Students´ Health: On Identifying Health Risks and Resources

Type of study: A cross-sectional survey study with comparisons to other European universities

Aims and objectives

The university is of far-reaching importance in the development of young people: as multipliers, young people carry their knowledge and attitudes into other areas of society and therefore conclusively leave their mark on future societal developments. For health promotion, this means that impulses from „Health Promoting Universities" can also reach other sectors of society. Health promotion initiatives in universities have, up until now, concentrated predominantly on individual behaviour. However, extensive approaches to health promotion, which are fulfilled in the criteria set out by the Ottawa Charter (WHO, 1986), are lacking, in particular the formation of networks, the participation of various setting relevant groups, organisational development and the health-promoting arrangement of working, living and environmental spaces.

After „healthy schools", „healthy hospitals" and „healthy cities", the WHO Regional Office for Europe in Copenhagen is striving to establish and network universities as health-promoting settings (Tsouros et al., 1998). The concept of health-promoting universities is based on the experiences of the „Healthy Cities" projects. However, in many European countries, including Denmark, studies involved with the health conditions in the university environment are lacking. Such studies can supply as a basis for health-promoting interventions in this setting. To fill this gap in knowledge the planned project will focus on the largest group of people at the universities, the student population. Making the health of the targeted group visible is a necessary prerequisite for the main objective of the project, which is to identify targets for intervention and to develop strategies for health promotion among Danish university students.

This will be done by:

- *Adjusting an already existing survey instrument*. The questionnaire has been developed at the University of Bielefeld in Germany and is proven to be appropriate for a cross-cultural characterisation of states of health, health behaviours and beliefs, and needs for health promotion of university students.

- *Analysing the factors associated with health behaviours and health status* in terms of predisposing factors (e.g. personal resources), strengthening factors (e.g. peer group behaviour), facilitating factors (e.g. utilisation of medical, psychosocial and health-promoting offers) and influencing environmental factors (e.g. pressure specific to study areas).

- *Comparing the data collected in a university to those from other universities in different countries (Spain, Germany, Denmark, Lithuania and Turkey)* in order to characterise inequalities in students´ health, health risks and resources between the Northern, Southern, South-Eastern, Eastern, and Western European regions.

- *Identifying targets for health-promoting interventions among the students at the different universities.* For identified impairments to health and for protective factors, where students demand for supportive measures in adapting healthy lifestyles, interventional measures will be proposed related to the specific conditions of the particular university or cultural background of the students.

Research plan

Design and methods

The design of the study will be a cross-sectional survey among the first-year students enabling the comparison of this group to student samples from other European universities. The *sample* will represent the first-year student population of this institution and follows the sampling guidelines and procedures all European partners (see list below) have agreed upon in a consensus meeting to provide comparability of survey data:

- The sample aims at the size of 600 participants with an equal number of men and women. This calculation assumes a 95% confidence interval of ±8% around a proportion of 50%.
- The sample consists of first year students (first and second semester) only, and
- The sample consists of students from faculties selected in an effort to adequately represent the ratio of the main groups of subjects (sciences/medicine, social and behavioural sciences, languages) at each participating university.

Survey Instrument

The questionnaire covers the following areas:

- *Socio-demographic information:* age, sex, family status, education of parents, income and sources of income, living situation, religion.
- *Questions about study environment:* study demands and pressures, study satisfaction and well-being at the university.
- *Subjective evaluation of physical health:* self-reported data on weight and height, the list of complaints and illnesses according to Hurrelmann and Kolip (1994), medication intake, utilisation of and satisfaction with medical care.
- *Psychological health measures:* Scale of perceived stress (Cohen et al., 1983), scale of sense of coherence (Antonovsky, 1987) according to the model of salutogenesis, quality of life, sources of stress, and social support.
- *Health behaviours:* physical activity, eating habits, health of teeth, consumption of alcohol, nicotine and other drugs, alcoholism with the screening instrument CAGE (Ewing, 1984), readiness to change behaviour according to the "Stages of Change" model (Prohaska and DiClimente, 1983), risky behaviour when driving, risk-taking sexual behaviour.
- *University-based health promotion:* The need for and interest in health-promoting offers at the campus

Timetable

Project year	*Months*	Preparation and translation of questionnaire	Pre-testing	Survey preparation	Data collection phase 1(spring)	Data collection phase 2 (autumn)	Data entry	Data check	Analysis of data set (national students only)	Combining data set with the international file	Comparative analysis	Proposing of interventions	Reports and publications
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Organisation of the project

Translation and adaptation of the questionnaire

The survey builds on a questionnaire that has already been applied at other European universities (see list of partners). The questionnaire exists in the English, German, Spanish, Turkish, Danish, and Lithuanian language. These translations have been made by a two-step procedure of forward and backward-translation by native speakers from the original German version in order to check for inconsistencies. This two-step procedure will be applied to produce a high quality Danish translation from the original German version. Any new language version of the questionnaire will be pre-tested in a group of 40-50 students.

Data collection

It is planned to administer the questionnaires in the classroom. This sampling procedure has been proven to produce a high response rate (>85%), to be inexpensive and fast. The disadvantage is that students not attending the lectures will not be surveyed. However, this type of selection will not interfere with the aims of the study, because only students who are present at the university represent the target group for university-based health promotion.

As a first step, the rector and the pro-rectors at the different campuses will be informed about the survey project and its aims and asked for their support. In order to approach students in the classes, all introductory courses for first-year students will be selected from the semester schedules of the different faculties and the lecturers will be informed about the study and asked for their participation. The experience from previous university-based studies shows, that only a small proportion of lecturers (<10%) refuses to participate, if they receive the ability to choose the date for the survey. After fixing dates for the data collection trained data collectors will distribute the questionnaires in the classrooms after a standardized instruction and collect the completed forms thereafter.

Data processing

The questionnaires will be prepared in a computerised format at the University of Bielefeld using the Teleform-software (SPSS software systems). The questionnaire will be send in the desired number of copies to the respective university for distribution among the first-year students. Completed questionnaires will be send to Bielefeld. Questionnaires can then be scanned, the data will then be read by a computer and transferred into a SPSS datasheet. The SPSS file again will be send back to the study centre. This procedure is time and cost-effective and promises a high level of data accuracy.

Methods of data analysis

A procedure of three consecutive steps will be used to analyse the data. The *first level* of analysis is done at the individual universities and the focus will be only on the data from the students of the single university. The characterisation of health status, health behaviours and needs for health promotion is planned using methods of descriptive statistics. The *second step* will be to identify factors associated with these outcomes as dependent variables using logistic regression analysis for multifactorial analysis. The independent variables in these models will be gender, the study subject and items of the study environment, which will be tested on their independent associations with health and/or behavioural outcomes. In a *third step* comparative analyses between the different European universities will be done using age and sex standardised rates in order to compare prevalences of certain behaviours and/or health factors. The comparative analysis between the countries will be completed by logistic regression analyses in order to control for potential confounding factors such as age, study subject and gender.

Importance of the project to other disciplines

Since public health and health promotion are interdisciplinary fields, the proposed survey study on students´ health is not restricted to just only one science, but is of relevance for researchers in medicine, psychology, sociology and educational sciences as well.

Relevant existing research and co-operations with other scientists

Research background

There is up to now no research taking data from student samples using a comprehensive approach to gain knowledge about health behaviours, health status and needs for health promotion. Existing studies targeting university students mainly focus

on the health attitutes and health knowledge of medical students (Andersen et al., 1993; Odborg et al., 1995) or student nurses (Sejr and Osler, 2002).
With repect to the comparison of health determinants between different European universities, two larger studies should be mentioned as relevant exisiting research in this field. The European Health and Behaviour Study was performed in two rounds in 1989/90 and 1991/92 at 21 universities or colleges from different European countries (Steptoe and Wardle, 1996, Steptoe et al, 1995). The main focus of this survey was to compare health behaviours across Europe and to analyse predictors of health behaviours in a large sample. However, these data nowadays lack actuality and have not been directed towards the develoment of health promoting programs within the university setting. Another large European study of importance for this proposal is the Health Behaviour in School-aged children (HBSC) study, directed by the WHO, assessing health determinants in pupils across many European countries in order to implement health promotion and disease prevention at the school level using common strategies (Haughland et al., 2001). The present proposal takes up the ideas of the HBSC study and aims at transferring them to the higher educational setting of universities and colleges. Relevant research performed by the data of the Bielefeld University Health Study exists concerning health behaviours and determinants of health in German students (Stock et al., 2001a) with respect to comparative aspects of sexual health between German and Spanish students (Stock et al., 2001b) referring comparisons of health complaints between German, Spanish and Lithuanian students (Stock, 2003).

Co-operations with other scientists

Co-operational relationships exist between the applicant as a member of the University of Southern Denmark and various other European universities. Although these institutions do not represent all European countries they provide a Southern (Spain), Western (Germany), and Eastern (Lithuania) European perspective, and would therefore be ideally completed by Denmark as a Nordic country. Surveys have taken place according to a protocol jointly worked out using a common questionnaire developed by the applicant as a former assistant professor at the University of Bielefeld, Germany. A dataset of the survey data from these co-operating institutions does already exist and is in use for analysis by the applicant. The following partners are involved:

- Francisco Guillen-Grima, MD, PhD, MPH Navarra Public University, Dep. of Health Sciences, Pamplona, Spain
- Abilo Reig-Ferrer, PhD University of Alicante, Health Psychology, Alicante, Spain
- Alexander Krämer, MD, PhD, University of Bielefeld, Faculty of Health Sciences, Dep. of Public Health Medicine, Germany
- Irena Miseviciene MD Dr. Habil, Kaunas University, Medical School, Dep. of Biomedical Research, Kaunas, Lithuania
- Dr. Nazan Bilir, MD, PhD Hacettepe University, Faculty of Medicine, Ankara, Turkey
- Christiane Stock, PhD, University of Southern Denmark, Faculty of Health Sciences, Dep. of Health Promotion Research, Denmark

Ethical aspects

Ethical aspects to be considered in this proposal refer to the security of personal data. Since the survey study will be anonymous and does not include personal data the privacy of the participating students will be completely preserved.

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