87
FR	5,319	3.07	1.02	-.05	-.82	.54-.75	.82
GB	2,551	3.46	.99	-.40	-.50	.66-.83	.88
IT	5,465	2.95	1.08	.05	-.85	.58-.79	.85
N		.	.				
NL	3,962	3.07	.85	-.23	-.43	.60-.75	.83
PL	3,163	3.02	1.07	.07	-.81	.49-.75	.81
SLK	3,245	3.21	.98	-.14	-.60	.51-.72	.81

Social support from colleagues

To measure the *social support from colleagues* the same wording as described for social support from the superior was used. '*Superior*' was replaced with '*colleagues*'. The response categories and scale construction procedures, too, were similar as above.

Table 11. Psychometric properties for the scale 'social support from colleagues'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,196	3.54	.71	-.34	.24	.42-.67	.72
D	3,521	3.49	.74	-.29	-.09	.52-.65	.79
FIN	3,922	3.56	.64	-.26	.11	.49-.68	.76
FR	5,321	3.57	.80	-.43	-.10	.42-.69	.73
GB	2,544	3.69	.75	-.42	.08	.53-.71	.79
IT	5,445	3.33	.84	-.18	-.23	.37-.67	.73
N							
NL	3,964	3.69	.62	-.58	.83	.46-.67	.76
PL	3,162	3.53	.86	-.31	-.27	.37-.63	.72
SLK	3,224	3.45	.80	-.20	-.20	.38-.64	.73

Uncertainty concerning treatment

The scale for assessing participants' *uncertainty concerning treatment* was taken from the Nursing Stress Scale (NSS, Gray-Toft and Anderson, 1981). This instrument uses five items ('*please indicate how often you are stressed by the following situations*': -'*inadequate information from a doctor regarding the medical condition of a patient*', -'*a doctor ordering what appears to be inappropriate treatment for a patient*', -'*a doctor not being present in a medical emergency*', -'*not knowing what a patient or a patient's family ought to be told about the patient's medical condition and its treatment*', -'*uncertainty regarding*

the operation and functioning of specialized equipment'). Four possible response categories have been given: '*never*', '*sometimes*', '*frequently*' and '*very frequently*'. One missing item per participant was tolerated for the calculation of the mean.

Table 12. Psychometric properties for the scale 'uncertainty concerning treatment'

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	3,946	2.10	.51	.62	.78	.35-.54	.72
D	3,185	2.19	.51	.42	.26	.21-.52	.67
FIN	3,502	1.99	.47	.62	1.54	.35-.60	.73
FR	4,407	2.03	.52	.52	.47	.34-.52	.69
GB	2,184	1.92	.52	.67	.76	.37-.56	.73
IT	4,922	2.07	.59	.52	.23	.38-.57	.74
N	2,411	1.83	.37	.29	1.38	.29-.49	.63
NL	3,667	1.85	.42	.43	1.50	.30-.54	.72
PL	2,857	2.14	.62	.49	.06	.46-.67	.80
SLK	2,755	1.85	.52	.74	1.16	.43-.63	.76

Lifting and bending

A scale assessing lifting and bending had to be developed by the NEXT-Study Group on the basis of own validity measurements including pre-tests. The aim was to quantify the specific physical demands in the nursing profession. The scale consists of eight items ('*bedding and positioning patients*', '*transferring or carrying patients*', '*lifting patients in bed without aid*', '*mobilising patients*', '*clothing patients*', '*helping with feeding*', '*making beds*', '*pushing patient's beds, food trolleys or laundry trolleys')*. The answer categories were '*0-1 times a day*', '*2-5 times a day*', '*6-10 times a day*', and '*more than 10 times a day*'. The scale has been constructed as a weighted sum score (weight of categories 1-5: 0, 3.5, 8, 15). The possible range was set from 0 to 100. No missing item per participant was tolerated.

Table 13. Psychometrical properties for the scale 'lifting and bending'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,197	29.87	19.98	.85	.38	.18-.67	.79
D	3,486	28.78	20.35	.85	.35	.42-.70	.87
FIN	3,904	25.53	25.63	.95	-.07	.53-.84	.93
FR	5,179	25.53	23.39	1.11	.58	.55-.72	.88
GB	2,518	23.61	23.20	1.07	.46	.51-.76	.89
IT	4,993	22.18	21.70	1.28	1.28	.50-.76	.90
N							
NL	3,945	26.13	20.55	.85	.20	.45-.72	.86
PL	2,830	27.31	23.06	1.07	.64	.55-.75	.90
SLK	2,983	24.25	22.24	1.18	1.04	.62-.76	.91

Work-family interference

The problem of family work interference has been measured using two scales developed by Netemeyer, Boles and McMurrian (1996).

Work-family conflict scale (WFC)

The first scale was labelled *work family conflict* (WFC) and assesses the degree to which the respondents' work conflicts with his family life. It has five items *('the demands of work interfere with my home and family life', 'the amount of time my job takes makes it difficult to fulfil family responsibilities', 'things I want to do at home do not get done because of the demands of my job', 'my job produces strain that makes it difficult to fulfil family duties', 'due to work-related duties, I have to make changes to my plans for family activities')*. Subjects were asked to indicate on a five-point scale how accurate these statements were in relation to their personal occupational situation ('1' indicating *total disagreement* and '5' *complete agreement* with a statement). The scale was calculated allowing for one missing value per participant.

Table 14. Psychometric properties for the 'work-family conflict scale'

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,192	2.77	.95	.12	-.52	.61-.78	.87
D	3,514	2.76	1.01	.15	-.72	.61-.80	.89
FIN	3,908	2.56	1.03	.22	-.84	.67-.78	.90
FR	5,284	2.83	1.02	.07	-.74	.60-.76	.86
GB							
IT	5,367	3.13	1.00	-.11	-.59	.61-.75	.86
N	2,627	2.20	.94	.60	-.26	.63-.79	.89
NL	3,978	2.09	.81	.46	-.44	.58-.73	.85
PL	3,130	2.31	1.03	.57	-.40	.66-.79	.89
SLK	3,185	2.74	1.06	.22	-.72	.61-.77	.87

Family-work scale

The second scale assessed the opposite direction of conflict: *family conflicting work*. It also has five items *('the demands of my family or spouse/ partner interfere with work related activities', 'I have to put off doing things at work because of demands on my time at home', 'things I want to do at work do not get done because of the demands of my family or spouse/ partner', 'my home life interferes with my responsibilities at work such as getting to work on time, accomplishing daily tasks and working overtime', 'family-related strain interferes with my ability to perform job-related duties')*. The scale range and response categories were the same as mentioned above.

Table 15. Psychometric properties for the 'family-work conflict scale'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,128	2.22	.93	.32	-1.10	.05-.75	.73
D	3,517	1.41	.57	1.86	4.11	.54-.68	.81
FIN	3,878	1.41	.58	2.09	5.75	.46-.67	.78
FR	5,253	1.66	.66	1.33	2.19	.41-.65	.74
GB							
IT	5,282	1.92	.82	1.06	1.02	.41-.63	.77
N	2,606	1.58	.70	1.45	2.13	.58-.65	.82
NL	3,960	1.52	.64	1.53	3.08	.60-.75	.87
PL	3,096	1.61	.79	1.75	3.26	.56-.70	.85
SLK	3,144	2.08	.86	.97	.92	.32-.59	.73

Satisfaction with salary

To measure nurses' satisfaction with their pay the NEXT-Study Group developed a new scale consisting of three items *('how satisfied are you' -'with your pay in relation to your need for income', -'considering the pay of other*

comparable professions', -'*considering the pay of nurses in other institutions*')*.* The categories answers ranged from 1 *('not at all')* to 5 *('very much')*. For the total scale one missing item was accepted.

Table 16. Psychometric properties for the scale 'satisfaction with salary'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	3,951	2.63	.81	.17	-.08	.58-.63	.76
D	3,326	2.62	.78	.29	.09	.51-.54	.70
FIN	3,816	1.94	.78	.71	.30	.53-.56	.72
FR	5,114	2.79	1.00	.07	-.60	.57-.66	.78
GB	2,495	2.31	.90	.48	-.12	.63-.67	.80
IT	5,100	2.02	.86	.71	.13	.61-.64	.78
N	2,590	2.34	.86	.35	-.25	.60-.65	.78
NL	3,887	2.66	.79	.22	-.08	.52-.61	.75
PL	3,113	1.69	.79	1.46	2.34	.63-.72	.82
SLK	3,100	1.86	.86	.83	.03	.67-.76	.84

Effort reward imbalance (ERI)

The effort-reward imbalance model is based on the postulate that 'digression from reciprocity in transaction results in a stressful experience'. Applied to the workplace, this would mean that there should be a balance between what the employee *gives* ('effort') and what he or she *receives* ('reward'). Here, reward not only implicates financial reward, but also esteem and career opportunities including job security (Siegrist, 1996) (see chapter 14). A second assumption is that people characterised by a high work related commitment and high need for approval ('overcommitment') would be experiencing the imbalance even more and might be at increased risk for adverse health outcomes (Siegrist, 1996b). Consequently, there are three scales involved in this ERI model. For the scales, the recently developed shortened version was used with six items for *effort*, eleven items for *reward* and six items for *overcommitment* (Siegrist et al., *in press*).

Effort (ERI)

Effort was measured by six items: '*I am under constant time pressure due to the heavy work load*', '*I have many interruptions and disturbances in my job*', '*I have a lot of responsibility in my job*', '*I am often pressured to work overtime*', '*my job is physically demanding*', as well as '*over the past few years, my job has become more and more demanding*'. The participants were asked to assesss how they perceive the distress that was caused by the described situations: '*no distress at all*', '*moderately distress*', '*considerably distress*' and '*very much distress*'. One missing item per participant was allowed for scale building.

Table 17. Psychometric properties for the scale 'effort'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,172	14.32	4.38	.46	-.13	.39-.62	.74
D	3,525	17.69	4.54	.04	-.22	.42-.63	.76
FIN	3,862	15.73	4.38	.29	-.38	.22-.55	.67
FR	5,346	15.32	4.36	.17	-.35	.28-.57	.69
GB							
IT	5,394	15.72	4.97	.29	-.38	.41-.63	.77
N	1,514	14.12	4.65	.34	-.31	.46-55	.73
NL	3,991	11.28	3.01	.88	.87	.26-.51	.68
PL	3,141	15.70	4.99	.20	-.59	.24-.62	.75
SLK	3,283	14.98	4.17	.20	-.40	.31-.52	.69

Note: Item '*I have many interruptions and disturbances in my job*' was not asked in Norway.

Reward (ERI)

Eleven items have been used to measure the participants' perceived *reward*. Measurement procedures were the same as for '*effort*'. The items were '*I receive the respect I deserve from my superiors*', '*I receive the respect I deserve from my colleagues*', '*I experience adequate support in difficult situations*', '*I am treated unfairly at work*', '*my job promotion prospects are poor*', '*I have experienced or I expect to experience an undesirable change in my work situation*', *my job security is poor*', '*my current occupational position adequately reflects my education and training*', '*considering all my efforts and achievements, I receive the respect and prestige I deserve at work*', '*considering all my efforts and achievements, my work prospects are adequate*', '*considering all my efforts and achievements, my salary / income is adequate*'. Two missing items per participants were tolerated for the scale calculation.

Table 18. Psychometric properties for the scale 'reward'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,104	48.54	6.29	-1.43	2.22	.31-.65	.80
D	3,484	43.32	7.46	-.67	.26	.18-.63	.79
FIN							
FR	5,344	46.43	6.97	-1.06	.98	.21-.61	.77
GB							
IT	5,354	42.65	8.41	-.73	-.01	.20-.65	.80
N							
NL	3,980	50.21	4.74	-1.68	4.10	.27-.59	.74
PL	3,108	39.74	8.72	-.62	-.10	.20-.61	.79
SLK	3,191	42.96	7.87	-.59	-.15	.33-.62	.81

Overcommitment (ERI)

Overcommitment was measured following the procedure developed by Siegrist et al. (*in press*). The scale employs six items that were constructed as statements: '*I get easily overwhelmed by time pressures at work*', '*as soon as I get up in the morning I start thinking about work problems*', '*when I get home, I can easily relax and "switch off" from work*' (this item has to be reversed when using in a scale), '*people close to me say I sacrifice too much for my job*', '*work rarely lets me go, it is still on my mind when I go to bed*', '*if I postpone something that I was supposed to do today I'll have trouble sleeping at night*'. Four response categories have been given '*strongly disagree*', '*disagree*', '*agree*' and '*strongly agree*'. For scale calculation one missing item was allowed.

Table 19. Psychometric properties for the scale 'overcommitment'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,166	13.96	3.24	.16	.02	.40-.67	.77
D	3,526	14.38	3.86	.18	-.44	.43-.74	.81
FIN	3,929	12.73	3.33	.32	-.04	.43-.66	.82
FR	5,298	13.99	3.74	.15	-.39	.36-.71	.78
GB							
IT	5,350	14.10	3.40	.14	-.20	.33-.65	.73
N	2,665	12.33	2.84	.23	.39	.42-.63	.76
NL	3,993	11.89	2.65	.16	.56	.41-.60	.76
PL	3,179	14.34	3.27	.24	-.09	.32-.63	.74
SLK	3,189	14.99	2.89	-.06	.17	.32-.61	.70

Job satisfaction - COPSOQ

The *job satisfaction scale* originates from the COPSOQ and was measured by four items *('how pleased are you with' - 'your work prospects?'*, -'*the physical working conditions?*', -'*the way your abilities are used?*', -'*your job as a whole, everything taken into consideration?')*. The responses were measured by a four-point scale with the response categories '*very unsatisfied*', '*unsatisfied*', *satisfied*', and '*very satisfied*'. For the calculation of the scale mean, one missing item per participant was allowed.

Table 20. Psychometric properties for the 'job satisfaction scale'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,188	2.81	.45	-.75	1.90	.49-.63	.76
D	3,525	2.51	.52	-.28	-.02	.45-.54	.71
FIN	3,935	2.70	.47	-.54	.69	.43-.62	.73
FR	5,299	2.54	.53	-.34	.05	.50-.63	.76
GB	2,559	2.73	.57	-.54	.65	.54-.73	.82
IT	5,418	2.42	.59	-.31	-.10	.54-.69	.80
N	2,633	2.96	.43	-.48	2.23	.35-.61	.69
NL	3,964	2.84	.37	-.84	2.64	.35-.58	.70
PL	3,118	2.65	.53	.27	-.11	.54-.66	.78
SLK	3,246	2.45	.51	-.39	.03	.52-.59	.75

Measurement of positive and negative affectivity

Positive affect and negative affectivity have been measured using the PANAS scale, which consists of a number of adjectives and has been developed by Watson, Clark and Tellegen (1998). Participants were asked to rate the extent to which they 'in general' feel in a certain way.

For the *positive affectivity scale* (PAS) the terms were: *alert, excited, active, interested, attentive, determined, proud, inspired, strong* and *enthusiastic*. Answers had to be given on a five-point scale. Categories ranged from '*very slightly or not at all*', '*a little*', '*moderately*', '*quite a bit*', to '*extremely*'. Two missing items per participant have been tolerated for the PAS scale.

Table 21a. Psychometric properties for the 'positive affectivity scale'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	1,923	3.57	.51	-.30	.73	.09-.65	.83
D	3,523	3.56	.58	-.26	.16	.48-.67	.85
FIN	3,946	3.25	.56	-.21	.17	-.26-.75	.84
FR							
GB							
IT	5,343	3.07	.69	.16	.00	.55-.71	.89
N	2,514	3.56	.53	-.23	.61	.49-.69	.86
NL	3,973	3.61	.45	-.52	1.48	.12-.63	.81
PL	2,972	3.26	.54	-.20	.49	.29-.57	.79
SLK	3,166	3.33	.56	-.37	.34	-.07-.53	.73

Note: the low item total correlation in Belgium, Finland, the Netherlands and Slovakia are due to the item '*excited*'. This term may be understood in two ways: either in the sense of '*stimulation*' or of '*being upset*'. We decided *not* to eliminate this item from the scale for these countries but followed with the calculation as suggested by the authors.

The items comprised in the *negative affectivity scale* (NAS) were *jittery, nervous, irritable, upset, distressed, scared, guilty, afraid, ashamed* and *hostile*. Response categories and the handling of the data were the same as those used for assessing positive affect (see above).

Table 21b. Psychometric properties for the 'negative affectivity scale'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	1,917	1.68	.54	1.29	2.38	.34-.65	.86
D	3,521	2.06	.59	.67	.40	.39-.65	.83
FIN	3,945	1.60	.47	1.53	3.30	.41-.66	.84
FR			.				
GB							
IT	5,346	1.57	.47	1.52	3.61	.43-.60	.81
N	2,507	1.52	.46	1.35	2.29	.45-.65	.85
NL	3,973	1.50	.45	1.47	3.01	.39-.66	.85
PL	2,973	2.25	.69	.42	-.24	.49-.68	.87
SLK	3,178	2.07	.59	.64	.45	.35-.60	.79

Commitment

Commitment was assessed on the basis of the work of Allen and Meyer (1996). For the NEXT-Study, the scales covering '*institutional commitment*' and '*professional commitment*' were chosen.

Commitment to the institution

Four items were used to measure nurses' institutional commitment. This scale was used in its original form, however the wording was – where appropriate – slightly changed *('I really feel that I belong to this institution', 'this institution has a great deal of personal meaning for me', 'I am proud to belong to this institution', 'I do not feel like a part of the family among this institution')*. The response categories ranged from 1 *('no commitment at all')* to 5 *('high commitment')*. One missing item was accepted.

Table 22. Psychometric properties for the scale 'commitment to institution'

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,185	3.57	.74	-.32	.19	.37-.70	.79
D	3,476	3.35	.91	-.09	-.53	.36-.74	.80
FIN	3,926	3.83	.84	-.49	-.31	.48-.77	.84
FR	5,260	3.44	.88	-.31	-.19	.46-.71	.80
GB	2,529	3.33	.85	.00	-.41	.27-.71	.78
IT	5,369	3.03	.91	-.02	-.38	.19-.66	.73
N	2,557	3.27	.89	-.06	.45	.12-.72	.74
NL	3,986	3.21	.66	-.17	.30	.30-.68	.76
PL	3,041	3.39	.84	-.10	-.21	.19-.66	.72
SLK	2,884	3.48	.96	.02	-.97	.09-.76	.75

Commitment to the profession

Another four items constitute the scale for *institutional commitment* (Allen and Meyer, 1996). Here, the wording was adapted to the specific conditions of nursing to meet the special demands of the study *('I really feel that I belong to the nursing profession', 'nursing profession has a great deal of personal meaning for me', 'I am proud to belong to the nursing profession', 'I do not feel like part of the nursing profession')*. Scale range was the same as for institutional commitment.

Table 23. Psychometric properties for the scale 'commitment to profession'

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,181	4.08	.64	-.53	.30	.35-.65	.75
D	3,479	3.94	.85	-.60	-.21	.29-.78	.80
FIN	3,927	4.19	.77	-.90	.42	.56-.83	.88
FR	5,251	4.32	.70	-1.25	1.83	.42-.68	.77
GB	2,518	3.85	.86	-.50	-.28	.48-.76	.85
IT	5,318	3.99	.82	-.69	.07	.25-.70	.73
N	2,571	4.30	.69	-1.02	.83	.33-.66	.74
NL	3,980	3.95	.60	-.30	.40	.33-.65	.75
PL	3,066	4.04	.87	-.75	.04	.25-.76	.79
SLK	2,890	4.23	.90	-1.17	.71	.30-.81	.83

Work ability index

The work ability index has been developed by Tuomi and colleagues (Tuomi et al., 1991). With this instrument it is possible to measure how well workers are performing on their present job and to make prognoses on their future performance. The work ability index covers seven *dimensions*: '*current work ability compared with the best during one's lifetime', work ability in relation to the demands of the job, number of diagnosed diseases, subjective estimated work impairment due to diseases, sickness absence during last year, own prognosis of work ability two years later and mental resources.* These dimensions are being assessed by means of 26 items which for practical reasons are not listed here (see chapter 11 for further details).

Table 24. Psychometrical properties for the 'work ability index' (WAI).

country	n	mean	std-dev	skewness	kurtosis	item total correlation *	alpha*
BE	3,859	39.75	4.96	-.86	1.09		
D	3,373	37.88	6.30	-.93	1.01		
FIN	3,750	39.89	5.77	-1.16	1.83		
FR	4,306	37.84	5.70	-.93	1.32		
GB	2,318	39.70	5.72	-1.01	1.63		
IT	4,073	39.64	5.33	-.94	1.25		
N	2,262	42.00	5.34	-1.43	2.84		
NL	3,927	41.41	4.94	-1.58	3.77		
PL	3,073	36.29	5.97	-.39	-.07		
SLK	3,093	39.38	4.80	-.56	.34		

*Due to the construction of the work ability index internal consistency cannot be measured.

Personal burnout

Personal burnout was assessed using a six-item scale taken from the Copenhagen Burnout Inventory (CBI, Borritz and Kristensen, 2001). For methodological reasons we decided not to use the CBI '*client burnout scale*' which assesses the degree of burnout attributed to work with clients/patients. Participants had to indicate on a five-point scale how often they '*feel tired*', '*are physically exhausted*', '*are emotionally exhausted*', '*think:* '*I can*'*t take it anymore*', '*feel worn out*', '*feel weak and susceptible to illness*'. Answer categories were '*never/ almost never*', '*once or a few times during a month*', '*once or twice a week*', '*three to five times during a week*' and '*(almost) every day*'. We allowed for one missing item when calculating the scale.

Table 25. Psychometric properties for the scale 'personal burnout'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,195	2.40	.84	.34	-.58	.66-.82	.91
D	3,520	2.52	.93	.77	.02	.64-.81	.91
FIN	3,926	2.33	.83	.99	.70	.64-.77	.89
FR	5,330	2.86	.68	.15	-.13	.59-.79	.87
GB	2,537	2.58	.92	.66	-.23	.61-.78	.89
IT	5,351	2.43	1.00	.82	-.08	.58-.79	.89
N	2,659	1.85	.71	1.57	3.04	.57-.72	.86
NL	3,985	1.68	.60	1.82	4.65	.53-.73	.84
PL	3,108	2.63	.98	.75	-.20	.67-.83	.91
SLK	3,187	2.80	.84	.40	-.33	.56-.67	.84

General health

General health was measured employing the scale used in the COPSOQ which followed the suggestions of the SF-36 (Ware & Sherboune, 1992). The items to be answered on a five point scale were: '*in general, would you say your health is*' (answer categories: '*poor*', '*fair*', '*good*', '*very good*', '*excellent*'), '*I seem to get sick a little easier than other people*', '*I am as healthy as anybody I know*', '*I expect my health to get worse*', '*my health is excellent*' (answer categories: '*definitely false*', '*mostly false*', '*don*'*t know*', '*mostly true*', '*definitely true*'). For constructing the scale the original five point scale was set from 1 to 100 following the proposals of the authors (Ware & Sherboune, 1992). One missing item per participant was tolerated for scale calculation.

Table 26. Psychometric properties for the 'general health' scale.

country	n	mean	std-dev	skewness	kurtosis	item total correlation	alpha
BE	4,199	68.12	18.36	-.59	.11	.41-.68	.74
D	3,503	64.22	19.33	-.52	-.21	.43-.65	.74
FIN	3,945	67.14	18.80	-.58	-.07	.43-.71	.76
FR	5,299	63.93	20.23	-.56	.02	.41-.70	.76
GB							
IT	5,366	64.61	18.95	-.53	.00	.39-.66	.72
N							
NL	3,976	71.14	16.60	-.64	.40	.38-.67	.73
PL	3,129	55.14	19.09	-.16	-.31	.43-.67	.77
SLK	3,149	56.15	17.81	.00	-.07	.41-.61	.72

van Korff disability score

Van Korff has developed four-item measures for measuring peoples' *pain* and/or *disability* due to *low back pain* and *neck/shoulder pain*. For the NEXT-Study, we used the *disability* scale, summarising *low back* and *neck/shoulder* complaints. The items employed were: *considering the past half year: -'about how many days have you been kept from your usual activities (work or house work) because of neck- or low back pain?*', -'*how much has neck- or low back pain interfered with your daily activities*', -'*how much has neck- or low back pain changed your ability to take part in recreational, social and family activities*?', -'*how much has neck- or low back pain changed your ability to work (including house work)?*'. The response categories for the last three items ranged from 0 to 10, with '0' indicating *no interference* or *change* and '10' *highest interference or very much change*.

The disability index was calculated following the method described by the author (van Korff, 1992). One missing item per participant was allowed for scale building.

Table 27. Psychometric properties for 'van Korff disability scale'.

country	n	mean	std-dev	skewness	kurtosis	item total correlation *	alpha*
BE	3,708	.96	1.49	1.56	1.51	.83-.88	.93
D	3,219	1.54	1.82	0.88	-.48	.86-.90	.94
FIN	3,188	1.02	1.58	1.53	1.32	.85-.92	.94
FR	4,687	1.21	1.68	1.23	.34	.91-.93	.96
GB	2,404	.65	1.31	2.24	4.52	.90-.93	.96
IT	4,765	1.29	1.67	1.08	.00	.88-.90	.95
N							
NL	3,801	.47	1.11	2.83	8.14	.78-.87	.90
PL	2,586	1.66	1.64	.64	-.67	.83-.89	.93
SLK	2,751	1.78	1.75	.61	-.72	.86-.90	.94

* internal consistency and scale total correlation was calculated only for the last three items (the item 'how many days etc.' was dismissed due to different scaling).

Discussion

With very few exceptions (e.g. *quantitative demands* for Slovakia or *uncertainty concerning treatment* in Norway) it can be said that all scales proved to be quite reliable. Moreover, reliability and, to a lesser extent, total scale item intercorrelation were very comparable over countries. These results indicate that item translation and questionnaire realisation were carried out carefully and successfully.

References

Allen NJ & Meyer JP (1990) The measurement and antecedents of affective continuance and normative commitment to the organization. *Journal of Occupational Psychology* 63:1-18.

Borritz M & Kristensen TS (2001) *Copenhagen Burnout Inventory: Normative data from a representative Danish population on Personal Burnout and Results from the PUMA study on Personal Burnout, Work Burnout, and Client Burnout*. Copenhagen: National Institute of Occupational Health.

Gray-Toft P & Anderson JG. (1981) The Nursing Stress Scale: Development of an Instrument. *J Behav Assessment* 3:11-23.

Heijden BIJM v. d. (1998) *The measurement and development of professional expertise throughout the career*. Dissertation, Enschede: University of Twente.

Jonge J de, Mulder MJGP, & Nijhuis FJN (1999) The incorporation of different demand concepts in the Job Demand-Control Model: Effects on health care professionals. *Social Science and Medicine* 48:1149-1160.

Korff M v, Ormel J, Keefe FJ, et al. (1992). Grading the severity of chronic pain. *Pain* 50:133–49.

Kristensen TS (2000) *A new tool for assessing psychosocial factors at work: The Copenhagen Psychosocial Questionnaire.* Copenhagen: National Institute of Health.

Netemeyer RG, Boles JS & McMurrian R (1996) Development and validation of work-family conflict and family-work conflict scales. *Journal of Applied Psychology*, 81:400-410.

Siegrist J (1996) Adverse health effects of high effort – low reward conditions at work. *J Occup Health Psychol* 1:27-43.

Siegrist J, Starke D, Chandola T, Godin I, Marmot M, Niedhammer I & Peter R (in press) The measument of effort-reward imbalance at work. European Comparison. Special Issue *Social Science & Medicine* (in press).

Theorell T, Perski A, Åkerstedt T, Sigala F, Ahlberg-Hulten G, Svensson J, et al. (1988) Changes in job strain in relation to changes in physiological state. A longitudinal study. *Scand J Work Environ Health* 13:189-96.

Tuomi K, Ilmarinen J, Jahkola A et al. (1998) *Work Ability*. 2nd ed. Helsinki: Finnish Institute of Occupational Health.

Ware JE & Sherboune CD (1992) The MOS 36-item short-form health survey (SF-36). I. Conceptual framework and item selection. *Medical Care* 30:473-481

Watson D, Clark LA & Tellegen A (1988) Development and validation of brief measures of positive and negative affect: the PANAS scales. *J Pers Soc Psychol* 54:1063-70.