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'Health and Other Welfare Differences between Population Groups'
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FREE-FORM PROCESS DESCRIPTIONS OF THE PROJECTS

(Extended abstracts)

UNDERCLASS, WELFARE AND HEALTH

Alaluokkaistuminen hyvinvointi- ja terveysongelmana

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Key words: social exclusion, unemployment, atypical employment, youth, delinquents

Tiivistelmä: Hankkeen teoreettisen tason tavoitteena oli täsmentää alaluokka-käsitettä kiinnittäen huomiota palkkatyöyhteiskunnan murroksessa kehittyneisiin syrjäyttäviin rakenteisiin. Erityisesti esitimme kysymyksen, onko yhteiskunnallisiin palvelu-, säätely- ja hyvinvointijärjestelmiin muodostunut eriarvoisuutta synnyttäviä ja uusintavia rakenteita.

Hanke muodostui neljästä osatutkimuksesta. Työolotutkimukseen 1997 pohjautuvassa tutkimuksessa havaittiin, että määräaikainen työsuhde ei ole yksiselitteiseti yhteydessä huonoihin työoloihin. Tulos on tulkittavissa siten, että Suomen oloissa epätyypillisiin työsuhteisiin ei näytä liittyvän lohkoutumista huonompiin ja parempiin työmarkkinoihin. Luokkarakenteen muutoksiin keskittyvässä osatutkimuksessa todettiin, että rippuvaisuus toisaalta perheestä, toisaalta hyvinvointijärjestelmistä lisääntyi ja taloudellinen itsenäistyminen viivästyi 1990-luvulla varsinkin nuorilla.Työttömien töykykyä ylläpitäviä palveluja koskevan osan alustavissa tuloksissa korostuu yksilöllisten motiivien ja tarpeiden merkitys ja työllistetyille tarjottujen työterveyspalvelujen vaihtelevuus. Osassa, joka käsitteli riskitilanteessa elävien nuorten transitiota työelämään, esille nousi koulun työetiikkaan valmentava merkitys ja kansalaisyhteiskunnan ja sosiaalisen kumppanuuden ideat syrjäytymistä ja alaluokkaistumista ehkäisevän työn lähtökohtana.

Kaikkiaan amerikkalaistyyppinen alaluokkakonsepti ei ole toimiva analyysin väline Suomen tyyppisissä yhteiskunnissa, joissa sosiaalinen integraatio perustuu ennaltaehkäisevään toimintaan. Tämä tulisi ottaa huomioon keskuteltaessa sinänäsä onnistuneen alaluokka-käsitteenavulla Suomen yhteiskunnalisesta eriarvoisuudesta, tutkittaessa sitä ja yritettäessä vaikuttaa siihen.

EXTENDED ABSTRACT

1. INTRODUCTION – aims of and starting points

The roots of the research were in personal relationships between researchers at the University of Tampere. They organized a multidisciplinary research group to take part in the TERO program:
- Tapio Kuure studied as a postdoctoral researcher the social integration of young people during the transition to working life.

- Helena Laaksonen started her doctoral thesis on changes in occupation and social status in Finland under the guidance of HarriMelin.
- Sirkku Martti had recently graduated from the Medical Faculty and was interested in research on social medicine.
- Antti Saloniemi was finalizing his thesis on work sociology
- Pekka Virtanen had studied the relationship between unemployment and illness and health care during unemployment.

The starting point for the research project was the growth of unemployment and a typical employment relations that Finnish society had experienced during the 1990s. The welfare state had difficulty in keeping up with these changes and at the same time, social values had changed: instead of cooperation and solidarity, entrepeneurial and individualistic values appeared to be in favor. Under these circumstances part of the population was obviously in danger of being marginalized. Our research program aimed to analyze marginalization and the possible emergence of an underclass in four arenas.

1. Research on the health and wellbeing of people of working age usually considers them either as permanently employed or as unemployed. In the contemporary world it is more a matter of a continuum where there is a growing group of people somewhere between these two extremes. The study **Atypical employment and health differences** aimed to answer questions about working conditions, welfare and social status of people in nonpermanent, unstable situations in the labor market.

2. The study **Unemployment and the development underclass in Finland** aimed to answer questions about changes in the social composition of the Finnish underclass during the years of the economic recession and mass unemployment.

3. The study **Rehabilitation of the unemployed** emerged from the suspicion that re-employment policy alone does not suffice to guarantee the wellbeing of the unemployed, but more comprehensive services are needed. We wanted to ask about the perceptions and motives of participants in such services.

4. The study **Transition to working life of young people in risk situations** aimed to identify possible social closures of marginalized youth groups and answer the question of whether a youth underclass exists or is emerging in Finland. The concept of underclass implies the gap between new poor groups and the mainstream labor market. The crucial starting point was to analyze the problematics of the transition of young people into the labor market.

2. DATA SOURCES AND METHODS

Study 1 used the data of Statistics Finland's survey questionnaire 'Working conditions 1997', concentrating on items about market status and analyzing statistically its associations with wellbeing, working conditions and career prospects. Study 2 used three surveys collected in Finland in 1981, 1988, and 1994 and official statistics from Finland, Sweden, and Germany. Thus, the method used was mainly quantitative analysis. Material on semistructured family interviews was also available for this study. Study 3 was based on questionnaires and interviews conducted among participants in health check-ups and rehabilitation programs, and on data originating from a questionnaire survey carried out among nonpermanent municipal employees. Study 4 aimed to modify an earlier datamatrix, made up of court decisions concerning teen delinquents, and transform it into a networkmatrix. This was not possible due to the lack of funds and the data were

analyzed conventionally by crosstabulation. After this basic analysis, new national level data on ex-offenders and released prisoners was studied with a grant from the Probation and After Care Association which was involved in an EU project funded by the Integra Program.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

Study 1 focused on fixed-term employment and its associations with wellbeing at work. According to previous studies, working in nonpermanent employment relationships is a threat to health and wellbeing at work. The result did not give unambiguous support to this. Even if the dissatisfaction with and frustration toward the unstable labor market situation was extensive, the actual working conditions were evaluated relatively well, especially where health and the psychosocial work environment were concerned. In many cases fixed-term employees evaluated their work more highly than those in permanent employment.

Some dimensions of physical disadvantage were more common among fixed-term employees, but the result had very little to do with the recent increase of fixed-term employment in the public sector. The problems of the physical work environment were concentrated on construction, an industry with a long tradition of nonpermanent employment.

The results were quite controversial in terms of the international mainstream. The natural source for an explanation of the results is the structure of the labor market. Previous studies have concerned fixed-term employment in sharply segmented labor markets. Unlike many other Western economies, the Finnish labor markets are relative homogenous. This is probably the reason why the relationship between fixed-term employment and lack of wellbeing at work has not emerged in Finland. The cross-sectional study, however, cannot say anything about the possible long-term consequences of fixed-term employment – thus there are no grounds for concluding that increasing flexibility of the labor market is not a problem.

Study 2 showed that the growth of unemployment and long-term unemployment has had a major impact on the social structure of Finland in the 1990s. The number of those dependent on welfare has grown. This is particularly problematic in the case of young people entering working life. There is a delay in achieving economic independence and entering adulthood in Finland, Sweden, and Germany, but the extent of the problem differs country by country due to differences in the economic systems and the structure of welfare distribution.

Study 3 has been delayed because of Sirkku Martti's maternity leave, infant-care leave and clinical work. The Academy of Finland approved the extension of funding on her part to the end of 2001. Preliminary results show that implementation of activities aimed at promoting working ability among the unemployed fails if the motives and preferences of the clients are not taken into account. Preliminary results of the survey show that there are great variations between municipalities in the occupational healthcare available for nonpermanent employees, in particular those re-employed through a subsidy.

Study 4 put forward the underclass concept which, in the form exported from the USA, seems not to work as an analytical tool in European societies where the control of marginal groups is based on selection and prevention. These are working well in culturally homogenous countries like Finland which has the lowest proportion of prisoners in the world (comparable countries). In multicultural societies the growing proportion of prisoners is related to ethnic minorities, because the social closures are more visible and the process of subculturalism is ongoing.

The delayed or prolonged transition into the labor market puts pressure on schooling (the protestant work ethic will change into the protestant schooling of ethic) and civil society. At the European Union level the future threats are identified in youth (long-term) unemployment, which causes problems and contradictions between ethnic groups. The solutions lie in civil society, local social partnership, and social responsibility. EU strategy is to channel money and to fund third sector projects especially. However, in EU social policy, the mainstream labor market is seen as the most important arena in connecting even the most marginalized people with society.

4. CONCLUSIONS – realisation of the aims and future perspectives

The original research project had to be reformulated due to insufficient funding, and the study projects had to select the topics: unemployment was kept in the background, and we decided to concentrate on young people in studies 2 and 4 and on atypical employment in studies 1 and 3. In this way the researcher collective could support each other's work most effectively.

The project has met – and in part of study 3 will meet - the revised aims, producing publications at the forums typical of this kind of social scientific and nationally specific research. Funding of the TERO program was essential except for concrete substudies, also for creating the multi-disciplinary researcher collective that served to broaden the scientific thinking of the doctoral students as well as the senior researchers.

The importance of the research in fields represented in our project is growing and will continue to grow in the future. In studying young adults' transition into work, issues of social exclusion and the emergence of an underclass should be approached from the perspective of family relations and friendship networks: the significance of parental and other social support to young adults is very much understudied. In addition to unemployment, general job insecurity, fixed-term employment, and atypical working patterns are increasing, and their significance for the emergence of new social divisions and exclusions, as well as for wellbeing, health, and the availability of health and welfare services is largely unclear. Accordingly, even in the issues selected as the main focus of our project, very many questions still need studying.

The underclass question is still relevant and worth studying in Finland. The future of the Underclass Research Group is casual and unclear: Helena Laaksonen is trying to complete her PhD thesis this year with a grant from the Finnish Cultural Foundation, Tapio Kuure is employed until 2003 in the Academy of Finland SYREENI Program. Antti Saloniemi is a visiting researcher in Canada until August 2001, and Sirkku Martti is ambiguous about her orientation as researcher. Pekka Virtanen and Harri Melin also have fixed-term university posts. However, the Underclass Research Group continue its existence. The next task is to complete the book project 'Hyvinvoinnista erotetut' (Excluded from Welfare), which was started during the TERO Program.

5. NATIONAL AND INTERNATIONAL COOPERATION

National cooperation

The book (see above) will comprise articles by 12 writers from different universities and research institutes, and from participants in several projects in the TERO Program.

The research group formed the core of the organizers of 'Pätkätyöpäivät' in Tampere in 1999, a national congress on atypical employment attended by 150 participants.

Fixed-term employment has been studied in conjunction with the Kunta8 study led by Jussi Vahtera at the Finnish Institute of Occupational Health in Turku,.

Collaboration with the research group at the University of Rovaniemi (who contributed an article for the book).

National cooperation within the Finnish Youth Research Network, Finnish Criminologists and Probation and After Care Association.

Collaboration with Statistics Finland in research on atypical employment.

International cooperation

Harri Melin together with Assistant Professor Håkon Leiulfsrud (University of Trondheim, Norway) have analyzed new forms of social inequality in Finland, Norway, and Sweden.

Helena Laaksonen participated in the Training and Mobility of Young Researchers Program in the project '*Family and the Welfare State in Europe*', coordinated by Peter Flora and Thomas Bahle at the Mannheim Zentrum für Europäische Sozialforscung, Germany. She worked for a year at the institute and has been participating in the network of young researchers in the project since.

Antti Saloniemi has been a visiting postdoctoral researcher at the Department of Labor Studies at McMaster University, Hamilton, Canada.

Pekka Virtanen took part in the workshop 'Just in Time Employed - Psychological and Medical Aspects' in Dublin in June 2000 and helped to write a joint scientific article with Doctor Jane Ferrie who is studying atypical employment with the Whitehall Research Group at University College, London.

Tapio Kuure has cooperated in a project on placing released prisoners in the labor market funded by the EU Integra Program with partners from Italy, North Rhein Westphalen, and Great Britain.
He also participated in the Nordic Youth Research Symposium in Helsinki, June 2000, as a member of the program committee and as chairman of three of the workshops.

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IMPACT OF ApoE POLYMORPHISM AND SOCIOECONOMIC FACTORS ON COGNITIVE ABILITIES AND LIFE MANAGEMENT

ApoE polymorfismin ja sosioekonomisten tekijöiden merkitys kognitiivisiin kykyihin ja elämänhallintaan

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Key words: dementia, cognitive impairment, Apolipoprotein E polymorhism, socioeconomic status

Tiivistelmä: Alkuperäiset tutkimuksen tavoitteet eivät toteutuneet, koska vanhemmista FINRISKI aineistoista ei enää pystytty määrittämään ApoE genotyyppejä. Kansanterveystieteen ja yleislääketieteen laitoksella, Kuopion Yliopistossa on samaan aikaan ollut meneillään toinen samaan FINRISKI-vanhuusväestöön kohdistuva seulontatutkimus, CASCADE-tutkimus, SA 1464, professori Aulikki Nissinen, jossa hyödynnetään 25-15 vuotta aikaisemmin kerättyjä terveyskäyttäytymiseen liittyviä tietoja. Tästä aineistosta pystytään kuitenkin selvittämään, selittääkö sosioekonominen asema ja ApoE genotyyppi kumpikin itsenäisesti dementian esiintyvyyttä vai onko niillä yhdysvaikutusta. 2. Onko ApoE genotyypillä merkitystä kognitiiviseen kapasiteettiin iäkkäällä väestöllä sekä aivojen rakenteellisiin muutoksiin, joita selvitettään MRI-tutkimuksen avulla.

Cascade-tutkimusta varten on FINRISKI-tutkimukseen vuosina –72, -77, -82, ja -87 osallistuneista vielä elossa olevista 65-80 vuotiaista henkilöistä poimittu umpimähkäisesti 1000 Kuopion alueelta ja 1000 Joensuun alueelta tutkimukseen Vuoden 1998 aikana 1446 henkilöä osallistui tutkimukseen, jossa kerättiin kyselylomakkein sosioekonomista tietoa, terveyskäyttäytymiseen liittyvää tietoa sekä elämänhallintaan ja sosiaalisiin suhteisiin liittyvää tietoa. Lisäksi henkilöille tehtiin muistia ja kognitiivisia kykyjä mittaavia testejä, mitattiin verenpaine, veren sokeri, pituus ja paino sekä otettiin verinäyte, joka saatiin 1439 henkilöltä. Verinäytteistä on vuoden 13.3.- 12.9.2000 aikana määritetty ApoE genotyyppi. Dementia diagnosoitiin kolmivaiheisen tutkimuksen avulla yhteistyössä KYS:in Neurologian klinikan kanssa vuoden 1999 aikana. Dementoituneiksi todettiin 60 henkilöä ja 78 arvioitiin olevan korkeassa riskissä sairastua dementiaan lähivuosina.

Tutkimukseen osallistumattomien mahdolliset dementia-diagnoosit on hankittu sairaaloiden poistorekistereistä ja käymällä läpi paikkakuntien terveydenhuollon potilasarkistotiedot, ja yhdistämällä sairaaloiden poistorekisteritiedot potilastietoihin. Koska ApoE genotyypin määritys on pystytty tekemään vasta vuoden 2000 aikana on vasta alustavia analyysejä aineistosta tehty. Ne viittaavat kuitenkin siihen, että ApoE e4 genotyyppi ja vähäinen koulutus on dementian vaaratekijä. Sen sijaan alhainen tulotaso alkumittausten aikana ei ollut dementian vaaratekijä, mutta alhainen tulotaso oli yleisempi dementoituneilla seurantatutkimuksen aikaan kuin ei-dementoituneilla. ApoE genotyypillä ei ollut yhdysvaikutusta koulutuksen eikä tuloluokan kanssa. Tulos viittaisi siihen, että dementian kehittyminen voi heikentää työuraa johtaen alentuvaan eläkkeeseen. Dementian ehkäisemisen toimenpiteet pitäisi siis aloittaa jo mahdollisesti keski-iässä.

EXTENDED ABSTRACT

1. INTRODUCTION – aims and starting points

It has been suggested that development of Alzheimer's disease to the clinical phase is a long process lasting for 20 to 30 years before the symptoms become manifest. The disease is commonly detected at the age of 70, and the first neuropathological changes may even be seen at 40 years of age. It is important to study whether it is possible to postpone loss of independence due to dementia and reduce the need for use of healthcare services by focusing on preventive procedures in risk groups.

The original purpose of the study was to use the FINRISKI population, and samples from North Karelia, Kuopio and Turku-Loimaa. The original aims of the study were to examine whether

1. Total death rate, death rate due to cardiovascular disorders, death rate due to dementia (especially Alzheimer's disease) and presence of these diseases according to the hospital discharge register can be explained by county (North Karelia, Kuopio, Turku-Loimaa), socio-economic status, or ApoE phenotype.
2. Plastic capacity, as measured by ApoE phenotype, is related to low educational level, poor professional position, displacement and low income
3. The above-mentioned association can already be seen in early adult life.
4. Cognitive impairment and loss of life management associated with aging are related to socioeconomic factors or plasticity of the brain (ApoE phenotype).

The original research plan could not be followed, because ApoE genotyping was no longer possible from samples taken in 1982. At the same time, the Department of Public Health and General Practice was carrying ou the CASCADE project. The study sample was a random independent sample of subjects years of age 65-79, alive in 1998, and examined earlier in the FINRISKI study 1971,1977, 1982 and in 1987. Dementia was diagnosed, and ApoE genotypes were determined.

Hence we can explore only some of the original hypothesis:

1. Whether the plastic capacity, as measured by ApoE phenotype, is related to low educational level, poor professional position, displacement, and low income.
2. Whether dementia especially Alzheimer's disease, and the presence of these diseases according to the hospital discharge register can be explained by county.
3. Whether cognitive impairment and loss of life management associated with ageing are related to socioeconomic factors or plasticity of the brain (ApoE phenotype).

2. DATA SOURCES AND METHODS

Subjects

This prospective population-based study uses independent random samples of populations (N≈2000) examined in 1971, 1977, 1982, and 1987 when the measurements of lifestyle-related risk factors were performed according to MONICA methodology. In 1998, a total of 1,449 people (72.5 %) 65-79 years of age participated in comprehensive examinations of cognitive capacity, questions of management of life, health behavior, medication, diseases, and socio-economic status. Blood pressure, serum lipids, blood glucose, body weight, and height were measured. The ApoE genotypes were determined during the period March 1 – September 12, 2000. Dementia was diagnosed using three-stage examinations in collaboration with the Department of Neurology

during 1999. During 2000 dementia diagnosis of nonparticipants was checked from hospital records.

Methods

Cognitive functions were tested with the following tests: Mini Mental state Examination (Folstein et al. 1975), 15-word recall (Heun et al. 1998, Nyberg et al. 1997), Stroop test (Stroop 1935), Letter-Digit Substitution Test (Weschler 1981), Purdue Peg Board (Tiffin 1968) and category fluency (Borkowski et al. 1967) using the animal category. A questionnaire for depressive symptomatology (Beck et al. 1961) was administered to control the variation in cognitive tests due to these factors.
Dementia was diagnosed in collaboration with the Department of Neurology of the University Hospital of Kuopio according to internationally accepted diagnostic guidelines, including DSM-IIIR for dementia, NINCDS-ADRDA for Alzheimer's disease (McKhann et al. 1984) and NINDS-AIREN for vascular dementia (Roman et al. 1993).
Life style factors included diet, physical activity, smoking, alcohol intake, and medication use. These factors were ascertained by questionnaire developed in the North Karelia Project and in the FINNMONICA projects later. Hopelessness (Everson et al. 1996), Beck Depression Inventory (Beck et al. 1961).
Serum lipids, including total serum cholesterol were analyzed during 1972 using the method of Abell et al. (1952) as modified by Andersson et al. (1956) and in 1982, 1987, and 1998 with an automatic analyzer in the the Laboratory of the National Public Health Intitute.
Blood pressure was measured with MONICA methodology.
Body weight and body height were measured with MONICA methodology.
ApoE genotypes were analysed using the PCR, as described in Helisalmi et al. (1999).

3. MAIN RESULTS AND THEIR SIGNIFICANCE

Since the ApoE genotyping was finished only recently, we have only preliminary analyses of the data. These showed that ApoE genotype, education, and economic status are independent risk factors for dementia. No interactions were found. Employment during the baseline examinations was not associated with dementia diagnosis, but income at the follow-up visit 15–25 years later was related to dementia: subjects with dementia more often had lower income than those without dementia. Moreover, the lowering of classified income during the follow-up was more common in dementia subjects than those without dementia. This suggests that low economic status may be a consequence of the dementia process. Since all subjects were retired at 1998, their incomes are dependent on their working positions. Subjects who were later diagnosed as demented may more often show unemployment or lower working capacity than other subjects.
Analyses of data for hypotheses 2 and 3 are currently ongoing.

4. CONCLUSIONS – realisation of aims and future perspectives

Changing the population sample and the director of the project has slowed down the project. Moreover, only a few of the original hypotheses could be examined. Determination of ApoE genotypes could not be performed without this project. Development of dementia is a long process lasting for 20 to 30 years before the symptoms become manifest and it appears to influence the subject's working capacity. The results suggest that if preventive actions are planned, they should already focus on the middle-aged population in order to prevent displacement and low income. We have also examined elevated blood pressure and cholesterol as suggested risk factors for dementia. With identified preventable risk factors of cognitive impairment and dementia, health education and

long and short-term intervention programs can be developed. The North Karelia Project has shown that risk factor level can change throughout the entire population. Changes in total serum cholesterol and blood pressure were more favorable in the province of North Karelia than in the neighbouring province of Kuopio in 1971, 1977, 1982, and 1987 during the first five years of the Project. The favorable changes in blood pressure and cholesterol level seen at midlife may, at least in some cases, prevent the development of dementia. It would be worth investigating the possible differences in prevalence of dementia in the Joensuu and Kuopio area. It would also be worth analyzing how dementia and mild cognitive impairment can be explained by the association of ApoE genotype, socio-economic status, blood pressure and cholesterol. Previous studies have been cross-sectional or longitudinal studies with only a few years of follow-up. The present study is an excellent way of examining a long-term effect of health behavior, life management, and cardiovascular risk factors on cognitive impairment, functional capacity, and dementia.

5. NATIONAL AND INTERNATIONAL COOPERATION

There has been extensive collaboration between departments Radiology, Genetics and Neurology of Kuopio University Hospital and National Public Health Institute (KTL).

6. PUBLICATIONS

No publications are available.

BIOGRAPHY, GENDER AND LOCALITY. A STUDY OF DIFFERENCES IN HEALTH AND WELFARE AMONG THE UNEMPLOYED

Elämäkerta, sukupuoli ja paikallisuus. Tutkimus työttömien terveys- ja hyvinvointieroista.

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Key words: disability, (long-term) unemployment, social categorization, interventions, identity

TIIVISTELMÄ: Pitkäaikaistyöttömien ja vajaakuntoisten työllistymisvaikeuksien ja syrjäytymisprosessien taustalla vaikuttaa useita yksilöllisiä ja yhteiskunnallisia tekijöitä. Myös hyvinvointivaltion käytännöt voivat tuottaa hyvinvointieroja samalla, kun ne toimivat työmarkkinallisten ehtojen ratkaisutienä ja taloudellisena turvana. Olemme tarkastelleet työttömyyden ja hyvinvoinnin ulottuvuuksia (1) vajaakuntoisten työnhakijoiden, (2) työttömille suunnattujen interventioiden ja (3) työttömien elämäkertojen kautta. Kohdejoukkona ovat olleet työnhakijat, joilla on jokin terveydellinen rajoite tai jotka ovat ajautuneet pitkittyneeseen työttömyyteen.

(1) *Työttömyys, hyvinvointi ja vajaakuntoisuus:* Kvalitatiivinen osa tutkimusta. Aineistona rekisteritiedot ja työministeriön tilastot. Terveydestä on tullut keskeinen työvoiman valikoinnin kriteeri. Työttömien määrä on vähentynyt vuoden 1994 jälkeen, mutta vajaakuntoisten työnhakijoiden ja työttömien määrä ja heidän suhteellinen osuutensa on kasvanut. Talouden kohentuminen ja työllistymisen tukitoimet eivät ole tuoneet toivottuja ratkaisuja vajaakuntoisten työllistymiselle. Vajaakuntoiseksi luokittelu ei pelkästään tue yksilön selviytymisen edellytyksiä työmarkkinoilla, vaan toimii myös työllistymismahdollisuuksien lisäehdollistajana.

(2) *Työttömyys, hyvinvointi ja interventiot:* Tämä tutkimusprojektin osa perustuu työttömien kuntoutus- ja työllistämishankkeen analyysiin ja siinä on eritelty erityisesti työelämän ja asiantuntijuuden muutoksen välistä suhdetta. Triangulatiivinen lähtökohta. Aineistona kyselyt, asiantuntijoiden tuottamat dokumentit, työhallinnon rekisterit ja haastattelut. Työllistymistä, kuntoutusta ja yksilön selviytymistä tukevassa toiminnassa yksilön työllistymiskykyyn vaikuttavien tekijöiden rinnalla huomio täytyy kiinnittää asiakkuuden kehittämiseen, voimavarojen suuntaamiseen yhteistyöhön ja ympäristön vastaantuloon liittyviin tekijöihin yksilön työmarkkinaedellytysten parantamisessa. Tarvitaan myös uusien työllistymismahdollisuuksien luomista.

(3) *Työttömyys, hyvinvointi ja elämäkerta:* Kvalitatiivinen osa tutkimusta, jossa tarkastellaan työttömyyden kokemista ja merkitystä tarinallisen kerronnan kautta. Aineistona työttömien omaelämäkerrat. Hyvinvoinnin subjektiivinen kokemus määrittyy pitkälti yksilön kyvystä muodostaa ja ylläpitää itsestään suhteellisen vakaata minäkäsitystä. Hyvinvointi on yhteydessä siihen, että yksilöllä on riittävästi psyykkisiä ja sosiaalisia kiinnikkeitä, joiden avulla

luottamus itseen ja elämään säilyy myös taloudellisen ja sosiaalisen epävarmuuden oloissa ja erilaisten elämäkerrallisten katkosten yhteydessä.

Tutkimustuloksista hyötyvät lähinnä kuntoutuksesta ja erilaisista työllistämistoimenpiteistä päättävät tahot.

EXTENDED ABSTRACT

1. INTRODUCTION - aims and starting points

In May 1997 when we sent in our research application under the Research Programme Health and Other Welfare Differences between Population Groups, Project Director Asko Suikkanen was a visiting professor at the University of Sassari in Italy. Licentiate Ritva Linnakangas was an assistant of social policy at the University of Lapland (substitute), and she defended her doctoral thesis dealing with redundancies and labour market questions in October 1997. Since 1996 Keijo Piirainen (D. Soc. Sc.) acted as researcher in the University of Lapland, but he changed his workplace in summer 1997, and was no longer a member of our research group. Jari Lindh (M.Soc.Sc.) acted as researcher and was just beginning his doctoral studies.

In our research application we formulated the aims of our project as follows:
The purpose of our research project is to produce a more detailed picture of the life processes of the unemployed, the factors influencing these processes and the differences in welfare among members of this population. Promoting welfare and preventing social exclusion among the unemployed require a new type of research. The project will investigate the roles played by biography, gender and locality in welfare among the unemployed and in the differences in welfare within this population. The project will focus on the analysis and differentiation of social exclusion and of welfare among the unemployed. It is crucial that we understand the processes leading to differences in welfare in this population when developing new social policy practices and measures to prevent exclusion.

The project was scheduled to begin in 1998.

2. DATA SOURCES AND METHODS

Our research was mainly empirical. In the quantitative part of the research we used different types of register data and statistics from the Ministry of Labour (during the 1990s) as information sources. The qualitative part of our research was based on the autobiographies of unemployed persons. Jari Lindh has analysed the experiences and meanings of unemployment by way of narratives. In the part of the research dealing with unemployment, wellbeing and interventions, we used triangulation of materials such as surveys, official documents, records maintained by the employment authorities, and interviews with unemployed persons.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

The mass unemployment that occurred during the 1990s and, in particular, the rise in long-term unemployment during the same period of time, have prompted a need to examine the effects of unemployment on welfare and the interplay between health and social conditions of unemployed people. We examine the question of wellbeing and unemployment from the point of view of disabled job-seekers, interventions directed at the unemployed and biographies of unemployed people. The angle of the articles moves from the macro to microlevel. In contrast to our research plan, we did not focus on local questions.

Both individual and societal factors affect long-term unemployment, employment of disabled job-seekers and processes of social exclusion. Although welfare state measures solve issues related to the labour market and provide economic protection, they can also bring about differences in the general welfare of the citizens.

When we compared the labour market participation of disabled job-seekers in the 1990s with the situation of nondisabled job-seekers, we determined that health has become an important criterion of selection in the labour market. Unemployment was reduced in Finland after 1994, but at the same time the number of disabled unemployed has increased. From 1994 to 1998 every second disabled job-seeker was long-term unemployed, and more and more left the labour force to join the ranks of the unemployed. The situation of disabled job-seekers has not improved in the same way as that of nondisabled job-seekers in the late 1990s. Some belong to the 'hard-core unemployed. Many need investment in their educational qualifications.

One reason for the disabled job-seekers' poor situation in the labour market is the classification of disabled job-seekers. Being categorized as disabled does not necessarily support or improve a person's opportunities in the labour market. It can also create new conditions for employment opportunities. On the basis of studies, we have determined that categorization may sometimes be accidental and in conflict with the reality of the client's life.

While unemployment has become a familiar phenomenon for an increasing number of people, there is a wider and more individual need for help emerging. Part of our research was based on a rehabilitation and employment project for unemployed people carried out by the Oulu Deaconess Institute. In employment, rehabilitation and ways of coping it appears that, besides improving work capacity, the role of community-based measures has become more important when supporting a person's employment capacity. It is also essential to focus attention on development of client work and cooperation between authorities as well as factors relating to the surrounding community and environment. For rehabilitation and employment measures to be effective, new employment opportunities must be created.

In interventions, for which the aim is to support the wellbeing of unemployed people and their finding a job, both individual (subjective-supportive) and communal (service-coordinate) expert knowledge are important, both multiprofessional and teamwork cooperation, both working-life-oriented ways of action and close cooperation with an employer, and goal-oriented and contractual activity (a client + an expert + an employer) instead of measure-oriented activity. Instead of separate measures, welfare interventions must be understood as processes by means of which different types of limitations are removed and new individual opportunities are created. It is important to focus attention on ‘negotiation expert knowledge’ instead of ‘diagnosis expert knowledge’.

When we analyse the experiences and significance of unemployment by way of narratives using data based on autobiographies, we see that life stories and narratives on a person’s experiences, activities, and choices are, in fact, narratives of that person's identity. The identity determines the relationship between the individual and his/her wellbeing. The subjective experience of wellbeing is greatly determined by the ability to form and maintain a relatively stable idea of self. The wellbeing of an individual is dependent on the individual having enough psychical and social resources to enable him to trust in himself so that life can be kept up even in uncertain, economic and social situations with different types of risk.

4. CONCLUSIONS – realisation of aims and future perspectives

We achieved some of our aims in the research project, but not all. The composition of our research group changed during the project, and this affected the focus and content of our research. Another reason is associated with the budgeting of our project; we did not receivet all the money we applied for, and we had to carry out our project in practice with lower aims. The Academy of Finland has been the main financier and without the Research Programme, we would not have been able to carry out our research project at all. Within the project Jari Lindh wrote an article that will be included in his doctoral thesis.

5. NATIONAL AND INTERNATIONAL COOPERATION

Cooperation has been national and outside the Research Programme 'Health and Other Welfare Differences between Population Groups'. We have cooperated with the 'Työkunto'project organized by the Oulu Deaconess Institute and also cooperated with the Research and Development Unit of the Rehabilitation Foundation (among researchers).

6. PUBLICATIONS

2. Articles in Finnish refereed publications:

Suikkanen, Asko & Lindh, Jari 2001: Kuntoutus kehossa - keho kuntoutuksessa. In Kallanranta, Tapani & Rissanen, Paavo & Vilkkumaa, Ilpo (eds.): Kuntoutus. Duodecim. Helsinki. Will be pulished in 2001.

3. Reports and articles in other scientific publications:

Suikkanen, Asko & Linnakangas, Ritva 1999: Työkyvystä toimintamahdollisuuksien erojen ymmärtämiseen. In Pohjola, Anneli & Saari, Erkki & Viinamäki, Leena (eds.): Interventioilla hyvinvointia työttömille. Yhteiskuntatieteellisiä julkaisuja C 30. Lapin yliopisto. Rovaniemi, 115-147.

Suikkanen, Asko 1999: Työ ja hyvinvointi globalisoituvassa yhteiskunnassa. In Tiihonen, Paula & Söderlund, Sari (eds.): Työ tulevaisuudessa. Eduskunnan tulevaisuusvaliokunta. Tulevaisuuden tutkimuskeskus. Place of printing is not mentioned in the publication, 53-61.

Lindh, Jari & Piirainen, Keijo 1999: Vaikuttavuuden arvioinnin ongelmia ammatillisessa kuntoutuksessa. In Lindh, Jari (ed.): Työllistymishankkeen haasteet ja mahdollisuudet. Sosiaali- ja terveysturvan katsauksia 31. Kansaneläkelaitos. Turku, 131-137.

Suikkanen, Asko 1999: Kokeilemisen sietämätön vaikeus. In Lindh, Jari (ed.): Työllistymishankkeen haasteet ja mahdollisuudet. Sosiaali- ja terveysturvan katsauksia 31. Kansaneläkelaitos. Turku, 138-148.

4. Books and book chapters

Linnakangas, Ritva & Lindh, Jari & Järvikoski, Aila (eds.) 2000: Työttömyyden ja vajaakuntoisuuden jäljillä. Tutkimuksia 66. Kuntoutussäätiö. Helsinki. 184 pages. ISBN-number 952-5017-30-3.

WELFARE DIFFERENCES -ARGUMENTS FOR AND AGAINST

Havaittujen hyvinvointierojen perustelu

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Keywords: inequalities in health, welfare rights, benevolence, constitutive activity, redistribution, power, fairness, triage, social exclusion

Tiivistelmä: Hankkeen lähtökohtana oli ajatus, että vapaassa ja tasa-arvoisessa yhteiskunnassa ainakin keskeisten hyvinvointitekijöiden (esim. terveys) ei pitäisi riippua ihmisten sosio-ekonomisesta asemasta ja niihin liittyvistä taloudellisista päätöksistä ja toimenpiteistä. Kerätyt havainnot Suomesta ja muista hyvinvointivaltioista osoittavat, että tätä ideaalitilaa ei ole saavutettu, ja että poliittiset ja taloudelliset toimenpiteet ovat olleet tehottomia muuttamaan tilannetta. Tutkimuksen tavoitteeksi asetettiin soveltavan filosofian, sosiaali- ja taloustieteen keinoin selvittää hyvinvointi-interventioiden normatiivista perusteltavuutta. Tavoitteena oli myös tutkia hyvinvointierojen tasaamispyrkimysten käytännöllisiä ongelmia. Molempien tavoitteiden osalta projekti onnistui tuottamaan tasokasta tutkimusta, jonka tulokset palvelevat sekä teoreettista että käytännön tarkasteluja.

Tutkimus lähti liikkeelle ajatuksesta, että ideologisella tasolla Suomessa on kolme keskeistä lähestymistapaa siihen, miten väestöryhmien väliset hyvinvointierot ja niiden puutuminen tulisi perustella. Nämä moraali-ideologiat ovat kommunitarismi, libertarismi ja hyvinvointiliberalismi, ja ne vaikuttavat suomalaisessa sosiaalipolitiikassa sekä terveydenhoidon järjestämisessä monin tavoin. Tutkimuksessa tarkastellaan kriittisesti näiden moraali-ideologioiden lähtöoletuksia ja niitä mekanismeja, jotka sääätelevät ideologian ja käytännön suhdetta. Tavoitteena on kansalaiskeskustelun selkeyttäminen ja normatiivisen analyysin kehittäminen hallinnon ja suunnittelun tarpeisiin.

Tutkimus jaettiin alunperin kolmeen osaan: normatiiviseen, menetelmällisen ja empiiriseen. Rahoituksen jäädessä aiottua pienemmäksi menetelmällinen osa jätettiin pois. Normatiivinen tutkimus (Helsingin Yliopisto) käsittelee hyvinvointierojen perusteluita ideologisina valintoina sekä sosiaalilääketieteen näkökulmasta, sekä hyvinvointi-ideologioiden oikeudenmukaisuus- ja oikeuskäsityksiä. Empiirinen osa (Joensuun Yliopisto) tutkii tarveharkinta-ideologian käytännön sekä nuorten syrjäytymisen ulottuvuuksia. Tutkimuksella oli yhteyksiä useampaan kotimaiseen hankkeeseen. Tutkimuksella on myös kansainvälinen taustaryhmä, jonka jäsenet tutkimuspanoksensa ohella toimivat hankkeen asiantuntijoina ja kouluttajina. Yhteistyö taustaryhmän kanssa osoittautui erittäin antoisaksi.

EXTENDED ABSTRACT

1. INTRODUCTION - aims and starting points

The project did not have an immediate predecessor. The forthcoming project partners were known from other contexts, and were chosen according to their relevant interests and merits. Two or three meetings were held before 1998 in order to harmonize different aspirations and expectations regarding the project, as well as to find a consensus about the contents of the project. Finally, the partners were contacted for their confirmation of commitment to the project.

At this stage, the project group was composed of three responsible partners: the University of Helsinki, the University of Tampere, and the University of Joensuu. The group was complemented with foreign experts from the University of Kent at Canterbury (UK), the University of Manchester (UK), the University of Hamburg (Germany), and the University of Karlsruhe (Germany). The project was divided into three parts: the *normative* part was allotted to the University of Helsinki,

which was also responsible for running the project; the University of Tampere was accountable for the *methodological* part, and the University of Joensuu took responsibility for the *empirical* part. Due to halving of applied funds, the methodological part was later omitted.

The conceptual starting point for the project was the idea that health is a factor that should not depend on a person's socioeconomic status and related economic decisions and activities in a free and egalitarian society. However, relevant data on welfare states such as Finland indicate that this ideal has not been achieved, and furthermore, direct political and economic measures have proved to be ineffective in changing the situation in this regard. The purpose of this project was not to search for reasons for welfare differences from the variability of underlying socio-economic variables, but instead to identify certain ideological mechanisms that have led to this situation by influencing social and health policies. The main aims of the project were (1) to reveal ideological underpinning of Finnish social and health policies; (2) to contribute to the debate on these policies by critically examining the argumentation used, and (3) to analyse those actual mechanisms that control the relationship between argumentation and practice.

The aim of the normative part of the project was (1) to study the normative basis of welfare interventions, (2) to make judgements on the justice of the ideological mechanisms that appear to produce welfare differences, and (3) to evaluate different accounts of welfare rights. The goal of the empirical part of the project was two-fold: (1) to investigate possible causes for the paradox of the means test (those who need help the most, in practice will never receive) in social policy; and (2) to study the functioning of social networks in young persons' exclusion from the labour market and from society.

2. DATA SOURCES AND METHODS

The methods used in the normative part of the project included those employing social, moral and applied philosophy, including game theory. There was no data collection in a conventional sense; the contributions were based on the relevant literature. For the empirical part, data were collected on (1) social rental housing as available in standard municipal statistics and on (2) unemployed young people (made available through personal interviews). These data were collected from one small town in eastern Finland.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

Normative Part

Since the analyses in this part of the project were largely philosophical in nature, both the results and their significance are mainly theoretical. However, the quality of the results in the normative part can be considered to be relatively high, so it is expected that their scientific interest and their contribution to the relevant research wil also be high. The results obtained in the normative part of the project can be of indirect use in social planning and decision making. In the following, a brief description of the main findings of each study is presented.
INEQUALITIES IN HEALTH: The main outcome of this subproject is that all three main political ideologies - libertarianism, welfare liberalism, communitarianism - fail to explain consistently the persistence of inequalities in health between socioeconomic classes. Libertarianists, who would otherwise accept the present inequalities in health as inevitable consequences of individual choices, are incapable of explaining the fact that a person's place in a social structure (i.e. her socioeconomic status) fairly reliably predicts her health career. Welfare liberals, on the other hand, fail because their measures to diminish inequalities in health are such that they leave the relative differences between privileged and underprivileged people intact; i.e. despite their measures there will always

be underprivileged people whose health is deterministically weaker than that of privileged people. Communitarians do manage to explain the incapacity of healthcare to change the situation by referring to the deterministic nature of common values and goals of underprivileged people, but due to their very premise, there is nothing they can do to bring about a change. In addition to these results, analyses of risk selection in society reveals that, contrary to what people might think, inequalities in health are not necessarily considered to be a serious problem in society, as seen from the perspective of its central hierarchy (leading institutions and markets). The reason is that the central hierarchy can always claim to be able to control the problem by setting up research groups, collecting data, and offering recommendations (Timo Airaksinen, University of Helsinki).

JUSTICE AND NONJUSTICE OBLIGATIONS: One of the main questions posed in this subproject is whether among the duties we have towards other people there are some that we owe to other people simply by virtue of our having a fundamental obligtion to them to save them when they need saving, that we provide them necessary resources, and so on? Various arguments for the existence of such a fundamental obligation are studied, but none of them are thought to be conclusive, whereas there appear to be some powerful arguments against such an obligation. If there is no such obligation, the provision of welfare services cannot be based on people's fundamental rights to those services. This leaves open the possibility that rights to positive services by other people can be argued for in contractual or social terms. Arguments other than those based on the obligations to care for people and to promote their welfare have also been proposed. Many have been shown to have inherent weaknesses, with arguments related to responding to dire human needs being perhaps the most promising (Kari Nevalainen, University of Helsinki).

CONCERN FOR THE NEEDS OF OTHERS - FROM CHARITY AND PHILANTHROPY TO THE END OF THE WELFARE STATE: Etymological and historical origins of the concepts of 'charity' and 'philanthropy' reveal two philosophical traditions and parallel social trends. The first characterises concern for the needs of others as a virtuous disposition embodied in Christian charity. The second characterises concern for the needs of others as a natural human feature and later as a volition, as these became embodied in liberal philanthropy. The main message of the study is that both these traditions are in trouble in the context of modern welfare states. Virtuous Christian thinking based on a traditional conception of man, virtues and social ties is simply outdated. The idea of liberal benevolence, originally based on the ideal of human sociability, but later transformed into the ideal of beneficence as an individual volition, is nowadays entangled in individualistic doctrines that do not leave much room for explicit or pronounced concern for the needs of others. It is emphasised that an exposition to the corresponding institutional movements is needed because these two - Christian charity and liberal philanthropy – which are essentially contingent practices have institutionalised the requirement for the concern for others in a manner that is no longer easily explicable and justifiable within the contemporary theories of welfare. The welfare state took over these historical tasks of Christian and liberal beneficence and absorbed them into its own ideology, but justifications for the concern for the needs of others as an ex post facto type makes them rather weak (Olli Loukola, University of Helsinki).

GLOBALIZATION AND A WELFARE STATE: The main question of the study is under conditions social aspects should be taken into account in the globalization process. Three alternative proposals have been analysed: (1) the welfare state should be turned into welfare society in which the responsibility for welfare is allocated between individuals, families, voluntary organisations, and the state; (2) multinational enterprises must be challenned into problem solving; and (3) welfare can best be secured by international political cooperation. Regarding these proposals, the first finding was that individual responsibility and duty, or voluntary actions of business firms appear to provide insufficient responses to the challenges of economic globalization. A system of welfare based on private charity and voluntary work rather than on institutionally situated rights - as in the

welfare state - will probably lead to everyone's needs not being adequately met. The second finding was that although international political cooperation appears to be a more promising alternative, it creates other problems, e.g. the difficulty in finding generally applicable moral standards in an ethically and culturally diverse world (Marjaana Kopperi, University of Helsinki).

INTERPERSONAL COMPARISON OF VALUE: Maximizing people's welfare constitutes a sound objective in society, on condition that comparing wellbeing between people is feasible or even possible. Many philosophers and economists doubt that it is. This study deals with the comparison of different people's utility in the contexts of surplus sharing and bargaining as well as those of social values and fairness. The game-theoretic contribution to this topic by Ken Binmore is discussed. According to Binmore, standards of interpersonal comparison are in the medium term determined by bargaining power as captured by the Nash bargaining solution. They are the input for a fairness algorithm that provides an evolutionary advantage by minimizing the need for resource-consuming bargaining in a society. Binmore's moral relativism is contrasted with an analysis of the fairness implications of Nash bargaining for an arbitrary but fixed standard of interpersonal comparison and also the case in which no interpersonal comparability is assumed. The various building blocks of Binmore's theory are characterised in detail: empathetic preferences and empathetic (evolutionary value) equilibrium, noncooperative Rubinstein bargaining and cooperative Nash bargaining theory, and the veil of ignorance and reciprocity. The relationships between these concepts are discussed and compared with alternative approaches to evaluate social welfare such as the Rawlsian minimax and Harsanyi's utilitarian social welfare function (Manfred Holler and Stefan Napel, University of Hamburg and Karlsruhe).

ETHICS OF REDISTRIBUTION

The project focused on the justification of going from one distribution to another. In particular a uniquely and maximally need-sensitive distribution was studied, as distinct from distributions based on social status, productive contribution, etc. The nature of ethical demands regarding need-sensitive distributions was examined as well as the moral costs associated with satisfying these demands. The causes of neediness were classified into three types: (1) self-inflicted, (2) other-inflicted, and (3) nature-inflicted. The question was whether it makes any difference from the viewpoint of the ethics of redistribution that the need is self-inflicted, other-inflicted, or nature-inflicted. The answer of the study is affirmative, at least if causes of neediness are allowed to be relevant to the redistributive measures. In this case there would be no moral hazard that increases the level of neediness through disincentives to refrain from need-producing activities. The question is then how to alleviate present need without having to go for extensive government intervention in order to curtail such need-producing activities. The conclusion is that the principal difference between libertarian regimes and ones directly aimed at its elimination through redistribution, is that only self-inflicted neediness cannot be relieved by the former's legal framework and must therefore be left to whatever private efforts are forthcoming (Hillel Steiner, University of Manchester).

SOCIALLY CONSTITUTIVE ACTIVITY: Historically a welfare state is identified as constituting ‘social citizenship’ for a society's members. This completes the scale of citizenship beyond the first ‘civic’ (liberties) and the second `political' (enfranchisement) levels. The welfare state gave the rights to an adequate material and educational standard of living to all members of a society. It is claimed that this model is flawed as a modern ideal. Some of the arguments are shared by right-wing critics of the welfare state as the argument of ‘institutionalisation of irresponsibility’. But mostly the critique is from the left. A communitarian dimension of citizenship is argued for. This is done in terms of promoting networks of mutual aid and citizens' service. The study even proposes institutionalisation of such networks to make citizen's service obligatory. The argument for this is

presented partly in utilitarian terms of the delivery of goods, but also in terms of the intrinsic value of cooperative and communal activity as 'constitutive' of our social identities and as part of our welfare and freedom. The chosen perspective is justified in terms of liberal values and in terms that transcend narrow territorial or confessional bases of citizenship. More empirically the advocacy is located within a realistic understanding of contemporary politics and economics (Tony Skillen, University of Kent at Canterbury).

Empirical Part

Results obtained in this section are more directly applicable to social planning and decision making. The conclusions of the first study are particularly relevant to those who are responsible for allocation of resources to welfare services. The significance of the second study is that it makes the margins more visible and transparent for policy makers, in particular it helps to see that the processes of social exclusion in youth are not as simple and one-sided as it is often assumed.

TRIAGE IN SOCIAL POLICY: A system of prioritizing probabilities of survival in situations where there are few resources available and the number of victims is extensive - an area in which decision makers must know what they are doing, why they are doing it, and what actions to take to achieve the most satisfactory outcome. The study concerns triage in social policy. Empirical and other evidence was gathered to show that triage is also used in social policy, and not only in emergency situations. Equality and efficiency aspects of triage were also investigated. It was found that current solutions for striking a compromise between equality and efficiency are unsatisfactory, because they fail to notice the two different efficiency measures involved. The study concludes that in many real-life situations, not only in medical settings but also in social policy, the egalitarian requirement to focus most of the attention on the most urgent needs of the worst-off people cannot be followed. The requirement can and is easily overridden by other considerations, mainly economic (Mikko A. Salo, University of Joensuu).

YOUNG PEOPLE AT THE MARGIN: The study argues that by emphasising the integrative function of paid work, the current discourse on exclusion reduces the questions of social integration and exclusion merely to an economic matter, neglecting that social integration also occurs outside the labour market. One of the central arenas for social integration among unemployed young people appears to be their personal networks, which are the main focus of this study. These networks were found to be significant both in relation to young people's social integration as well as to their risk of being socially excluded. For example, unemployed young people have rather intensive and active social networks of family and friends around them. Thus holding a marginal position in relation to employment does not necessarily mean a marginal position in other social fields. For most young people, personal networks are a central source of support in coping with the hardships of unemployment. At the same time, however, the social networks are also a source for feelings of dependence. The crucial question in the lives of marginal young people in relation to their social networks appears to be how to find a balance between autonomy and dependence (Minna Heikkinen, University of Joensuu).

4. CONCLUSIONS – realisataion of the aims and future perspectives

The working strategy chosen for the research group proved to be very successful. Researchers were allowed to keep their original subjects throughout the three-year period, and elaborate and deepen their ideas, which were presented for assessment in the annual meetings of the group.

From the substance point of view, aims were largely met; the project produced relatively high-quality social, philosophical and economic investigation on topics that have received less attention in the standard study.

Educational aims (two doctoral dissertations) were delayed, mainly because insufficient funding (two part-time researchers for a limited period of time). However, both doctoral studies were well advanced, and the dissertations are expected to appear in 2001.

The project contributed other educational programmes, for example by organising lecture courses on the subject (University of Helsinki, Helsinki Summer School 2000, etc.).

The project would not have materialized without Academy of Finland funding. Since the project was considered *ad hoc*, no direct future follow-up is seen. However, due to the excellent working relationships among the project members, cooperation in some form is planned.

5. NATIONAL AND INTERNATIONAL COOPERATION

Mutual cooperation with foreign experts proved to be very useful. Various events and projects (exchange of lecturers, students, etc.) were produced together with the various universities (Kent at Canterbury, Manchester, and Hamburg), and new forms of cooperation created.

The main international forum for the project was the annual meetings of the project group together with the foreign experts. These were held in Antwerp (November 13-15, 1998), Copenhagen (June 19-20, 1999), and Rome (September 8-11, 2000). Presentations and papers delivered and disseminated in Rome included: 'Inequalities in Health: a Communitarian Approach' (Timo Airaksinen), 'Socially Constitutive Activity: a Communitarian Mode' (Tony Skillen), 'From Benevolence to Charity' (Olli Loukola), 'Economic Globalization and Human Welfare' (Marjaana Kopperi), 'Triage in Social Policy' (Mikko A. Salo), 'Compatriot Priority and Justice Among Thieves' (Hillel Steiner), 'A Trolley in the Quicksand' (Kari Nevalainen), 'A Nonrational Model for Brgaining' (Stefan Napel), 'An Evolution Theory of Fairness and its Application to Collective Wage Bargaining' (Manfred Holler). Contributions to the previous meetings are listed in Annual Reports 1998 and 1999.

Cooperation was established with the University of Latvia, Department of Practical Philosophy, and was already in force prior to the project. Organised lecture courses during the project period included:

- Classical Themes in Social Philosophy (Olli Loukola, Timo Airaksinen), November 13-17, 2000
- The Elements of Justice and Contemporary Theories of Ethics, both by Olli Loukola and Timo Airaksinen, (September 14-16, and November 30-December 2, 1998)
- Right-based Moral Theory (Kari Nevalainen), November 1999.

Cooperation with the Polish Academy of Science included a joint conference on 'Praxiological and Philosophical Studies in Welfare, Poverty and Markets', 20-Year Anniversary Conference, September 10-12, 1999 and the presentations: 'The Problem with Trusting Others' (Olli Loukola) and 'On Income Distribution' (Mikko A. Salo)

Helsinki Summer School 2000 included a lecture course 'Behind WellBeing - Philosophy of Welfare States', July 31-August 10, 2000. 'Persistent Inequalities' (Timo Airaksinen), 'Individual Resposibility in a Welfare State' (Mikko A. Salo), 'Welfare Claims and Benevolence' (Kari Nevalainen), 'Economic Globalization and Human Welfare' (Marjaana Kopperi), 'Welfare and

Community' (Tony Skillen), 'An Evolutionary Theory of Fairness' (Manfred Holler), 'Trust in a Communitarian and a Minimalist State'. Other smaller scale cooperation was carried out, both with national and international institutions and projects.

6. PUBLICATIONS

The main published contribution by the research group is a book, which will appear in *Acta Philosophica Fennica*, Spring 2001. Copies of three articles from the book are annexed.

1.

Mikko A. Salo: "Merit rating and formula-based resource allocation". The International *Journal of Educational Management* 2000, 14(3), pp. 95-100 (together with Juha M. Alhon kanssa).

Mikko A. Salo: "State of the Art in Childhood Cancer Care: Perceived Attitudes of Finnish Patients and Parents on Disease and Treatment-Related Issues". *International Journal of Pediatric Hematology/Oncology* 2000,66,429-439. (together with P.M. Lähteenmäen, A. Mäkipernaan, M. Heleniuksen ja T.T. Salmen kanssa).

Marjaana Kopperi: Business Ethics in the Global Economy, *EJBO* (Electronic Journal of Business and Organization Ethics, www.jyu.fi/ejbo) 1/1999.

Minna Heikkinen (2000) Social Networks of the Marginal Young: A Study of Young People's Social Exclusion in Finland. *Journal of Youth Studies* Vol 3, No. 4, 389-406.

2.

Mikko A. Salo: "Gallupeista, virhemarginaaleista ja vaalitavasta". Yhteiskuntapolitiikka 2000, 65(4), 368-371 (together with Juha Alhon ja Erkki Pahkisen kanssa)

Minna Heikkinen: 'Nuorten kokeumuset työttömyydestä - 1998-kyselyaineiston tulokset', *Nuorisotutkimuslehti*, 2/99.

3.

Timo Airaksinen and Olli Loukola: 'New Ethics-New Society or the Dawn of Justice', *Acta Philosophica Fennica*, Spring 1999.

Minna Heikkinen: 'Social support, solidarity and dependence -- Personal networks of the Unemployed Young People.' Työryhmäpaperi Nordic Youth Research Symposium 2000, NYRIS 7, June 7-10, 2000, Helsinki.

4.

Timo Airaksinen: "Medicine and Body Engineering," in C. Newell (ed.), *What Is This Thing Called Bioethics?* Australian Bioethics Association, 1999, pp. 7-12.

Mikko A. Salo: 'Yhteiskunnalliset muutokset ja yhteiskuntapolitiikka terveysmenojen taustalla' teoksessa *Väestöryhmien välisten terveyserojen supistaminen*, eds. S. Koskinen and J. Teperi. Stakes-Raportteja 243, Helsinki 1999, 41-53.

Marjaana Kopperi: 'Vastuu hyvinvoinnista', *Kunnallisalan kehittämissäätiö, tutkimusjulkaisut* 22, Vammala 2000.

Marjaana Kopperi: Hyvinvointipolitiikka kansainvälistyvässä maailmassa, teoksessa Jarmo Hyytiäinen (toim.), *Markka ja moraali*, Kunnallisalan kehittämissäätiö, Vammala 2001, 42-46.

Marjaana Kopperi: Talouden globalisaatio ja hyvinvoinnin haaste, teoksessa Kaija Majoinen & Markku Sotarauta, *Kunnat virtaavassa maailmassa,* Kuntaliitto, 2001 (ilmestyy).

Marjaana Kopperi: Rights, Responsibilities and the Well-being of Women, Proceedings of the 9th Symposium of the International Association of Women Philosophers (forthcoming 2001).

Olli Loukola: "The liberal society and radical groups", Proceedings of the Seminar on *Justice of Toleration*, Riga, Latvia 17.11.2000 (forthcoming 2001).

Olli Loukola: "A Finnish Aproach: Two Frameworks for Business Ethics", published in *Ärieetika olemusest ja arengust Eestis* (Creating a Sense of Business Ethics in Estonia), Materials of the International Seminar, Tallinn, May 25-26, 1999, Eesti Business School, Tallinn, 1999, s. 26-30.

Minna Heikkinen (2000): Eväitä elämään elämyspajasta? Etsijänuorten tuntoja, elämyksiä ja kokemuksia työpajajaksolta. Teoksessa Minna Heikkinen, Tuomas Leinonen, Kari Paakkunainen ja Terho Pekkala: *Etsijänuoria, mestareita ja kisällejä*. Lex Kainhuu Erityistyöpajahankkeeseen kuuluvien Etsijänuoret- ja Mestari-Kisälli-projektien arviointitutkimus. Opetusministeri: Kulttuuri-, liikunta- ja nuorisopolitiikan osaston julkaisusarja 7/2000. Helsinki: Edita.

Arto Laaninen: 'Vuokra-asuntojen asukasvalinnan oikeudenmukaisuudesta.' Joensuun Yliopiston yhteiskuntapolitiikan ja filosofian laitos, *Yhteiskuntapolitiikan tutkimuksia* No. 7, 1998.

5.

Marjaana Kopperi: Liike-elämän etiikka ja talouden globalisaatio, *niin & näin* 20 kevät 1/99, 22-26.

Marjaana Kopperi: Hyvinvoinnin turvaaminen globaalissa taloudessa - kolme mahdollista mallia, *Ryhmätyö* 2/99, 18-22.

Marjaana Kopperi: Henkilökohtainen vastuu ja hyvinvointivaltio, *Kytkin* 3/99, 23-25.

Marjaana Kopperi: Sosiaalinen näkökulma saanut lisää painoa globalisaatiossa, *Kauppapolitiikka* 5/2000, 4-7.

WELFARE INTERVENTIONS AS A SOLUTION TO UNEMPLOYMENT

Hyvinvointi-interventiot työttömyyttä ratkaisemassa

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Key words: long-term unemployment, labour market qualifications, welfare services, intervention, triangulation

Tiivistelmä: Hankkeemme tavoitteena on ollut selvittää, miten on mahdollista ehkäistä ihmisten sosiaalista, taloudellista ja terveydellistä syrjäytymistä työmarkkinoilta ja yhteiskunnasta yleisemmin sekä miten syrjäytyneitä voidaan integroida takaisin yhteiskuntaan. Siinä on haettu syitä, miksi hyvinvointivaltion virallisen palvelujärjestelmän tarjonta ja pitkäaikaistyöttömien palvelutarpeet eivät aina kohtaa toisiaan. Tutkimushankkeessamme on problematisoitu hyvinvointivaltion paikallisen infrastruktuurin sekä paikallisten opiskelu- ja työssäkäyntimahdollisuuksien merkitystä tai palvelutarpeiden ja -tarjonnan kohtaanto-ongelman ratkaisemisessa. Vuonna 1998 hankkeeseen kytkettiin Valtakunnallisen Työttömien Yhdistyksen (TVY ry.) toteuttama kahdeksalla paikkakunnalla toiminut kolmivuotinen syrjäytymistä ehkäisevä Yhteistyöllä elämä hallintaan -projekti, jossa on korostunut erityisesti toimintatutkimuksellinen näkökulma.

Hankkeemme keskeisimmät tulokset ovat toimittamassamme *ensimmäisessä* artikkelijulkaisussa Pohjola, Anneli & Saari, Erkki & Viinamäki, Leena (toim.) 1999: Interventioilla hyvinvointia työttömille? (ISBN 951-634-680-4) sekä vuoden 2001 aikana julkaistavassa *toisessa* TERO-hankkeeseen liittyvässä artikkelijulkaisussamme (teemana pitkäaikaistyöttömien terveydelliset ongelmat, vajaakuntoisuus ja kuntoutus) ja toukokuun alkuun mennessä ilmestyvässä *kolmannessa* Yhteistyöllä elämä hallintaan –projektin artikkelijulkaisussa. Tässä problematisoidaan kolmannen sektorin järjestön yhtä hyvinvointi-interventionistista projektia sen eri toimijatahojen näkökulmista.

Artikkelijulkaisuissamme ja pitämissämme (osittain dialogi)alustuksissa on toteutunut tutkijatriangulaatio, teoriatriangulaatio ja metodologinen triangulaatio analysoidessamme hyvinvointi-interventioiden kohtaantotilannetta koulutuksellisesti tai työmarkkinallisesti huono-osaisten keskuudessa.

Tutkimuksen keskeisimpänä tuloksena on työelämässä edellytettävien kvalifikaatioiden ja koulutus- ja työmarkkinallisesti huono-osaisten henkilöiden omaamien kvalifikaatioiden yhä suurempi vastaamattomuus. Koulutuksellinen, terveydellinen ja työmarkkinallinen huono-osaisuus näyttävät muodostavan negatiivisen kumuloituvan noidankehän, josta (pitkäaikais)työttömän on miltei mahdotonta selviytyä ja työllistyä ilman yksilöllisiä hyvinvointipalveluratkaisuja.

Tutkimus on tuottanut julkaisujemme, toimintatutkimuksellisen toimintaorientaation ja erityyppisillä foorumeilla pitämiemme alustusten yms. kautta käytäntöön sovellettavissa olevaa tietoa siitä, miten paikalliset koulutus- ja työmarkkinat, hyvinvointijärjestelmän paikallinen infrastruktuuri, kohderyhmä, tutkijoiden asiantuntijuus sekä kolmannen sektorin mahdollisuudet pitäisi ottaa huomioon, kun suunnitellaan ja toteutetaan erityisesti pitkäaikaistyöttömiin kohdennettavia hyvinvointi-interventioita niin virallisten toimijatahojen kuin kolmannen sektorinkin toimijatahojen aloitteesta.

EXTENDED ABSTRACT

1. INTRODUCTION - aims and starting points

The research undertaken by members of the group during the 1990s has focused on deficiencies in regional and individual welfare, the impact of changes in the educational and labuor markets on life politics, and the development and responsiveness of welfare services. Professor Kyösti Urponen, leader of the project, has concentrated on the differences in welfare that have emerged on the regional and local levels and the challenges that these changes pose to reforms of the system of services.

Anneli Pohjola, PhD, has worked as researcher and educator in a number of projects concerned with the development of welfare services. Her research has focused on cooperation among different sectors of the service system and the implementation of a client-centred approach in the services. She has studied changes in the labour market with particular reference to women and marginalized young adults and examined the potential of rehabilitative employment for the long-term unemployed.

Erkki Saari, MA, has carried out research analysing the impact of legislation and structural changes in the labour market on the life of the unemployed. He has also studied unemployment on the level of the individual as a researcher in a number of projects designed to support the long-term unemployed and to promote their employment. In addition, he has pursued a research interest in the role of the third sector in economic and employment issues and the role of researchers in forging better ways of preventing social exclusion of the unemployed.

Leena Viinamäki, PhD, has undertaken research comprising analyses of changes in the educational and labour markets and analyses on the structural as well as the individual and group levels. She has examined the education and labour market decisions that people make at turning points in their lives through studies of persons made redundant, persons on employment schemes, young people and young adults. The overall focus of her work has been the interaction of the education and labour markets.

The joint project of the research group, ‘Welfare Interventions as a Solution to Long-term Unemployment’ is based on the members’ previous analyses of changes in the labour and education markets and in the system of services. Crucially, these studies were conducted in the context of changes in the structures of the labour market caused by the economic recession, which led to almost a decade of large-scale unemployment and, in particular, seemingly permanent long-term unemployment.

Changes in the qualifications required in the labour market meant the process of social exclusion for some of the unemployed, a development that has exacerbated differences in welfare among different groups. The principal indicators of these differences proved to be the psychosomatic-social ‘disqualifcation’ of the long-term unemployed stemming from their health-related problems. The deficiencies included various degrees of disability, such as poor physical condition, long-term illnesses, multiple symptoms, psychological difficulties and difficulties in managing social interaction.

The goal of the present research was to analyse the life situations and processes which resulted in some individuals who were previously active in the labour market becoming unemployed on a long-term basis. We examined the logic of the life course of people who run a risk of exclusion by looking into their goals and choices. At the same time, we analysed the responsiveness of welfare

interventions in supporting the situations and job skills of these persons from the perspective of both individual and institution. We reflected on whether welfare interventions meet the specific needs of these clients and considered the kind of life politics that might be constructed to better align local services with the needs of the marginalized long-term unemployed. We assessed the potential of health care and rehabilitation services for preventing social exclusion among the long-term unemployed. We also reflected on our role as researchers in projects, which aimed at the same time to prevent the social exclusion of the unemployed and to find better ways of doing so.

2. DATA SOURCES AND METHODS

Our research has been based on data produced in the three component studies, which have focused on preventing unemployment and social exclusion at the same time as they have sought new procedures for addressing these problems. Two of these studies were conducted between 1996 and 1998 as collaborative research and development projects dealing with employment of the long-term unemployed, i.e., 'Labour Market Skills and Support Networks - Individual Paths to Employment', and 'Spark', carried out in Kemijärvi and Vaasa, respectively. The third source of material was a project coordinated by the national cooperative association for the unemployed entitled 'Coping with Life Through Cooperation', which yielded data from eight communities for the period 1998-2000.

The research materials cover a diverse range of communities in Finland both regionally and with respect to their economic structures and in education and labour markets. The collaborative arrangements underpinning the research not only provided materials for investigating local differences but also yielded sets of data with different emphases. Comparative data have been available from projects in Lapland dealing with the long-term unemployed and developing ways of preventing exclusion in Rovaniemi and Inari as well as from the reports of and researcher collaboration in a national Employment-Horizon project on rehabilitation entitled 'Into Work'. We have had an opportunity to collect practical experiences in health-related issues through cooperation with public health nurses working with the unemployed in the cities of Kauniainen and Rovaniemi.

The project made use of a triangulative research design, the goal of which is to provide as rich a picture as possible of the phenomenon of long-term unemployment and the fit between needs and services. We have monitored the processes connected with long-term unemployment from different perspectives using a variety of materials, methodological choices and theoretical approaches.

In data triangulation we have used postal and telephone surveys, group discussions, and interviews with the project clients as well as official register data. We have described unemployment and local conditions using statistics. In addition, we have collected interviews, journals, client and self-assessments from actors who in projects and other cooperative actors that deal with welfare services.

Researcher triangulation has taken the form of a cooperative research approach and specification of responsibilities. Where theory is concerned, we have implemented triangulation by trying to relate theories of social structures and individual choices to one another. The analysis has endeavoured to accommodate parallel examinations of social structures, local responsiveness, the responsiveness of welfare services and of individual life politics. In methodological triangulation, we have combined the analysis of qualitative and quantitative data to open up new perspectives on the research topic. We have applied the approaches of both action and evaluation research.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

Although the employment situation in Finland, with the exception of peripheral areas of the country, has improved considerably during the project, long-term unemployment seems to have become a permanent and structural problem. Exclusion from the labour market and, as a consequence, from normal economic subsistence, is a socially significant problem and one that requires solutions on a variety of levels. At worst, histories of unemployment are long indeed, with some having begun even before the recession. The processes of change in the labour market and changes in the qualifications required resulted in some people being excluded from that market. In this regard, the results of the present research are socially very topical.

The research corroborated the results of other studies of unemployment in that educational deficiencies proved to be significant in predicting who will be unemployed. Most of the long-term unemployed lacked any form of vocational training. Short training schemes do not seem to improve their chances for employment in the long term. There has been a great deal of debate on age segregation in the labour market, but a number of surprisingly young people can be found among the long-term unemployed. The focus of current policy on unemployed persons over the age of 50 entails the risk that exclusion of younger age groups will be overlooked.

Poor health proved to be another central determinant in becoming unemployed. A considerable proportion of the long-term unemployed have somatic or psychological problems and, frequently, multiple symptoms; yet, the unemployed - and their health problems - fall outside the scope of occupational healthcare, and financial difficulties coupled with exclusion limit their opportunities to use other healthcare services. Being outside working life, unemployed persons have a different status as clients with respect to the measures available vis-à-vis members of the work force.

The system of services fails to anticipate and meet the needs of the long-term unemployed adequately. Necessary services are lacking; some clients fall through the cracks, while still others may fail to get into the rehabilitation programmes. The projects have sought fresh approaches and in doing so pointed out the poor fit between services and needs; yet it must be acknowledged that project activities are often still bound to prevailing practices through the statutory guidance and established procedures. This also seems to apply to the project ‘Coping with Life Through Cooperation’, which the unemployed implemented. One of the main reasons for this is that the project was constrained by the prevailing patterns of thinking among officials and in society at large. Given the resources made available, the projects have introduced relatively few new means. Developing the services that support the life politics of unemployed persons is a significant challenge where prevention of exclusion is concerned.

Through the goals they have set and the new approaches - however tentative - they have explored, the projects have nevertheless identified some new means and measures for supporting the unemployed. Underpinning these solutions is action based on the individual circumstances of the unemployed persons. Of particular importance are different forms of physical and psychosocial rehabilitation - the latter a current focus of development - as well as supported combinations of employment and training. One viable solution for those who are most severely excluded would be the creation of a semi-sheltered labour market through social enterprises and individually tailored support measures. Often the mechanical support measures currently in use only have an impact in the short term. It should also be possible to influence stigmatizing ideological patterns of thinking in order to create a foundation for equal opportunity.

4. CONCLUSIONS – realisation of aims and future perspectives

The research project has progressed quite distinctly in keeping to its objectives. One noteworthy addition vis-à-vis the original plan was the study of the project on the long-term unemployed

carried out by the National Cooperative Association for Unemployed. The data produced serve to complement the perspective on interventions with regard to actions taken by the unemployed on their own initiative in the third sector. That project also brought a regional diversity into the present project in the programme, giving it a more comprehensive national scope. Action research proved to be a useful way to link together the knowledge of researchers and the interests of actors in the third sector.

The research project has also comprehensively addressed the issues embodied in its objectives. The summaries of the project findings are still being compiled, however, since the final report of project 'Coping with Life Through Cooperation' (National Cooperative Association for the Unemployed) will be completed during the spring of 2001. Similarly, the second major report on our research project, which deals with health problems, disability and questions of rehabilitation for the long-term unemployed, will be submitted in the course of the same year.

The research programme has made it possible to carry out the project as a coherent whole. Without the funding provided, the component projects would have been carried out as separate studies, and the crucial dimensions of welfare and health would have been given comparatively little space in the individual reports.

Additional funding will be needed in the future in order to analyse issues of health and welfare, for at present, research dealing with health issues from a social perspective receives scanty funding compared to that granted for medical and occupational health research. One possibility would be to provide resources for future regional resource centres in the social field to address this research topic. The development and assessment of new interventions will require new information, and the outcome of activities being carried out under the heading of rehabilitative employment as well as more deeply on the social and health-related dimensions of unemployment.

5. NATIONAL AND INTERNATIONAL COOPERATION

The collaborative arrangements in the present research have taken shape as the project has progressed; the research programme has thus been pivotal to this process, although previous cooperative links have been used as well. Cooperation has been especially fruitful in the area of publication, with the project editing and publishing a collection of articles, Pohjola & Saari & Viinamäki 1999: *Will Intervention Bring Welfare to the Unemployed?* The contributors to the volume represent the Universities of Lapland, Manitoba, Tampere and Vaasa as well as the Rehabilitation Foundation, the Oulu Regional Occupational Health Institute and the healthcare services of the City of Kauniainen. Half of the contributors are new cooperative partners. Contributors from within the scope of the project included Pekka Virtanen, MD., from the project 'Becoming a Second-class Citizen and Welfare as a Health Risk" (new partner) and Professor Asko Suikkanen from 'Life course, Gender and Locality'.

The collection of articles currently being compiled on health issues, disability and rehabilitation for the unemployed features many of the same contributors, but approximately half of them are new contributors. Cooperation is of course reciprocal, and the members of the research group are preparing contributions to a publication being compiled as part of Pekka Virtanen's project. The research group also has many previous and current links to the project 'The Northern Finnish cohort 1966 Welfare and Health Study' headed by Marjo-Riitta Järvelin, MD, which included 'Marginalisation and the Use of Social Welfare Services among 31-year old Men and Women Born in 1966 in Northern Finland'. Cooperation with the Department of Social Work at the University of Manitoba has led to a research project concerning the attitudes of young people towards health.

6. PUBLICATIONS

1. Articles in international refereed publications

2. Articles in Finnish refereed publications

3. Reports and articles in other publications

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THE ELDERLY AND THE SOCIAL CONSTRUCTION OF WELLBEING

Ikääntyvät väestöryhmät ja hyvinvoinnin sosiaalinen rakentuminen

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Key words: elderly people, positive ageing, health, wellbeing

Tiivistelmä: Tutkimuksen tavoitteena oli selvittää iäkkäiden väestöryhmien välisiä terveys- ja hyvinvointieroja positiivisen vanhenemisen näkökulmasta. Positiivisella vanhenemisella tarkoitetaan terveyden, toimintakyvyn ja aktiivisuuden säilymistä sekä koettua hyvinvointia. Kyse on dynaamisesta, muuttuvasta ominaisuudesta, kehitykseen vaikuttavat tekijät ovat myös muuttuvia. Tavoitteena oli löytää perinteisten väestöryhmäindikaattoreiden, kuten iän, sosioekonomisen aseman ja sukupuolen lisäksi ikääntyvän väestöryhmän hyvinvointieroja määrittäviä uusia sosiaalisia positioita, joita voi syntyä tutkimuksen viitekehyksessä esitettyihin tekijäryhmiin kohdistuvan analyysin perusteella.

Koska tutkimukseen saatiin vain noin viidesosa suunnitellusta rahoituksesta jouduttiin tutkimuksen tavoitteita olennaisesti supistamaan, jolloin päätehtäväksi asetettiin vanhenemisprosessien kuvaaminen ja positiivista vanhenemista ennakoivien tekijöiden analyysi.

Tutkimus perustui monitieteisen tutkijaryhmän hallussa olevien monipuolisten, myös pitkittäistutkimusten tuottamien tutkimusaineistojen analyysiin. Osa aineistosta sisälsi pohjoismaista ja muuta kansainvälistä vertailutietoa tehden myös kulttuurien väliset arvioinnit mahdollisiksi. Tutkimus tehtiin vuosina 1998-2000 pääosin Jyväskylän yliopistossa, Suomen Gerontologian Tutkimuskeskuksessa. Osa analyyseistä ja tutkimusraporteista tehtiin yhteistyössä ulkomaisten yhteistyölaitosten kanssa. Tutkimushankkeeseen sisältyy myös useita väitöskirjatöitä, joista kahta on voitu tukea SA:lta saadulla rahoituksella.

Tutkimushavainnot tuottivat prospektiivisiin seuruututkimuksiin perustuvaa uutta tietoa fyysisen, psyykkisen ja sosiaalisen toimintakyvyn ja terveyden muutoksista ikävälillä 65-92 vuotta. Havainnot viittaavat siihen, että vielä noin 80 vuoden ikään saakka ihmiset eivät koe itseään vanhoiksi ja sairaiksi vaan kokevat elämänsä normaalia elämää. Noin 85 vuoden ikään mennessä ja siitä eteenpäin biologiset vanhenemisprosessit, lisääntyvä sairastavuus ja paheneva raihnaisuus sekä

viimeistenkin ikätovereiden kuolema alentavat elämänlaatua ja elämäntarkoituksellisuuden tunnetta ja lisäävät avun tarvetta. Toimintakyvyn monet osa-alueet sekä terveyden eri indikaattorit vaihtelevat vielä vanhallakin iällä sosioekonomisen aseman mukaan, vaikkakin erot eivät ole yhtä suuria kuin nuoremmissa ikäryhmissä. Läheiset ihmiset sekä itsenäiseen selviytymiseen riittävä toimintakyky ovat tärkeimmät elämän tarkoitukselliseksi kokemisen taustalla olevat tekijät.

Fyysisen aktiivisuuden suuri merkitys sekä elinajan pituuden että elämänlaadun kannalta on tullut monissa osatutkimuksissa esille. Positiivista vanhenemista ennustavat myös monet henkilöhistorialliset tekijät, kuten esim. lapsuuden kodin ilmapiiri. Jos se on ollut myönteinen ja tasapainoinen niin se heijastuu vielä 80 vuoden iässä parempana henkisenä hyvinvointina.

Vanhenemiseen sisältyy myös monia adaptaatio- ja kompensaatioprosesseja, joiden avulla pyritään vähentämään sairastavuuden lisääntymisen ja toimintakyvyn heikkenemisen aiheuttamia ongelmia. Adaptoituminen näkyy mm. siinä, että sairastavuuden lisääntymisestä huolimatta terveyden kokeminen ei heikkene samassa suhteessa ja useiden erilaisten kompensaatiokeinojen avulla voidaan vähentää toimintakyvyn heikkenemisen aiheuttamaa haittaa. Tutkimusaineistoja ei ole vielä läheskään tyhjentävästi analysoitu, joten uusilla analyyseillä voidaan pyrkiä luomaan kokoavampaa kuvaa positiivisen vanhenemisen taustalla olevista tekijöistä. Mm. vertailut kolmen eri pohjoismaisen väestöryhmän välillä 75-80 vuoden iässä osoitti sekä merkittäviä eroja että monia yhtäläisyyksiä terveydessä ja toimintakyvyssä. Näistä tutkimuksista on valmistumassa erillisnumero Aging. Clinical and Experimental Research-lehteen sekä myöhempiä kokoavia artikkeleita.

Tutkimuksen tulosten hyödyntämismahdollisuudet ovat ennen kaikkea preventiivisen toiminnan suuntaamisessa ja vanhustyön kehittämisessä.

EXTENDED ABSTRACT

1. INTRODUCTION – aims and starting points

The research group consisted of six researchers (Prof. Eino Heikkinen as the person in charge of research, Doc. Riitta-Liisa Heikkinen, Prof. Jyrki Jyrkämä, Prof. Marjatta Marin, Prof. Isto Ruoppila, Doc. Timo Suutama) and two doctoral students (M.Ps. Sanna Takkinen, M.Sc. Nina Rautio).

This project looked at the health and wellbeing of different groups of older people from the vantage-point of positive ageing. Positive ageing is defined as the maintenance of health, functional capacity and a high level of activity as well as self-perceived wellbeing. This is a dynamic, variable characteristic; the same applies to the factors that influence and determine the course of ageing. The aim was to try and identify new social positions lying behind differences in wellbeing apart from such traditional indicators as age, socioeconomic status and gender. Because the funding obtained was only about one fifth of the planned resource it was necessary to reduce the aims of the study. It was decided to focus on changes occurring in health and functional capacity with ageing and underlying factors.

The study was based on an analysis of longitudinal and other sets already at the disposal of the multidisciplinary research team. The material also included comparative data from Scandinavian and other countries, allowing for cross-cultural comparisons. The project was carried out in 1998–2000 mainly at the University of Jyväskylä, The Finnish Centre for Interdisciplinary Gerontology. The project also involved co-operation with partner institutions in other countries. Postgraduate students were involved in the project, working on their doctoral dissertations. Two of them received support from funds granted by the Academy of Finland. The results of the project have been published in both international and national journals and books. The extensive databases have not yet been fully utilised and particularly the ongoing analyses applying a more synthetic approach will allow us to better understand the relative roles of the various factors predicting positive ageing.

2. DATA SOURCES AND METHODS

The extensive material used in this study was collected in four earlier studies.

1) The first set came from the Evergreen project, which included the data from three different Nordic localities (NORA project); Jyväskylä, Finland, Göteborg, Sweden and Glostrup, Denmark. Interviews, laboratory tests and questionnaires were used to collect this multidisciplinary and extensive longitudinal data. The baseline data from the Evergreen project was collected from 65 to 84-year-old subjects (n=1204), 75-year-old (n=355) and 80-year-old (n=290) subjects in Jyväskylä
2) The data from the SOVA study (n=858) was collected in interviews at the University of Tampere. It included the opinions on and experiences of ageing of elderly people.
3) Material from the outdoor mobility study of the elderly (COST A5), was used in cross-cultural comparisons (Finland n=618, Germany, n=804, Italy n=600, Holland n=160). The material was collected in interviews and subjects also kept a diary of their exercise activities. The data also included thematic interviews (n=20).
4) Statistical data collected for a life-course study was also used. It is a nation-wide data useful for comparing against objective factors of wellbeing and changes in them during 1970-1990. The initial study group consisted of 60 000 persons and data were collected every fifth year.

The data were analysed mainly using quantitative methods in the present studies, with both simple and appropriate multivariate methods. Qualitative methods were also used.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

The results of projective longitudinal studies provided new information on subjects aged 65-92 years in the areas of physical, psychological and social functional ability and health. The results suggest that until the age of 80 years it is not common to view oneself as old and ill, but rather to hold a view of living one's life normally. From about 85 years onwards biological ageing processes, increasing prevalence of illnesses and frailty and the loss of the last peers decrease the quality of life and increase the need for help and the feeling that life is meaningless. It is still possible to observe differences in various areas of functional ability and indicators of health, although the differences are not as clear as in younger age groups. Close relationships with others and a functional ability sufficient for independent living are the most important factors contributing to the sense that life is meaningful.

The importance of physical activity to the length and quality of life was observed in many of the substudies. Several factors relating to personal history, e.g. the atmosphere in the childhood home, are also important in predicting positive ageing. A positive and balanced atmosphere in the childhood home is reflected even at the age of 80 years as better mental wellbeing. Ageing also entails several adaptation and compensation processes that aim at decreasing the prevalence of illnesses and problems resulting from weakening functional ability. The process of adaptation is shown, for example, in that despite increasing prevalence of illnesses the subjects' experience of good health does not decrease in the same proportion. By using different means of compensation, it is possible to decrease the number and quality of problems resulting from weakening functional ability. Exhaustive analyses of research data have not yet been done, and thus, in further studies it is possible to obtain a more holistic picture of the factors underlying ageing. For example, comparisons between subjects at ages 75-80 years in three different Nordic localities indicated both significant differences and several similarities in health and functional

ability. A special issue concerning these findings is being prepared for the journal Aging, Clinical and Experimental Research. Further, holistically oriented articles are also being prepared.

4. CONCLUSIONS- realisataion of aims and future perspectives

Analyses of these various research data have, above all, provided information on the ageing processes, the factors underlying these processes and the experiences of wellbeing among the elderly population. The basis of inequality in positive ageing is related to classical socioeconomic factors and also to factors of personal history stemming from early childhood and affecting different areas of wellbeing in old age. The results suggest that a physically active way of life is strongly related to the well-being of elderly people. Physical activity, interest in the various phenomena of life, maintenance of social contacts and networks, close relations with other people and the absence of obstructive elements in the physical environment form a complex that can be used in fighting the threats related to ageing, increasing frailty, prevalence of illnesses and sense of loneliness, or in finding means of compensation for and adaptation to these problems. Due to the limited funding available for the research programme, the realisation of the research objectives is continuing and it will be possible to meet goals initially set for the studies by further analysing the extensive research data sets. In particular, the attainment and definition of social dispositions for adjusting the wellbeing of elderly people will be the objective of further analyses. Within the research programme more than ten dissertations are being prepared during the period 2001-2004. Each of these studies will in part address the questions related to positive ageing.

5. NATIONAL AND INTERNATIONAL COOPERATION

Old contacts:

- WHO, Ageing and Health Programme
- Nordic Research on Aging (NORA) study
- Department of Geriatric Medicine, Göteborg University, Sweden, Prof. Bertil Steen
- Institute of Gerontology, University College of Health Sciences, Jönköping, Sweden, Prof. Stig Berg
- Department of Social Medicine, University of Copenhagen, Denmark, Prof. Marianne Schroll
- COST A5 - Outdoor Mobility of Elderly People study
- Social Science Research Center (WZB), Berlin, Germany
- Italian National Research Centre on Aging (INCRA), Ancona, Italy
- Delft University of Technology, Delft, The Netherlands
- National Institute of Aging, USA

Type of collaboration (researcher exchange, teaching, etc.): Research

Mobility (in Finland, abroad):

Penninx Brenda (Vrije Universiteit Amsterdam)	Prof.	Apr. 7-13, 1999
Knipscheer Kees (Vrije Universiteit Amsterdam)	Prof.	Apr. 27-29, 1999
Berg Stig (Institutet för Gerontologi)	Prof.	Jun. 4-5, 1999
Odén Birgitta (University of Lund)	Prof.	Jun. 4-5, 1999
Hermanova Hana (Center on Aging, West Virginia University)	Prof.	Jun. 4-5, 1999

Kalache Alexandre (WHO, Switzerl.)	Dr.	Jun. 4-5, 1999
Viidik Andrus (Aarhusin yo)	Prof.	Jun. 4-5, 1999
Vuori Hannu (WHO, Danmark)	Dr.	Jun. 4-5, 1999
Lars Andersson(KNV, Stockholm)	Prof.	Sept. 16-18, 1999
Merril Siverstein (UCLA, USA)	Prof.	Sept. 16-18, 1999
Anita Stewart (University of California, USA)	Prof.	Mar. 1-3, 2000
Narcis Gusi (University of Extremadura, Spain)	Prof.	Aug. 17-22, 2000

The programme has not significantly contributed to new contacts or increased collaboration.

6. PUBLICATIONS

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Takkinen S. Successful ageing and meaning in life. XX Nordic Congress of Psychology & Psykologia 98, Aug. 26-29, 1998, Helsinki, paper.

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Äijö M. Cardiovascular diseases and change in physical activity among elderly people over a five-year follow-up. V World Congress of Physical Activity, Aging and Sports. Orlando, August 10-14, 1999.

6. Others (bulletins, notices, etc.)

Heikkinen R-L. Ikääntyminen ja hyvinvointi (14.10. 2000 Suomi, TV1/ Tiedefoorumi)

Successful Ageing Symposium, June 4-5, 1999, Jyväskylä, Finland,
Organizers: The Finnish Centre for Interdisciplinary Gerontology, the Faculty of Sport and Health Sciences and the Faculty of Social Sciences at the University of Jyväskylä:

Opening: Prof. Isto Ruoppila , Background of the topic
Prof. Birgitta Odén, Topic: Unsuccessful Ageing
Prof. Bo Lönnqvist Topic: Old Women, History and Identity
Prof. Hana Hermanova,Topic: Healthy Aging in Europe in The Eighties and Nineties
Dr. Alexandre Kalache, Topic: WHO Perspectives on Active Ageing.
Prof. Hannu Vuori, Topic: WHO and Elderly People in Europe
Docent Pertti Pohjolainen, Topic: Healthy Lifestyle - an Aspect of Successful Ageing
Prof. Andrus Viidik, Topic: The Role of Connective Tissues for Ageing
Prof. Harri Suominen, Topic: Muscle Fitness for Bone Health
Prof. Eino Heikkinen, Topic: Longevity: Fortune or Misfortune
Prof. Marja Jylhä, Topic: Rethinking Successful Aging: The Changing Images of Old Age
Prof. Stig Berg, Topic: Psychological Well-Being and Depression in Late Life
Prof. Marjatta Marin, Topic: Successful Ageing and Social Capital
Director General Jorma Rantanen, Finnish Institute of Occupational Health,
Topic: Work and Ageing

SOCIAL POLICY, HEALTH AND WELFARE

Sosiaalipolitiikka, terveys ja hyvinvointi

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Key words: coherence, welfare components, welfare policy, healthcare, sickness absences

Tiivistelmä: Hankkeen keskeisenä tavoitteena oli tarkastella eri hyvinvointikomponenttien vuorovaikutusta niin makro- meso- kuin mikroperspektiivistä katsottuna, hyödyntäen useita kotimaisia ja ulkomaisia tietokantoja. Rahoitussyistä jouduttiin kuitenkin luopumaan osasta tavoitteista jo ennen hankkeen käynnistämistä. Huomattavat, ennalta arvaamattomat ongelmat tarvittavan perusaineiston saannissa tuottivat myös suuria ongelmia koko tutkimusprosessin aikana.
Supistettu tutkimusohjelma käsitti seuraavat kolme alihanketta:

1.*Terveydenhoitomenojen merkitys julkisessa ja yksityisessä kulutuksessa*
Tavoitteena oli selvittää onko Suomessa 1970-luvulta lähtien voimakkaasti kasvanut julkinen tuki terveydenhoidolle ollut omiaan vähentämään väestöryhmien välisiä eroja terveydenhoidossa lisäämättä kuitenkaan hoitomenojen kokonaiskustannuksia.
Terveyden hoitomenojen osuus yksityisistä kulutusmenoista laskikin 1970-luvulla kansanterveyslain voimaanastumisen seurauksena. Sen jälkeen yksityiset terveyden-hoitomenot ovat kuitenkin kasvaneet voimakkaasti niin reaalisesti kuin suhteellisesti. Näyttääkin siltä että vaurauden kasvaessa yksityistaloudet suuntaavat kulutusvaransa halukkaasti juuri terveydenhuoltoon julkisesta panostuksesta riippumatta.

2. *Työ ja terveys*
Tavoitteena oli selvittää henkilön työmarkkinastatuksen ja terveydentilan välistä vuorovaikutusta hyödyntäen Kelan, Stakesin ja Tilastokeskuksen ylläpitämiä rekistereitä. Johtuen aineiston saannissa ilmenneistä yllättävistä ongelmista varsinaiseen tutkimustyöhön päästiin vasta syksyllä 2000 ja toistaiseksi on käytettävissä vain varsin alustavia tuloksia.
Osaprojektin alihankkeena tutkittiin myös Raision kaupungin työntekijöiden sairauspoissaoloja. Erityinen mielenkiinto kohdistui ns. elämäntapahtumien merkitykseen. Tulokset osoittavatkin että ne ovat omiaan lisäämään sairastuvuusriskiä. Tämä asettaa uusia haasteita työpaikkaterveydenhuollolle.

3. *Koherenssin tunne ja sosioekonomiset terveyserot*
Tutkimuksen tavoitteena oli selvittää n.s. koherenssitunteen (SOC) suoraa ja välillistä vaikutusta terveyteen. Useissa poikkileikkaustutkimuksissa on osoitettu että SOC korreloi voimakkaasti toisaalta koulutusasteen ja korkean sosioekonomisen aseman kanssa, toisaalta hyvän koetun terveyden kanssa. Käyttäen hyväksi laajaa paneeliaineistoa osoitettiin että SOC myös hyvin ennakoi ainakin koetussa terveydentilassa tapahtuvia muutoksia. Tutkimusta jatketaan selvittämällä SOC:in ja useiden rekisteripohjaisen terveysindikaattorien välisiä yhteyksiä.

EXTENDED ABSTRACT

1. INTRODUCTION – aims and starting points

The basic goal of the project was to analyse, from a macro-, meso- and microperspective, the interaction between various components of welfare, including health. The research team proposed especially to study how this interaction varies and changes over time, using as units countries, regions and individuals. However, as the financing of the project was reduced by more than 50%, we had to change the plan radically. The final research plan consisted of only three subprojects (instead of five): 1. The role of health costs in public and private consumption, 2. Work and health, and 3. Sense of coherence (SOC) and socioeconomic health differences.

The project was supervised by the Turku Center of Welfare Research (TCWR) and was a joint project between the University of Turku and Åbo Akademi University. The general approach was problem-oriented and multidisciplinary. The researchers represented expertise from such different fields as social policy, population health science, medicine, economics and statistics, and all had previously been engaged in welfare research projects.

2. DATA SOURCES AND METHODS

TCWR has at its disposal a large data archive based on the standard of living, income and household budget surveys made by Statistics Finland over the last ten years. However, to study the interplay between work and health it was necessary to complement this database with a new dataset, consisting of register-based data on labour market status for each member in a sample of households drawn by Statistics Finland complemented with information on health-related variables from the Social Insurance Institute (KELA) and the National Research and Development Centre for Welfare and Health (STAKES). Due to factors outside the control of the research team the delivery of the data was, however, heavily delayed. The data became usable in its final form about two months ago.

The study of the long-term relationship between SOC and various health indicators is based on the idea of complementing the two postal surveys from 1989 and 1993 with register information on the health status of the respondents during the period 1987-1997.

Even though the research plan was informally approved in 1995, it took almost five years to obtain the final approval. The final data were not delivered until last summer. Thus much of the intended research based on this dataset has only just begun.

The study of the role of health costs in private consumption is based on data from Statistic Finland's household budget surveys during the years 1996-1998. Some of the results were recalculated a few months ago to enable us to include data from the last survey in 1998.

The study of sickness absences in the city of Raisio is based on material made available to the research group by the Turku Regional Institute of Occupational Health.

The statistical analysis in subprojects 2 and 3 is mainly based on newly developed methods for life events analysis.

3 - 4. MAIN RESULTS, THEIR SIGNIFICANCE AND CONCLUSIONS

1. The role of health costs in public and private consumption

The aim of the subproject by Veli-Matti Ritakallio was to study the relationship between healthcare expenditures and disposable income at the household level. The study focused particularly on analysing trends in this relationship. Has the growth in public healthcare decreased differences in private expenditure and thus promoted equality in this area? Many data problems have delayed the study so that the main results of the subproject will be published in the near future, after the official end of the research programme.

The main results are:

1. The share of private healthcare expenditure as a proportion of total healthcare expenditure decreased during the 1970s, which may reflect the impact of the National Health Act and the related healthcare centre network established in the early 1970s.
2. Otherwise, during the period 1981-1995, the tendency was an increase in the private healthcare expenditure (as a proportion of total healthcare expenditure of households).
3. Even more evident was the growth of private healthcare expenditure measured in real terms, which more than tripled during the follow-up period (average expenditure per member of household grew from FIM 800 year to FIM 2,700 /year).
4. It must be borne in mind that the increase occurred despite the fact that public spending in the health sector has increased even more over the same period (public healthcare expenditure as a percentage of GDP).
5. It appears that, parallel to the growth of average affluence, private households are likely to allocate their extra resources to health maintenance.
6. This is revealed even more clearly when studying the differences in healthcare costs by income decile at the cross-sectional moment. Healthcare expenditure in the richest decile was three times that of the poorest decile.
7. In 1995, real healthcare expenditure increased evenly with income. In 1966, the relationship between income and healthcare expenditure was not that evident. The first eight deciles spent very little on private healthcare, but the two most affluent deciles deviated from the others by spending at least twice as much on private healthcare.

The overall result is that the differences in private healthcare expenditure by such or according to incomes have not decreased during the period 1966-1995.
Manuscript: Ritakallio V-M. Healthcare Costs and Income Inequality in Finland 1966-1995

2. Work and health

This part of the project has created a longitudinal database that combines register-based information on morbidity with income, labour market and socioeconomic data. We used the main administrative registers collected by the National Social Insurance Institute (KELA), the National Research and Development Centre for Welfare and Health (STAKES), and Statistics Finland to create a database that allows a sample of 160,000 individuals to be followed for 11 years between 1987 and 1997. The basis of the data is a longitudinal data file with income, labour market and socioeconomic information collected by Statistics Finland. Data from KELA on health-related pensions, prescription drugs and sick leave for all sample members are linked to these data. STAKES has contributed data on all hospital visits linked with our data. Finally, we have added Statistics Finland's cause of death data to our sample. Thus, the major registers covering morbidity and mortality have been linked with the longitudinal data.

The sample consists of about 100,000 sample persons and 60,000 spouses (in 1990).
In modelling the processes of illness and labour market events, we have been able to examine potential independent events, such as the impact on morbidity of an adverse labour market or the health of one's spouse.

The data construction process was completed in the autumn of 2000, delays being caused by administrative issues such as obtaining permission from the 'data ombudsman' and coordinating the efforts of the three government agencies involved. These data allow both the modelling of morbidity events using event history analysis methods, focusing on income and labour market data as covariates, and the modelling of the labour market and income effects of adverse health shocks. Given that adverse events for spouses can be considered 'more' exogenous than events affecting oneself, it may be possible to assess the causal role of various types of events on the health and economic status of individuals.

In a study based on data about sickness absences of people employed by the City of Raisio it was shown that the incidence of negative life events seemed to increase the risk of short sickness absences. The study was based on the use of recently developed techniques for modelling the transition intensities in a two-state stochastic process with both fixed and time-dependent covariates.
Manuscript: Höglund R, Nordberg, L. Modelling the dependency between life events and the incidence and length of sickness absences.

3. Sense of coherence (SOC) and socioeconomic health differences

In several cross-sectional studies a high level of occupational training or high socio-economic status according to occupation has been found to associate with a strong SOC in both women and men. Furthermore, in a number of fairly large cross-sectional population studies associations between strong SOC and good subjective state of health, few or no musculo-skeletal or other symptoms or low levels of psychological distress have been reported. In a two-way panel mail survey of 1,976 individuals with two collections of data at an interval of four years, a strong SOC predicted a good subjective state of health in both women and men when age and initial occupational training and social integration (measured as the number of close friends) were taken into account. For men, a high level of occupational training also predicted a good, subjective state of health. In two other fairly large population studies, weak SOC was associated with an increased rate of medically certified sickness absence in female but not male employees. Associating initial SOC and several register-based indicators is currently still in progress and has been delayed by a hold up in the supply of data for external reasons. SOC has been found to be a fairly stable quality but also susceptible to major life events.

Weak SOC is associated with low socioeconomic status or a low level of occupational training and poor health in cross-sectional settings, and with poor health in longitudinal settings. Thus, in addition to known risk factors, SOC might contribute to socioeconomic health differences. Developing methods of supporting SOC and/or SOC-associated resources might also reduce socioeconomic health differences.

Manuscript: Suominen S, Blomberg H, Helenius H. Sense of Coherence – Outcome or Trait? Support for Both Interpretations from a Four-year Follow-up of 1976 Adults.

Most of the research reported above was crucially dependent on financing through the TERO research programme. Financing by the Academy of Finland was also the only way to acquire the data required. Of course, the research team was over optimistic vis-à-vis the timetable for obtaining

the data, but there is now a firm basis for continuing the research. Especially where the relationship between labour market and health status is concerned, the researchers already have several ideas about how to continue the research. There can be no doubt that there is a major need for further research in this area. Recent results in Event History Analysis provide good tools for deriving new insight into the complicated interplay between health, welfare and social background factors.

5. NATIONAL AND INTERNATIONAL COOPERATION

TCWR is well known for its good international contacts. During the project V-M Ritakallio spent a year as a visiting research fellow in the Research School of Social Sciences at the Australian National University in Canberra, Australia. Ritakallio visited several research institutes giving seminars and presenting papers on Finnish social and health policy. New research contacts were established including Frank Castle (Australian National University), Ann Harding (University of Canberra), Deborah Mitchell (Australian National University) and Peter Saunders (University of New South Wales).

The research on labour market status and health is coordinated with a corresponding research project supervised by Professor Tor Eriksson at the Centre for Labour Market and Social Research in Aarhus, Denmark.

Suominen and Ritakallio have presented results from the projects at several international conferences and seminars.

The TERO research programme has been especially helpful in establishing new contacts with Australian researchers and research centres. It has also made it possible to participate more actively in international conferences, especially in the area of social medicine.

6. PUBLICATIONS

1. Articles in international refereed publications

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Suominen S, Blomberg H, Helenius H, Koskenvuo M. Sense of coherence and health -does the association depend on resistance resources? A study of 3 115 adults in Finland. Psychology & Health 1999;15, p. 1-12.

Suominen S, Helenius H, Blomberg H, Uutela A, Koskenvuo M. Sense of coherence as a predictor of subjective state of health. Journal of Psychosomatic Research (in press).

Suominen S, Välimaa R, Tynjälä J, Kannas L. Minority status and perceived health. A comparative study of Finnish- and Swedish-speaking schoolchildren in Finland. Scandinavian Journal of Public Health 2000:3, p. 179-187.

2. Articles in Finnish refereed publications

Blomberg H, Kroll C, Suominen S, Helenius H. Känslan av sammanhang och hälsa i två kulturer – en jämförelse mellan Finland och Japan. Sosiaalilääketieteellinen Aikakauslehti 1998:35, p. 142- 151.

Kangas O, Ritakallio V-M. Sosiaalipolitiikka vai rakenne. Tulonsiirrot, rakennetekijät ja köyhyys Pohjoismaissa ja Ranskassa. Sosiologia 1999:36, p. 2-18
Suominen S. Onko elämänhallinta elämän hallintaa ? Työterveyslääkäri 1999: p. 237-240

3. Reports and articles in other scientific publications

Ritakallio V-M. Overindebtness, Poverty and Social Policy – the Finnish Case in 1990s. Conference Report of the European Conference on Money and Debt Advice, 1998 The Guarantee Foundation.

4. Books and book chapters

Ritakallio V-M. Tuloerot ja köyhyys kansainvälisessä vertailussa 1980-1995 [Income inequality and poverty in cross-national comparative perspective 1980-1995]. In Heikkilä M, Karjalainen J (eds.). Köyhyys ja hyvinvointivaltion murros, Gaudeamus, p. 17-42.

Ritakallio V-M (ed.). Eriarvoisuutta paikantamassa. [Locating inequality] Juhlakirja professori Kari Salavuon 60-vuotispäivän kunniaksi. Sosiaalipoliittisen yhdistyksen tutkimuksia nro 55, 2000. Turku.

Ritakallio V-M. The Finnish Social Policy System: Principles, Development, Extent, Structure and the Outcomes – Comparative Perspective. In Lind J, Vuorenhela T (eds.), Seminar on social security and health promotion - Network for future wellbeing. Social security and health reports 2000. KELA The Social Insurance Institution.

Ritakallio V-M. Mitä on sosiaalinen kaupunkipolitiikka? In Tulevaisuusfoorumit 2000, Tulevaisuus tehdään paikallisesti. Valtioneuvoston kanslian julkaisusarja nro 5 . 45-46.

Ritakallio V-M, Kangas O. Different Methods – Different Results. Approaches to Multidimensional Poverty. In H-J Andress (ed.), Empirical Poverty Research in a Comparative Perspective, 1998, Ashgate, p. 167-203.

5. Other publications, popular articles

Holmberg M, Ritakallio V-M. Varsinais-Suomen sosiaalialan osaamiskeskus (VASSO) –hankesuunnitelma. Turun kaupungin sosiaalikeskuksen julkaisuja 2/2001.

Suominen S, Välimaa R, Tynjälä J, Kannas L. Does minority status protect health ? A comparative study of Finnish- and Swedish-speaking schoolchildren in Finland. The 15th Nordic Conference on Social Medicine. Reyjavik Iceland June 3-5 1999. Abstract book, p. 18.

Honkinen P-L, Suominen S, Rautava P, Hakanen J. Kalimo R. Sense of coherence (SOC) in 12-year old school children and adults. From Ripples to Waves. 1st International Conference on Promoting Mental Health at School. Helsinki Finland September 13-14 1999. Abstract book, p. 15

Suominen S, Honkinen P-L, Rautava P, Hakanen J, Kalimo R. Sense of coherence (SOC) in 12-year old school children and adults. Sosiaalilääketieteen päivät. Tampere. 7-8 lokakuuta 1999. Abstract book, p. 55.

MENTAL HEALTH OF CHILDREN AND YOUNG PEOPLE AND THE WELLBEING OF FAMILIES IN CHANGING TIMES

Lasten ja nuorten mielenterveys ja perheiden hyvinvointi yhteiskunnan muuttuessa: lama, lapset ja perheet.

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Key words: economic recession, child mental health, parenting, family stress process, structural equation modelling

Tiivistelmä: Tutkimuksen tarkoituksena oli selvittää, miten taloudellinen lama vaikuttaa perheisiin ja lasten mielenterveyteen ja miten mahdollinen vaikutus välittyy lapsiin. Tutkimus oli kyselylomakkein tehty epidemiologinen seurantatutkimus. Aineisto edustaa eteläsuomalaista lapsiväestöä. Lapset tutkittiin 8- (N1290) ja 12-vuotiaina (N 1149). Tietoja kerättiin myös lasten vanhemmilta ja opettajilta. Menetelminä käytettiin kansainvälisiä mielenterveys- parisuhde ja vanhemmuusmittareita.

Perheen talousongelmilla osoittautui olevan vahva vaikutus lasten mielenterveyteen: ne selittivät 50 % lasten mielenterveysongelmien vaihtelusta. Yhteiskunnan taloudellinen romahduksen vaikutus kulkeutuu lapsiin pääosin perhesuhteiden kautta. Taloudelliset vaikeudet heijastuvat vanhempien mielenterveyteen ja parisuhteeseen, kyky toimia vanhempina kärsii ja näin vaikutus välittyy lapsiin. Vanhemmat tulevat impulsiivisiksi ja kovakouraisiksi kasvatustavoissaan, eivätkä jaksa valvoa lasten menemisiä tai antaa lapsille tukea. Tämä näkyy lasten käyttäytymisongelmina, mm. alkoholin käyttönä, ja tunne-elämän ongelmina kuten masennuksena..

Myös vanhempien liiallisella työnteolla ja työttömyydellä on omat seurauksensa. Äitien liiallinen työnteko oli yhteydessä tytärten suisidaalisuuteen, isien työttömyys poikien alkoholinkäyttöön ja huonoon koulumenestykseen. Suomalaisen aikuisväestön taipumus suisidaalisuuteen ja alkoholismiin korostavat tulosten merkitystä. Tutkimus osoittaa, että suisidaalisuuden ja alkoholinkäytön lähtökohtia on tutkittava jo lapsuuden aikana.

Laman aikana tehtiin kouluissa budjettileikkauksia. Opetusryhmien koon kasvu oli yhteydessä luokkahengen huononemiseen, joka puolestaan oli yhteydessä lasten psyykkisiin häiriöihin. Koska erityispalveluja vähennettiin, joutuivat opettajat valitsemaan oppilaita palveluihin. Alemmista sosiaaliluokista tulevilla lapsilla oli alunalkaen enemmän erityistarpeita ja valintaprosessi suosi parempiosaisia lapsia. Koulutuksellinen epätasa-arvo on vaarassa kasvaa taloudellisen laman aikana.

Tutkimuksemme osoittaa, että lasten kehitys ja psyykkinen hyvinvointi ovat elimellisessä yhteydessä yhteiskunnallisiin tekijöihin. Olisi tärkeää, että Suomeen perustettaisi lapsitutkimuskeskus/instituutti, joka olisi monitieteinen, jossa pediatrit, lastenpsykiatrit ja kehityspsykologit työskentelisivät yhdessä sosiologien, sosiaalipsykologien, eknomistien ja juristien kanssa. Tarkoituksena olisi seurata lasten terveydellistä, sosiaalista, taloudellista ja juridista tilannetta, tuottaa tutkimustuloksia lapsiin kohdistuvista toimenpiteistä ja tarjota tutkittua tietoa preventiivisistä interventioista.

EXTENDED ABSTRACT

1. INTRODUCTION – aims and starting points

The three main aims of the project were (1) to investigate the role of socioeconomic factors in child psychiatric problems and (2) to study the epidemiology of child psychiatric disorders in a longitudinal, follow-up setting. We also had a special interest in depression and its role in families, since depression is a common consequence of economic hardship. The study also had theoretical interests (3): we wanted to contribute to the understanding of how large-scale societal changes penetrate and find their ways to children, to child development and mental health. Information concerning these mechanisms helps to identify nodal points for preventive intervention.

The societal background for the study was the deep economic recession in Finland during the early years of the 1990s. Economic indicators showed that the recession resembled the Great Depression of the 1930s in the US (Heikkilä and Uusitalo, 1997). The unemployment rate rose from about 4% in 1990 to over 18% in 1994. Many social benefit programmes for families were cut back, consumer prices and interest rates rose, and the consequences of recession were readily felt in the family setting.

Most earlier research on economic hardship concerns poverty. The experience of Finnish families, however, was not one of poverty, but rather of a rapid, unexpected decline in family economies. In fact, the poverty rate in Finland did not increase during the recession years, as the social security programmes were able to protect those families that were worst off (Heikkilä and Uusitalo, 1997).

Our work has been informed by previous studies of two similar events – the Great Depression, examined by Glen Elder (1974), and the economic decline in the American agricultural state of Iowa, examined by Conger, Elder et al (1994). As well, we collaborated with Professor Conger.

2. DATA SOURCES AND METHODS

This is an epidemiological study concerning schoolchildren born in 1981. The baseline data were collected by means of questionnaires answered by second-graders (eight-year-olds) at school, their parents and teachers in winter 1989-1990. The follow-up data were gathered in winter 1994 at the height of the recession and 1,149 children, 843 mothers and 573 fathers responded. The children were in sixth grade and were on average 12.6 years old at the time of the follow-up.

The original sample (N1320) was selected to represent southern Finland by a 1981 birth cohort of 17,058 children. Municipalities were selected to represent city, town and rural communities. Within Helsinki, the capital, areas were selected on the basis of diminishing, growing and permanent populations. The attrition evident between the 1989-1990 and 1994 data collection was not dependent on the children's mental health, however, those participating in 1994 had a higher socioeconomic status in 1989-1990.

Measures

Child and parent mental health and child self-esteem were studied using internationally standardized measures (Rutter, Achenbach, Kovacs and Rosenberg scales for the children; Goldberg's General Health Questionnaire-28 for the parents). Economic pressures, marital

interaction and parenting were studied using measures developed by the Conger team. Among other statistical methods, structural equation modelling and path analyses were used to analyse the data.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

The study results show unequivocally that child development and mental health are dependent on societal circumstances: children suffered as a result of both externalizing and internalizing problems as well as difficulties in their school work when their families struggled with economic hardship. It is worth noting that this result emerged in a social-welfare country like Finland, where families are safeguarded by social security. Our sample also included more financially better off and better-educated families, but regardless of this, family economic hardship explained 50% of the variation in child mental health problems in 1994, at the height of the recession.

Our study shows that severe economic recession is mediated to children mainly through their closest human relationships. Economic hardship challenges parental adjustment and mental health, and creates problems in the marital relationship. Parenting is compromised and children become affected. Parents start using harsh and coercive disciplinary methods; they monitor their children's whereabouts less and give them less support. Children respond with behavioural problems including the use of alcohol, and emotional problems including depression.

We also studied the differential effects of parental unemployment and parental work overload on children. Maternal work overload was significantly associated with daughters' suicidal tendencies, and paternal unemployment with sons' substance abuse and poor school achievement. These results are particularly noteworthy because they stand independent of family social class, economic situation and previous parental mental health problems. The high rate of suicide and alcoholism in the adult Finnish population gives special credence to these findings: our children were only 12-year-olds. The study shows that the determinants of suicidal tendencies and substance abuse should already be studied in childhood and that they can be dependent on the interplay of societal and family factors.

We were interested in depression and its role in families. We found that even parent's low moods elicit special response patterns in children, patterns which are related to children's own development. Those children who either became over involved with their parents or actively avoided them, were symptomatic. Parental moods influence the whole family, which also explains why economic problems become reflected in the family dynamics.

Another subject of our study was the school environment. Economic recession had an extensive impact on school budgets. The study shows that cuts in human rather than material resources influence children's school experience. Increases in class size negatively influenced negatively the classroom environment. Classroom climate, in turn, was associated with children's externalizing and internalizing problems. Those girls who had had externalizing problems in second grade were especially vulnerable to the adverse effects of a poor class climate in sixth grade. This finding is intriguing and points to girls' particular vulnerability to external circumstances in early adolescence – something that has been documented in earlier studies as well.

Resources for educational support systems were also reduced. This meant that a gap was created between needs and supply. Teachers had to choose which students would be offered needed support, while others were left without. The results showed that the children who required extra educational support came from the lower SES groups to begin with, and that the selection processes favoured higher SES children, higher achievers and those who were more motivated. Overall, it

seems that extensive budget cuts place children from lower SES groups in double jeopardy. Inequality in education is likely to increase in times of economic recession.

In conclusion, our study highlights how adverse socioeconomic changes in society at large – changes which are primarily focused on adults (i.e. working conditions) and on institutions involving children (school) – become reflected in children's mental health. Child development and mental health are linked with societal changes in a fundamental way.

Implications

This study has implications for clinical child psychiatry, and for social and educational policy. Our findings concerning the mechanisms by which economic recession penetrates into families suggest points for intervention. Parenting is vulnerable in times of stress. The study showed that a lack of parental energy and resources might lead to less than adequate monitoring of children. Support should be offered for parents and counselling should focus on helping parents monitor and guide their children. Also, children should be helped to understand the family situation, and here the child guidance clinics have a meaningful role. Too often family problems remain unspoken, which creates additional distance and misunderstanding between the family members.

Lack of parental guidance and monitoring in times of economic recession, and shortly thereafter, means that children will be out in the streets experimenting with alcohol. This could be tackled in advance by increasing structured activities for children and young people rather than simply letting them roam the streets. This means giving children a high priority when economic decisions are made.

The findings concerning the effect of parental work overload on children were striking: maternal work overload was associated with girls' suicidal tendencies; paternal unemployment was associated with boys' abuse of alcohol and poor school performance. These findings highlight how important parental working conditions are, even for children, and provide a special challenge for work-related policy.

The study also unveiled an important mechanism, which increases inequality in education. When resources for educational support are diminished, students who are worse off to begin with, are less often selected to receive extra support. Teachers might make such decisions inadvertently, and therefore the selection process should be examined closely and priorities agreed upon openly. Learning difficulties are a major avenue to antisocial lifestyles: everything possible should be done to support these students throughout their schooling.

This study points out how child development and mental wellbeing are profoundly interlocked with societal circumstances. Policy-makers should consider the impact of their decisions on children, even if the decisions themselves do not deal with child issues.

We would need a national child study centre/institute, where researchers from different disciplines would come together; where paediatricians, child psychiatrists and developmental psychologists would work together with sociologists, social psychologists, economists and lawyers. The task of the institution would be to monitor children's physical and mental health, social, economic, and legal situations, and provide research findings on policy issues and on preventive interventions necessary to support children's development, mental health and overall wellbeing.

4. CONCLUSIONS – Realisation of aims and future perspectives

We spelled out three aims for our project: two of them were met. The first aim (1) concerned the role of socioeconomic factors in children's psychiatric symptoms. We studied the impact of the recession on child mental health and have reported our results in several papers.

The third aim (3) was to contribute to the theoretical understanding of how the impact of economic recession on children occurs. Our study shows that socioeconomic changes in society influence children mainly through their proximate relationships. Our findings support both the ecological theory of child development (described by Bronfenbrenner, Belsky and Cicchetti) and the Vygotskian activity theory. The results also suggest several points for intervention, the most important being support for parenting.

Our second aim (2) was to study the epidemiology of child psychiatric disorders and especially depression. However, this area remained almost untouched. Two of the ten papers listed below deal with depression, but no longitudinal epidemiological data have been written up. There were not enough resources for this aspect of the study.

The Academy funding was crucial for the project. The grant made it possible for the project leader to leave full-time clinical work and join the study. This was absolutely necessary for critical analysis and the final write-up. The grant also made it possible to involve two doctoral students in the project.

On the other hand, there still remains new information in the data. The Academy funding covered only one third of what was applied, which limited our efforts. The study would have benefited more if the funding had provided for five rather than three years' research. The study process was also hampered by the lack of a statistical expert. The methodology in this field is developing rapidly, and keeping up with latest developments requires a dedicated statistician. We had to rely on outside consultants, which was a problem. We would have needed a permanent statistical expert, who could have made him/herself familiar with the dataset.

In conclusion, the study area is immensely interesting and is likely to remain so in the future. The more global the world economy becomes, the more interdependent national economies become. Unexpected economic recession is likely to be part of the future in many parts of the world, and it is essential that child professionals know about the consequences for children. More research is therefore needed. We also need information on how to combat the adverse consequences experienced by children of economic predicaments which cannot be relieved.

5. NATIONAL AND INTERNATIONAL COOPERATION

The study group was in contact with Professor Rand Conger and his team in Iowa University. Collaboration with them helped the project leader get the study off the ground, and we used their methods and measures as much as it was feasible.

The project leader has participated in the Family Research Consortium Summer Institute – a research meeting sponsored by the NIMH in the US. The Summer Institute draws from invitations and applications and brings together the top family researchers in the States. The project leader was accepted as a member during her postdoctoral year in Boston. Collaboration with the Family Research Consortium, of which Professor Conger is a member, has been invaluable.

The study group has also been collaborating with Professor W.R. Beardslee from Harvard University in Boston. Dr Beardslee has studied depression for 15-20 years. He collaborated with us in two manuscripts dealing with children's responses to parental low mood. However, more joint work will take place in the future. Dr. Beardslee has developed an intervention to help children in families with parental depression and and this intervention will be piloted, and its efficacy studied, in Finland. The principles of the intervention can also be applied when parents and families confront economic difficulties, which is often the case when parents suffer from depression. The collaboration was established when the project leader, Tytti Solantaus, spent a postdoctoral year in Boston in 1994-1995.

Members of the research team have presented the findings of this study at several international conferences.

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6. PUBLICATIONS

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Published:

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(2) Somersalo H., Solantaus T. (2001) Consequences of economic recession to the learning environment and adjustment of sixth-graders in Finnish schools. Psychiatria Fennica 31:126-136.

Submitted and conditionally accepted:

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Submitted
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(9) Leinonen J, Solantaus T, Punamäki R-L. Parental Mental Health and Child Adjustment: The quality of marital interaction and parenting as a mediating factors. *Submitted*: The Journal of Child Psychology and Psychiatry and Allied Disciplines

Manuscripts to be submitted in the near future
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(11) Solantaus T, Leinonen J, Punamäki R-L. Parental working patterns and child mental health.

FACTORS INFLUENCING WELLBEING AND MARGINALIZATION OF IMMIGRANTS

Maahanmuuttajien hyvinvointiin ja syrjäytymiseen vaikuttavat tekijät

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Key words: immigrants, marginalization

Tiivistelmä: Maahanmuuttajien akkulturaatokokemukset ovat välttämätön mutta ei riittävä ehto akkulturatiivisen stressin syntymiselle. Useat väliintulevat tekijät voivat vaikuttaa stressiä ehkäisevästi tai sitä edistävästi. Nämä tekijät liittyvät esim. vastaanottavan maan, sen väestön ja yhteiskuntajärjestelmän, kyseessä olevien kulttuurien ja akkulturoituvan ryhmän sosiaalisiin ja demograafisiin ominaisuuksiin sekä ryhmän yksittäisten jäsenten persoonallisuuteen. Tämän tutkimuksen tarkoituksena oli selvittää tarkemmin, mitkä eri tekijät vaikuttavat maahanmuuttajien hyvinvointiin, käyttäen hyväksi sekä alan viimeisintä tutkimustietoa että Helsingin yliopiston sosiaalipsykologian laitoksella eri tutkimusprojekteissa saatuja tuloksia. Näissä projekteissa on tutkittu mm. kulttuuri-identiteetin merkitystä pakolaisille, trauman ja vieraan kulttuurin kohtaamista, etnisiin tai kulttuurivähemmistöihin kuuluvien nuorten psykososiaalista sopeutumista, nuorten aikuisten maahanmuuttajien integroitumista pääkaupunkiseudulla, ja suomalaisnuorten rasistisiin asenteisiin vaikuttamista.

Tutkimuksen ensimmäisessä vaiheessa (1.1. - 31.12.1998) kartoitettiin kaikkia niitä osa-alueita, jotka vaikuttavat maahanmuuttajien hyvinvointiin. Erityisesti syvennyttiin nuorten maahanmuuttajien koulusopeutumiseen, henkiseen hyvinvointiin, kulttuuriarvoihin, akkulturaatioasenteisiin ja etniseen identiteettiin. Maahanmuuttajanuoria verrattiin myös samanikäisiin suomalaisiin. Tästä vaiheesta julkaistiin tai tullaan julkaisemaan (vrt. julkaisut) sarja artikkeleita sekä alan kansainvälisissä aikakauslehdissä ja kirjoissa että suomalaisilla julkaisufoorumeilla.

Tutkimuksen toisessa vaiheessa (1.1. - 30.4.1999) eri maahanmuuttaja-ryhmien hyvinvoinnista ja suomalaisten asenteista maahanmuuttajiin saadut tulokset kytkettiin toisiinsa, ja testattiin kansainvälisten, maahanmuuttajien integraatiota selittävien teoreettisten mallien selitysvoimaa Suomessa. Toisen vaiheen julkaisutoiminta keskittyi ensisijaisesti kustannusliike Gaudeamuksen kanssa sovitun toimitetun teoksen laatimiseen. Tätä tarkoitusta varten palkattiin työllisyysvaroin yksi toimitussihteeri 12.1 - 17.7.1999 väliseksi ajaksi. Kirja "Monikulttuurinen Suomi – etniset suhteet tutkimuksen valossa" julkaistiin maaliskuussa 2000.

EXTENDED ABSTRACT

1. INTRODUCTION – aims and starting points

The starting point of this project was the long-term research on various factors influencing the well-being of immigrants which has been conducted at the Department of Social Psychology, University of Helsinki, by the leader of this project, Prof. Karmela Liebkind. The project within this research programme lasted for one year only, and it aimed at integrating various studies into a comprehensive whole, partly by further analysing the results of each of the separate studies, partly by compiling them into a book.

2. DATA SOURCES AND MAIN RESULTS

The separate studies involved in the endeavor described above were as follows:

(a) "Refugee in Finland - the Meaning of Cultural Identity"

This study focused on Vietnamese refugee children who arrived in Finland 1979–1989 (N = 159) and their parents/caretakers (N = 121). The Vietnamese adolescents were compared with Finnish youth of the same age. The focus of the research was on how acculturation affected the identity and mental health of the refugee children/adolescents.

(b) "Confronting Trauma and a Strange Culture"

This study focused on the reactions of students (N = 855) and professionals (N = 660) from different fields to potential/future clients who had (1) experienced massive trauma, (2) represented a different cultural/ethnic group than their own, or (3) both (1 and 2). It turned out that only some professionals reacted negatively to outgroup clients as such, but surprisingly many reacted negatively to clients with traumatic experiences, regardless of the client's ethnicity.

(c) "International Comparative Study of Ethnic Youth (ICSEY)"

This study is part of an ongoing international research project on immigrant adolescents 13-18 years of age and adolescents from the host population in 12 countries (N in Finland = 279). The Finnish immigrant sample consisted originally of 173 Vietnamese and Turkish adolescents. This project has resulted in a number of different studies, where other immigrant groups (in Finland) have also been included.

(d) "A Study of the Integration of Immigrants in the Finnish Metropolitan Areas"

This study concerned immigrants aged 20-36 years from 7 ethnic groups (total N = 1125) in the Helsinki area. The study employed research standards from both victim research and cross-cultural psychology, and assessed the experiences of discrimination and racism in various walks of life. For all immigrant groups, these experiences significantly increased reported anxiety and depression symptoms.

(e) "A Study on the Effects of Intervention on Prejudiced Attitudes of Finnish Youth"

This study was conducted in collaboration with Prof. A. McAlister from Texas University. In a field-experiment involving Finnish adolescents aged 13-16 years (N = 1350) it was demonstrated that an intervention utilizing sociopsychological mechanisms of attitude change had a significant positive effect on the group attitudes of adolescents.

3. **SUMMARY OF THE PROJECT AND CONCLUSIONS**

The acculturation experiences of immigrants are a necessary but not a sufficient condition for acculturative stress to occur. Several mediating factors may affect the stress of the immigrants either positively or negatively. These factors are related, for example, to the population and social structure of the host society as well as to the social, cultural and demographic characteristics of the immigrant groups themselves and the personalities of individual immigrants. The aim of this study was to investigate factors affecting the wellbeing of immigrants, using the latest scientific literature in the field as well as research results obtained during many years at the Department of Social Psychology, University of Helsinki. These projects have focused on the meaning of cultural identity for refugees, trauma contfronting alien cultures, the psychosocial adaptation of ethnic or immigrant youth, the integration of young adult immigrants in the capital area and the means to influence racist attitudes among Finnish youth.

In the first stage of the research (January 1–December 31, 1998), all sub-areas affecting the wellbeing of immigrants were systematically charted. In this stage the focus was especially on school adjustment, psychological wellbeing, cultural values, acculturative strategies and ethnic identity issues of young immigrants. The immigrant adolescents were also compared with Finnish youth. A series of articles was published in relevant international journals as well as in domestic publications (see publications). Other articles are forthcoming. In the second stage of the research (January 1–April 30, 1999) the results obtained on the wellbeing of different immigrant groups were collated in order to test the comprehensive effectiveness of international theoretical models that explain the integration of immigrants. At this stage, a Finnish edited book was published by Gaudeamus in March 2000.

4. PUBLICATIONS

1. International publications

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CAN SOCIAL EXCLUSION OF CHILDREN BE PREDICTED AND PREVENTED?

Onko lasten syrjäytyminen ennustettavissa ja ehkäistävissä?

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Researchers:
No researchers funded by the Academy of Finland in post for over a year

Key words: Social exclusion, children, prevention, intervention, parent skills training

Tiivistelmä: Hankkeen tavoitteet ja menetelmät, sekä keskeisimmät tulokset ja niiden hyödynnettävyys. Hankkeen alkuperäisenä tavoitteena oli paljolti olemassolevia tiedostoja yhdistelemällä etsiä vastausta kysymykseen, onko lasten sosiaalinen syrjäytyminen ennustettavissa ja ehkäistävissä. Projekti suunniteltiin yhdessä Jyväskylän yliopiston psykologian laitoksen (Huippututkimusyksikön) kanssa. Projektin johtajan osuus oli uutta materiaalia kartuttava osa projektia. Projektin alussa jouduttiin toteamaan, että laitoksella olemassa olevat aineistot eivät soveltuneet tutkimukselle asetettujen tavoitteiden saavuttamiseen. Alkuperäisiä tutkimushypoteeseja ei niiden pohjalta voitu testata.

Vähitellen ongelmalle löytyi edes jotenkin tyydyttävä ratkaisu, mikä kuitenkin vaati vaihtoehtoisen rahoituksen järjestämistä suunnitellulle lasten käytöshäiriöitä ehkäisevälle interventioprojektille, ja edelleen uutta rahoitusta myös kyseisen projektin hyödyllisyyden tieteelliselle arvioinnille. Tähän suunnitelmien muutokseen liittyi myös projektin suorituspaikan muuttuminen toisen yliopiston alaisuuteen. Samalla projektia myös jonkinverran laajennettiin ottamalla mukaan projektin johtajan aikaisempi tutkimusintressi suhteessa stressin vaikutukseen lasten terveydelle. Olemassa olevia aineistoja analysoitiin uudellen hyvän yhteistyön puitteissa ja osa näiden analyysien tuloksista on nyt julkaistu ja osa artikkeleista on parhaillaan arvioitavana kansainvälisissä lehdissä. Sen sijaan alun perin suunniteltu interventioprojekti on edelleen käynnissä ja samoin on myös sen arviointitutkimus, jossa työskentelee kaksi väitöskirjan tekijää.

EXTENDED ABSTRACT

1. INTRODUCTION – aims and starting points

The initial aim of the study was to examine the processes of social exclusion in the light of several datasets already available in the first host department (Department of Psychology, University of Jyväskylä). An important additional goal was to set up an intervention programme, based on techniques of parent skills training, with the aim of preventing behavioural problems in young, temperamentally overactive children.

2. DATA SOURCES AND METHODS

The various existing datasets, involving children of different ages as well as those who have already grown up during the course of ongoing longitudinal studies, unfortunately turned out to be of no use for examining the hypotheses set out for the study. This regrettable oversight on the part of the proposed collaborators meant that the entire project needed to be rethought and replanned. For this reason, the actual data collection could only commence some 18 months later than planned (and with alternative funding), and is still in progress. Also, given the complications of the project in its

initial stages, other existing data (collected in the UK) on the relationship between life stress and children's asthma were utilized.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

Due to the many problems this project faced in its initial stages, none of the results of originally planned analyses are yet available. (The problems are outlined elsewhere in these reports.) However, in an effort to make the best of the situation, some innovative analyses on the data previously collected by the project leader and colleagues were performed with the results published. In time-series analyses of the relationship between stressful life events and new asthma attacks in children an important result was obtained and published.

4. CONCLUSIONS – realisation of aims and future perspectives

By the time the TERO programme ended, the original aims had unfortunately been only partly achieved. This has been due to problems of misunderstanding, miscalculation etc. within the first host department upon which the programme leader was heavily dependent at the start of the project. Indeed, due to the lack of suitable data (unlike initially claimed) virtually none of the planned longitudinal analyses for predicting social exclusion could be performed. Also, another component of the planned project, the intervention programme, had to be initially shelved due to the wishes of the host department. Subsequently, new funding was obtained and the programme is now in midstream. An evaluation study of its usefulness has also begun, again with alternative funding. However, given the situation, results from this part of the project are not yet available. Regarding the future, both the preventative intervention programme and the work on the effects of stress on children's health will continue.

5. NATIONAL AND INTERNATIONAL CO-OPERATION

The programme has offered the project leader a valuable opportunity to establish international contacts, given that she had just returned from working abroad for over two decades. International contacts and collaboration have mainly involved connections in Europe and elsewhere. New contacts within the TERO programme have also been formed and future collaborations are planned with colleagues in the USA, Holland and Germany.

6. PUBLICATIONS

1. Articles in international refereed publications

Pihko, E., Leppänen, P. H. T., Eklund, K. M. Cheur, M., Guttorm, T. K. & Lyytinen, H. (1999). Cortical responses of infants with and without genetic risk for dyslexia: I. Age effects. *Neuroreport,* 10 (5),

Leppänen, P. H. T., Pihko, E., Eklund, K. M. & lyytinen, H. (1999). Cortical responses of infants with and without genetic risk for dyslexia. *Neuroreport,* 10 (5),

* Sandberg, S., Paton, J. Y., Ahola, S., McCann, D. C., McGuinness, D., Hillary, C. R. & Oja, H. (2000). The role of acute and chronic stress in asthma attacks in children. *Lancet,* 356, 982-7.

2. Articles in Finnish refereed publications

Sandberg, S. (2000). Lasten ja nuorten stressi. *Duodecim,* 116, 2282-7.

Sandberg, S., Paton, J. Y., Ahola, S., McCann, D. C., Mc Guinness, D., Hillary, C. R. & Oja, H. (2000). Stressi lisää lasten astmakohtausten riskiä. *Duodecim*, 116, 2305-6.

4. Reports and articles in other scientific publications

5. Books and book chapters

Sandberg, S. (1999). Tarkkaavaisuus-ylivilkkaushäiriö ja sen lääkehoito. In *Oppimisvaikeudet.* Eds. T. Ahonen & T. Aro, pp. 120-50. Atena Kustannus/WSOY: Juva.

* Sandberg, S. (2000). Childhood stress. In *Encyclopedia of Stress, Vol 1.* Ed. G. Finck, pp.442-9. Academic Press: San Diego.

** Sandberg, S., Santanen, S., Jansson, A. & Lauhaluoma, H. (toim) (2000). *Perhekoulun käsikirja: Käytännön opas vanhemmille.* Barnavårdsföreningen i Finland: tummavuoren Kirjapaino OY, Vantaa.

6. **Other publications, popular articles**

A popular article ‘in press’ (Kummit – lehti) concerning the Family School.

- One radio interview regarding the Family School Programme
- Half a dozen public talks on the Family School Programme by members of this team
- One TV news interview regarding the results of the asthma study/ Lancet article
- A press release was also prepared for the Lancet article.

- * and ** marked publications are the most central ones for the theme of the project

WELLBEING AND HEALTH:
RESEARCH ON THE NORTHERN FINLAND BIRTH COHORT 1966

Pohjois-Suomen kohortti 1966:n hyvinvointi- ja terveystutkimusohjelma

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University of Helsinki: Docent Ossi Rahkonen, Department of Social Politics, P.O.Box 220 FIN-00531 Helsinki, Finland ossi.rahkonen@helsinki.fi
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University of Nottingham, UK: Prof. Peter Jones, p.jones@nottingham.ac.uk

Key words: fetus, education, social class, gender, chronic disease

Tiivistelmä:
Tavoitteet: selvitetään sukupuolittaisia, sosiaalisia ja/tai alueellisia terveyskäyttäytymisen, pitkäaikaissairastavuuden (erit. mielenterveyshäiriöiden, astman ja atopian, tuki-ja liikuntaelinsairauksien), kuolleisuuden ja sosiaalisen syrjäytymisen (erit. rikollisuus, koulutus) eroja/riski – suojaavia tekijöitä *koko elämän aikana raskaudesta lähtien* 31-vuoden ikään.
Materiaali: Synnyttäjä- ja syntymäkohortti Oulun ja Lapin lääneistä vuodelta 1966, johon kuuluu 12 068 äitiä ja 12 231 lasta.
Menetelmät: Haastatteluja, postikyselyjä ja kliinisiä tutkimuksia on tehty 24. raskausviikolta lähtien, syntyessä, 1, 14 ja 31v, jolloin laaja tiedonkeruu kesti huhtikuusta 1997 syyskuuhun 1999. Sairaalan poistoilmoitusrekisteri, kuolinsyyrekisteri, koulutusrekisteri, rikosrekiseri, KELAN yms. eläke- ja muut etuisuusrekisterit on yhdistetty. Uudet aineistot käyttövalmiit vasta v. 1999, osin v. 2000 lähtien, joten pääpaino julkaisemisessa vuosina 2000-2003.
Tuloksia: Oulun läänin itäisissä kunnissa tupakoivia on suhteellisesti enemmän kuin läntisissä kunnissa. Joskus tupakoinneista noin neljännes oli lopettanut tupakoinnin 31-vuoden ikään mennessä. Nuuskan käyttö on ominaista miehille, yleisintä Ruotsin rajan läheisyydessä. Alkoholin käyttö oli yleisinta Etelä-Lapissa; olutta, siideriä tai long-drink -juomia käytettiin kuitenkin enemmän kuin väkeviä alkoholijuomia. Lapsen huono koulumenestys oli yleisintä alemmissa sosiaaliluokissa, tupakoivien vanhempien perheissä ja yksinhuoltajien perheissä. Oma säännöllinen tupakointi 14-vuoden iästä 31-vuotiaaksi, itsenäisenä tekijänä, oli yhteydessä alhaisempaan koulutustasoon. Korkeammin koulutetut kokevat olevansa tyytyväisempiä elämäänsä ja terveempiä. Luokalle jääneillä ja 14-vuotiaana erityiskouluissa olleilla oli 2-8 -kertainen vaara sairastua sairaalahoitoa vaatineisiin mielenterveyshäiriöihin. Kuitenkin myös hyvin menestyneillä pojilla oli nelinkertainen vaara sairastua skitsofreniaan. Mielenterveydenhäiriöt aiheuttavat koulutusuran katkeamisen. Miessukupuoli, syntyminen ei-toivotusta raskaudesta tai yksinhuoltaperheeseen ja jo varhain havaitut kehityksen viivästymät ovat yhteydessä lisääntyneeseen skitsofreniariskiin. Ä idin raskaudenaikainen tupakointi on tärkeä riskitekijä lapsen mielenterveydenhäiriöille sekä myöhemmälle rikollisuudelle. 31-vuotiaista vajaa 1 % ilmoitti olevansa eläkkeellä, suurin osa mielenterveyden häiriöiden vuoksi. Valtaosa 31-vuotiasta oli työhistoriansa aikana kokenut työttömyyttä. Tules oireet ja sairaudet alkavat varhain jo lapsuudessa; ja astmalle altistanee sikiön hormonaalinen ympäristö. Vastoin odotuksia allergia oli harvinaisin maanviljelijöiden lapsilla.
Tutkimuksen merkitys: Tutkimuksen tuottamia tietoja voidaan käyttää kehitettäessä sosiaali- ja terveydenhuollon eri alueiden, esimerkiksi koulu- ja opiskelijaterveydenhuollon toimintaa, samoin suunniteltaessa ja arvioitaessa terveyden

edistämiseen tähtääviä toimenpiteitä, mm. koulutusjärjestelmässä. Tavoitteena on, että ehkäisevä toiminta voidaan kohdentaa mahdollisimman varhaisessa vaiheessa – jo raskauden aikana - kehitystä vaarantaviin/tukeviin tekijöihin.

EXTENDED ABSTRACT

1. INTRODUCTION– aims and starting points

Essential responsibilities and expertise

The Department of Public Health and General Practice of the University of Oulu is responsible for the entire project led by Marjo-Riitta Järvelin, which is conducted in collaboration with other departments, universities and institutions. *The following persons participated in developing ideas for the cohort's 31-year follow-up as well as the present project:*

*1) working capacity, and work environment:*Juhani Hassi, prof., Simo Näyhä, docent, Jaana Laitinen, specialist researcher, Oulu Regional Institute of Occupational Health; Martti Sorri, docent, Department of Otorhinolaryngology, Univ. of Oulu

2) Social environment, health and wellbeing:

Marjo-Riitta Järvelin, prof., Paula Rantakallio, emer. prof., Dept. of Public Health and General Practice, Univ. of Oulu; Kyösti Urponen, prof., Department of Social Sciences, Univ. of Lapland; Ossi Rahkonen, docent, Department of Social Politics, Univ. of Helsinki; Michael Wadsworth, prof., UCL, UK; Chris Power, reader, Institute of Child Health, UK

*3) Psychiatry:*Matti Isohanni, prof, Matti Joukamaa, prof., Dept. of Psychiatry, Univ. of Oulu; Peter Jones, prof., Univ. of Nottingham, UK; Irma Moilanen, prof., Dept. of Child Psychiatry, Univ. of Oulu

4) Musculoskeletal diseases: Heikki Vanharanta, prof., Physical Medicine and Rehabilitation, Univ. of Oulu; Päivi Leino-Arjas, docent, National Institute of Occupational Health; Paavo Zitting, MD, Dept. of Public Health and General Practice, Univ. of Oulu

5) Respiratory and cardiovascular issues: Docent Juha Pekkanen, Baizhuang Xu (MD, PhD), National Public Health Institute, Kuopio; docent Erkki Vartiainen, National Public Health Institute, Helsinki; prof. Paul Elliott, ICSM, UK

6) Obstetrics, perinatology and gynaecology: Anna-Liisa Hartikainen, consultant, Hannu Martikainen, consultant, Dept. of Obstetrics and Gynaecology, Univ. of Oulu

7) Health dependent quality of life, life satisfaction: Pirjo Koivukangas, docent, Dept. of Economics, Univ. of Oulu; Unto Häkkinen, docent, Developmental Centre for Welfare and Health; Marjo-Riitta Järvelin, prof., Dept. of Public Health and General Practice, Univ of Oulu; Ellen Ek, psychologist, Oulu Regional Institute of Occupational Health

8) Statistical and epidemiological consultants: Esa Läärä, ass. prof., Hannu Oja, prof., Dept. of Mathematics, Univ. of Oulu

Objectives: to study differences in the incidence of diseases, health behaviour and educational and occupational/career development in subjects by age 31, unemployment, and marginalization (e.g. delinquency) both by pre- and perinatal somatic and sociodemographic factors (considering life-span changes) as well as by gender and area.

Definitions: Population groups are defined here mainly by gender, social class,marital status, employment, and geographic factors.

Main outcome variables at age 31: mental disorders, musculoskeletal disorders, asthma and atopy, education, employment, working ability, health behaviour, life satisfaction.

Life-course exposure variables:

Family circumstances during pregnancy and at adolescence, maternal health and health behaviour (e.g. smoking), obstetric complications, birth measures and delivery complications, developmental

milestones, growth and health at 1 year, family social standing, school achievement, health and health behaviour at age 14 and current social and health status.

2. DATA SOURCES AND METHODS

The Northern Finland Birth Cohort Study began in 1966. Interviews and postal questionnaires were completed from the 24th gestational week onwards (data since the 16th gestational week). In addition, pregnancy and delivery complications were checked through patient records and neonatal hospital admissions. The children were followed at the ages of 6-12 months, and at 14 and 31 years of age. The 12,231 children born in the provinces of Oulu and Lapland (covering 96% of all cohort births that year), 11,663 were alive in 1997, with 7,200 still living in the north and 1,272 living in the capital city area. At 31 years of age in 1997-1999, subjects' health and social wellbeing profiles were examined by mailed questionnaire, interviews, and clinical examination and laboratory samples.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

About one-third of the men and one-fifth of the Cohort 1966 members were smoking daily or almost daily. Smoking daily was most common among those least educated, those most dissatisfied with their living conditions and the divorced – indicating that stressful life situations induce unhealthy behaviour. The proportion of smokers was higher in the eastern (i.e .less wealthy) municipalities, than in the western municipalities of the Province of Oulu. However, about one-fourth of those who had smoked at some stage of their lives had quit smoking. Snuff, mostly used by men, was common close to the Swedish border where its availability from Sweden is easier. The present and previous studies suggest that juvenile smoking may be an indicator of possible problems experienced by the parents and/or the adolescents themselves, which is supported by the observation that regular smoking from adolescence until age 31 is related to lower education. The connection between smoking and education is unlikely to be causal even though nicotine changes brain metabolism. In our study, good school performance – reflecting higher intelligence and perhaps a different personality and lifestyle – was linked to higher ultimate educational achievement and probably also to cessation of smoking. It is possible that the more education one receives, the more likely one is to give up smoking before age 31, and that a lower or failed education may be more of a causal factor for smoking behaviour than vice-versa. This shows the complexity of, for example, developing smoking cessation interventions. Longitudinal studies similarly reveal the difficulty at judging causality.

Poor school achievement was most common in the lowest social strata, in families where the parents smoke and in single-parent families. The achieved educational success, which varied by area, related to life satisfaction and self-rated health. Although the educational level of women aged 31 was better than their male counterparts, a greater proportion of women held fixed-term or part-time jobs. The majority of 31-year-old subjects, had been unemployed at some stage in their lives, and in 1997-1998, about 13% reported being unemployed. This is a worrying feature, and needs more public policy attention. The largest group of long-term unemployed subjects consisted of men living in the Province of Oulu. Less than 1% of those born in 1966 were on pension, mostly due to mental health disorders as might be expected. This, however, calls for even more efficient intervention programmes given that our findings indicate that evidence of later serious disease risk is already present in early childhood. This kind of information could be applied in child and school healthcare.

Adolescents studying below normal grade level or not attending normal school at the age of 14 had a 2-8 times higher risk than others of developing some form of mental disorder. Among adolescents with nonpsychotic disorders, the grade averages were lower than in the comparison category, but lower marks did not predict schizophrenia or other psychoses. However, boys with excellent averages had a four times higher risk of developing schizophrenia later when compared with lower achievers, and the children from the highest social class showed a double risk when compared with lower class children. Male gender, being born from unwanted pregnancy or raised by a single parent, as well as early developmental delays, are all associated with increased risk of serious mental disorders later in life (e.g. schizophrenia). Maternal smoking during pregnancy has turned out to be an independent risk factor for behavioural disorders (unpublished) as well as for criminal behaviour which is of significant public policy importance.

Musculoskeletal disorders, one of the main public health problems of young adults, occur early in life. Symptomatic low back pain leading to hospitalization first appeared in our cohort around the age of 15 years, and its incidence rose more sharply from the age 19 onwards, especially in men. Men were hospitalized more than twice as often as women. Studies on asthma produced new observations: obstetric/delivery complications such as caesarean section are associated with increased risk of asthma (even allowing for social factors) and the maternal hormonal milieu may be important in the aetiology of asthma. Also social class differences were observed in cases of atopy and atopic asthma. An new finding revealed that children born into farming families have lower risk of allergic disorders for yet unknown reasons (we expected the opposite). These observations will lead to a deeper understanding of the mechanisms of disease development.

Alcohol use among cohort members was most common in southern Lapland; beer, cider and long drinks were consumed more than spirits, possibly reflecting the change towards more ‘European’ drinking habits.. The proportion of life-time teetotallers was highest in Northern Ostrobothnia, due to religious reasons. Based on preliminary analyses (manuscript), several unhealthy habits (smoking, abundant use of alcohol, lack of physical exercise, obesity and a high proportion of ‘bad’ fat in the diet) occur simultaneously more often in men than in women. Unemployment seems to increase the accumulation of unhealthy habits among both men and women, and this effect is even more pronounced among those with less education. A good basic education seems to offer protection against unhealthy lifestyles. Based on our unpublished results in the current project, the 31-year-old subjects who said they try to improve their mood in stressful situations by eating or drinking, used alcohol more frequently and in larger amounts than the others. Such stress-related behaviour was indicated by a low educational level, long periods of unemployment and divorced/unmarried marital status among men. The predictive factors among women were obesity, a change of social status in the childhood family and a lack of support from family and friends.

The question of fetal and early childhood origins of adult disease/disorders is of great scientific and public importance, but clarification of the mechanisms responsible has been hindered by the lack of cohorts providing both fetal and later-life phenotypic data. There is some evidence, for example, that the impact of fetal life on offspring is different between genders. Our study combines the unique advantages of large sample size, population base, and longitudinal phenotyping. This cohort is uniquely able to provide insights on the early life development of risk and protective factors, and to reveal the processes related to early morbidity and differences in health and wellbeing between population groups. Our results make it evident that beyond biological prenatal and postnatal factors there are other independent socioeconomic factors causing health and wellbeing differences within populations. These kinds of data can be implemented in planning of health promotion programmes.

4. CONCLUSIONS – realisation of aims and future perspectives

This project, including the new extensive data collection which was a major part of our study, would not have been possible without the current programme. The 1997-1999 data collection with documentation took more time than expected (e.g. because of migration), and due to this there are several manuscripts and ongoing analyses related to the topics of the present programme. Our final funding of the planned project for the TERO was substantially reduced which is why we had to leave out several original aims. However, we have sufficiently met the set targets, the main objectives have been fulfilled and the project has produced novel and valuable information on the differences of health and health behaviour within one birth cohort and on their living conditions. It proved to be a pioneering study on the harmful effects of smoking during pregnancy in the evolution of antisocial behaviour, and which could thus be at least a partly preventable phenomenon. Even though the standard of living and the quality of healthcare have improved over the past 30 years, as our project showed, significant geographical differences still exist in health and wellbeing. There is growing evidence that patterns of early growth and other factors over the course of life play an important role in the origin and development of chronic disease, but understanding of the processes which mediate these effects, e.g., the fetal or social environment, is limited. Our research area has found increasing importance and interest through this programme, and will yield a number of new observations in the future. So far many of the papers dealing with areal or other population differences have been published at the national level. In particular, newly begun studies into health and wellbeing between population groups need further work and funding. However, funding prospects do not look very promising in Finland.

5. NATIONAL AND INTERNATIONAL COOPERATION

The most important collaborating institutes are the Oulu Regional Institute of Occupational Health, Univ. of Lapland, Finland; National Public Health Institute, Helsinki and Kuopio, Finland; Developmental Centre for Welfare and Health, Helsinki, Finland; Polytechnic Institute of Oulu, Finland; Imperial College School of Medicine, UK; University College of London, UK; University of Nottingham, UK; Institute of Child Health, UCL, UK.

Professor Peter Jones from Nottigham University has been a visiting researcher in the University of Oulu several times: We have established close cooperation with him and Dr. Tim Croudace, especially in research on the aetiology of schizophrenia. This collaboration existed before the present programme. Professor Marjo-Riitta Järvelin was a visiting researcher (September 1, 1998-December 31, 2000) as Dr. Baizhuang XU (April 15-December 31, 2000) in the Department of Epidemiology and Public Health in Imperial College. Several significant cooperative projects were started, including a project on the molecular genetics of some serious infectious diseases (in cooperation with Professor John Summerfield). There are also established collaborative projects on the risk factors of cardiovascular diseases in collaboration with Professor Paul Elliott, Dr. Mark McCarthy and Professor Chris Edwards at Imperial College School of Medicine. This collaboration was existing but has strengthened along the course of the current programme. Junior researcher Liisa Lauren is a visiting researcher in Imperial College School of Medicine (Dept. of Epidemiology and Public Health). This collaboration has been partly funded by the current programme. In cooperation with Professor Michael Wadsworth (University College of London) and researcher Mary Schooling (doctoral student), the factors related to the commencement of smoking were comparatively analysed in the British and Finnish cohorts. Professor Mike Wadsworth has had a central role in planning of our 1997-1998 data collection as has Profesor Paul Elliott. They will play a central role in the future work. Also, with the help of the current programme we have

established collaboration with Professor Jean Golding and her team (e.g. nutrition) in Bristol as well as with Dr. Chris Power, at Child Health Institute, UK (obesity). Cooperation in the field of alcohol studies is beginning with the Department of Psychiatry, Yale University, School of Medicine, USA.

6. PUBLICATIONS

See Appendix 1 (only related to TERO-program)

Web site application developed for the data documentation and presentation. It has proved to be an extremely useful tool for researchers all over the world.

Kastelli seminar, November 18, 1998, (for health centre staff, researchers and labour authorities)

Kastelli seminar, November 11, 1999 (for scientific and non-scientific audiences)

Cohort 1966 scientific seminar , September 30, 1999. Open to researchers outside our own project.

Cohort 1966 scientific seminar, April 25- 26, 2000. Open for the researchers outside our own project.

Cohort 1966 and psychiatrists' scientific seminar, November 23-25, 2000: Epidemiological aspects in longitudinal studies. Seminar for researhers of the Northern Finland birth cohort 1966 study and psychiatry, Oulu, Finland. Open for the researchers outside our own project.

MTV3-kanava Akuutti Tv-ohjelma: M-R Jarvelin: Homealtistus/kohortti 1966, tammikuu, 1998. (TV Program, The risk of exposure to mold in houses).

MTV3-kanava Akuutti Tv-ohjelma: M-R Jarvelin: Tupakoinnin vaarat sikiölle. 29.7.1998. (TV Program, Maternal smoking and foetal risk).

Invited presentation: Järvelin M-R.: Well-being and health: research in the Northern Finland birth cohort 1966. Tieteellisen jatkokoulutuksen teemapäivä, 27.1.1998, Oulu. (The special subject day of scientific post-graduate education Jan 27, 1998. Oulu, Finland.)

Invited presentation: Jarvelin M-R: Northern Finland Birth Cohort Studies for 1966 on Thursday, September 22, 1998 at Child Health Institute, University College London, England.

Invited presentation: Järvelin M-R., Zitting P.: Well-being and health at age 31. Research in the northern Finland birth cohort 1966. Oulun yliopiston tiedepäivät, September 28, 1998. Luleå, Sweden. Poster-esitys. (Poster presentation, on behalf of Faculty of Medicine, University of Oulu).

Invited presentation: Järvelin M-R.: Well-being and health: Research in the Northern Finland birth cohort 1966 and 1985/86. Finnish science days in Poland, Nov 29-Dec 3, 1999, Poland. Poster presentation (on behalf of the Academy of Finland).

Invited presentation: Human Studies Panel: European Prospective Cohort Studies. International Conference on fetal origins of adult disease. Organised by NIA/NIH. Washington DC, USA. September 2-3, 1999.

Invited presentation: Human Studies Panel: European Prospective Cohort Studies Post Conference meeting presentation arranged by NIA and NICH: Socioeconomic environment and health, September 3, 1999, Washington, DC, USA.

Invited presentation and collaborative meeting: Jarvelin M-R: Northern Finland Brith Cohort Studies: Intrauterine and early life factors in relation to adult health. Department of Psychiatry, University of Bonn, February 21-22, 2000, Bonn, Germany.

Invited presentation: Jarvelin M-R: The association between birth weight and blood pressure (the role of social and other environmental factors). Imperial College School of Medicine, Department of Epidemiology and Public Health, March 28, 2000, London, UK.

Invited presentation: Järvelin M-R., Lauren L., Zitting P., Hartikainen A-L., Elliot P.: Northern Finland Birth Cohort Studies: Intrauterine and early life factors and adult health. Association of Physicians Annual Meeting., April 27-28, 2000, South Kensington Campus, Imperial College of Science, Technology and Medicine, London, England. Poster.

Invited presentation: Hartikainen A-L., Järvelin M-R., Lauren L., Laitinen J., Zitting P., Rantakallio P., Elliot P.: Äidin raskaudenajan verenpaineen yhteys lapsen aikuisiän verenpaineeseen. Suomen Perinatologinen Seura r.y. Suomalainen Perinatologinen tutkimus. Jatko- ja täydennyskoulutuspäivät. 25. Vuosikokous 30.-31.3.2000, Dipoli, Espoo. Abstract.

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SOCIAL AND ECONOMIC CHANGE, AND CARDIOVASCULAR DISEASE

Sosiaalinen ja taloudellinen muutos sekä sydän- ja verisuonisairaudet

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Key words: cardiovascular, epidemiologic, mortality, population, socioeconomic

Tiivistelmä: Tutkimushankkeen tavoitteena on ollut selvittää terveyden epätasaisen jakautumisen sosiaaliekonomisia syitä keski-ikäisillä ja ikääntyvillä suomalaismiehillä. Tutkimuksessa on käytetty hyväksi laajaa epidemiologista seurantatutkimusta (Sepelvaltimotaudin vaaratekijätutkimus eli Kuopio Ischemic Heart Disease Risk Factor Study KIHD), joka alkoi 1980-luvun puolivälissä, ja jota Suomen Akatemia on aiemminkin rahoittanut. Nyt päättynyt kolmivuotinen tutkimusohjelmakausi mahdollisti ns. 11-vuotisseurannan toistomittaukset ja datankeruun. Seurattaville miehille (N= noin 1000) tehtiin terveysmuutoksia ja elintapoja koskevien mittausten lisäksi kartoitus 1990-luvun lamavuosien vaikutuksesta miesten omaan elämään ja selviytymiseen. Datankeruu on saatu päätökseen tammikuun 2001 lopussa. Jatkossa voidaan ryhtyä analysoimaan taloudellisen laman ja taloudellisten vaikeuksien epidemiologista merkitystä tutkitussa kohortissa. Tutkimusohjelmakaudella julkaistiin yhteistyössä amerikkalaisen tutkimusryhmän kanssa kansainvälinen tutkimusraportti (Lynch J et al., 1998) alhaisen sosioekonomisen aseman merkityksestä elimistön kardiovaskulaarisiin stressireaktioihin. Kolmas ohjelmakauden osahanke on koskenut lapsuusiän sosiaalisten tekijöiden merkitystä myöhemmän terveyden (erityisesti sydän- ja verisuonitautikuolleisuuden) kannalta. Tähän liittyviä tuloksia esiteltiin tutkimusohjelman tutkijatapaamisessa maaliskuussa 2000 (Nairismägi A et al., submitted). Hankkeen aikana meiltä ilmestyi lisäksi katsausartikkeli biologisista mekanismeista, joiden kautta sosioekonomisten tekijöiden arvellaan liittyvän sydän- ja verisuonitautien riskiin. Aineiston jatkoanalyysit ja raportointi riippuvat jatkorahoituksesta sekä tutkijoiden rekrytointimahdollisuuksista.

EXTENDED ABSTRACT

1. INTRODUCTION - aims and starting points

The aim of our project is to expand our knowledge of the socioeconomic factors – beyond individual biology and behaviour – that shape peoples' health. We proposed to study the effects of

economic change on the health and health-related behaviour of middle-aged persons in Finland. Special attention was given to possible effects of the national economic depression in the 1990s.

We place this research programme within the context of a large prospective epidemiologic project – the Kuopio Ischemic Heart Disease Risk Factor Study (KIHD) – which has earlier been partly funded by the Academy of Finland. The KIHD project, headed by Professor Jukka T. Salonen at the University of Kuopio, has been in progress since the first baseline examinations took place in the mid-1980s. During the course of the follow-up it has employed a variable number of senior and junior researchers, doctoral trainees, research nurses, laboratory staff and international collaborators. The three-year research programme *Health and other welfare differences between population groups* also made it possible for us to collect the third wave of individual-based follow-up data on the KIHD subjects (11-year follow-up).

2. DATA SOURCES AND METHODS

The KIHD study comprises a population-based sample of 2,682 men from eastern Finland, who were 42–60 years of age at the beginning of the study. At present, the age range of this cohort is from 54 to 75 years. The participation rate was very good, well over 80 per cent.

In the 1980s the men underwent extensive baseline examinations that included clinical examination, exercise tolerance tests, dozens of laboratory tests, food diary and medical history. Also, questionnaires were administered concerning behavioural lifestyle, job history, life history from childhood to the present day, family history of diseases, socioeconomic background factors and a number of psychological characteristics.

About half of the men (N=approx. 1,200) were invited to more detailed examinations that included ultrasound scanning of carotid arteries to detect the extent of atherosclerosis. These men were reinvited to a 4-year follow-up to repeat most measurements and the ultrasound scan. As part of the current research programme, this subgroup was again invited 11-years after the baseline. These re-examinations took place between March 1998 and January 2001. At this time, a cohort of women (N=approx. 900) was also examined and added to the follow-up protocol. In the 11-year follow-up we added a detailed questionnaire on economic changes in personal life that were associated with the economic depression in the 1990s. Our intention is to next examine how these men experienced the depression, and how health-related parameters (changes in health status, new incident cases of disease, changes in health behaviour etc.) are associated with changes in personal economic circumstances.

All 2,682 men have been under a register-based follow-up since the baseline, through linkage with national health registries (death registry, cancer registry, hospital discharge registry, disease-specific registries) and – more recently – with disability and retirement data.

In the current programme we have also begun collecting and using data from old health archives. These include midwives' birth records (available for about 700 men), primary school health reports (for over 600 men), and military records (at least some data found for most men). The school health records in particular have proved to be valuable in terms of yielding information on social conditions and possible disadvantages in childhood.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

The most notable yield of the current research programme has been the gathering of the 11-year follow-up data. It has been an arduous and expensive project, and it was partly made possible by our participation in the Academy's 3-year research programme. We have just (at the end of January 2001) completed the re-examination of the subjects, and data compilation is underway. Next, pending future funding, we will start analysing the data in conjunction with our international collaborators from Ann Arbor, Michigan. That will allow us to address some of the issues concerning the epidemiologic significance of economic change. Important questions to be covered include:

- Have personal economic changes been reflected in health behaviour (e.g. alcohol use, nutrition)?

- Do socioeconomic factors accelerate unfavourable processes (carotid atherosclerosis, incident hypertension, insulin resisitance, obesity etc.) beyond traditional risk factors?

During the programme years, we have published two papers in peer-reviewed journals. Additionally, we have submitted a third paper, and two other manuscripts directly linked to the 3-year research programme are now in preparation.

In the paper by John Lynch and colleagues (Am J Public Health 1998), we examined whether heightened cardiovascular reactivity and low socioeconomic status had synergistic effects on the progression of carotid atherosclerosis in a subgroup of 882 KIHD participants. We found that the effect of reactivity on atherosclerotic progression depended on socioeconomic status. Men who had heightened cardiovascular responsiveness to stress and who were born into poor families, received little education, or had low incomes had the greatest atherosclerotic progression. We concluded that understanding the associations between individual risk factors and disease should be based on etiologic hypotheses that are conceived at the population level and involve fundamental social and economic causes of disease. Our results demonstrate how examining the interaction between individual biological predisposition and low socioeconomic status, over the life course, is etiologically informative for understanding the progression of atherosclerotic vascular disease.

As a part of this programme we also published a Finnish review paper on biological pathways that mediate the socioeconomic and psychosocial effects on cardiovascular diseases. The authors (Jussi Kauhanen and Jukka T. Salonen, 1999) conclude that understanding the biological mechanisms of disease helps create new ideas and hypotheses about the role social forces play in shaping the health of populations, and vice versa. Furthermore, the authors argue, one of the greatest challenges facing epidemiology in the new century is to find new models and research methods which combine individuals, environment, and the dynamics of time, plus simultaneously examine the complex interactions of molecular, individual, and societal phenomena.

The third paper (Nairismägi et al, submitted) deals with childhood social disadvantages and differences in later cardiovascular health. The study creatively utilises historical school health reports we were able to find for about 600 of the KIHD participants. The reports (mainly from the 1930s and 1940s) included remarks and gradings about individuals' social conditions at that time. We were able to show that early social disadvantage puts men at significantly greater risk of a cardiovascular event or death during the 10-15-year follow-up in middle-age, even after adjustmenting for baseline health and socioeconomic position in adulthood. The results of this study were reported at the Research Seminar of the Academy of Finland in Helsinki, March 13-14, 2000. The study will be a part of Dr. Nairismägi's doctoral dissertation, and 3 other papers will be expected from this project in the near future.

Finally, we have examined social differences of various alcohol consumption patterns, focusing especially on binge drinking. Our data suggests lower social position could be one of the major determinants of unfavourable drinking pattern (large quantities in single sessions). We reported preliminary results at the 15th Nordic Conference on Social Medicine in Reykjavik, Island, on June 3-5, 1999. The manuscript is under preparation in a joint collaboration between Jussi Kauhanen and John Lynch.

4. CONCLUSIONS – realisation of aims and future perspectives

The 1998-2000 research programme gave our group the impetus to proceed in the area of social epidemiology – both in the field of research and teaching**.** We are excited about exploring the possibilities our data hold in revealing patterns and mechanisms that underlie the social patterning of health and disease.

We have a PhD thesis (Dr. Anneli Nairismägi) underway; her work is based on this programme to a large extend. There are also three master's theses coming up under the supervision of Dr. Jussi Kauhanen and Dr. Hanna-Maaria Lakka. In addition, there will be several other social epidemiologic papers published during the next two years**.**

The research programme has initiated a popular graduate seminar course (1.5 credit points) for students of public health, medicine and other programmes. The annual course is taught in English by Dr. Jussi Kauhanen. One of largest groups of participants is the international MPH student group from the Kuopio University.

The major setbacks during our programme period were insufficient funding and insufficient time to analyse data and report results.

Most of the resources made available to us by the programme were used in data collection (the 11-year follow-up of the KIHD cohort) in 1998-2000. Participation in the research programme made the data collection possible, but we were not yet able to proceed with the data analysis (the last subjects were examined in late January 2001). Thus, the number of publications produced by the programme so far has clearly not met our expectations.

5. NATIONAL AND INTERNATIONAL COOPERATION

The project has strenghtened our cooperation with researchers in the School of Public Health, University of Michigan, Ann Arbor. During the programme period we also recruited a doctoral student/researcher from Estonia. Anneli Nairismägi, MD, is preparing her PhD thesis partly along the lines set up in the research programme. Another international doctoral student was with us for some time, with the intention of starting a PhD project on economic change and health. His other studies, however, took him elsewhere, so now we are looking for a candidate to take his place in the project.

National cooperation did not extended very much beyond single meetings and conferences organized around the research programme. There is definitely room for more collaboration in the future.

6. PUBLICATIONS

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HEALTH AND SOCIAL SUPPORT
A 15-YEAR FOLLOW-UP AMONG 23837 FINNISH ADULTS (HeSSup-Study)

Sosiaalisen tuen terveysvaikutukset - 23,837 suomalaisen aikuisen 15 vuoden seurantatutkimus

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Key words: social support, adults, follow-up, health, mortality

Tiivistelmä: *Tutkimuksen tarkoituksena* on selvittää, miten sosiaalisen tuen laatu ja määrä ennustavat varhaiseläkettä, itsemurhaa, tapaturmaista kuolemaa ja sydäninfarktia. Tutkittavien terveydentilaa seurataan 15 vuotta kuolemansyy-, sairaala-, syöpä-, eläke- ja korvattavien lääkkeiden rekistereistä. Altistustiedot kerätään kolmena kyselynä: seurannan alussa sekä 5 ja 10 vuoden seurannan jälkeen. *Aineisto.* Syksyllä 1998 kyselyyn vastanneet muodostavat kolme osa-aineistoa 20-54 -vuotiaasta väestöstä: Turun talousalueen suomenkieliset (N=3.907), muut suomenkieliset Suomessa (N=19.024) ja ruotsinkielinen väestö (N=2.967), yhteensä 25.898 aikuista. Valtakunnallisesti edustavan aineiston koko on 21.101. Allekirjoituksellaan luvan seurantaan antoi 23.827 lomakkeen palauttaneista.
Menetelmät. Kyselylomakkeessa mitattiin sosiaalisen tuen laatu, määrä ja vaihdanta sekä seuraavat tekijät, joita voidaan tarvittaessa vakioida: voimavaratekijät (mm. koulutus, työn hallinta), persoonallisuustekijät (mm. koherenssin tunne, vihamielisyys, optimismi), kuormitustekijät (mm. elämäntapahtumat, koettu stressi, univaje), terveyskäyttäytyminen (tupakointi, alkoholin käyttö, liikunta, terveysseulonnat) ja terveydentila seurannan alussa. (masennus, lääkkeiden käyttö, diagnosoidut sairaudet). Mainitut tekijät mitataan seurannan alun lisäksi 5 ja 10 vuoden kuluttua. Se mahdollistaa altisteiden muutosten ja muuttujien ajallisten riippuvuuksien vaikutuksen analyysin.
Tutkimuksen nykytila. Aineiston tallennus valmistui kesällä 2000. Lähtötilanteen analyysit alkoivat syksyllä 2000. Ensimmäiset artikkelit lähtevät lehtiin ennen kesä 2001.

EXTENDED ABSTRACT

1. INTRODUCTION – aims and starting points

Epidemiological follow-up studies in United States, Sweden and Finland have shown that lack of social support increases mortality (Seeman...Am J Epid 126: 714, 1987; House...Science 241:540, 1988; Kaplan...Am J Epid 128: 370, 1988; Reynolds... Behavioral Medicine, 101, 1990; Orth-Gomer...Psychosom Med 55: 37, 1993; Kaplan...Epidemiology 5: 495, 1994; Paykel. Acta Psychiatr Scand, Suppl 377: 50, 1994; Ebrahim...Am J Epid 142: 834, 1995; Kawachi...J Epid Comm Health 50: 245, 1996; Fuhrer...Am J Epidemiol 149: 116, 1999). In a Finnish follow-up study of 15,000 employees, poor social support at work predicted increased psychiatric morbidity (Romanov...J Psychosom Research 40: 169, 1996) and early retirement (Appelberg...J Psychosom Research 40: 157, 1996). Social isolation also seems to predict poor prognosis among coronary patients (Hemingway…BMJ 318, 1460-7, 1999).

Poor social relations may predict increased mortality by different mechanisms (Cohen. Health Psychology 1988, 7: 269, 1988): 1) poor health behaviour, 2) poor compliance with medical treatments, 3) poor mental health, 4) harmful physiological reactions. Poor health behaviour seems to be the best documented of these mechanisms (Shumaker...Social Support and Cardiovascular Disease. Plenum Press: New York 1994; Greenwood...J Epid Comm Health 49: 583, 1995; Everson…Am J Epidemiol 146: 142-52, 1997). The direct pathological effect of psychosocial stress is a new and interesting area of research, e.g. the effect of bereavement on the activity of killer lymphocytes (Calabrese…Am J Psychiatry 144: 1123-34, 1987; Cohen...Annu Rev Psychol 47: 113, 1996). In most morbidity and mortality studies of social support, the mechanism has remained open, because samples have been quite small and the measurement of confounding factors has been insufficient.

Our aim has been to research the dimensions and changes of social support and all relevant confounding factors in a large population-based follow-up study including baseline, 5-year and 10-year measurements.

2. DATA SOURCES AND METHODS

The aim is to study how the dimensions of social support predict 1) early retirement, 2) suicide, 3) accidental death and 4) acute coronary infarction.

The 15-year follow-up is planned to cover the following nationwide Finnish registers: cause of death, hospital treatment, cancer, retirement, and free medication. A questionnaire will be repeated twice: 5 years and again 10 years after the baseline questionnaire.

The sample (the baseline questionnaire was carried out in 1998) consists of three sub-samples of adults aged 20 to 54 years: Finnish speaking in Turku (N=3,907), other Finnish speaking in Finland (N=19,024) and Swedish speaking in Finland (N=2,967), totalling 25,898 adults. The representative nationwide sample consists of 21,101 adults. Permission to compare the follow-up data was received by signed consent from 23,827 respondents.

Methods. The questionnaire included the following topics: quantity of social support, amount of social support and exchange of social support. The following factors were also measured: resource factors (e.g. education, the ability to control conditions at work), personality factors (e.g. sense of belonging, hostility, optimism), stress factors (e.g. negative and positive life events, perceived stress, sleep deprivation), health behaviour (e.g. smoking, alcohol use, physical or, exercise activity, medical check-ups) and somatic and mental health (e.g. depression, medication, diagnosed diseases,

accidents). The same factors will be measured after 5 and 10 years. This will make analysis of changes in measured factors and their influence on follow-up events possible.

The present state of the project

The computer file of the baseline questionnaire was completed during the summer 2000. First analyses were carried out in autumn 2000, and the first paper will be submitted before summer 2001.

EXPLANATIONS FOR SOCIAL VARIATIONS IN HEALTH: COMPARISONS AND CHANGES OVER TIME

Terveydentilan sosiaalisten erojen selitykset: vertaileva pitkittäistutkimus

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Key words: Socioeconomic status, health, comparisons, changes over time, men, women

Tiivistelmä: Hankkeen päätavoitteina oli verrata terveydentilan sosioekonomisia eroja eri maissa, etsiä terveyserojen selityksiä sekä tutkia terveyserojen muutoksia. Erityistä huomiota kiinnitettiin miesten ja naisten terveyseroihin sekä ikärakenteen ja elämänkaaren merkitykseen. Tutkimuksessa analysoitiin pääasiassa laajoja väestöaineistoja tilastollisin menetelmin. Lisäksi osatutkimuksissa yhdistettiin kvantitatiivisia ja kvalitatiivisia menetelmiä. Terveyserot osoittautuivat hyvin vakaiksi ja muuttumattomiksi neljässä Pohjoismaassa sekä miehillä että naisilla 1980-luvun puolivälistä 1990-luvun puoliväliin. Sen sijaan Britanniassa terveyserot pikemminkin kasvoivat, kun ne Suomessa samana aikana säilyivät ennallaan tai kaventuivat hieman lamasta huolimatta. Osaltaan näitä vastakkaisia tendenssejä selittää talouslaman erilainen ajoittumisen eri maissa, osaltaan hyvinvointivaltion laajuus ja kyky ehkäistä eriarvoisuuden kasvua taloudellisen tilanteen vaihdellessa. Vaikka terveyserot ovat säilyneet ennallaan Suomessa ja muissa Pohjoismaissa, erot ovat kuitenkin edelleen melko suuret eivätkä välttämättä eurooppalaista keskitasoa pienemmät. Terveyserojen suuruutta selittävät samanaikaisesti sekä varhaiset että nykyiset elinolot ja terveyskäyttäytyminen. Terveydentilaan perustuvaa valikoitumista sosioekonomisiin ryhmiin tapahtuu mm. työmarkkinoilla. Terveyserot syntyvät ja lujittuvat kautta koko elämänkaaren. Suurimmillaan ne ovat keski-iässä, mutta erojen syntyprosessi käynnistyy jo nuoruudessa. Terveyserot ovat syvälle juurtuneet eikä niiden kaventamiseen ole yhtä ainoaa keinoa. Hyvinvointivaltion rakenteet ehkäisevät osaltaan erojen kasvua laman aikana. Talouskasvun aikana

syntyy uusia paineita erojen kasvuun, jolloin tarvitaan laaja-alaisia tasa-arvotoimia. Epäterveellisten elintapojen sekä elinolojen väestöryhmittäisten erojen kaventamisella voidaan edelleen kaventaa merkittävästi myös terveyseroja.

EXTENDED ABSTRACT

1. INTRODUCTION – aims and starting points

The project is being carried out at the University of Helsinki by a group which began studying research on health inequalities among men and women in Finland in 1990. Networking with scholars and teams in other European countries led to comparative research in the Nordic countries, within the EU and between Britain and Finland. Further studies aiming at explanation and analysis of health changes over time have been performed, and together with international comparisons became the main thrust of the project summarised here.

The aim of this project was to examine health inequalities between socioeconomic and other population groups, among men and women, in Finland and other European countries, with special reference to explanations of changes over time. Sub-studies included in this project apply medical sociological and social epidemiological approaches and methods. To meet the aim, the sub-studies have focused on the following areas of research:
I. The most important area comprises explanatory and comparative analysis of health variations over time. International comparisons of changes in health variations, in particular, are being conducted because such studies have not been undertaken to date.
II. Since the project aims at a comprehensive analysis of health, explanatory studies of lifestyle, health behaviours, body height and weight are included.
III. A further broadening of the scope of the study involves a combined study of health and death, including explanatory analyses of health expectancy as well as associations between perceived health and mortality.
IV. Methodological studies, combining quantitative and qualitative approaches, aim to add to our understanding of the reliability and validity of procedures used in comparative research on health.

Throughout the sub-studies, differences between men and women and across the life course are taken into account. As health inequalities are of great importance to public health, the reduction of such inequalities is discussed as well. This is a suitable area for international scientific collaboration.

2. DATA SOURCES AND METHODS

The project primarily analyses broad interview and questionnaire datasets using statistical techniques. Additional data are derived from census-based registers. Qualitative data sets are used in sub-studies, and quantitative and qualitative methods are combined. Comparisons over time and between countries are made by pooling the datasets and performing simultaneous analysis. Thus, systematic analysis of the pattern and magnitude of health inequalities over time and between countries can be made. The datasets, with some exceptions, have been collected and are available to the project at the University of Helsinki.

The most important data sources include:
- ‘Surveys on Living Conditions’ by Statistics Finland in 1978, 1986, 1994 (ELO78, 87, 94),
- Qualitative semi-structured interview material collected in connection with ELO94 (n=42),

- ‘Surveys on Living Conditions’ in 1986/87, 1994/95 from Sweden and Norway; the ‘Danish Health and Morbidity Survey’, by the National Institute of Public Health (1987, 1994),
- The Nordic data bank collated by us from the above Nordic sources and harmonized for comparative purposes (1984/85, 19904/95),
- ‘British General Household Survey’ (1986, 1994) by the Office of National Statistics, obtained from ESRC Data Archive, University of Essex,
- ‘Swedish Level of Living Survey’ (1981, 1991) and SWEOLD (1991) by Stockholm University;
- Data from the EU Working Group on Socioeconomic Inequalities in Health, Department of Public Health, Erasmus University Rotterdam.

Standard statistical techniques appropriate for empirical social research and social epidemiology are applied, including age-standardization, standard morbidity and mortality ratios (SMR), and life tables. Advanced methods are applied in sub-studies, logistic regression analysis and other multivariate techniques. Methods and software suitable for qualitative analysis are applied.
Quantitative and qualitative methodological research examines the measuring of health through interviews or mail surveys to add to our understanding of the validity and reliability of the health measures used.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

The project consists of a large number of sub-studies so the only main results from studies concerning our primary aims are summarized below, that is, those relating to cross-country comparisons, changes over time and explanations of social inequalities in men’s and women’s health.

Finnish-British comparisons over time. We compared health inequalities between Finland and Britain from the 1980s to the 1990s. Contrasting trends were found as health inequalities in Britain widened or remained stable over time, whereas in Finland they narrowed (mostly men) or remained stable (mostly women). These trends are likely to be related to economic recession and high unemployment experienced by Britain in the early 1980s, and Finland in the early 1990s. Furthermore, major differences in social policies and welfare state structure equally likely have helped account for these findings.

Nordic comparisons over time. Comparing Denmark, Finland, Norway and Sweden, Finns still had poorer health than their Nordic counterparts, but the gap had narrowed. This reflects improved circumstances in Finland, i.e. new generations having significantly better living and working conditions throughout their lives. Health inequalities between the four Nordic countries were studied in a ‘natural experimental’ situation from the mid-1980s to the mid-1990s, since Finland and Sweden were hit by a deep economic recession in the early 1990s, but Denmark and Norway were much less affected. First, country profiles were made to examine changes in health inequalities over time against the national background. Secondly, long-term systematic comparisons were made. However, health inequalities remained stable over time in all four countries. Although the causes could not be directly studied, it likely that at least in the short term, the welfare state structures, which were cut but largely remained intact over the recession, helped to provide a buffer against the adverse economic pressures towards widening inequalities.

European comparisons. Broad European comparisons have been made within the ‘EU Working Group on Socioeconomic Inequalities in Health’. Several sub-studies show that the Nordic countries do not necessarily have lesser relative health inequalities than other European countries. This holds true particularly for educational inequalities in perceived health. By income and social class health

inequalities were rather intermediate in the Nordic countries, for a number of potential reasons. One example is the differences in smoking habits, which are very large in the north of Europe, but small, non-existent or even reverse in the south. Thus the north and south are likely to be in different phases of the 'smoking epidemic' and the southern countries may follow the northern ones after with a certain time lag.

Income inequalities. A topical area of research is health inequalities according to income, which we have examined in Finland and compared between Finland and Britain. Health inequalities according to household income can be found among Finnish men as well as women, although these are less pronounced than those according to education. Health inequalities by income are strongly dependent on employment status and other socioeconomic indicators. Nevertheless, income alone explains a great deal even after allowing for other socioeconomic indicators. When, comparing Britain and Finland it was found that inequalities in men's and women's health were largely similar. The gradient was steeper for men than for women and, after allowing for other socioeconomic factors, the gradient flattened considerably particularly among women in both countries.

Gender inequalities. Gender inequalities in health have been studied in Finland and in Britain. The main results challenge the myth that 'women are sicker but men die quicker'. For a number of indicators women show poorer health, often there is some equality found and sometimes men show poorer health. Our results further suggest that men are likely to show poorer health in the more critical health categories, which would be in accordance with men's much higher mortality compared with women. The observed gender differences were difficult to explain by sociodemographic and socioeconomic factors. Comparing gender differences in Britain and Finland confirms that health inequalities between men and women are smaller than thought hitherto, and vary between countries and by age, partly because of the different employment roles of women in the two countries.

Women's health inequalities have been examined further with regard to women's multiple roles as spouse, mother and employee. The multiple burden and multiple attachment hypotheses were tested in Britain and Finland. It was found that, in accordance with the multiple attachment hypothesis, women living in families, having children and being employed were in better health than the un-employed women living in other situations. In terms of health, single mothers in both countries turned out to be a particularly vulnerable group.

Lifecourse and health. Overall health and health inequalities across the age structure were studied and collated into a book on 'Life course and health' (in Finnish). Health inequalities are minimal in youth, increase in early adulthood, peak at mid-life, and decline somewhat towards old age. However, the magnitude of health inequalities is likely to be related to successive cohorts, with the cohort being born before the Second World War having larger health inequalities than those born after. This suggests that early living conditions have a bearing on health and health inequalities, and this can be found throughout the lifecourse. Looking particularly at post-war baby boom generation, who were approaching their fifties when studied, it is evident that this very large birth cohort has fairly good health. This suggests these people will be healthy pensioners, having a longer 'third life' than their predecessors.

Obesity. Obesity and weight maintenance were studied using quantitative and qualitative methodology. Gender-specific differences exist in weight-related problems, and excess body weight was associated with social and economic disadvantages, particularly among women. Weight loss maintenance required a constant battle against weight regain, and sustained weight loss was rare. For women, low initial wellbeing and health-compromizing behaviour that improved after weight loss predicted weight-loss maintenance. For men, low stress, medical problems and health-related

behaviour were associated with sustained weight loss. Permanent behavioural changes were required for sustaining weight loss, and improvements in the quality of life were needed to compensate for sacrifices required by weight-loss maintenance. Since adequate improvements in wellbeing and quality of life were seldom experienced after weight loss, regain was understandable.

Body-height. Environmental and genetic factors associated with body-height were studied. Body-height was found to be a highly genetic trait, but there was also a clear environmental component. Family background as well as other socio-environmental factors were associated with body-height. Socio-economic body-height differences were greater in Finland than in Sweden. This is likely to be due to differences in the standard of living particularly in earlier cohorts. Twin studies showed that the association between body-height and education was strongly related to family background, for example. Moreover, body-height was found to be associated with health in adulthood. Childhood living conditions only partly explained this association. The results suggest that body-height is a useful indicator of childhood living conditions for studies in epidemiology and medical sociology.

Health and death. Health and death have been studied by analysing health expectancy, a novel measure combining data on morbidity as well as mortality. These studies show that a considerable part of life is lived with disability, for women about 25 years and for men about 20 years. Although total life expectancy is markedly longer for women than men, women suffer disproportionately more of their life from disability. Large socioeconomic differences can be found for both genders in their health expectancy, i.e. life expectancy lived without disability. Changes over time in health expectancy suggest that for more severe health problems particularly the proportion of time lived with disability is likely be shorter as life expectancy increases. This supports the 'compression of morbidity' hypothesis rather than the 'expansion of morbidity' hypothesis.

Methodological studies. Methodological studies relating to survey measurement of health were made by combining qualitative and quantitative methods. It was found that perceived health and limiting long-standing illness indicators are reliable measures of health, and that both basically reflect people's ill-health. Limiting long-standing illness is close to the medical model of ill-health and broadly indicates chronic illnesses. The single item perceived health indicator forms a broad continuum of overall health. People perceive their health through information about ill-health and its severity. They use their peers and their own previous health as references.

Reducing health inequalities. Two projects have examined measures to reduce inequalities, one in Finland and one within the EU. Particular interest has been focused on the 'natural experiment' of the early 1990s in Finland, and meta-analysis of Finnish studies aimed at reducing health inequalities. The welfare state structures have been found to be important in preventing health inequalities. However, sectoral or local level health policies only seldom assume the task of reducing health inequalities, but instead aim at a general improvement of health using universal health and welfare policies.

In another sub-project the 'EU Working Group on Socioeconomic Inequalities in Health' has examined interventions and policies to reduce health inequalities in European countries. This is an urgent task since most European countries show widening health inequalities. Some European countries have special programmes to reduce health inequalities, while others have developed research programmes relating to health inequalities. Smaller scale interventions have been able to reduce health inequalities in special groups. National level programmes geared towards reducing health inequalities have not been implemented, but many national health promotion programmes do aim at reducing health inequalities as well. On the one hand, initiatives for reducing inequalities require more back-up research to explain health inequalities and to target areas where action is

needed. On the other hand, better programmes aimed at improving the overall level of health and reducing existing health inequalities at the grass-root level should be developed.

Health inequalities among employees. A new sub-project (Helsinki Health Study) was set up during the course of the project to focus on health inequalities among employees. This study was planned in conjunction with the Whitehall study, and compares Finnish and British employees. Data collection was started in 1999 and preliminary results are now available. These suggest that the overall health of men and women in the working population is clearly better than in the population as a whole. Working capacity is very close to the average level among Finnish employees. Large differences in health, performance and sickness absence between work places and between employment grades can be found. Sickness absence patterns point to differences between permanent and temporary employees. These patterns emerge in complex interplay with changing employment conditions arising from the recession of the early 1990s and the economic boom of the late 1990s.

4. CONCLUSIONS – REALIZATION OF AIMS AND FUTURE PERSPECTIVES

This project was based on a large number sub-studies focusing on strategic areas of research on health inequalities and the reasons behind them. A multidisciplinary, medically and sociologically oriented research team has been responsible for the research. Most sub-studies have been carried out through collaboration within the group, and with other national and international partners.

Realization of aims. In the course of the three-year project 55 peer-reviewed reports and 50 additional reports have been prepared. The published reports cover practically all of the 42 sub-studies mentioned in the original research proposal (May 12, 1997). Two EU proposals in which this project was intended to be a national partner were not funded and therefore remain idle. A few smaller sub-projects have not yet been carried out, but are still on the agenda. The project has been extended to new research areas beyond what was included in the original proposal. The most important of these is the Helsinki Health Study focusing on health inequalities and their causes among employees. This study uses multiple data sources, and has been made in close collaboration with the Whitehall Study, UCL. Also research collaboration within the 'EU Working Group on Socioeconomic Inequalities in Health' has been extended to include ageing people as well.

In conclusion, the project has been successfully carried out following its original plan, and covers the original proposal well. The reports deal particularly well with the main areas included in the aims of the project, that is, changes over time, and explanations and comparisons of health inequalities among men and women across the age structure. Four doctoral theses have been completed during the three-year period (Roos, Manderbacka, Sarlio-Lähteenkorva, Silventoinen). Manderbacka was awarded the Väinö Kannisto Dissertation Award in population research, and Sarlio-Lähteenkorva received an international award for the best dissertation in Quality of Life Studies.

Main breakthrough. The project's main breakthrough has been with the comparative studies of health inequalities over time, since such studies have not been made previously. Additionally, in many subareas of the research innovative work has been done. Two major studies have combined quantitative and qualitative research methods. This has added methodologically to previous research but has also broadened our understanding of the measurement of health, the reasons for obesity and weight control. The research on gender differences and the associations of employment and family roles with women's health belong to a new stream of research contributing to a deeper

understanding of gender differences, and their determinants, in health. Another area of new research relates to examining methods, interventions and policies to reduce health inequalities.

Assessment of funding and other resources. This project could not have been accomplished without the support received from the Academy of Finland under the TERO programme. Some smaller sub-projects could have been carried out, but the main tasks would have remained incomplete. Even the four doctoral theses would have been seriously hindered.

Finally, the role of the research team has to be mentioned. The multidisciplinary team has been a major resource in realizing the aims of this research. The group encompassed the required key disciplines (medical sociology, social policy, epidemiology, nutritional science, population research, public health). Most of the work has been based on collaboration within the group between senior and junior scholars originating from various disciplines, even using divergent methodological approaches. This has worked extremely well, producing good results and adding synergy to the research. Similarly, collaboration with national and international partners has been smooth, successful and productive.

Future perspectives. Health inequalities research is currently a fairly strong research area internationally. However, it is much stronger in some countries than in others. Finland is one of those countries which have been able to contribute to the international research community. Considerable national and international networking has been strengthened due to the research programme. Nevertheless the future of this research area, which has now matured in Finland, is largely unclear since the work is fully dependent on a small number of research groups based on grants, contributions and short contracts.

Future research needs to continue to seek further explanations for men's and women's health inequalities. Longer periods to investigate health changes over time are needed as well as follow-up studies. Also, further international comparisons are needed. Future changes in social structures, labour markets and working as well domestic conditions as determinants have been studied insufficiently so far. Multidisciplinary and multimethod approaches and multiple data sources, including self-reports, register data and health examinations, need to combine social, psychosocial and biological factors in order to understand how health inequalities are produced. There are currently a number of new theoretical approaches concerning the development of health inequalities in late-modern societies.

Short-term contracts are a major funding problem. Starting a project, collecting material, training qualified researchers, and creating a working research team and networking takes up a full three-year funding period. However, future funding remains open. Funding periods can well be three years, but successful teams need for longer overall periods. For example, two-phase programmes could be introduced. Partial funding is usually problematic and may hold a project back. Project heads should be able to participate in the research as much as possible. However, funding for project heads is very limited. Senior scientists' grants are good, but even these last for one year only.

5. NATIONAL AND INTERNATIONAL COLLABORATION

This project has been very much based on collaboration within the group, and between national and international partners. The strong emphasis on collaboration derives from a number of sources: the group is multidisciplinary, the data used has mostly been gathered by other bodies, and a primary aim has been international comparisons. However, the main reason has been a deliberate strategy of

promoting scientific collaboration, because this has been seen as particularly important in the area and with regard to the aims of the project. Part of the collaboration has developed into long-lasting research programmes between the scholars, groups and institutes mentioned below.

National collaboration. The team has worked in collaboration with the Population Research Unit in the Department of Sociology at the University of Helsinki on socioeconomic differences in health expectancy (the Helsinki Health Study) and on post-graduate training (Prof. Tapani Valkonen).
- Research collaboration on socioeconomic inequalities in health behaviour, reducing health inequalities, health and death, and major diseases has taken place with several scholars at the National Public Health Institute (Dr. Seppo Koskinen, Dr. Ritva Prättälä, Prof. Pekka Puska, Dr. Antti Uutela, Prof. Arpo Aromaa, Docent Jarmo Virtamo).
- Research collaboration on health and socioeconomic differences in body-weight and height has taken place with the Finntwin Study, University of Helsinki (Prof. Jaakko Kaprio).
- Research collaboration on early determinants of health, reducing health inequalities, and methodological aspects took place with several scholars at the National Research and Development Centre for Welfare and Health - Stakes (Prof. Elina Hemminki, Dr. Mika Gissler, Dr. Ilmo Keskimäki, Dr. Kristiina Manderbacka).
- Research collaboration on the determinants of obesity and weight loss has taken place with Helsinki University Central Hospital (Prof. Aila Rissanen).
- Research collaboration on socioeconomic differences in health and ageing has taken place with scholars at the Social Insurance Institute (Hannu Tuomikoski, MSoc.Sc, Pentti Takala, LicSocSc).
- Research collaboration on early determinants of health and health inequalities has taken place with the University of Oulu, Department Public Health (Prof. Marjo-Riitta Järvelin).
- Research collaboration on the production of socioeconomic inequalities in health among employees has taken place with scholars at the Institute of Occupational Health (Dr. Päivi Leino-Arjas, Dr. Jussi Vahtera, Dr. Mika Kivimäki).
- Additionally the project is associated with three graduate schools funded by the Academy of Finland, i.e. 'Population Health and Living Conditions' (SOVAKO), 'Doctoral Programs in Public Health' and 'Nationwide Graduate School for Social Work', where seniors are included in project management and in supervision of doctoral students.

British collaboration
- Collaboration with Professor Sara Arber, Head of the Department of Sociology, University of Surrey, has been particularly productive and included several studies comparing health inequalities in the British and Finnish welfare states. A major interest has been in the interplay between gender and socioeconomic status in the production of health inequalities. More recently changes over time in health inequalities have also been studied.
- Within the Helsinki Health Study the project collaborates with the Whitehall Study at the International Centre for Health and Society, Department of Epidemiology and Public Health, UCL, UK, where co-investigators include Professor Sir Michael Marmot (head of the Whitehall Study) and Dr. Pekka Martikainen. This collaboration has contributed to the scientific framework of the Helsinki Health Study and has provided comparative data.
- Dr. Chris Power, the Institute of Child Health, UCL, and Prof. Michael Wadsworth, Department of Epidemiology and Public Health, UCL, are research collaboration partners in the study of early determinants of health.
- The MRC Medical Sociology Unit (currently Social and Public Health Sciences Unit) University of Glasgow, headed by Prof. Sally Macintyre, is involved in joint Finnish-Scottish research on young people's health inequalities (Dr. Pat West) as well as joint international workshops.

Nordic collaboration

- Nordic collaboration has taken place mainly within an inter-Nordic research group examining the magnitude and pattern of health inequalities over time in four Nordic countries. The group includes: *Eero Lahelma*, Professor, Head of the project; *Eva Roos*, PhD, Coordinator of the project; *Katariina Kivelä*, MSc, Researcher, University of Helsinki, Department of Public Health; *Ossi Rahkonen*, PhD, Docent, Senior Researcher, University of Helsinki, Department of Social Policy; *Kristiina Manderbacka*, PhD, Stakes, Helsinki; *Inge Lissau*, PhD, Senior Researcher; *Niels Kristian Rasmussen*, MSc, Research Director, Danish National Institute of Public Health, Copenhagen; *Espen Dahl*, PhD, Research Director, FAFO Institute for Applied Social Science, Oslo; *Jon Ivar Elstad*, PhD, Research Director, NOVA Norwegian Social Research, Oslo; *Olle Lundberg*, PhD, Docent, Swedish Institute for Social Research, Stockholm University; *Finn Diderichsen*, Professor; *Monica Åberg Yngwe*, MSc, MPH, Researcher, Department of Public Health, Karolinska Institute, Stockholm.
- Another comparative project on Nordic welfare states in the 1990s, headed by Prof. Hannu Uusitalo (Stakes), has included Eero Lahelma as a partner examining health inequalities in the Nordic countries within the European context.
- Further Nordic collaboration has taken place with Dr. Olle Lundberg (Stockholm University, SOFI) and included comparative studies on health related inequalities between Finland and Sweden.

European collaboration

- European collaboration has been part of the work of the European Working Group on Socio-economic Inequalities in Health, headed by Prof. J P Mackenbach, Erasmus University, Rotterdam. Sub-projects have focussed on:

a) Monitoring changes over time in socioeconomic differences in health in the European Union.
b) Interventions and policies to reduce health inequalities.
c) Socio-economic differences in healthy ageing.

- the European Science Foundation (ESF) project 'Social Variations in Health Expectancy in Europe' headed by Prof. J Siegrist, University of Düsseldorf, is a further European and transatlantic collaborative project on health inequalities. The project takes place in separate streams dealing with macrosocial determinants, life-course and psycho-social factors in the development of health inequalities.

Further international collaboration

- Comparisons of health behaviour among Finnish and Swiss young people have taken place with Prof. Thomas Abel, head of the Unit for Health Research, University of Bern, Switzerland.
- Research collaboration on the health and wellbeing of families has taken place with Dr. Jukka Savolainen, Western Washington University, USA.

6. PUBLICATIONS

	Number
Articles in international refereed publications = RI	55
Articles in Finnish refereed publications = RF	
Reports and articles in other scientific publications REP	
Books and book chapters BOOK	
Other publications, popular articles OTHER	
Submitted and manuscripts MANU	
Total number of publications	105

1998

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HEALTH BEHAVIOUR, LIFESTYLES, AND HEALTH: SOCIOECONOMIC AND OTHER ASSOCIATIONS

Terveyskäyttäytyminen ja elämäntyyli, niiden liittymäkohdat ja kehitys sekä eräät seuraukset työikäisillä Suomessa

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Key words: lifestyle, socio-economic, unemployment, psychosocial, cancer detection

Tiivistelmä: Hankkeessa tarkasteltiin aikuisväestöön kuuluvien sosiodemografisten väestöryhmien terveyskäyttäytymistä, niiden liittymistä elämäntyyleiksi, näiden kehitystä sekä elämäntyylien ja niihin liittyvien psykososiaalisten tekijöiden kehitystä ja eräitä seurauksia lamanjälkeisessä Suomessa. Tutkimuksessa käytettävät pääaineistot olivat Aikuisväestön terveyskäyttäytymistutkimusaineisto vuodesta 1978 (osatutkimukset 1 ja 2), sen kahden keruuvuoden 7-vuotisseuranta-aineisto vuodelta 1997 (osatutkimus 1) sekä Kansanterveyslaitoksen rintasyöpäseulonnan kyselytutkimuksen aineisto 1980-90-lukujen vaihteesta (osatutkimus 3). Osatutkimuksessa 1 saatujen tulosten mukaan 1990-luvun alun lamatyöttömyys näytti jossain määrin liittyvän elintapamuutoksiin. Työttömät aloittivat hieman työssä pysyneitä useammin tupakoinnin ja pystyivät näit harvemmin lopettamaan. Työttömät naiset lisäsivät alkoholinkäyttöään työllisiä vähemmän. Työttömät miehet lisäsivät työllisiä useammin vapaa-ajan liikuntaa. Osatutkimuksen 2 mukaan yksittäiset epäterveelliset elintavat ovat ominaisia vähän koulutetuille. Erityisesti tupakoinnin sosioekonomiset erot ovat lisääntyneet, ruokatottumusten taas pienentyneet. Tupakointi on myös juuri se terveyskäyttäytymisen muoto, johon muutkin epäterveelliset elintavat liittyvät. Elintapojen kasautuminen tupakoinnin yhteyteen ei ole voimakasta, samoin myös epäterveellisten elintapojen kasaantumien sosioekonominen riippuvuus on lievä. Osatutkimuksessa 3 suoritettiin jatkotutkimusta varten tärkeä aineistojen tallennus ja muokkaus naisten rintasyövän ilmaantuvuusanalyysejä varten, samoin siinä hankittiin rekisteritiedot 90-luvun aikana kertyneistä syövistä. Naisten rintasyövän varhaistoteamisessa havaittiin sellaisia sosioekonomisia eroja, joita seulonnat tasoittavat.

Tulokset osoittavat Suomen terveyspolitiikassa olevan sekä menestys- että ongelmatarinoita, kun terveyden eriarvoisuutta tarkastellaan. Ongelmat liittyvät tupakointitottumukseen sekä talouselämän toimintahäiriöihin. Näihin puuttuminen edellyttää sekä kansainvälistä terveyspoliittista yhteistoimintaa että talouden häiriöiden parempaa säätelyä.

EXTENDED ABSTRACT

1. INTRODUCTION – aims and starting points

The core of this research group is in the senior researchers (Uutela, Prättälä, A.R. Aro) of the Health Education Research Unit (established in March 1994, since January 1, 2001 Health Promotion Research Unit) of the National Public Health Institute. The availability of two datasets gathered for various health-monitoring purposes by the National Public Health Institute has been of vital importance to the success of this project. The datasets employed are the Adult Health Behaviour Monitoring Survey Dataset (Substudies 1 and 2) that up to now includes about 90,000 men and women, and the mammography screening data of nearly 20,000 women 48-50 years of age (Substudy 3). These datasets have been added with some follow-up data permitting, e.g., a 7-8-year follow-up of adult Finns over the period of serious economic recession during the early 1990s (Substudy 1) and the follow-up of cancer incidence in women (Substudy 3). Important qualitative data have been gathered for Substudy 2. Three quite separate lines of research have been maintained – despite the fact that only about 60% of those resources applied for in the original grant proposal were allocated to the project. Cut resources have led to a slowing down of the research project.

The research team was aiming at examining the development, sociodemographic associations and consequences of Finnish adult health behaviour and lifestyle. We also wanted to uncover some of the possible mechanisms and causes for inequalities in health. To achieve this we examined the impact of unemployment during the economic recession of the early 1990s on the lifestyle and wellbeing of adults. We also determined the prevalence and socioeconomic associations of lifestyles during recent decades. Finally, we aimed at determining the impact of lifestyles and psychosocial factors on breast cancer incidence and mortality among middle-aged women.

2. DATA SOURCES AND METHODS

Substudy 1. This substudy involved the original data from the Adult Health Behaviour Monitoring Study 1989/90 (n=7,689) follow-up data of the same subjects in 1997 (n=5,473). The variables probed included socioeconomic background, health status, use of health services, lifestyles, life changes (including those related to employment status), their impact, and psychosocial dimensions characterizing quality of life and associated with health changes (personal and social resources). The initial study phases included only those subjects employed originally, but the study process also includes those that were unemployed initially and used logistics regression models to control other possible causes (besides unemployment) in the analyses.

Substudy 2. Two types of data were used: mailed questionnaires directed to a random sample of the Finnish adult population (annually since 1978) and small-scale qualitative interviews among two groups of men, carpenters and construction engineers. In the quantitative studies standard statistical techniques were used to analyse socioeconomic variation and associations between food habits, smoking, alcohol consumption, and physical activity. In some analyses body mass index was also included. The qualitative analyses dealt with health behaviour, attitudes, and values related to healthy lifestyle and working and living conditions of the two groups of men. In the analyses on

dietary changes, policy documents, reports on interventions and previous studies were used as study material.

Substudy 3. Data in the screening evaluation study were collected from 18,604 women born in the years 1942-1944. Response rate in the baseline questionnaire was 61.1% (n=11,370). Information on new cases with cancer diagnosis in the data during the follow-up (n=681) was acquired from the Finnish Cancer Registry. Data on women's early detection behaviour were taken from the 1997 and 1998 Health Behaviour Monitoring Studies, with 3,744 women (15-64 years of age) in the analysis. Measures were validated, standardized scales for psychosocial factors and single items for socioeconomic factors and health behaviour.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

Substudy 1. We found that at least half of those employed originally had experienced at least one short episode (minimum 3 months) of unemployment during the 7-8-year period of follow-up. In addition, almost half of the same respondents revealed that someone in their household had been unemployed. This means that the data we employ offers excellent opportunities for the study of mass unemployment in contemporary society. We used multivariate models to control the impact of age and education (as important a causal variable as they are) in the initial analyses. The models showed that lifestyle is a quite stable phenomenon that is affected by labour market status. Those initially employed who experienced unemployment during the follow-up initiated smoking more often, and could quit less often in comparison with those who remained employed; however, this difference was not statistically significant. Women with at least one period of unemployment increased their alcohol consumption less than corresponding women who remained employed. Among sedentary males with at least one period of unemployment, leisure time physical exercise increased more often than among those who were employed all the time. The analyses are being examined in depth at present.

Substudy 2. Only a few persons showed all four unhealthy behavioural activities. Nevertheless, the occurrence of all four activities was more common than expected under the assumption of independence in the behaviour. Smoking had the strongest and most consistent associations with other unhealthy activities. The consumption of white bread was associated with unhealthy behaviour, whereas that of rye bread was not. Occupational class played a role among carpenters and engineers in the construction of masculinity in food-related contexts. The individual health behaviour varied by educational level, but the associations between behaviour did not follow a socioeconomic or gender gradient. Accumulation of the four unhealthy activities was relatively weak and did not vary by gender or socioeconomic status as expected. This suggests that people are not very consistent in their health behaviour. On the other hand, the prevalence of each individual unhealthy behaviour was higher in the lower educational groups; in smoking the differences even increased. Socioeconomic differences in health behavioural activity are in line with differences in mortality, such that health behaviour may not be omitted from programmes aiming to tackle health inequalities.

Substudy 3. The central end points used to predict the incidence could not yet be studied (due to insufficient number of registered cancer cases). However, they will be analysed in 2001. Data entering the massive screening evaluation dataset required 8 working months (only data from the subgroups needed for screening evaluation had been previously entered) and data management several additional months. The baseline data were analysed (and published) from the perspective of socioeconomic and psychosocial factors to build the knowledge base for the incidence study. Depression, a factor hypothesized to be a predictor of breast cancer, was related to socioeconomic

factors, but to a lesser extent than to physical health and social support. This finding calls for strengthening social support networks, especially among those who are not healthy. Mammography screening was shown to attract middle-class women, who had not received mammogram on their own recently. Socioeconomic differences were also found in other behaviour detected, with organised screening also providing opportunities for early detection for those who do not have the means to acquire these services independently (manuscript in progress). Forthcoming incidence data and results will bring valuable information to this area in which only a few studies have included prospective design and comprehensive predictors.

4. CONCLUSIONS – realization of aims and future perspectives

Substudy 1. The initial results of this project suggest that, even in a welfare society, the fact of being laid off may affect lifestyle. The nature of the impact will be studied further with resources from a private research fund However, it appears that this may not always be what is expected: confirmed smoking can be a bigger problem to the unemployed while alcohol is not. And, even though the unemployed may increase their leisure exercise we cannot be sure that this compensates for lack of work-related energy consumption.

Substudy 2. The tasks related to the application of lifestyle perspective and analyses of educational variation were accomplished. Most of the qualitative interviews were also carried out. The grant from the DPPH Graduate School increased the resources of the project remarkably. On the other hand, the grant received from the Academy was smaller than applied for whereby analyses based on socio-economic variables other than educational level had to be left out from this project. The qualitative part of the project was delayed because the key researcher moved to Norway during the project. The qualitative part of the study will continue in the spring of 2001. In the future more analyses on the combined effects of several socioeconomic factors will be needed.

Substudy 3. The project was successful in the technical and background work aspects, but to have enough cancer cases for sufficient predictive power, the incidence analysis was postponed and will be carried out in 2001. The project enabled the massive data base covering all the cohorts. In the future the same dataset will be valuable in studying socioeconomic and psychosocial factors in the incidence of other female cancers, delivery of care and survival in all female cancers and their control in Finland. More funding will be needed for this work, however.

5. NATIONAL AND INTERNATIONAL COOPERATION

Substudy 1. This substudy was mainly based on the initiative of the National Public Health researchers; however, two senior researchers Riitta Luoto and Kari Poikolainen, moved to work at the University of Tampere Department of Health Science and the A-clinic Foundation, respectively. Some cooperation was maintained with the University of Turku Department of Social Policy (Prof. Veli-Matti Ritakallio), and an important new contact was formed at the Helsinki School of Medicine Department of General Practice (Prof. Pertti Kekki, Dr. Marja Sihvonen).

Substudy 2. The programme contributed to maintenance of previous contacts between Finnish researchers (University of Helsinki, Professor Eero Lahelma) and promoted new contacts both in Finland (STAKES, Dr Ilmo Keskimäki) and abroad (Eramus University, Rotterdam, Prof. Mackenbach). Collaboration was initiated both within and outside the TERO programme. The contact network existed outside the TERO programme, but the programme provided economic resources for collaborative studies.

Substudy 1. Collaboration was strengthened both nationally (Profs. Lyly Teppo and Matti Hakama, Finnish Cancer Foundation) and internationally. The latter included Erasmus University (Prof. Harry deKoning) and Netherlands Health Institute, Rotterdam, The Netherlands, as well as with the Department of Epidemiology and Public Health at the University College of London, UK (Prof. Stephen Sutton).

6. PUBLICATIONS

Substudy 1.

1. Articles in international refereed publications

Luoto R, Poikolainen K, Uutela A. Unemployment, sociodemographic background and consumption of alcohol prior and during economic recession in Finland. Int J Epid 1998;27:623-29.

Luoto R, Prättälä R, Uutela A, Puska P. Impact of unhealthy behaviors on cardiovascular mortality in Finland 19781993. Prev Med 1998;27:93-100.

Luoto R, Uutela A, Puska P. Occasional smoking increased total cardiovascular mortality among men. Nicotine and Tobacco Research 2000;2:133-9.

Submitted:

Laaksonen M, Luoto R, Helakorpi S, Uutela A. Associations between health-related behaviours: a seven year follow-up of adults. Int J Epid (submitted) 2000.

2. Articles in Finnish refereed publications

Luoto R, Helakorpi S, Uutela A. Työmarkkina-asema ja elintapojen pysyvyys. Sosiaalilääk Aikak 1999;36:254-261.

3. Reports and articles in other scientific publications

Luoto R, Helakorpi S, Uutela A. Lama ja terveys. Aikuisväestön terveyskäyttäytyminen (AVTK)- aineiston 7-vuotisseuranta 1989/90-1997. Tutkimuksen toteutus ja perustaulukot. Kansanterveyslaitoksen julkaisuja, B 10/1999.

In preparation:

Nyman J: Employment status and wellbeing. Doctoral Dissertation in preparation. Expected to be finished by the end of 2001.

4. Books and books chapters

5. Other publications, popular articles

Luoto R. Lama tervehdytti elintapoja. Tiede 2000 1999;7:24-25.

Luoto R, Helakorpi S, Uutela A. Työttömyys paransi joillakin elintapoja. Kansanterveys-lehti 1999;10:11.

Substudy 2.

1. Articles in international refereed publications

Prättälä R, Laaksonen M, Rahkonen O. Smoking and unhealthy food habits. How stable is the association? Eur J Pub Health 1998:8:28-33.

Laaksonen M, Rahkonen O, Prättälä R. Smoking status and relative weight by educational level in Finland, 1978-1995. Prev Med 1998:27:431-437.

Prättälä R, Helasoja V, Kasmel A, Klumbiene J, Lipand A, Petkeviciene J. Measuring disparities in selected food habits in Estonia, Finland and Lithuania. In Köhler B, Dowler L & al. (eds.). Public Health and Nutrition. The Challenge. p. 116-126. Ed. Sigma. Berlin. 1999.

Irala-Estévez J. Groth M, Johansson L, Oltersdorf U, Prättälä R, Martínez-González MA. A systematic review of socio-economic differences in food habits in Europe: consumption of fruit and vegetables. European Journal of Clinical Nutrition 2000: 54: 706-714.

Prättälä R, Helasoja V and Mykkänen H. The consumption of rye bread and white bread as dimensions of health lifestyles in Finland. In press. Public Health Nutrition.

Laaksonen M, Prättälä R, Karisto A. Patterns of unhealthy behaviours in Finland. In press. Accepted for publication in European Journal of Public Health 2000.

Roos G, Johansson L, Kasmel A, Klumbiene J, Prättälä R. Disparities in vegetable and fruit consumption. European cases from the North to the South. In press. Public Health Nutrition.

Submitted:

Laaksonen M, Lahelma E, Prättälä R. Associations between health-related behaviours: sociodemographic variation in Finland. Health Education Research.

Laaksonen M, Luoto R, Helakorpi S, Uutela A. A seven-year follow-up of associations between health-related behaviours. Prev. Med.

Lopez-Azpiazu I, Johansson L, Petkeviciene J, Prättälä R, Martínéz-González M. Disparities in food habits in Europe: systematic review of differences in the intake of fat. Am J Clin Nutr.

Roos G, Prättälä R, Koski K. Food and constructions of masculinities: interviews with Finnish carpenters and engineers. Appetite.

2. Articles in Finnish refereed publications

Prättälä R, Forssas E, Koskinen S, Sihto M. Eriarvoisuus ja terveyden edistäminen – suomalaisten terveyskäyttäytymisinterventioiden arviointia. Sosiaalilääketieteellinen Aikakauslehti 36:3:296-300. 1999.

3. Reports and articles in other scientific publications

Prättälä R. Puun ja kuoren välissä. Metsurit ja kirvesmiehet puhuvat terveellisistä elintavoista. LEL Työeläkekassan julkaisuja 32:1997. Helsinki. 1998 (Between a rock and a hard place. Loggers and carpenters talk on healthy lifestyles).

Prättälä R, Forssas E, Koskinen S, Sihto M. Lifestyle interventions in Finland – Can they reduce inequalities in health? In Mackenbach J, Droomers M (eds). Interventions and policies to reduce socio-economic inequalities in health. Erasmus University Rotterdam. 1999

Roos G, Prättälä R and FAIR-97-3096 Disparities Group. Disparities in Food Habits. Review of Research in 15 European countries. Publications of the National Public Health Institute. B24/1999

Manderbacka K, Forssas E, Keskimäki I, Koskinen S, Lahelma E, Prättälä R, Sihto M. Sosioekonomisten terveyserojen supistaminen – suomalaisen tutkimuksen painopistealueet 1970-1998. STAKES. Aiheita 9/2000.

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4. Books and book chapters

Prättälä R, Roos G, Sihto M. Food and nutrition policies. In Mackenbach J, deBacker M (eds.) Interventions and policies to reduce socioeconomic inequalities in health. Routledge. 2001.

Prättälä R, Roos E, Roos G. Ravitsemuspolitiikka. Kirjassa ”Kohti Terveyden tasa-arvoa. Toimittajat Ilmo Keskimäki, Ilka Kangas ym.(Nutrition policies. In Keskimäki I and Kangas I, eds. Towards Equity in Health.).

5. Other publications

Koski, K. Mies ja ruoka. Ylempien toimihenkilömiesten käsityksiä. Pro gradu –tutkielma. Kliinisen ravitsemustieteen laitos. Kuopion yliopisto. 2000. 99 s. (Men and food. Ideas of white-collar workers. Master's thesis. University of Kuopio).

Substudy 3.

1. International refereed publications

Aro AR, deKoning HJ, Absetz P, Schreck M. Psychosocial predictors of first attendance for organized mammography screening. Journal of Medical Screening 1999;6:82-88.

Aro AR, Nyberg N, Absetz P, Henriksson M, Lönnqvist J. Depressive symptoms in middle-aged women are more strongly associated with physical health and social support than with socioeconomic factors. Nordic Journal of Psychiatry (in press)

Manuscripts in progress:

Aro AR, de Koning HJ, Absetz P, Schreck M, Henriksson M, Pukkala E, Anttila A. Socioeconomic and psychosocial predictors of breast cancer incidence.

Absetz P, Helakorpi S, Aro AR, Uutela A. Rinta- ja kohdunkaulansyövän varhaistoteamisen käytännöt Suomessa.

UNEMPLOYMENT, HOUSEHOLD, GENDER AND GENERATION

Työttömyys, kotitalous, sukupuolet ja sukupolvet

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Key words: unemployment, household, gender, generation, register-based panel data

Tiivistelmä: Tutkimuksen päätavoitteena on analysoida työttömyyden kasautumista erilaisissa kotitalouksissa. Tutkimuksessa on korostunut työttömyyden kytkeytyminen kotitalouteen sekä pitkittäistarkastelu, jotka ovat aiemmassa tutkimuksessa jääneet vähemmälle huomiolle. Keskeisiä tutkimuskysymyksiä ovat olleet: (1) Missä määrin työttömyys vaihtelee erilaisissa kotitaloustyypeissä? (2) Miten puolisoiden työmarkkina-asemat liittyvät toisiinsa kahden puolison kotitalouksissa? Miten miehen työttömyys vaikuttaa naisen työmarkkina-asemaan; miten naisen työttömyys vaikuttaa miehen työmarkkina-asemaan; millaisissa kotitalouksissa molemmat puolisot ovat työttömiä? (3) Periytyykö työttömyys: miten vanhempien työttömyys vaikuttaa lapsen myöhempään työuuraan?

Tutkimusaineistoina ovat olleet ensinnäkin Tilastokeskuksen väestölaskennan kotitalouspohjainen pitkittäis aineisto (1970-95; n=600,000); toisena aineistona on käytetty työvoimatutkimuksen kotitalouspohjaista vuosihaastattelua (1995; n=18,675). Aineistojen avulla on siten ollut mahdollista tarkastella työttömyyden ja kotitalouden suhdetta sekä ajallisia muutoksia.

Keskeisiä tuloksia: Ensinnäkin työttömyys vaihtelee erilaisissa kotitaloustyypeissä. Keskeinen tulos on, että miehillä työttömyyden yhteys perheasemaan on huomattavasti selvempi kuin naisilla: miesten työttömyys on selvästi yleisintä perheettömien keskuudessa: ilman puolisoa asuvien miesten työttömyysriski on huomattavan suuri naisiin verrattuna.

Toiseksi, kahden puolison kotitalouksissa puolisoiden työmarkkina-asemien välillä on selvä yhteys: työttömyys kasautuu samoihin kotitalouksiin. Työttömyyden kasautumista on pyritty selittämään aluksi ei-kausaalisilla tekijöillä kuten puolison valintahypotessi (ikä, koulutus) ja jaettujen rajoitusten hypoteesi (paikallinen työttömyysaste). Tulosten mukaan näiden vakiointi ei poista työttömyyden kasautumista eli taustalla on myös kausaaliseksi tulkittavia prosesseja.

Kolmanneksi vanhempien työttömyys vaikuttaa nuoren työttömyyteen – työttömyys periytyy. Lisäksi Ruotsiin verrattuna työttömyyden periytyminen on voimakkaampaa Suomessa.

EXTENDED ABSTRACT

1. INTRODUCTION – aims and starting points

Unemployment has become the central social problem of Finnish society in the 1990s: it is the most important factor behind welfare gaps and differences. Unemployment has, of course, already been a major problem earlier. The new features in unemployment in the 1990s are its mass scale,

continuity and expansion of long-term unemployment. The are also some hints of the concentration of unemployment in certain households, and fears that long-term unemployment will have negative intergenerational effects.

The aim here is to analyse the concentration and effects of unemployment in different households, including intergenerational consequences. The study approach emphasizes the relationship between unemployment and the household, and changes over time, which have not been the central problems in previous unemployment research. The questions asked are:

(1) To what extent is unemployment concentrated in different types of households?
(2) Is there an interaction between spouses' labour market status in dual-adult households? How does the unemployment of the husband affect the labour market situation of the wife; how does the unemployment of the wife affect the labour market situation of the husband? In what kind of households are both spouses unemployed?
(3) Does unemployment have intergenerational effects? Does the unemployment of parents affect the work career of their children?
(4) How does the early unemployment experience of young workers affect their later work career?
(5) Who among the unemployed get the jobs and what type of job do they get?
(6) To what extent do the perceived consequences of unemployment vary in different households?

2. DATA SOURCES AND METHODS

Analysis was based on representative secondary data from Statistics Finland: first, a panel and household data from the Finnish Census (1970-95; n=600,000) complemented by follow-up data based on Finnish employment and pension registers; and second, household data from an annual labour force survey (1995, n=18,675). The main methods used have been logistic regression and logit models.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

(1) To what extent is unemployment concentrated in different types of households?

The extent of unemployment varies in different household types. The main finding is that among men the relationships between unemployment and household type are more obvious compared with women. The most obvious difference between genders concerns single and divorced men and women: among unmarried and divorced women unemployment is *not* exceptionally common, but among men these groups have relatively very high unemployment risk. Couples with children are less likely to suffer from unemployment than others. Prolonged unemployment is most typical among the divorced.

(2) Is there an interaction between spouses' labour market status in dual-earner households?

The findings confirm that the results from other countries concerning the household-level polarization of employment are also valid in Finland. A person's probability of being unemployed is considerably higher if his/her spouse has been unemployed. In the 1990 sample unemployment homogamy was very strong even if age, education and local unemployment rate were controlled. In later samples (1993, 1996), which represent dramatically different economic situations with extremely high unemployment, the homogamous trend in unemployment is markedly weaker.

Although the variables in the regression models (education, age and local unemployment rate) have distinct homogamous tendencies themselves, and furthermore are strong predictors for unemployment experiences, they still do not explain much of the household-level concentration of unemployment. Thus, it cannot be confirmed that unemployment homogamy would be just a by-product of marriage market processes or shared restrictions – there appears to be other processes causing unemployment homogamy.

(3) Does unemployment have intergenerational effects? Does the unemployment of parents affect the work career of their children?

Finnish youth lives in a contradictory reality. The media especially tends to emphasize magnificent success stories about young people becoming employed and getting rich even before graduating. But, as a whole, the social risks have become more obvious to young people entering the labour market, in which not even a decent education can assure a secure position.

Except for education and other individual properties, social background and parents' possible unemployment strongly affects the work career of the children. In Finland, the intergenerational effect of unemployment is more intense than, for example in Sweden. In Finland, the father's unemployment is more strongly associated with children's unemployment than the mother's. The impact of parental unemployment is more distinct on young men's labour market position than on young women's.

The association between parents' and children's unemployment did not disappear when the most obvious structural factors (age, education and social background) were controlled. Therefore, the intergenerational effect of unemployment is *not* merely due to accumulation of these characters which expose families to weaker positions on the labour market. Only children's high education can diminish significantly the effect of parental unemployment.

4. CONCLUSIONS – realization of aims and future perspectives

The research project began in early 1998 by collecting and analysing previous research on the relationships between unemployment and household. Empirical analysis focused first on the household-based labour force survey (1995), which had been transformed as a spouse-based database. Based on these data, Ilkka Virmasalo wrote and published an article (On the association between the labour market positions of spouses, Janus 6(3), 313-323).

Updating of the main empirical data, i.e. panel and household-based data from the Finnish Census (1970-1995) with the new register data for 1987-1996 required more time than Statistics Finland estimated. Initially the new data were expected to be ready in early 1998. In actuality, the new data were ready in December 1998. Therefore we decided to focus on the first three research aims in 1999 and 2000.

The analysis of the Census data began in spring 1999. During 1999 and 2000 several conference papers were prepared and presented. Based on these conference papers, one article was published (in Finnish: Työttömyys ja perheasema Suomessa 1980-1995 / Unemployment and marital status in Finland 1980-1995) Yhteiskuntapolitiikka 4/00). Another article (Unemployment across Finnish households in the 1990s) was accepted for publication in 2001. Some of the results of the analysis were included in other publications (see list of publications). In addition, Ilkka Virmasalo has written a draft of his Ph.D. thesis, which will be examined in 2001.

Without funding from the Academy of Finland this research would not have been possible. In the future the role of the Academy of Finland will also be essential in funding unemployment research. Interest in other possible funding sources concerning unemployment is either very practical (Ministry of Labour) or very limited (Finnish Work Environment Fund). At the same time the need for further unemployment research is obvious, especially on the intergenerational effects of unemployment and long-term unemployment.

5. NATIONAL AND INTERNATIONAL COOPERATION

National cooperation has included both old and new informal contacts, mainly between individual researchers. The main forms of cooperation have been exchange of information (papers) and participation in different types of seminars, both within and outside the TERO research programme (TERO workshops, annual social policy and sociology conferences; see list of publications).

International cooperation has also been based mainly on informal contacts with other researchers in the area. Research results have been presented in international conferences and workshops (European Sociology Conference 1999; Nordic Workshop on Labour Market Research with Register Data 2000). In addition, Ilkka Virmasalo prepared an overview of ongoing unemployment research for the COST A13 Working Group on Unemployment (2nd meeting) and presented it in Copenhagen on February 26 -27, 1999.

6. PUBLICATIONS

1. Articles in international refereed publications

Ilkka Virmasalo & Jouko Nätti: Unemployment across the Finnish households in the 1990s. Article accepted for the publication based on Nordic Workshop on Labour Market Research with Register Data 2000, editors Torben Pilegaard Jensen and Anders Holm, Institute of local government studies AKF, Denmark.

2. Articles in Finnish refereed publications

Ilkka Virmasalo: Puolisoiden työmarkkina-asemien välisistä yhteyksistä, Janus 6(3), 313-323 (1998) (About the Association between the Labour Market Position of the Spouses).

Ilkka Virmasalo: Työttömyys ja perheasema Suomessa 1980-95, Yhteiskuntapolitiikka 65(4), 303- 315 (2000) (Unemployment and Family Status in Finland 1980-95).

3. Reports and articles in other scientific publications

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Ilkka Virmasalo: Periytyvä työttömyys? Vanhempien työttömyyden vaikutus nuorten työttömyysriskiin. (Inter-generational effect of unemployment? Does the unemployment of parents have effects on the unemployment risk of the children?). Työmarkkinat ja sosiaaliturva väestöntutkimuksen näkökulmasta (10.11.2000, Lammi)

SOME PEOPLE BURN OUT

Työuupumus ja ihmisen voimavarat

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Key words: work, stress, population groups, wellbeing, health

Tiivistelmä: Tutkimuksen tavoitteena oli
1) selvittää työhön liittyvän rasittuneisuuden ja työuupumuksen prevalenssia ja jakautumisesta väestössä sekä työelämän psykososiaalisten tekijöiden osuutta väestöryhmien eroihin
2) tutkia työuupumuksen yhteyttä muihin terveysongelmiin ja
3) selvittää yksilöllisten voimavarojen merkitystä väestöryhmien välisissä eroissa.

Tutkimuskokonaisuus perustui kuuteen kyselytutkimusaineistoon:

- Edustava väestöotos 1997 (n= 3200)
- Terve lapsi kohortti; prospektiivinen; 1961-1963, 1985-1986, 1998 (n noin 1000)
- Pohjois-Suomen syntymäkohortti 1966, prospektiivinen; 1966-1997 (n noin 12 000)
- Teollisuuskonsernin henkilöstö; prospektiivinen, 1986, 1989, 1996 (n noin 10 000)
- Edustava otos lääkärikunnasta; poikkileikkaukset 1986, 1997 (n noin 4400)
- Tietotekniikan ammattilaisia ja kontrolleja; prospektiivinen 1963-1972, 1994-1995 (n noin 310)

Väestöryhmien välillä oli suuria eroja työuupumuksen esiintyvyydesssä. Erot heijastivat 1990-luvun laman tapahtumia työelämässä. Työuupumus oli yleisintä toimialoilla, joilla oli tapahtunut merkittäviä työllisyyteen ja toimeentuloon liittyvää epävarmuutta sekä työkuormituksen kasvua aiheuttaneita supistuksia. Vastoin aikaisempia havaintoja työuupumus ei korostunut terveyden- ja sosiaalihuollon alueilla. Työuupumus vaihteli sosioekonomisen aseman mukaan pääosin samantapaisesti kuin muutkin terveysongelmat, mutta esim. opettajat kärsivät työuupumuksesta enemmän kuin muu sosioekonominen luokkansa. Työuupumus kasautui julkiselle sektorille yksityistä enemmän. Ammatin ja työn luonteen lisäksi työorganisaation toimintatavat todettiin keskeisiksi työuupumuksen taustatekijöiksi. Työuupumuksen vähenemistä 10 vuoden seuranta-aikana ennustivat mm. esimiehen tuen lisääntyminen, työn vaatimusten tasapainottuminen, työn hallintamahdollisuuksien paraneminen, ja työyhteisön vuorovaikutuksen paraneminen vastaavana aikana. Heikko työkyky, masentuneisuus ja itsemurha-alttius lisääntyivät työuupumuksen vakavuuden myötä. Yksilölliset stressinhallinnan voimavarat olivat heikoimmat eniten työuupumusta ja sen riskejä sisältävissä ryhmisssä. Tulokset osoittavat, että työuupumus liittyy yhtäältä asioihin, joihin voidaan vaikuttaa työyhteisöissä. Toisaalta taustalla on laajempia väestön sosiaaliseen asemaan ja työelämän suhdanteisiin liittyviä tekijöitä, jotka edellyttävät yhteiskunnan toimenpiteitä. Hankkeen tuloksista pääosa on käsikirjoituksina tai julkaistavana.

EXTENDED ABSTRACT

1. INTRODUCTION – aims and starting points

Burnout is, according to the most broadly adopted view, regarded as a chronic work-related stress syndrome that includes three components: exhaustion, cynicism, and lowered professional efficacy. This is accompanied by a variety of general nonspecific psychosomatic symptoms. Burnout has traditionally been considered as a special problem of human services. Therefore, most of the research on burnout has been carried out in these sectors, which has strengthened belief in the specificity hypothesis. Only in the late 1980s were ideas on a broader existence of the problem expressed and research on a wider scale initiated. The present research group was among the first to approach burnout at the population level. The pioneer work involved participation in revision of the methods for measurement of burnout to make one applicable in the population at large. There was a total lack of population-level information on burnout until the late 1990s. Our group carried out a population survey in 1997, which was then the first of its kind. This was the starting point for the cluster of studies involved in this project.

The aim was to obtain an overall picture of the prevalence and distribution of overstrain and burnout in the Finnish working population and to determine to what extent psychosocial factors in working life explain the differences in various population groups. Another general aim was to determine how burnout is connected with other health problems. Thirdly, the aim was to clarify the role of pre-employment and later social and psychological resources of people in the development of population group differences.

2. DATA SOURCES AND METHODS

The Finnish Institute of Occupational Health initiated several research projects on burnout in the late 1990s. Some of these had a longitudinal perspective with previous study phases. These studies formed a comprehensive basis for the investigation of the differences among population groups.

The study was based on six different previously available samples and questionnaire data, which were partly amended during the programme.

The samples and years of data collection were as follows:

- Population sample, representative, cross-sectional 1997 (n=3,200)
- Healthy child cohort, prospective; 1961-1963, 1985-1986, 1988 (n =about 1,000)
- Northern Finland birth cohort; 1966-1997 (n= about 12,000)
- International industry sample; prospective; 1986, 1989, 1996 (n= about 10,000)
- Physician sample, representative; cross-sections 1986, 1997 (n= about 4,400)
- Computer professionals and controls, prospective 1963-1972, 1994-1995 (n= about 310)

The data were analysed for the most part separately within each sample. All of the samples included population subgroups, making various comparisons possible. Additionally, comparative analyses were made across the samples using standardized data to facilitate understanding of the differences between population groups on a broader scale. Both descriptive methods and multivariate analyses, such as regression analyses and applications of structural equation models, were applied.

Multivariate analyses were applied to clarify the background factors of burnout and the process of its development.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

Clear differences were found between occupational sectors in the prevalence of burnout. These differences reflected first of all the nationwide recession present until the mid-1990s. Those sectors that had experienced drastic economic and social changes with personnel cuts and insecurity of income and employment showed the highest prevalence of burnout. These included agriculture, banking and insurance and the restaurant business. In contrast to many previous findings and expectations, burnout was not a particularly typical health and social care problem. For instance, in physicians the prevalence of burnout was lower than in the other groups mentioned above, but the variation between the specialities within the medical profession was large. People working in the sector of computer technology showed more burnout than comparison groups in other sectors, and their burnout was strongly related to information overflow.

One of the differences noted between various groups in the working populations was that not only the degree of burnout but also the syndrome pattern varied across the occupations. For instance, the burnout syndrome was dominated more by exhaustion symptoms in healthcare while cynicism was more pronounced in some groups of industrial workers and civil servants.

In comparisons made across the socioeconomic sectors nationwide, the prevalence of burnout followed largely the same social gradient typical of health problems in general, but not without exceptions. Teachers, for instance, showed more burnout than the corresponding socioeconomic group and more than many categories in the lower socioeconomic ranks. It was also shown that burnout is not only determined by the employment sector, occupation, or social rank, but that it varies strongly according to the working conditions within the work organizations. In an industrial corporation that had carried out systematic research and development activities for more than a decade, the burnout prevalences in all groups were lower than in the corresponding sectors as a whole in Finland. Changes in working conditions were indicated, which had involved increased supervisory support, increased personal job control, improved coworker relationships, to mention a few, contributed to a decreasing prevalence in burnout in all occupational groups during a 10-year period. Burnout had increased in those whose psychosocial working conditions had changed towards the negative during the follow-up period.

One of the often-raised questions is whether people in different countries experience burnout to the same extent. Some comparisons were possible to clarify this issue in an international corporation. Finnish employees scored higher in burnout than the Swedish, who scored higher than the Dutch employees when age, gender, and the occupational group were standardized.

The experience in work-related stress and burnout does not seem to follow systematically the same age trend as several other problems of wellbeing. Only minor differences between the oldest age-group and the others were found in burnout throughout the entire population, the first experiencing somewhat more burnout than the rest. However, in certain sectors, the trend was the opposite; in physicians burnout decreased in line with increasing age. Gender did not to appear to play any important role in the development of burnout. If gender differences existed, they appeared to be related to differences in working conditions rather than to gender in itself. There was some indication that cohabitation and having children were predictive of lower levels for burnout.

It was also shown that individual resources for coping with stressors in working life varied among the population groups, and this may increase the impact of external conditions. There were also variations within population groups based on differences in the earlier phases of resource development, beginning in childhood.

Among the theoretical issues in which important new information was gained were two current questions of particular interest. Equity theory and later effort/reward theory, which is one of the frameworks for explaining the development of burnout, was tested along the general approach based on the stress theory. Burnout was more prevalent in those whose efforts invested in work in the form of time, energy, and skills exceeded strongly the rewards gained from work in such forms as salary, career opportunities, or respect. Another important theoretical issue clarified in the studies was the question concerning the sequence in various phases in the development of burnout. It was indicated that the sequence follows a similar pattern in different occupational groups. This does not exclude that the intensity of the three components may vary strongly in the fully developed syndrome pattern between the groups.

Burnout, which in itself means a lowered quality of life, seems to be accompanied by several other indicators of lowered wellbeing. Problems regarding working ability, perceived psychosomatic symptoms, depression, suicidal ideation, and absence from work increased with the severity of burnout. Some confirmation was found for the theoretical hypothesis that burnout develops as a process that begins with exhaustion, which is followed by cynicism, and finally by lowered professional efficacy.

The results of the different studies indicate that the differences in burnout and related problems of wellbeing between working populations are based on unreasonable work demands and on a number of such factors within the organizations, which can be changed by local measures at the work places. However, broader social issues, e.g. changes in the economic situation of society, form the background context for the causes of burnout. By showing this, the present studies and their findings contributed to a largely new understanding of the entire problem.

4. CONCLUSIONS – realization of aims and future perspectives

The studies revealed differences between groups of working populations in burnout that were partly unexpected and in contrast to the expectations based on previous research and on burnout theory. The results can be used and to a certain extent have already been applied in planning for preventive measures. Application of the acquired information by the occupational health professionals and the work organizations has been strengthened. The results have been communicated also to policymakers and the labour market organizations. The experiences gained in the projects were utilized in preparation of the programme on the development of human resources and wellbeing at work included in the working programme Lipponen’s second administration.

It can also be concluded that the projects have contributed to the advancement of research in the field, which previously largely ignored working populations outside the human services and which, therefore, led to a biased view on the prevalence and causation of burnout. Our work also contributed to development of the method for measurement of burnout across population groups and nations.

Work in all the projects is continuing. Most of the planned publications are still under way, either in print, as submitted papers or in the phase of manuscript preparation. All of the four doctoral theses to be made based on these studies are still not yet finished, but the work is actively going on and the

resources for continuing the work are available. The causes of the delays include maternity leaves and other duties in the workplace.

5. NATIONAL AND INTERNATIONAL COOPERATION

The national network in the TERO projects comprised researchers and teams in different parts of the Institute of Occupational Health. This included its Central Institute in Helsinki and Regional Institutes in Kuopio, Oulu, and Turku. The Finnish Medical Association cooperated closely in the study on physicians. The University of Oulu was a collaborator in the North Finland Birth Cohort study.

We organized a 2-day seminar on the topic of the programme. This was also open to researchers who were not involved in the present studies. The seminar brought up new issues in the communication.

The main international collaborator was the University of Nottingham. The occupational health services of an international industrial company participated in the study carried out there.

The collaboration with the above partners was already active before starting this programme.

6. PUBLICATIONS

The main approach in the publication was the preparation of scientific reports, articles, and conference presentations. Communication via the mass media was an important channel as well, due to the great interest shown by the general public in issues related to burnout. We have participated in approximately 30 interviews in radio and TV. We also organized, in collaboration with NIVA, an international advanced training course on the Future of Work - How to Prevent Overload and Burnout, in November 2000. The results of the studies have been communicated among other issues related to burnout in a number of lectures for various audiences including decisionmakers, company managers and staff groups, labour unions, and occupational health and safety personnel.

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THE GEOGRAPHICAL VARIATION OF HEALTH RELATED PHENOMENA IN FINLAND

Uusien menetelmien kehittäminen ja soveltaminen sairauksien ja ympäristön riskitekijöiden alueellisen jakautumisen tutkimukseen

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University of Oulu, Dept of Geography
Geological Survey of Finland

Key words: Bayesian modelling, disease mapping, GIS, spatial variation, disease risk

Tiivistelmä: *Tutkimuksen päätavoitteet:*
1) Tilastomatemaattisten menetelmien kehittäminen (bayesilainen mallintaminen) kroonisten sairauksien alueellisen esiintymisen tutkimukseen.
2) Lapsuusiän diabeteksen ja sepelvaltimotaudin alueellisen esiintymisen analysoiminen. Näiden tautien ja geokemiallisten ja sosioekonomisten ympäristön
riskitekijöiden alueellisen ja ajallisen yhteisvaihtelun selvittäminen.
3) Kehitettyjen menetelmien soveltaminen sairaanhoitopalveluiden tarpeen ja saavutettavuuden arviointia ja suunnittelua varten.

Tutkimus perustuu laajoihin tietokantoihinja ja eri rekisteritietojen yhdistämiseen. Tutkimuksessa käytetään sairaus-, kuolinsyy-, sairaalapoisto- ja väestörekisterien tietoja, jotka varustetaan sijaintitiedolla, eli karttakoordinaatilla.

Perusmenetelmä Bayesilaisesta mallintamisesta sairauksien alueellisessa tutkimuksessa on valmistunut ja se liittyy osana julkaistuun väitöskirjaan (Ranta J, January 2001). Mallia on sovellettu lapsuusiän diabeteksen ilmaantuvuuden alueellisen vaihtelun selvittämiseen Suomessa. Tulokset osoittavat, että lapsuusiän diabeteksen ilmaantuvuudessa on merkittävää alueellista vaihtelua, Korkein ilmaantuvuus on keskisessä Suomessa. Ilmaantuvuus on korkeampi harvaan asutuilla maaseutualueilla kuin taajamissa. Ensimmäinen julkaisu on valmistunut (painossa) ja toinen käsikirjoitus on valmis. Sydäninfarktin ilmaantuvuuden alueellisen vaihtelun mallintaminen on meneillään. Tulokset osoittavat, että sydäninfarktin ilmaantuvuuden aleneminen Suomessa näkyy myös alueellisesti siten, että korkean riskin alueet siirtyvät ilmaantuvuuden laskiessa yhä enemmän koillista kohden. 1990-luvun alkupuolella muuta maata korkeampi sydäninfarktiriski oli Pohjois-Karjalan pohjoisissa osissa ja eteläisessä Kainuussa. Ensimmäinen käsikirjoitus aiheesta on valmis ja toinen on valmisteilla.

Menetelmien kehittäminen jatkuu edelleen ja ympäristömuuttujien lisääminen malliin on meneillään. Geokemiallista tietokantaa on muokattu malliin sopivaksi ja ensimmäiset analyysit on tehty. Menetelmää muokataan edelleen

"teknisesti" käyttäjä-ystävälliseen muotoon, jotta jotta se olisi myös muiden kuin tutkimusryhmän käytettävissä. Tässä vaiheessa malli toimii SAS- ohjelmistossa (alkuperäinen tehty Matlabilla), joka on useimpien tutkijoiden käytettävissä.

Tutkimussuunnitelma ei ole oleellisesti muuttunut ja tutkimus on edennyt lähes alkuperäisen suunnitelman mukaisesti.

EXTENDED ABSTRACT

1. INTRODUCTION - aims and starting points

The project was designed to develop and apply new analytical techniques for exploring the regional variation in chronic diseases by employing the Bayesian approach and the Geographic Information System (GIS). Incidence of certain chronic diseases, such as coronary heart disease (CHD) and childhood-type 1 diabetes (DM1) is among the highest in the world. The well known East-West difference between major CHD risk factors does not fully explain the regional difference in CHD morbidity and mortality in Finland. The incidence of DM1 is higher in central Finland than in the rest of the country. CHD and DM1 are diseases with multifactorial aetiology and characterized by long periods of latency; therefore, certain environmental risk factors that are rather stable may play meaningful roles in the aetiology and regional variation in incidence.

The specific aims of the study:
1. To develop statistical methods for analyses of regional distribution of health-related data in areal units that are independent of administratively defined boundaries using as a pilot the study on distribution of the occurrence of acute myocardial infarction (AMI) and incidence of DM1.
2. To study the relationship between the distributions of these diseases and potential environmental risk factors in order to generate hypotheses of spatial and temporal associations between diseases and their risk factors.
3. The results of the project will be applied further in studies and reporting on social and health service information in Finland by refining full Bayesian Hierarchical Models and GIS to a convertible computer software package.

The researchers (preparing their doctoral thesis in the project) have graduated (MSc) in the fields of mathematics, medical geography and public health. They all had some experience in research work before they started in the project; however, they had not worked together before. The research group was created at the beginning of the study to bring together researchers who had expert knowledge of special branches (e.g. statistics, mathematics, medical geography) needed in the research.

2. DATA SOURCES AND METHODS

Study subjects
The regional distribution of CHD incidence and mortality in Finland has been established in the three cross-section years 1983, 1988 and 1993. Since it is known that about 30% of AMI attacks are fatal, two sources of data were used for the present research: a) Nonfatal definite AMI in the National Hospital Discharge Register and b) CHD mortality data from the Death Register in Finland. A total of about 19,000 men 25-64 years of age diagnosed with AMI were included in the study. The validation study comparing the diagnosis of the Myocardial Infarction Register and the Hospital Discharge Register showed that definite myocardial infarction is well covered by the Hospital Discharge Register.

DM1: About 4,000 type-1 diabetes cases registered between 1987 and 1996 were included in the regional analyses. The incidence data of type-1 diabetes in Finland were collected through the prospective nationwide registration of type-1 diabetes among 0-14-year-old children (Childhood Diabetes Registry). Since 1987 all hospitals treating diabetic children in Finland have participated in the nationwide prospective registration of childhood type-1 diabetes.

Study population

CHD: The midyear number of men 25-64 years of age in each cross-sectional year (1983, 1988 and 1993) serves as the denominator population.

DM1: The mid-year population 14 years of age or under have been and will be used as the denominator population.

Geographical Information Systems (GIS)

With this system it is possible to link together data on disease occurrence and background variables (all forms of geographically referenced information) such as census, socioeconomic and environmental data on the population according to map coordinates.

Study area

The analyses of disease rates were based on data localized in 1-km^2 cells of regular grid where the size of the study unit can be defined flexibly depending on the prevalence of disease and size of the population in the area. All data were aggregated into $\geq$ 10 x 10 km grid cells to protect the confidentiality of individual citizens.

Geochemical database

The effect of geochemical factors on the incidence of DM1 and CHD was tested using parameters available in the databases of the Geologic Survey of Finland (GSF). Data are localized at sampling sites by coordinates.

Statistical methods

1. Statistical methods and Bayesian mapping

We developed a full Bayesian hierarchical approach for modelling the spatial process of disease data to construct a model for the distribution of disease cases from spatial data (GIS) localized according to the coordinates. Let us refer to the smallest (1 km x 1 km) available grid cell in GIS as a *pixel*. This can also be taken to be the smallest meaningful grid cell and is the basis of our analysis, enabling us to use *any regions* of *any size and shape* that can be derived by grouping these pixels into larger areas. However, we do not want to fix these regions in advance, but rather treat them as parameters or structures that will be estimated. The full potential of both the GIS and a Bayesian hierarchical model is demonstrated as follows:

In the spatial model our goal is to analyse spatial risk (i.e. incidence rate, intensity) based on observations of the heterogeneous population at risk and the observed cases during a given time. Both the disease counts and population counts are here presented in a regular lattice and are therefore not dependent on administrative boundaries. The cell size of the lattice was chosen to be fairly large (10 km x 10 km).

Let us define a geographical region consisting of equal-sized cells $i = 1,..., N$. The distribution of number of cases y_i in cell i during the time unit (the study period) is here assumed to be

$$y_i \sim \text{Poisson}(\exp(?_i n_i)) \qquad i = 1,..., N$$

where n_i is the population at risk in cell i. This is a common assumption if the disease is a rare event and not contagious. We are interested in parameters $?_i$ and their distribution over the geographical region. The larger the population n_i, the more information we have about the true risk $?_i$ and the more

reliable is our estimate. However, many areas are sparsely populated, and therefore there is a lot of inherent uncertainty about the risk in those areas. To take this heterogeneity properly into account, we define a prior distribution i.e. the spatial model of risk $?_I$ as

$$\log ?_i \sim N(\log(?_{-i}, s^2/m_i)) \qquad i = 1,..., N$$

where $E(log?(_i)) = ?_{-i}$ is the average of the relative risks in the neighbouring cells of the *i*th cell, $Var(log(?_i)) = s^2/m_i$ and m_i is the number of populated neighbouring cells. Each of the neighbouring cells thus has an equal area, but the population size varies from cell to cell.

We would like to know the posterior distribution for each $?_i$ i.e. the marginal posterior distributions. The full posterior distribution can be computed for all the unknowns $?_1,..., ?_N$, s applying the Metropolis-Hastings (M-H) algorithm, which produces a sample from the joint distribution. Each marginal distribution can then be obtained from the output of the algorithm simply by plotting the Kernel density of the parameter in question.

Age-group covariates can be taken into account according to the proportional hazards model as is customary for incidence models $l_{ik} = l_{0i} \exp(bk)$, where λ_{0i} is the basal intensity for cell i and λ_{ik} is the intensity for cell i and age-group k.

2. A *full Bayesian approach* was used when *exploring the relationships between the distribution (Poisson intensities) of disease occurrence and environmental variables*. This can be modelled by writing the intensity as a function whose arguments are categorical or real valued covariates with the corresponding parameters. The Markov chain-Monte Carlo (MCMC) computation techniques and Bayesian analysis allow us to use more elaborate models and to account for plausible prior knowledge of the phenomenon if that is available. The covariate function can also be modelled nonparametrically by using a step function with an undetermined number of steps and length of step. Existing MCMC techniques allow such models, and they have already been used in other applications. The result of such analysis is the nonparametric intensity function with covariate effects, yet with fewer conventional model restrictions. The covariates themselves may be unknown in some areal units in a spatial analysis or they might be expressed on a different scale or structure. In such cases we need to write a spatial probability model for the covariates as well and then proceed by treating the unobserved covariate values as unknown parameters.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

The project was initiated during the first half of 1998. In the first phase the georeferenced databases were created. The map coordinates were linked to the data covering population, diabetic children and patients with AMI. These databases are extensive, and linkage of data from different registries has been a laborious process. The total number of records (cases and population) in our georeferenced database is 755,000.

Development of the Bayesian model has been successful, and the first methodological paper on Bayesian modelling in spatial distribution of health phenomena (Probabilistic small-area risk assessment using GIS-based data: a case study on Finnish childhood diabetes) has been published. Development of spatial modelling continued further, and covariants (potential environmental risk factors) were included in the model.

The method has been applied to modelling the spatial distribution of childhood diabetes in Finland and the first manuscript is in press. Modelling of spatial variation of AMI incidence in Finland has also been initiated, and the first manuscript has been finished and the second is in preparation.

In addition, refining of the Bayesian model to a convertible computer software is in progress to produce a user-friendly computer implementation. The algorithm has been converted from the Matlab to the SAS. The developed method is available for research purposes; however, those who desire to use it need special instruction before beginning the spatial analysis of health-related data.

The most *significant results* of the project is the method developed for spatial analysis, especially in the small-area analysis of chronic diseases. Application of the method for health data resulted in significant new knowledge of the geographical variation of chronic diseases (DM1 and AMI) which are very common in Finland and whose burden on society and the healthcare system is heavy. These results are now available for use in research and planning of healthcare service. The developed method can also be exploited for recording and spatial analysis of other health-related data. The nationwide results achieved in this project are thus far also unique from the global perspective.

4. CONCLUSIONS – realization of aims and future perspectives

The project was initiated during the first half of 1998, progress has been at least satisfactory and the main aims of the research have been achieved. However, a high turnover rate of researchers in training (two researchers have been on maternity leave and one gave up after 6 months of work) have caused some delay in the project. Furthermore, the data used in the study are very extensive, and numerous record linkages to ascertain cases from different records and to provide map coordinates for cases and population have required more effort than was estimated at the beginning of the project. The project leader has been able to function full-timer for only one year. Funding by the Academy of Finland has been essential for carrying out the project.

The interest in spatial epidemiology is growing worldwide. In Finland, a clear incentive for further studies are the exceptionally large records of health-related data, expert knowledge of spatial statistics and medical geography, and the training and experience achieved during the project thus far. The results achieved in the project during this very short period are unique, therefore it would be worthwhile for research to continue and results achieved that could be applied to the needs of public healthcare in Finland. The project was funded by the Academy of Finland for three years, 1988-2000. The project leader has so far received only a small personal grant to continue the project.

5. NATIONAL AND INTERNATIONAL COOPERATION

During the project there has been collaboration with the National Public Health Institute (NPHI), National Research and Development Centre for Welfare and Health (STAKES), Geological Survey of Finland (GSF), and with the Universities of Helsinki, Jyväskylä and Oulu. National collaboration was created partly within the project and involved collaboration between researchers, not between groups.

International collaboration has been restricted to discussions in international research meetings and courses.

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SOCIODEMOGRAPHIC DIFFERENCES IN FUNCTIONAL ABILITY IN OLD AGE

Väestöryhmien väliset toimintakykyerot eläkeiässä

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Key words: Functional ability, elderly, socioeconomic, region, gender

Tiivistelmä:
Hankkeen *tavoitteet* ovat:
1. tuottaa ajankohtaiset tiedot ikääntyvän väestön ja sen osaryhmien toimintakyvystä sekä hoidon ja avun tarpeesta;
2. selvittää mistä sairauksista, niiden vaaratekijöistä ja muista syistä väestöryhmien väliset toimintakykyerot johtuvat;
3. kuvata toimintakyvyn vajavuuksien väestöryhmittäisten erojen muutokset kahden viime vuosikymmenen aikana sekä
4. saada selville näiden muutosten keskeiset syyt.

Menetelmät:
Tutkimushankkeen lähtökohtana on kaksi aineistoa, jotka mahdollistavat myös ajallisten muutosten analysoinnin. Mini-Suomi -terveystutkimuksessa koottiin vuosina 1978-80 tiedot 30 vuotta täyttäneiden terveydestä ja toimintakyvystä sekä niihin vaikuttavista tekijöistä. Aineistoon sisältyi 1200 65-74-vuotiasta. Finriski-97 -senioritutkimuksessa kerättiin vuonna 1997 vastaavat tiedot 65-74-vuotiaista Pohjois-Karjalasta ja pääkaupunkiseudulta (N=1500). Nämä aineistot sisältävät sekä kysely- ja haastattelutietoja että erilaisten toimintakykymittausten ja kliinisen lääkärintutkimuksen tuloksia. Kumpikin aineisto perustuu edustavaan väestöotokseen, jossa kato on alle 10 %.

Keskeisimmät tulokset ja niiden hyödynnettävyys:
Useiden mittareiden mukaan 65-74-vuotiaiden terveydentila ja toimintakyky oli vuonna 1997 selvästi parempi pääkaupunkiseudulla kuin Pohjois-Karjalassa.Yli perusasteen koulua käyneet olivat odotetusti terveempiä kuin vähemmän koulutetut useimpien mittareiden mukaan. Parisuhteen ulkopuolella elävien terveys ja toimintakyky oli muita huonompi ja avuntarve suurempi, etenkin miehillä. Naisille tyypillisiä olivat liikkumisvaikeudet, miehillä puolestaan oli esimerkiksi kuulo-ongelmia useammin kuin naisilla. Vuonna 2001 tutkimuksessa tullaan keskittymään terveys- ja toimintakykyerojen selittämiseen. Terveyskäyttäytymisellä on merkittävä osuus ainakin siviilisäätyryhmien erojen kannalta: esimerkiksi tupakointi oli selvästi yleisempää parisuhteen ulkopuolella elävillä. Koulutusryhmät puolestaan erottuivat toisistaan mm. ravintotottumusten ja ylipainoisuuden osalta.

Vertailu Mini-Suomi –tutkimuksen havaintoihin osoitti, että 65-74-vuotiaiden toimintakyky ja terveydentila olivat useiden osoittimien mukaan huomattavasti kohentuneet vuosista 1978-80. Vuonna 2001 muutosten tutkimuksessa painotetaan väestöryhmäerojen muutoksia ja niiden syitä.

Tuloksia voidaan käyttää terveyspolitiikan suunnittelussa paikantamaan ne iäkkään väestön osaryhmät, joiden toimintakyvyn edistämiseksi tarvitaan erityistoimia. Toimintakyvyn vajausten taustatekijöitä koskevat tulokset ovat avuksi toimenpiteiden sisällön suunnittelussa.

EXTENDED ABSTRACT

1. INTRODUCTION – aims and starting points

The population is rapidly ageing. Illnesses and disabilities tend to increase with age. Consequently, sociodemographic differences in health and functional ability in old age become increasingly important. Our knowledge about sociodemographic differences in health and disability among the elderly is limited, and we do not know what contemporary factors and earlier experiences have caused these differences. Nor do we know how and why the differences have changed.

The purpose of this project was to:
1. produce up-to-date information about functional ability and need for care in the elderly population, classifed according to gender, region and socioeconomic status,
2. define the contribution of different illnesses, their risk factors and other determinants, to the sociodemographic differences in functional ability among the elderly,
3. describe how the sociodemographic differences in functional ability have changed during the past two decades, and
4. deternube the main causes of the changes.

The research group for the project consists mainly of senior researchers at the National Public Health Institute (KTL). The earlier research work of Arpo Aromaa, Markku Heliövaara, Paul Knekt and Antti Reunanen has largely concerned the patterns and determinants of functional ability and different diseases in the Finnish population. They have also carried the main responsibility of carrying out the Mini Finland Health Survey in 1978-80 and, together with Seppo Koskinen, have planned and implemented the FINRISK-97 Senior Survey. The earlier work of Seppo Koskinen as well as that of Tuija Martelin has mainly concerned health inequalities between sub-groups of the population as well as their determinants. This research has been primarily based on linked register data at the Department of Sociology, University of Helsinki.

2. DATA SOURCES AND METHODS

Two main data sets have been used in this study. The principal data set comes from the FINRISK-97 Senior Survey which belongs to a series of cross-sectional population surveys conducted every fifth year in Finland since 1972. The FR-97 Senior Survey was carried out in two areas (North Karelia and the capital region). The sample consisted of 1,500 persons aged 65-74 years. Questionnaires, interviews, clinical examination as well as objective measurements of functional abilities (including hand grip, walking speed etc.) were used in data collection. 86% of the original sample went through the complete study protocol and the most essential data were obtained from over 90% of the sample.

In order to study the changes the Mini-Finland Health Survey was also used. The Mini-Finland Health Survey was carried out from 1978 to 1980. The sample, consisting of 8,000 individuals, was representative of the Finnish population aged 30 years or over. The study protocol included an interview, a screening examination performed by the Mobile Clinic of the Social Insurance Institution, questionnaires, and a clinical phase. In this study, only the data and/or the earlier findings concerning the 65-74 year age group have been used (N=1,200).

Analysis of these two survey datasets has been complemented with research employing register data on mortality, health, and use of services among the aged.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

Differences in health and functional status in 1997: findings from the FINRISK-97 Senior Survey

Marked differences between sub-groups of the elderly population were found in several indicators of health and functional capacity in 1997. As indicated by general health measures (such as self-reported health, long-standing illness etc.), the health status of persons aged 65-74 years living in the Helsinki Metropolitan Area was clearly better than that of the elderly living in North Karelia. For example, among the aged living in North Karelia the proportion of those suffering from at least three limiting long-standing illnesses was about three times that found among the elderly living in the metropolitan area, even when allowing for differences due to educational status and marital status. As regards specific diseases, the regional differences were particularly clear in cardiovascular disease. Differences between the two regions were also found in several indicators of physical and cognitive functional capacity as well as in self-assessed difficulties in performing daily activities. Correspondingly, the need for help was also larger among the elderly living in North Karelia than among those living in the metropolitan area.

As expected, differences between education groups were observed in nearly all indicators of functional ability, including general clinical assessment and subjective as well as objective indicators of locomotor, and other physical, mental and social capacity as well as vision and hearing. For example, those with more than basic education had stronger handgrip, were faster walkers, had less difficulties with heavy cleaning etc., compared with persons with basic education. Also self-assessed health was clearly better among those with more than basic education even when allowing for functional capacity and various indicators of the structure and functioning of the social network. In a sub-study comparing the self-reported use of physicial services and their determinants among Norwegian and Finnish elderly in 65-74 year age group, a clear social gradient was found. Visits to specialists were more common among those with higher education but in the case of visits to general practitioners an opposite pattern was found.

Marked differences were also found between marital status groups in a number of indicators of health status and functional abilities, in favour of the married or cohabiting elderly. These differences were particularly pronounced among men. In comparison to married or cohabiting men, those not living with a partner experienced symptoms of depression, difficulties in daily locomotor activities, problems in taking care of themselves (e.g. cooking, cutting toenails, taking medication), and difficulties in communicating with other people. Consequently, the need for help was clearly greater among non-married men than among married or cohabiting men.

Gender differences were observed in different aspects of health and functional capacity. Women tended to report more long-standing illnesses but no differerence was found in self-assessed general health. Cardiovascular diseases were more prevalent among men while women suffered more frequently from osteoarthritis of the hip and knee. Correspondingly, difficulties in daily activities requiring locomotor capacity or strength (such as climbing stairs, heavy cleaning etc.) were more common among women than men. On the other hand, hearing problems were more frequent among men than women. Occasional need for help was more common among women.

In 2001, we will focus on explaining the differences found between different sub-groups of the elderly population. At least in the case of differences according to marital status, health habits seem to play an important role. For example, smoking was clearly more common among men who were neither married nor cohabiting. Education groups differed with regard to eating habits and obesity (the more educated being less obese). Fatty milk was more often used by those living in North Karelia than those living in the metropolitan area and more often among those with only basic education. On the other hand, monthly use of alcohol was more common among the elderly living in the metropolitan area or those with more education than those living in North Karelia and the less educated elderly. Obesity and a sedentary lifestyle were more common among women than men while the opposite was true regarding smoking and alcohol use.

Changes between 1978-1980 and 1997

According to a comparison with the Mini-Finland Health Survey performed in 1978-1980, a dramatic improvement has occurred in all dimensions of functional capacity of the elderly in Finland during the past 20 years. Compared with the situation in 1978-1980 the proportion of those aged 65-74 who assess their functional capacity as poor has declined from 25% to 11%. An equally striking improvement is seen in physical capability, including hearing and vision, as well as in psychological and social functioning. Positive development was found in all sub-sections of the population.

In a sub-study concentrating on cardiovascular diseases, a decline in the prevalence of most of the chronic CVD was observed, regardless of the indicator (self-reported data and diagnoses by physicians). The only major exception was hypertension in men.

The results suggest that nowadays Finnish people not only live longer but also remain in good condition to older ages than they did 20 years ago. In 2001, we will focus on changes in socio-demographic differentials in health and functional capacity and particularly on their determinants.

Main findings on sociodemographic differences in health among the elderly from other data

In addition to analyses based on the two data sets described above, members of the research group have carried out research and participated in collaborative work on health inequalities among the elderly, using other datasets. A brief summary of the topics and main findings of these studies is given below, focusing on aspects that are particularly relevant to health inequalities at older ages.

Seppo Koskinen has collaborated with the research groups working at STAKES on two projects. Also, Antti Reunanen has participated in the first project which deals with socioeconomic variation in prognosis and healthcare among diabetics. The other project studies socioeconomic inequalities in coronary revascularization and related medical examinations. Substantial socioeconomic inequalities are seen in the prognosis of and medical attention for ischaemic heart disease and diabetes, which are keyl diseases reducing functional capacity in old age.

Seppo Koskinen has also participated in a study of mortality differentials according to income, which shows wide differences among the elderly. A study by Seppo Koskinen, Tuija Martelin ja Harri Rissanen, based mainly on population statististics, showed that mortality differences between marital status groups have increased during the past two decades even within higher age brackets. The history of regional mortality differences in Finland was studied by Kari Pitkänen (Department of Sociology, University of Helsinki), Seppo Koskinen and Tuija Martelin. According to the results, the east-west difference in elderly age-group mortality can already been seen in the 1800s.

Moreover, Tuija Martelin and Seppo Koskinen have participated in several other sub-studies related to the research project on sociodemographic mortality differences, carried out mainly at the Department of Sociology, University of Helsinki. These studies, based on linked register data, have focused on socio-demographic mortality differences in old age, the relationship of socioeconomic status at different phases of life to mortality at older ages, assessing the role of various age-groups and causes of death in widening socioeconomic mortality differences, and on estimating the proportion of mortality differences by gender and education attributable to smoking and/or alcohol. The results show that socio-demographic health differences are marked at older ages, too, and that behavioural risk factors are also important among the elderly.

Policy implications

To summarize the findings from the public health point of view, both positive and negative observations were made. In general, the health status and functional capacity of elderly persons aged 65-74 years have improved during the past two decades. However, marked differences exist according to gender, region, education, and marital status.

Having elementary level education only, being unmarried and living in North Karelia seem to present a general disadvantage with regard to health and functional capacity in old age. This introduces a difficult challenge to health and social policy aimed at reducing health inequalities as the result probably implies that the effects of several health-compromizing factors accumulate throughout one's life. In order to tackle inequalities in health in the long run, it is particularly important that further research reveals the pathways and processes that lead to different health histories, the consequences of which are often ultimately seen at advanced ages.

Considering activities within a more limited time frame, some findings point to problems that could be alleviated more rapidly. First, unmarried older men proved to be a disadvantaged group with regard to several aspects of health, functional capacity, and general wellbeing. In order to improve their situation, special activities should be targeted to this risk group. Another finding that clearly arises from several indicators is the severity of locomotion problems among women. In order to enhance the wellbeing and independence of older women, particular attention should be focused on remaining physically active. At present, it seems that the health services tend to exacerbate socio-demographic health differences, rather than alleviate them. A more targeted approach may be needed in planning the provision and contents of services since the conventional universal system, in principle offering similar services to everyone, seems to benefit more the better off sections of the population.

4. CONCLUSIONS – realization of aims and future perspectives

Due to changes in research personnel and time spent on parental leave, the funding allocated to the project has not yet been spent. Therefore, we can and will continue the project at least until late autumn 2001.

At the present stage of the project, we have largely carried out the descriptive analyses on socio-demographic differences in health and functional capacity, as well as analyses of their trends. The reporting of these findings will soon be completed. The project has also been very efficient in complementing the picture, obtained from the two survey datasets, on socio-demographic health differences in the elderly by analysing supplementary datasets. In addition, we have been reasonably active in promoting scientific and political debate on the possibility of reducing health inequalities in old age as well.

During the remaining period, we will concentrate on analysing the causes of socio-demographic differences in functional capacity and we will also try to find the main reasons for changes in them. However, we will not be able to carry out all the research described in the original research plan, because our funding is only 70% of what we applied for.

Variations and inequalities in the health and functional capacity of elderly people will become an even more important research topic in the future as the population grows older. In addition to the ethical equality aspects, fundamental to the Nordic welfare states, this research area is vitally important from the point of view of financing adequate services for those in poor health and with restricted functional capacity. Significant financial and welfare benefits can be expected if research helps raise the health and functional capacity of disadvantaged groups closer to the level of the healthiest groups, by revealing the essential causes of poor health and functional capacity in the worse off groups and by suggesting ways to prevent inequalities in the future. This needs to be taken into account when making decisions on research funding.

5. NATIONAL AND INTERNATIONAL COOPERATION

Research using the two survey datasets (FR-97 Senior Survey and Mini-Finland Health Survey) has been carried out mainly by researchers working at the National Public Health Institute. In addition, Liisa Suominen-Taipale, at the University of Turku, has completed her doctoral dissertation (Dentistry) by writing one article using the FR-97 dataset in collaboration with the researchers based at KTL. In addition, after having completed her dissertation Liisa Suominen-Taipale participated in analysing the FR-97 dataset to study socio-demographic differences in the use of health services. Also, Norwegian researchers have taken part in this comparative work which probably would not have been realized without this research programme.

Collaboration with the research project led by Professor Tapani Valkonen at the Department of Sociology, University of Helsinki, and with Professor Kari Pitkänen at the same department, had already started before the research programme; however, new areas of collaboration have opened up and been pursued.

Close cooperation with Dr. Ilmo Keskimäki's group in STAKES is largely related to the establishment of the research programme. Also collaboration with Professor Eero Lahelma's group at the Department of Public Health, University of Helsinki, and with Dr. Ritva Prättälä's group, has been strengthened as a result of the research programme.

Within the National Public Health Institute, cooperation has increased between our group and some other research groups, particularly that led by Dr. Veikko Salomaa. It is difficult to estimate whether the research programme has catalysed this process or not.

Since early 1999 our whole research group has been very closely involved in the planning and execution of the massive Health 2000 project. In this process we have worked with more than one hundred other members of the planning organization, representing several research institutes and universities. The research programme has not played a significant role in this cooperation.

Members of our research group (Seppo Koskinen, Tuija Martelin and Antti Reunanen) have also taken part in the work of the National PublicHealth Committee (Kansanterveyden neuvottelukunta) and its subcommittees. This has provided a valuable opportunity to exchange information and views with other researchers and policy makers.

Seppo Koskinen has taken an active part in the European network 'Interventions and Policies to Reduce Social Variation in Health', and the related project led by Professor Johan Mackenbach from the Erasmus University in Rotterdam. Seppo Koskinen has also been a member of the Working Group on Social Gradients and Health in Europe, led by Professor Ulrich Laaser. In addition, our group has had quite close contacts with Professor George Davey Smith at the University of Bristol. Arpo Aromaa is leading an EU project reviewing European health examination surveys and is investigating possibilities for harmonization and common, comparable methods. Arpo Aromaa is also connected with other activities in the EU Health Monitoring Programme. The research programme has not played a role in these international activities.

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Martelin T, Koskinen S, Aromaa A and the FINRISK-97 Senior Survey Research Group. Väestöryhmien väliset erot terveydessä ja toimintakyvyssä 65-74-vuotiailla: FINRISKI-97 Senioritutkimuksen satoa / Sociodemographic differences in health and functional capacity among Finnish elderly aged 65-74. (article manuscripts in progress, both Finnish and English versions to be completed in 2001).

CAUSES OF SOCIODEMOGRAPHIC MORTALITY DIFFERENCES AND CHANGES IN THEM

Väestöryhmien välisten kuolleisuuserojen ja niiden muutosten syyt

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Key words: mortality, inequality, social class, socioeconomic status, gender

Tiivistelmä: Tutkimushankkeen tavoitteena oli antaa kokonaiskuva väestöryhmien välisten kuolleisuuserojen ja niiden muutosten syistä Suomessa. Tutkimus on koskenut ensi sijassa sosioekonomisten ryhmien välisiä eroja. Erityisesti oli tavoitteena selvittää, miksi nämä erot kasvoivat 1980-luvulta 1990-luvulle. Tutkimuksen pääaineistona on ollut ns. Eksy-aineisto, joka on muodostettu yhteistyössä Tilastokeskuksen kanssa yhdistämällä henkilötunnusten avulla kaikkia suomalaisia koskevia tietoja kuudesta väestölaskennasta (1970-95), useista muista rekistereistä sekä kuolemansyyrekisteristä vuosilta 1971-95.

Tulosten mukaan sosioekonomisten kuolleisuuserojen kasvu Suomessa tapahtui suurimmaksi osaksi vuosina 1985-90. Kasvu johtui kahdesta syystä: ensinnäkin sydän- ja verisuonitautikuolleisuus aleni tällä jaksolla nopeammin toimihenkilöillä kuin työntekijöillä ja toiseksi kuolleisuus alkoholiin liittyviin kuolemiin, tapaturmiin ja itsemurhiin lisääntyi vähemmän toimihenkilöillä kuin työntekijöillä. Sydän- ja verisuonitautikuolleisuuden erojen kasvu on ollut samanlaista kuin muissakin kehittyniessä maissa, mutta alkoholikuolleisuuden erojen kasvu on Suomelle erityinen tekijä.

Tutkimushankkeessa on valmistunut Pia Mäkelän väitöskirja alkoholiin liittyvän kuolleisuuden yhteydestä sukupuoleen ja sosioekonomiseen asemaan. Väitöskirja osoittaa alkoholiin liittyvän kuolleisuuden suuren merkityksen kokonaiskuolleisuuden sukupuolierojen ja sosioekonomisten erojen syynä. Osana projektia ovat olleet Tiina Pensolan väitöskirja sosiaalisen taustan vaikutuksesta kuolleisuuteen ja Ari-Pekka Sihvosen väitöskirja terveitten elinvuosien muutoksista ja niiden eroista koulutuksen mukaan.

Tutkimushankkeessa on lisäksi käsitelty kuolleisuuseroja mm. siviilisäädyn, äidinkielen, alueen ja kaupunginosien mukaan sekä selvitetty työttömyyden, leskeytymisen, tulojen ja tupakoinnin vaikutuksia kuolleisuuteen ja kuolleisuuseroihin. Projekti on osallistunut useisiin kansainvälisiin tutkimushankkeisiin.

Tulosten valossa väestöryhmien välisten kuolleisuuserojen vähentämiseksi olisi tärkeää estää alkoholin kulutuksen ja ongelmajuomisen kasvua. Terveyspolitiikassa tulisi myös huolehtia siitä, että kaikilla väestöryhmillä on yhtäläiset mahdollisuudet sydän- ja verisuonitautien tehokkaaseen hoitoon ja sekundäärипreventioon.

EXTENDED ABSTRACT

1. INTRODUCTION - aims and starting points

Differences in mortality between population groups have been studied by our research group at the Population Research Unit of the Department of Sociology since the late 1970s. By 1997 this

research had produced detailed and reliable descriptions of socioeconomic and other differences in mortality in Finland and changes in them. Our understanding of the causes, however, was limited. In the project proposal the overall purpose of the project was stated as follows:

"The aim of the project is to give a comprehensive account of the causes of sociodemographic differences in mortality and changes in them in Finland. The project deals primarily with socioeconomic mortality differences. A specific goal is to find out why these differences increased from the 1980s to the 1990s. Reasons for differences by gender and region and their changes will also be studied."

The project was based on a conceptual framework wherein differences in mortality between population sub-groups were seen to be caused by two different mechanisms: health-based social mobility and differences in exposure to various risk factors. Both mechanisms have been studied in the project.

2. DATA AND METHODS

The project has been based mainly on the Eksy dataset, constructed by the research group in collaboration with Statistics Finland during the years 1977-1997. The dataset covers individual records for the whole population of Finland in six censuses (1970-1995) which have been linked to several other population registers and death records for the years 1971-1996. The Finnish system of person identity numbers was utilized in linking these records. The project had permission to carry out tabulations from the complete individual dataset located in the premises of Statistics Finland.

The data have been analysed using conventional epidemiological and demographic methods such as Poisson regression analysis and life tables techniques.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

Changes in socioeconomic mortality differences

A specific aim of the project was to find out, why socioeconomic mortality differences increased in Finland. This question has been looked at in several other studies (1.5, 1.9, 1.12, 1.17, 1.18) from which we have obtained at least tentative answers.

A detailed analysis of trends in mortality differences according to level of education and social group showed that the increase in differences among men took place almost entirely during the late 1980s. One reason for the rapid increase in differences in the late 1980s was a faster decline in mortality from ischaemic heart disease and other cardiovascular diseases in the non-manual class. On the basis of related findings from other studies it seems likely that the non-manual class benefited more than others from the adoption of new methods of prevention and treatment of cardiovascular disease in the late 1980s. Another reason for the increase in socioeconomic differences in male mortality in the late 1980s were higher death rates resulting from accidents, violence, alcohol abuse and suicide. This increase was more rapid in the working class and was associated with a 20% rise in alcohol consumption during the economic boom of the late 1980s. Among women, the increase in social class differences in mortality was smaller than among men, and the reasons for the increase were partly different.

The late 1980s was a period of rapid economic development and the 1990s a period of deep recession in Finland. Against all expectations, economic recession slowed down rather than speeded up the growth of socioeconomic inequalities in mortality. Comparisons with results from other countries have made it possible to place this Finnish development into an international perspective (4.6, 4.8). In all countries for which data are available, differences in male cardiovascular mortality have increased, due to more rapid decline in the non-manual groups in the 1980s, but this increase may be temporary as it was in Finland. In addition to the common tendencies associated with cardiovascular diseases, there are country-specific factors (such as alcohol-related mortality in Finland) which also influence trends in socioeconomic differences in mortality. In the light of our studies it seems unlikely that there is any single explanation for changes in socioeconomic inequalities. For example, the suggestion that changes in income differences are a major cause of widening inequalities is obviously not valid for Finland and the other Nordic countries (5.3).

Doctoral theses

Research aiming at three doctoral theses has been part of the project. Pia Mäkelä's Ph.D. thesis ‘Alcohol-related Deaths. Incidence and Connection to Sex and Socioeconomic Status’ (4.5) was approved in 1999. It consisted of five journal articles and a summary of 124 pages. An innovative aspect of the study was the use of information on contributory causes of death in addition to the underlying causes in measuring alcohol-related mortality. The results show that alcohol-related mortality is an important and increasing public health problem in Finland: in the age-group under 50 years, 40% of all deaths among men and 15% among women were alcohol-related. Also, a substantial proportion of gender and social class differences can be accounted for by differences in alcohol use.

Tiina Pensola's doctoral thesis concerns the effects of childhood socioeconomic conditions on mortality and socioeconomic mortality differences in adulthood. Among men, lower childhood social class is associated with higher than average mortality in adulthood, but this association is almost entirely due to the effect of parental class on education and adult social class (1.14, 6.5). Among women the effect of parental class is less systematic (unpublished).

The third doctoral student participating in the project is Ari-Pekka Sihvonen, who worked on the project in 1999-2000. His work on trends and socioeconomic differentials in healthy life expectancy combines data on mortality with survey data on indicators of health (6.7, 6.8).

Other sub-studies

As the list of publications shows, the project has also produced results on several other topics related to causes of sociodemographic differences in mortality and their changes. These sub-studies dealt with the following topics (the numbers in brackets refer to the list of publications):
- effects of unemployment and loss of spouse (psychosocial stressors) on mortality (1.7, 1.10, 3.5, 4.1),
- differences in mortality and health by income (1.6, 1.15),
- socioeconomic differences in health and morbidity (in collaboration with Prof. Lahelma's group (1.2, 3.4),
- international comparisons of socioeconomic differences in mortality (1.19-1.23),
- differences in mortality by sex, mother tongue and marital status (6.2, 6.1, 2.1),
- regional and neighbourhood differences in mortality and their causes (2.3, 5.5, 6.4),
- the contribution of smoking and the joint contribution of smoking and alcohol-use to gender and socioeconomic differences in mortality (6.2),
- methods in studying mortality and mortality differences (1.8, 3.6, 4.9),

- health in disadvantaged groups (3.1).

The project members have participated in seminars and meetings discussing policies and interventions for reducing socioeconomic differences in health and mortality and have written related articles (2.4, 3.7, 4.2, 4.4). On the basis of our results the most urgent task is to implement policies to stop the increase of alcohol consumption and problem drinking. This would have both a positive effect on the general health of the population and reduce socioeconomic differences in mortality. Another important goal for health policy is to ensure that all socioeconomic groups benefit equally from efficient techniques for the preventions and treatment of cardiovascular disease. Our results on breast cancer also indicate that methods of detection and treatment of disease may influence socioeconomic differences in mortality.

4. CONCLUSIONS – realization of aims and future perspectives

In our opinion the project has been successful in improving our understanding of the causes and trends in socioeconomic differences in mortality. A further contribution of the project has been a demonstration of the scientific value of the rich register data available in Finland. This has promoted the use of these resources by other researchers.

In some respects the group has not been able to follow the original research plan. The main reason for this has been changes in research staff. Tuija Martelin moved to the National Public Health Institute in 1998 and has been able to participate in the project only occasionally since then. Pia Mäkelä had planned to stay as a post-doctoral researcher, but moved to a permanent position at STAKES in 1999. To compensate for this, two doctoral students, Ari-Pekka Sihvonen and Timo Kauppinen, were invited to join the project. Although this may have been a good investment for the future, the output of the research group has obviously suffered. Small research groups such as ours, with temporary funding from the Academy of Finland, are vulnerable, because competent researchers understandably prefer more permanent positions within large research institutes.

Other events have also influenced the research capacity of the group. Tiina Pensola was on maternity leave from November 1998 to May 1999 and worked part-time after that. Tapani Valkonen was appointed head of the Department of Sociology. Also, the move of Dr. Veijo Notkola from the Institute of Occupational Health to Statistics Finland made it impossible to carry out a sub-study on the contribution of work-related risk factors to socioeconomic differences in mortality.

According to the guidelines for preparing this extended abstract, the research group should assess, whether or not the project could have been carried out outside the Research Programme. It is clear that the project would not have been possible without funding from the Academy of Finland. However, from the point of view of the project as such, it would not have made much difference if support had come from the 'normal' research funding of the Academy instead of from the Programme.

Research on inequalities in health is probably a more popular topic internationally now than it was three years ago. The contribution of Finnish researchers to this research has been visible partly as a result of the Programme. The importance of this topic will probably not diminish in the near future, although the emphasis may be moving from description to explanations, and to research on policies and interventions.

We plan to continue our research on inequalities in health and mortality. As mentioned above, Tapani Valkonen and Pekka Martikainen are involved in several ongoing international projects.

Pekka Martikainen has been appointed an Academy Researcher for a five-year period beginning in 2000 to do research at the Department of Sociology. We have also applied for funding from the new programme on Health Promotion for a new project.

5. NATIONAL AND INTERNATIONAL COOPERATION

The most important collaborator of the research group has been the cause-of-death statistics division of Statistics Finland with which the group has an official agreement concerning collaboration conditions. This agreement has greatly facilitated the flexible construction and use of the linked datasets. One result of this collaboration is a joint publication on multiple causes of death (3.6).

The group has collaborated actively with the medical sociology group of the Department of Public Health at the University of Helsinki in research and in postgraduate teaching within the framework of the Population, Health and Living Conditions doctoral programme. The group has also worked with the National Public Health Institute (Seppo Koskinen and Tuija Martelin) and the Research Unit for Alcohol Policy of STAKES (Pia Mäkelä).

The group has participated in three research projects of the European Union Working Group on Socioeconomic Inequalities in Health coordinated by Prof. Johan Mackenbach from Erasmus University, Rotterdam. Results of the first project were published in several articles in international journals (see the list of publications). The second project was 'Monitoring and Reporting of Socioeconomic Differences in Health in the EU' and the third project of the Working Group is 'Socioeconomic Determinants of Healthy Aging in Europe: From Description to Explanation', which will last until 2003.

Tapani Valkonen and Pekka Martikainen are participating in the European Science Foundation project on Macrosocial determinants of morbidity and mortality, which started in 2000. Seppo Koskinen and Tapani Valkonen have been members of the International Network on Interventions and Policies to Reduce Socioeconomic Inequalities in Health. Tapani Valkonen has also acted as a consultant for the Council of Europe Group of Specialists preparing a report on trends in differentials in mortality in Europe. We have collaborated with the Department of Demography at the University of Rome, La Sapienza, in studying regional differences in mortality. The Univeristy of Rome's Silvia Francisci visited Population Research Unit for three months in 1998 and Tapani Valkonen was at the University of Rome for two weeks in 2000.

The group is collaborating further with three foreign researchers: Anton Kunst (Rotterdam), on studies on 'Education and Premature Mortality in Finland and the Netherlands', Wladimir Shkolnikov (Moscow/Rostock), on 'Finnish-Norwegian-Russian Study on Cause-Specific Mortality by Level of Education', and John Wilmoth (Berkeley, California), on 'Describing Mortality Differentials over Age and Time in Finland and the United States'. The project has close contacts with the Whitehall II-project led by Sir Michael Marmot at University College, London, because up till August 2000 Pekka Martikainen had spent 75% of his working time on this project.

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CHANGES, ORIGIN AND PREVENTION OF HEALTH DIFFERENCES IN YOUNG AGE GROUPS

Väestöryhmittäisten terveyserojen muutokset, syntyprosessi ja ehkäisy nuorissa ikäryhmissä

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Key words: Adolescents, health selection, educational exclusion, longitudinal analysis, origin of health differences

Tiivistelmä: Terveyserojen synnystä nuorissa ikäryhmissä on valmistunut neljään osajulkaisuun perustuva artikkeliväitöskirja (Nuoruusiän terveyden ja terveystapojen perusteella tapahtuva koulutusurille valikoituminen) vuonna 2000 (Leena Koivusilta). Lisäksi on tuotettu kaksi artikkelia suomenkielisiin kokoomateoksiin. Tulokset osoittivat jo nuoruusiässä esiintyvän terveyden perusteella tapahtuvaa valikoitumista. Heikko koulutusura ja heikko terveysura liittyvät toisiinsa ensisijaisesti ns. epäsuoran terveysvalikoitumisen kautta, mikä vahvistui. pitkittäisainaineistoihin perustuvissa töissä. Monografiaväitöskirja "Terveys ja koulutuksellinen syrjäytyminen nuoren miehen elämänkulussa" (Hannu Rintanen) valmistui vuonna 2000. Pitkittäisaineistoihin perustuva työ soitti, että koulutuksellisessa syrjäytymisriskissä oleminen kutsuntaiässä voidaan ennustaa jo varhaislapsuuden ja nuoruuden fyysisellä terveydellä, häiriökäyttäytymisellä, neuvolatarkastuksiin osallistumattomuudella ja sosiaalisilla taustoilla. Suomenkielisestä väitöskirjasta on laadittu englanninkielinen käsikirjoitus. Molemmat väitöskirjat antavat viitteitä syrjäytymisen ehkäisyyn ja riskiyksilöiden löytämiseen sekä aikuisväestön terveydellisten erojen ymmärtämiseen.

Kouluterveyskyselystä saatuja alustavia tuloksia nuorten seksuaalikäyttäytymisen alueellisista eroista on julkaistu Suomen Lääkärilehdessä ja lisääntymisen alueellisten erojen ja lisääntymisuran tutkimus jatkuu vuoden 2000 helmikuusta alkaen Akatemian projektissa "Adolescent pregnancies and induced abortions in Finland in the 1980s and 1990s: Sociodemographic factors"

Sosiodemografisten erojen merkitystä koulujen välisten erojen selittäjänä on alettu tutkia Kouluterveyskyselyn perusteella. Siihen tarkoitukseen on tutkimusryhmässä kehitetty menetelmällistä osaamista monitasoanalyysin toteuttamiseksi. Nuoruusiän depressiivisyyttä selittävistä sosiodemografisista tekijöistä valmistui vuoden 1998 aikana artikkeli, joka on hyväksytty julkaistavaksi BMJ:ssa.Lisäksi sosiodemografisten tekijöiden merkitystä on käsitelty mm. nuorten niska- ja hartiakipujen ja alaselkäkipujen yleisyyttä käsittelevässä työssä, hammassäryn trendejä käsittelevässä työssä sekä eräissä muissa raporteissa.

EXTENDED ABSTRACT

1. INTRODUCTION – aims and starting points of research

The present study was built on the 25 years of activities of the research teams lead by Professor Matti Rimpelä and Professor Arja Rimpelä, and its main objectives are to study adolescent health and health behaviours, the factors affecting them, differences between socio-demographic groups

and changes in time, and to evaluate health promotion activities and policies. This study was a continuation of a previous grant in 1988 from the Academy of Finland concerning socio-demographic health differences in young people, and it was based on existing databases, the collection of new data through alternative financing and linkage of survey data with national registries. Most researchers had collaborated previously. In the 1996 research plan, the aims of the study were set out as follows:

- to study distribution of health and wellbeing by biological indicators of growth and maturation among adolescents and by using several health indicators to study changes in adolescents' health from 1977 to 1997,
- to study the development process of socioeconomic health differences in adolescence and specifically
    - to examine the choosing of educational options and the role played by health and determinants of health in this process, from early adolescence to adulthood
    - to examine the health histories of military conscripts and the risk factors of educational exclusion from birth to conscription age, and to find methods of developing health and social services which prevent educational exclusion,
- to study the sexual history of adolescents and their regional and socioeconomic variations and, by using time series, to analyse the effects of family policies on the sociodemographic variation of teenage pregnancies and deliveries,
- to study the effects of tobacco policies on the sociodemographic differences in tobacco use among adolescents from 1977 to 1997, regional variations in the implementation of tobacco policies and the effects of tobacco policies on different population groups,
- to increase understanding of variation in adolescent depression between population groups and the effect of depression on choosing educational options.

Academy funding reached only one third of the planned budget total. This naturally compromised our effort.

2. DATA SOURCES AND METHODS

Four different sources of data were used (A-D) and a record linkage dataset (E) was compiled for use in a new project – separated from this project after receiving independent Academy funding.

A. *Longitudinal design based on the Adolescent Health and Lifestyle Survey:* This study design was used to follow the development from early adolescence up to early middle age. The material was constructed by linking data from the Adolescent Health and Lifestyle Survey (AHLS) on 12-, 14-, 16- and 18-year-olds, collected in 1981, 1983 and 1985 (sample sizes 4,000-5,000) with data from the registry of highest completed education in Statistics Finland. The data linkages were based on personal identification number. The procedure was performed blind by Statistics Finland so that completed linked data without identification numbers could be given to the researchers.

B. *Repeated cross-sectional data of the AHLS.* Data were collected every second year beginning in 1977 by posted self-administered questionnaires from a nationally representative sample of 12-, 14-, 16- and 18-year-olds. The sample size varied between 3,000 and 12,000 and the response rates were above 80%. Sampling, research method, questions and time of inquiry on each occasion were made as similar as possible.

C. *Longitudinal retrospective data on conscripts* attending health checks in Nokia (1989-1993). The material consisted of health, school and employment records describing the lifespan of conscripts from birth to age 18. All men living in Nokia were included (N=808).

D. The School Health Promotion Survey data consist of approximately 60,000 schoolchildren aged 14-16 (8^{th} and 9^{th} grades) and are collected yearly from municipalities willing to take part. Most of the municipalities participate every other year.

E. A dataset based on individual-level linkage from several different sources was compiled. The baseline data were the AHLS data from 1987 to 1997 that were linked with the Abortion and Sterilization Registry, Birth Registry, Hospital Care Registry, and data on marital status changes from Statistics Finland from 1987 to 1998. The dataset included over 1 million person-months.

Statistical methods. Statistical methods included those developed for the analysis of categorical data, such as logistic regression analysis, for both dichotomous and polychotomous outcome variables.

3. MAIN RESULTS AND THEIR SIGNIFICANCE

The main work produced by this project was a doctoral thesis on the origin of health differences by Leena Koivusilta in 2000, based on four international publications. The work was accomplished by studying which specific features of health and health-related lifestyles were involved in the process by which adolescents chose educational options, leading to different social class status in adulthood. Longitudinal data were used. First, we studied how health-related lifestyle in early adolescence (at ages 12 and 14) predicted the educational that a person would follow after compulsory education (ending at age 16). Secondly, we examined which features of health and health-related lifestyles (at ages 16 and 18) predicted the educational level a person would attain by early adult age (between ages 24 and 30). Cross-sectional data were used to study the associations of health and health-related lifestyles with the educational track after compulsory education. The influence of sociodemographic backgrounds on educational decisions was also analysed.

The results showed that both perceived health and health-related lifestyle were strongly and independently associated with education history. Good perceived health was typical of adolescents who had selected educational tracks promising good social prospects. However, the predictive value of health-related lifestyle on education tracks was more pronounced than that of health. Poor dental hygiene, excessive coffee drinking, avoiding physical exercise, and especially smoking were typical of adolescents who would eventually remain in lower educational levels or without further educational qualifications after compulsory schooling. According to the research, educational selection already takes place in early adolescence, and the interrelation of poor education and poor health histories is a probable mechanism creating health differences between population groups. Over and above this, sociodemographic background influences the development of education tracks so that adolescents from highly educated and wealthier families, as well as those from two-parent families, reach higher educational levels more often than adolescents from other kinds of families. Based on these study materials, two Finnish-language articles in a compilation work were also produced.

This study contributed to understanding the development of socioeconomic health differences during the lifespan and showed the importance of adolescence in this process. It also showed that the mechanism of indirect health selection is crucial and much more important than direct health selection in the period of early adolescence to early adulthood.

The study by Tomi Lintonen based on AHLS showed that in order to explain changes in adolescent alcohol abuse (that had increased tremendously in Finland in the 1990s) we need to consider societal-level factors, and not only individual-level factors. The decrease in disposable income among adolescents as well as earlier biological maturation both contributed to the increase

in alcohol abuse. This showed that some factors are not so easy to control by traditional health education measures.

The doctoral thesis by Hannu Rintanen was based on retrospective material on conscripts who took part in health checks. Health, school and employment records from different sources were individually linked from conscription age back to birth. Life development factors (disturbances in family structure, developmental problems, diseases, external behaviour problems, lack of childhood health care and changes in living area) and number of siblings, age of parents and family social background were analysed in order to establish which factors in young men's lives might predict the risk of educational exclusion and at what age these could be detected. It clearly emerges clearly that among conscripts a group exists which is at risk of educational exclusion. The future for this group is bleak with health behaviours differing significantly from the rest of the conscripts. Moreover, there is evidence of an accumulation of psychological problems.

Most significant predictors of risk of educational exclusion were the number of older siblings, lack of health check-ups before age four, health problems between ages four and seven, moving within one's home town before school age, problematic behaviour at school age and disturbances in family structure between ages 13 and 15. The findings revealed a new, distinct and clearly identifiable factor predicting risk of educational exclusion, i.e. failure to attend regular check-ups at health centres. Furthermore, parental age, particularly if the father was very young at the time the child was born, showed a close correlation with the development of educational exclusion. Two-thirds of the men who are at risk of educational exclusion at conscription age can be detected on the basis of pre-school risk factors. Better detection calls for steps to encourage improve and develop regular health check-ups in our free child health services.

The first results of the School Health Promotion Survey (SHPS) on regional differences in adolescent sexual behaviour were published. The study of sexual histories and regional and socioeconomic difference – 'Adolescent Pregnancies and Induced Abortions in Finland in the 1980s and 1990s: Sociodemographic Factors'. Dr. Andres Vikat is in charge. The database was compiled in the present project.

A study on school health differences in SHPS has started and the research group has developed skills to carry out multilevel analysis in this field. Based on the data of SHPS, a paper on sociodemographic factors explaining adolescent depression was published. The significance of demographic factors was studied in papers concerning neck, shoulder and low back pain, and toothache.

4. CONCLUSIONS – realization of aims and future perspectives

Considering that only approximately a third of applied-for money was granted, the aims of the study were met very well. This was made possible by the fact that a) new data were collected using other funds, b) existing data and record linkage were mainly used, and c) junior researchers succeeded in their grant and post applications or worked in their free time to complete doctoral theses. The senior researchers were very experienced and there was a solid base for working together and carefully organising databases for record linkage.

The prioritization of research topics in a research group that has wide databases and competence always depends at least to some extent on available resources. Socioeconomic health differences had already been a topic of interest for years but without these specific resources (however small) it is likely that interest would have moved more to other fields.

The project brought new results contributing to understanding the mechanisms (theory) of socioeconomic health differences. An application for a postdoctoral researcher position for Leena Koivusilta to continue research on the field has been sent to the Academy of Finland. Another specific topic is school-based differences and locality where new knowledge and theory is needed in connection with this, and an application has been sent to the Academy. An application to the Academy has also been made for a study of differences between population groups regarding new information and communication technology.

6. PUBLICATIONS

1. Articles in international refereed publications

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4. Books and book chapters

Koivusilta L. Health-related selection into educational tracks. A mechanism producing socio-economic health differences [dissertation]. Annales Universitatis Turkuensis, ser.D, tom.394. Turku: University of Turku; 2000.

Koivusilta L, Rimpelä A. Nuoruusiässä luodaan terveyden perusta. (The foundation of health is built in adolescence.) In: Heikkinen E, Tuomi J, editors. Suomalainen elämänkulku. Helsinki: Tammi;2000. p. 155-172.

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