

MASTER'S THESIS IN HEALTH SCIENCE

**PUBLIC HEALTH AND HEALTH PROMOTION:
A SALUTOGENIC APPROACH**

ARTICLE I: Moving Towards a Salutogenic Paradigm of Health Promotion: The Significance of Psychosocial Resistance Resources for Health and Well-Being

ARTICLE II: Health Determinants of the Norwegian HUNT Study. Psychosocial Resistance Resources: A Salutogenic Approach

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Levanger 2010

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Trondheim, 2010

Preface

“Good health promotion should be much more concerned with the ‘social ecology’ of our societies. It should show more courage in focusing on the right question: how is health created?”

Ilona Kickbush (1996:6)
Chair of the Editorial Board
Health Promotion International

ACKNOWLEDGEMENTS

I am truly grateful to a number of people, who directly or indirectly have motivated, encouraged and guided me through my journey of writing this thesis. Thank you, Professor Geir Arild Espnes at the Institute for Social Work and Health Science, NTNU and Dr. Monika Eriksson at the Division of Health and Culture, University West, for your competent supervision, enthusiasm, and constructive comments. You have served me with a salutogenic guiding light, and made my learning process more comprehensible, manageable and meaningful. A special thank you to Aaron Antonovsky, whose work has been of great significance in my life, both personally and professionally. My profound thanks are also directed to Professor Bengt Lindström and Professor Corey Keyes for their lectures and salutogenic insight, providing me with great inspiration throughout writing this thesis.

I also wish to express my gratitude to my colleagues and leaders at the municipals of Levanger and Verdal for their interest and support throughout this process. I am grateful to have a job where the thoughts of salutogenesis are flourishing, providing me with a crucial asset for health and well being – job satisfaction! A special thank you to Turid Krizak and Tore Fjerdingen for your motivation and support. I would also like to thank my fellow students, and especially express my appreciation to my dear friend Ingrid Soknes Aunet for numerous great discussions. My deepest gratitude is reserved for my family, especially to my patient and loving husband, Preben, and my precious baby boy, Jacob. You are truly the greatest “resistance resources” of my life, providing me with much needed support in stressful times and teaching me what life really is about. Last, but not least, I am indebted to the inhabitants of the County of Nord-Trøndelag and HUNT Research Centre for providing me with the data, which this study is based upon.

MAIN INTRODUCTION

This master thesis consists of two articles. The first article provides an overview of the historical and conceptual development of health promotion in the context of public health and the impact of psychosocial resources for positive health development. Pointing to the persistence of the pathogenic disease orientation and central limits of risk factor approaches for discipline development of health promotion, the salutogenic orientation of Aaron Antonovsky is presented as a more viable paradigm for health promotion research and practice. The second article enclosed is an empirical investigation of associations among self-rated health, subjective well-being and central psychosocial resistance resources identified in one of the world's largest health surveys, the Nord-Trøndelag Health Study (HUNT). Hopefully, this thesis can provide some salutogenic insights into vital determinants of health and well-being, contributing to further development of an efficient evidence base for health promotion.

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ARTICLE I

MOVING TOWARDS A SALUTOGENIC PARADIGM OF HEALTH PROMOTION: THE SIGNIFICANCE OF PSYCHOSOCIAL RESISTANCE RESOURCES FOR HEALTH AND WELL-BEING.

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Abstract: Historically, the promotion of population health has been dominated by pathogenic, biomedical approaches, focusing on problems and risk factors of individuals and populations. Surely, deficit perspectives are crucial to identify needs, challenges, and priorities for actions. However, in their essence, pathogenic approaches have been shown to be insufficient in promoting health and well-being amongst individuals and societies, as they have a propensity to ignore psychosocial dimensions as well as capabilities and resources for health and well-being. To a large extent, pathogenic approaches necessitate professional resources and high levels of dependency to health and welfare services, as they tend to disempower individuals and societies. Thus, pathogenic approaches do not possess the key to solve challenges of the new disease panorama as well as social inequalities in health. Health promotion essentially emerged as a response to this critique, embracing a holistic resource perspective of health and searching for processes of enabling people to increase control over and improve their health and quality of life. However, health promotion suffers as an immature discipline for lack of a coherent theoretical framework to guide the field. Drawing from the historical development of health promotion, the present article proposes a salutogenic orientation of “what creates health” as a more viable paradigm for health promotion research and practice. Implementation of a salutogenic paradigm of health promotion could re-balance the efforts of public health work towards a better understanding of the factors that influence health and well-being, and what can be done about them. Thus, a salutogenic paradigm, including a profound focus on psychosocial resources, could revitalize systematic efforts to building an efficient evidence base and best practice in public health work. That is, a salutogenic paradigm could maximise the accumulation of key resources necessary for promoting health and making further progress towards unlocking the main health challenges of our time.

Key words: Public health, health promotion, salutogenic theory, Anonovsky, psychosocial resources.

INTRODUCTION

Health is a fundamental resource for individuals as well as for social and economic development in societies. The present article is about improving people's health. However, this statement is not unambiguous and leads to a series of philosophical and theoretical questions as follows: What is health? Where is health created, and which factors are important determinants in improving health? These questions have been part of our intellectual heritage for centuries and are just as relevant today.

The 20th century brought greater health gains for human populations in the industrialized world than in any other historical period. Rise to wealth, developed welfare systems, progress in science and technology and the evolution of modern medicine has contributed to a significant increase in the population's average lifespan and a massive reduction in infant mortality. Coupled with this progress, however, great threats of public health have also changed dramatically both for individuals and societies. The most obvious reason might be the changing nature of illness itself as well as the society's response to this change (Nettelton, 2006; Anonovsky, 1996a). In the second half of the 20th century, there was a significant shift in the disease burden from a decline in predominantly acute, life-threatening infectious diseases to a severe increase in chronic, often "non-life-threatening", lifestyle-related conditions (i.e., non communicable diseases) such as cancer, diabetes mellitus, obesity, cardiovascular disease, muscular- and skeleton-related problems and mental illness (Davies and Macdowall, 2006; Hanson, 2007). Life expectancy is also increasing, causing an aging population where such chronic conditions are more prevalent (Nettelton, 2006; Sidell, 2007). In addition, the disease panorama displays a clear social gradient in health, where social inequalities represent an extended problem (Lindström and Eriksson, 2010a; Macdonald, 2005; Dahlgren and Whitehead, 2007; Marmot, Ryff, Bumpass, Shipley and Marks, 1997), and despite obvious objective improvements in the population's health, the numbers of people receiving disability benefits are becoming more frequent, and work-related sick leave is enormous (Norwegian Ministry of Health and Care Services 2003; 2009).

This picture represents fundamental short-comings in the way we address such challenges. Traditionally, the biomedical paradigm has ruled the health field, including public health. Thus, the main aim of public health has become to protect and prevent people from risk and dangers – not to empower people and societies to take responsibility for their own health.

This development is unquestionably demanding. As a result, there is a substantial increase in the use of health care services in industrialized countries, even though mortality and the prevalence of infectious diseases are historically at a low (Skolbekken, 2000; Geyer, 1997). Surely, the biomedical deficit model is still crucial, but the need for new knowledge and new intervention strategies is evident. There is an obvious imbalance in systems that nearly put all their money and status into treatments of disease to the relative neglect of the promotion of the health and well-being of individuals and populations. To a large extent, this development encourages professional dependency and medicalization, as it basically disregards human potential strengths and the power of people to enhance their own health (WHO, 1986; Lalonde, 1974; Norwegian Ministry of Health and Care Services 2003; 2009, Macdonald, 2005).

Health promotion offers an alternative approach to the biomedical deficit model, focusing on a holistic perspective of health and strengthening people's own resources and capacities for health. Although the resources for health and well-being are many, health promotion theorists and researchers broadly agree that psychosocial resources are amongst the most powerful of positive health determinants (Krieger, 2001; Martikainen, Bartley and Lahelma, 2002; Naidoo and Wills, 2000; Macdonald, 2005; Stroebe, 2000). However, the insights and efforts of health promotion still fail to truly complement the well-established science of pathogenesis. Hence, health promotion, including the positive powers of psychosocial resources for health and well-being, still has a long way to go to reach its full potential, both within science, and practice and policy. As Antonovsky clearly pointed out: "The concept of health promotion, revolutionary in the best sense when first introduced, is in danger of stagnation. This is the case because thinking and research have not been exploited to formulate a theory to guide the field" (Antonovsky, 1996b:11).

The biomedical or pathogenic paradigm, where health is created through the elimination of risk for disease, still dominates the field of public health (Eriksson and Lindström, 2008). Surely, this is not a positive way to promote health. Thus, it has been increasingly apparent that improving the evidence-base of health promotion and evolving its underpinning theory is essential to make health promotion thrive as a scientific discipline and further to develop efficient health promoting interventions (Lindström and Eriksson, 2006; Seligman, 2008; Raphael, 2000). The salutogenic approach (i.e., the origin of health) focuses on resources for health and health promotion processes, including widespread attention towards psychosocial resources for health

and well-being. The salutogenic theory was first formulated by Aaron Antonovsky who raised the crucial question of why some people, despite stress and hardship, stay healthy while others do not. In his search for answers, he found interest in factors fostering health and well-being instead of narrowing his answers to determinants of disease. The philosophy behind the salutogenic theory harmonizes well with the essence and values of health promotion. However, the full potential of the salutogenic theory has not been properly exploited in spite of obvious theoretical similarities (Eriksson and Lindström, 2008).

Main aims

The aims of the present article are three-fold. First, it provides an overview of the historical development of health promotion and salutogenesis in the context of public health. Second, it reviews previous research on central psychosocial resources for health and well-being with a particular focus on self-esteem, social support, community connectedness, education and job satisfaction. Third, the paper aims to contextualise the salutogenic theory as a tool in developing the paradigm of health promotion, attempting to examine practical implications for further research.

HISTORICAL BACKGROUND: A CHARACTERISATION OF HEALTH PROMOTION

The origins of health promotion are complex, and no single source has caused its emergence. However, scientific and practice development is often driven by critical reactions to previous standards, and in the case of public health and health promotion, this is clearly evident. To advance a fuller understanding of health promotion as a practical and scientific discipline and to examine the prospects of the future, it is necessary to take a look at some of its historical and theoretical roots. The present article provides a short summary.

In its modern form, organized work to prevent disease and promote people's health originates from the Age of Enlightenment, recognised by an explosive progress in the natural sciences. This led many to believe that the world was patterned and predictable and that nature could be completely unravelled and explained in terms of mathematics, biology, chemistry and physics. Hence, a strong optimism prospered in the ability of humans to take control over nature

and manipulate their own destiny (Lupton, 1995). These ideals were also heavily adopted by medical science, also discussed as the biomedical paradigm. From the middle of the 17th century, public health work advanced, motivated by the negative consequences of the Industrial Revolution and the scientific breakthroughs of the time. Economic progress further contributed to improved living conditions. All together, this accumulated a significant improvement of public health in the Western world (Naidoo and Wills, 2000). However, after the sanitary renaissance of public health at the end of the 19th century, public health had become more or less a low-priority issue in many countries, as the enterprise was concentrating on treatments of disease. The existing initiatives were heavily dominated by the biomedical paradigm, focusing on individual and behavioral risk factors and how to prevent the occurrence of specific diseases, included the efforts made through health education with professional instructions on risk-reducing lifestyles (Eriksson and Linström, 2008). Furthermore, a large part of initiatives and interventions was of medical and pharmaceutical character, creating a health-care oriented, expert-dominated, dependent relationship between lay people and professionals (Whitehead, 2004; Nettelton, 2006).

Within the field of public health, health promotion can be conceptualized as an opposing movement, which confronts and replenishes the traditional pathogenic approach in public health work. The debate has been so intense that a new title emerged to distinguish it from the previous: *The New Public Health* (Bunton & Macdonald, 2002). But what really caused this heated discussion? Historically, health promotion can be traced back to the aftermath of the Second World War. At this time, large parts of the world experienced rapid changes in their cultural, material, technological and social context, including fast-evolving industrialization and urbanization since the 19th century. This also led, as previously described, to a dramatic change in the disease panorama in the Western, post-modern world. However, after several wars, depression and social injustice, the dream of an ideal world was reborn. The spirit of the age became heavily coloured by the interest and engagement in human rights, antiauthoritarian trends and emancipation of marginalized groups (Nettelton, 2006; Eriksson and Lindström, 2008). This was manifested in the creation of the United Nations and its special agencies, a global community where all participating nations could create good societies, guarded and guided by this common institution. For public health, this meant the creation of the World Health Organization established on 7 April 1948 (Lindsström & Eriksson, 2006).

The preamble to the constitution of the World Health Organization, a redefinition of “health,” was adopted by the International Health Conference of New York in 1946 and entered into force on the constitutional day of WHO in 1948. The traditional, biomedical understanding of health as the absence of disease was now replaced by the following: “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 1948). This definition was inspired by the concept of psychosomatics, a revolutionary concept when first introduced in the 1930’s, suggesting that something in the mind, as well as the social environment, could generate physical reactions (Antonovsky, 1996b; Stroebe, 2000). Thus, the WHO’s definition comprised considerable importance for the development of health promotion, because it stressed the fact that health is more than simply a physiological and medical issue (Hanson, 2007). As a result of this reorientation, the traditional expert-dominated and disease-oriented approach of public health was increasingly challenged. Inspired by the contemporary issues of its time, a new movement began to rise as a radical branch of public health, referred to as health promotion (Bunton and Macdonald, 2002). Health promotion essentially emerged in the 1980s as a unifying concept that built upon and brought together a conglomerate of disciplines as a reaction to the disease-oriented and victim-blaming approach of public health.

In the short history of health promotion, a handful of significant events have directly contributed to outline this new and flourishing tradition. Health promotion first emerged as a concept in 1974, when Marc Lalonde, the Canadian Minister of National Health and Welfare, first introduced the term “health promotion” in the report *A New Perspective on the Health of Canadians* (Lalonde, 1974). In short, the basic message was that critical improvements within the societal environment and in lifestyle-related behaviour could lead to significant reductions in population morbidity and mortality (Bunton and Macdonald, 2002). He also maintained that the biomedical model was too limited to explain health (Eriksson and Lindström, 2008). The Lalonde report prompted a series of initiatives orchestrated by the World Health Organization (WHO), starting with the Alma Ata Declaration in 1977, which committed all member countries to the principles of Health for All (HFA 2000). The HFA strategy, implicitly combining both lifestyle and structuralist approaches, incorporated a commitment to community participation and inter-sectional action, which now are accepted as central values in the field of health promotion (Bunton and Macdonald, 2002).

However, the first international WHO conference on health promotion was held in Ottawa, Canada, in November 1986. The conference concluded with the formulation of the Ottawa Charter, which is widely considered the most important watershed event in the history of health promotion. The charter has had a profound influence on the essence of health promotion as a discipline as well as the development of health policy in many countries. Health promotion was defined as “the process of enabling people to increase control over, and to improve, their health” (WHO 1986). Embracing a holistic definition of health, the charter endorsed the enablement of individuals and groups to identify and realize aspirations, to satisfy needs and to change or cope with the environment in order to reach a complete physical, mental and social well-being. Moving forward from the WHO’s definition of health, the charter maintained that health is a positive concept emphasizing social and personal resources as well as physical capacities. Health was now further defined as a resource for everyday life and not the object of living. Entailing a fundamental respect for human rights, the Ottawa Charter (WHO 1986) focuses on identifying a number of factors and requirements for positive health development in a global context. This incorporates the need for peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice and equality of status. Thus, improvement in health requires a secure foundation in these basic prerequisites. In this way, the charter changed the primary focus of public health from risk of disease to resources for health (Eriksson, 2007; Naidoo & Wills, 2000). Five principal areas for health promotion action were outlined by the Ottawa Charter: Building healthy public policy, creating supportive environments, strengthening community action, developing personal skills, and reorienting health services. In addition, the charter also included three procedures through which people could begin to take control of and improve their own health -- advocacy, enablement and mediation (WHO, 1986; Bunton and Macdonald, 2002).

Developing in a very optimistic, historical period, the health promotion movement was considered a valid response to a rapidly changing world. Similar to the hygienic movement of the 19th century, health promotion also embraced environmental and contextual factors. But in addition to physical aspects, the movement also comprised social, psychological, cultural and spiritual factors--factors that were highly associated with the new disease panorama of lifestyle-related diseases, psychosocial problems and chronic illness. Most of all, rooted in the social sciences and humanities, health promotion represents a bio-psycho-somatic perspective, which focuses on a holistic view of health rather than the aetiology of disease. This clearly opposed

biomedical preventionism and its affiliation in the natural sciences, which integrates the principles of reductionism and determinism into its research and practice (Nettelton, 2006; Lupton, 1995; Macdonald, 2005). As an emerging discipline, health promotion integrated the insights of health education and built upon and brought together a series of different disciplines such as psychology, sociology, social policy, medicine, didactics, economics, ethics, philosophy, ecology, and marketing (Davies and Macdowall, 2006; Bunton and Macdonald, 2002). Accordingly, health promotion, by its nature, became highly multidisciplinary.

This shift towards holism and ecology was also manifested through a shift of focus on the arenas where health is created. Health promotion advised to move the practice of public health towards the places where people live, love, work and play (WHO 1986). Health was generally considered a resource, built and maintained primarily outside the walls of the health sector. Thus, other institutions besides the health sector were included as central parts of public health work. In the context of health promotion, the primary goal of public health became to empower people and societies to gain greater control and influence over factors determining their health, in addition to building coping capacities and positive resources for health at the individual, group and societal levels. Thus, by encouraging the population to be co-producers of health rather than simply consumers, the demand on scarce resources would be reduced (Davies and Macdowall, 2006; Morgan and Ziglio, 2010). A focus was also directed towards influencing political decision-making to build a healthy public policy that supports and empowers politicians and decision-makers to make health-promoting a priority. Thus, inter-sector policy change--a healthy public policy--became essential. This meant the advocacy of clear political commitment to health and equity in all sectors (WHO 1986). Participation and partnerships were regarded as essential to sustain efforts. Professionals and lay people were considered equal partakers and collaborators, and the process itself – besides the result -- was regarded as vital (Mæland, 2005; Medin and Alexanderson, 2000; Solli, Mysterud, Steen and Fugelli, 1996; Naidoo og Wills, 2000). The health promotion movement was characterised, therefore, by scepticism of technological and expert-dominated solutions in the field of public health, conceptualized as a indicator for a emanating anti-rational trend in the end of the 20th century influenced by radical political philosophy, feminism, ecology and consumerism (Stroebe, 2000; Davies and Macdowall, 2006; Mæland, 2005).

In the wake of the Ottawa Charter and its precursors, health promotion initiatives have

continued to flourish across the world. Since 1986 and the benchmark conference of Ottawa, the WHO has followed up with a series of international conferences concerning different contents related to health promotion. The latest world congress was arranged in Nairobi, October 2009, with the adoption and declaration of the “Nairobi Call to Action”, which identifies key strategies and commitments urgently required for closing the implementation gap in health and development through health promotion. This includes strengthening an efficient evidence base for further action (WHO 2009). Alongside the WHO initiatives, research groups, scientific journals, educational programs and health promotion centers across the world have all been partakers in developing this emerging discipline (Downie, Tannahill and Tannahill, 1996). Today, the Ottawa Charter and the thoughts, visions and values represented by it, still remain the basic core of health promotion: human rights, equity, empowerment and engagement (Davies and Macdowall, 2006). However, there is still a long way to go to truly implement the content of the Ottawa Charter in public health work, including a renewed focus on psychosocial determinants for health and well-being. Alongside the historical development of health promotion, the biomedical initiatives of disease prevention and treatment have remained in position. In present times, the biomedical tradition of disease prevention still dominates the field of public health and remains even more powerful than 50 years ago (Nettelton, 2006).

A SALUTOGENIC ORIENTATION – AN ASSET MODEL OF HEALTH

About the same historical time as the development and constitution of the Ottawa Charter, the American Israeli sociologist Aaron Antonovsky (1923-1994) posed the crucial, salutogenic question of “what creates health.” The term salutogenesis derivates from the Greek *salus* (=health) and *genesis* (=origin), i.e., the origin of health. The salutogenic theory was first presented by Antonovsky in 1979 (*Health, Stress and Coping*) and further developed in 1987 (*Unravelling the Mystery of Health*). Through his work, Antonovsky turned the traditional question of the aetiology of disease upside down, focusing on the explanations for health: How do people manage to maintain and develop their health, and what factors make this positive process happen? Simplified, the salutogenic theory is developed to answer these questions.

Antonovsky reached his salutogenic insights while conducting an epidemiological study on menopausal problems of Israeli woman born in Central Europe between 1914 and 1923.

Among these were also women who had survived the cruel concentration camps of World War II. Some of these women stood out as quite special and therefore gradually became the centre of Antonovsky's interest. Despite the fact that these women had experienced severe stress and trauma, many of them, surprisingly, had the capacity to live a good life and maintain good health (Antonovsky, 1987). At this time, Antonovsky asked: How can this be explained? Why is it that despite the struggles and distress in our lives, most of us survive and eventually keep on living happy lives? Life is never free of contrary wind. Disease, chaos and stress occur everywhere – it is a natural part of life. Antonovsky also pointed out that life stressors and obstacles are not always negatively valued. These “stressors” are also what contribute to nuances and meaning in life (Antonovsky 1979). The key question, however, is the way people cope with and overcome such obstacles, what resources they have to meet the demands of life, and what their global, existential orientation is towards life. According to Antonovsky, the answers to these questions are basically what determine the state of an individual's health at a given point of time (Antonovsky, 1987; Lindström and Eriksson, 2006).

In his research, Antonovsky found that people who moved toward the health end of the continuum and enjoyed great health shared some common characteristics: They were able to form a specific life orientation that was described as a sense of coherence (SOC), e.g., the ability to comprehend the whole situation through problem-solving solutions and the capacity to use and reuse the resources available for them to do so (Antonovsky, 1987; Lindström and Eriksson, 2005). SOC is expressed as “a global orientation that expresses the extent to which one has a pervasive, enduring, though dynamic feeling of confidence that (1) the stimuli from one's internal and external environments in the course of living is structured, predictable and explicable; (2) the resources available to one meet the demands posted by these stimuli; (3) these demands are challenges, worthy of investment and engagement” (Antonovsky, 1987:19). This means that the more individuals understand the world they live in and to what extent they perceive their existence as *meaningful, comprehensible and manageable* (i.e. the three dimensions of SOC), the more they can utilise the resources they have within themselves and in their environment to maintain and develop their own health. These particular resources were described as generalised resistance resources (GRRs). The GRRs also play a central role in the development of the SOC, and are therefore key components in the explanation of salutary processes. Several dimensions of GRRs were outlined by Antonovsky, which further can be

segregated into three major segments: (1) biological, (2) material and (3) psychosocial factors (Lindström and Eriksson, 2006). All these GRRs share the basic principle of providing sets of meaningful, coherent life prerequisites that facilitate effective tension management (coping) and surviving (Antonovsky, 1987; Volanen, Lahelma, Silventoinen and Suominen, 2004; Eriksson, Lindsström and Lilja, 2007). Typical GRRs are money, knowledge, experience, self-esteem, healthy behaviour, commitment, social support, cultural capital, intelligence, traditions and view of life (Antonovsky, 1987; Lindström and Eriksson, 2006). These kinds of resources in people's immediate surroundings improve the chance for individuals to better deal with the challenges of life.

Antonovsky rejected the traditional dichotomisation of health and disease and stated that health is a resource that we all, to some extent, possess (Antonovsky, 1979; 1987). Health is conceptualized as a dynamic continuum between “ease” and “dis-ease,” where the creation of health is assumed to be a process of interaction between the internal and external resources of individuals and their environment. The salutogenic theory of health is inspired by an ecological system theory, assuming the human nature to be heterostatic rather than homeostatic. Thus, health is perceived as a resource that can be built up or torn down through the entire lifespan. Accordingly, good health is considered a position on a health ease/dis-ease continuum with a constant movement in the direction of the healthy end of the axis (Eriksson & Lindsström, 2006; 2008). Equally to the general understanding of health within the field of health promotion, Antonovsky also adopted a positive, holistic concept of health. Thus, the salutogenic health concept integrates physical, mental, social and spiritual health on an individual, group or societal level.

The river of health

The salutogenic model emphasizes the success and not the failure of individuals, and searches for the foundations of positive patterns and assets for health as opposed to the foundations of negative outcomes (Morgan and Ziglio, 2007). Antonovsky illustrated the core of salutogenesis with the metaphor “The River of Life.” Traditionally, the difference between the biomedical “repair” model and public health has been described through a metaphor of a river, moving from the “down-stream-thinking” of treating disease, to “up-stream-thinking,” which is preventative: we prevent people from drowning in the river by building fences and supplying them with life

vests. The protection and prevention paradigm within public health focuses on disease and how to avoid it, and the objective becomes to keep people from drowning in the river by reducing and/or removing risks. This is mainly done through expensive technological interventions as well as professional and expert-dominated rules of healthy behaviour (Antonovsky, 1987; Eriksson and Lindström, 2008). According to Antonovsky, it is not enough to protect people from drowning in the river. Instead, people have to learn how to swim (Antonovsky, 1987; Eriksson and Lindström, 2008). Thus, the salutogenic approach has a different way of explaining the river metaphor. Here, health is essentially being created in “The River of Life,” where the stream flows vertically with a continuous waterfall following the whole riverside instead of the traditional horizontal view. At birth, we are all dropped into the river. Some are born in a part of the river where there are many resources available to keep them floating, while others need to struggle harder to stay there. The river, like life itself, is full of risks and resources. Thus, our journey in the river and the risk of going over the rim into the waterfall, basically depends on our ability to swim – that is to identify, use and reuse the resources available for us to improve our health and prospects of life (Eriksson and Lindström, 2008; Lindström and Eriksson 2010b). Surely, “upstream thinking”, including prevention and protection, is still crucial in public health work, but in this process, we need to focus more on the factors enabling people to stay in and enjoy their journeys in the river.

Salutogenesis – Broadening and developing the concept

The idea of studying positives instead of negatives is far from new. Philosophical reflections on “the good life” were central to ancient Greek philosophers and other early humanist writings. However, somewhere along the way, this flourishing tradition got lost and was essentially considered “unscientific” by most researchers concerned with health (e.g., the absence of “disease”) (Boniwell, 2008; Baltes and Freund, 2002). Thus, as described, Antonovsky was the first to pose the salutogenic question of “what creates health” in a modern, scientific context. Although Antonovsky is said to be the “inventor” of the salutogenic question, salutogenesis concerns a whole lot more than the concept of Sense of Coherence (Eriksson and Lindström, 2010; Lindström and Eriksson 2010b).

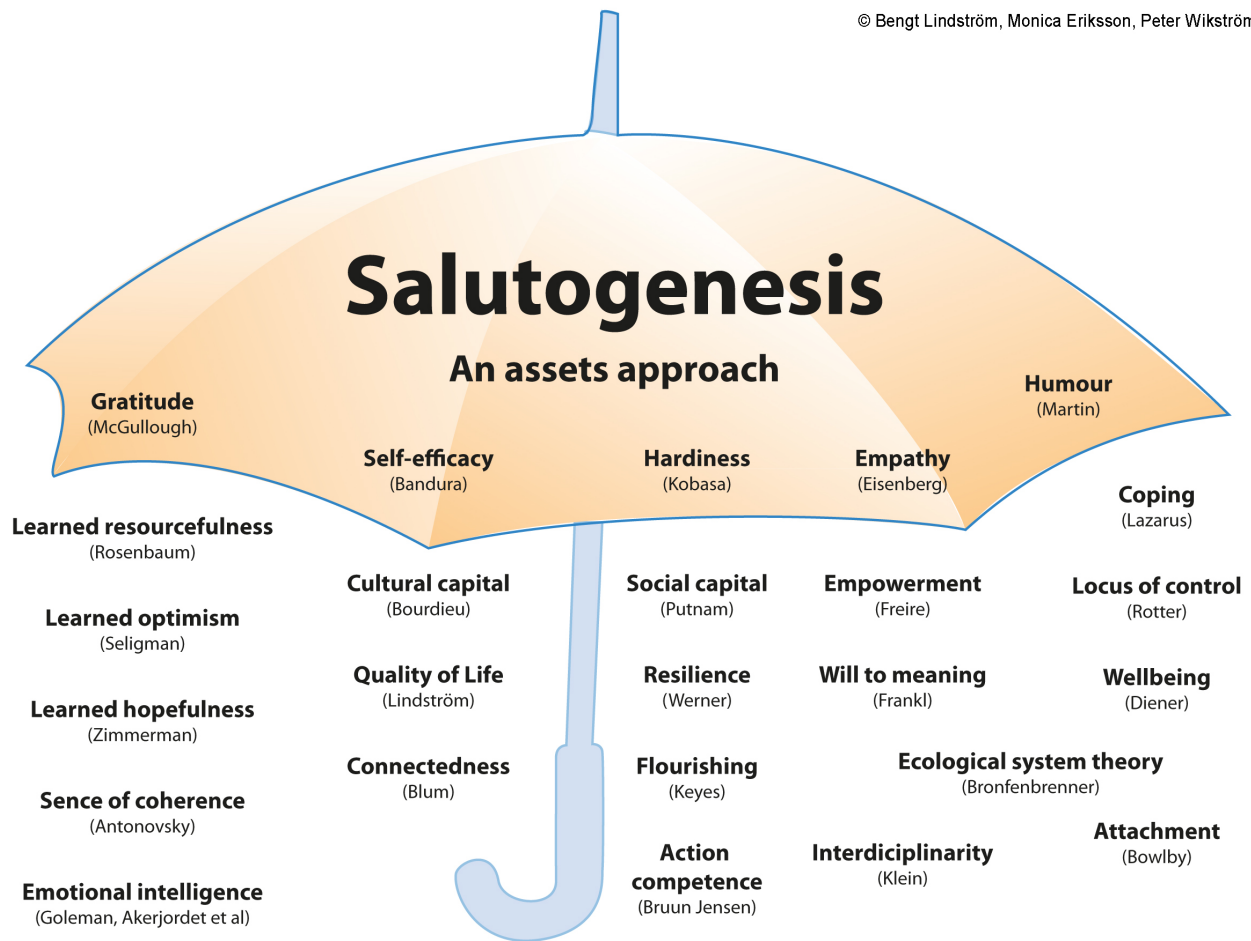


Fig 1. The salutogenic umbrella – some convergent concepts and theories contributing to the explanations of health and quality of life (Lindström and Eriksson, 2010b:55).

In his second book, Antonovsky himself pointed out theoretical concepts such as “Resilience” (Werner and Smith, 1982) and ‘Hardiness’ (Kobasa, 1979; Kobasa, Maddi and Kahn, 1982) as highly related to his salutogenic theory. In recent times, several theoretical models and frameworks have been developed within the context of salutogenesis, especially within the field of “positive psychology” (for a comprehensive overview, see Snyder and Lopez, 2005). Today, a number of theoretical concepts sharing similarities with Anonovsky’s salutogenesis exist. What they have in common is a focus on resources for health and well-being – an interest in how some people manage to stay well and live flourishing lives despite stressful conditions.

Thus, it is argued that we should rather talk about a “salutogenic umbrella”-- a salutogenic paradigm embracing all these convergent concepts and theories contributing to the salutary explanations of health and quality of life (Eriksson and Lindström, 2008; Lindström and Eriksson, 2006). The “salutogenic umbrella,” developed by Monica Eriksson, is illustrated by the figure above (fig. 1) (Lindström and Eriksson, 2010b:55). This figure illustrates some of the concepts and theories that can be classified as “salutogenic.” In addition to the focus on resources, another similarity between the “assets approaches” is that most of these theories and concepts have a profound focus on psychosocial resources for health and well-being. Thus, a closer look at this crucial area of assets is needed. First, however, it is necessary to discuss the basic outcomes of psychosocial resources and health promotion -- health and wellbeing.

THE AMBIGUOUS RELATIONSHIP BETWEEN HEALTH AND WELL-BEING

The Ottawa Charter, the salutogenic theory of Antonovsky, as well as other salutogenic-oriented theories, stress the importance of the subjective dimensions of health and well-being. However, the relationship between these constructs is somewhat ambiguous. There has been a long and rich history of attempts to define health. However, the understandings of health are disunited, as the term “health” symbolises different things to different people. Thus, there is no easy formula for the achievement of good health, as the presumed determinants of health are coloured by the perspective of current interest. Traditionally, health has been investigated in terms of the pathogenic, biomedical approach, where health generally is defined as the mere absence of disease. Logically, in this perspective, health is achieved when risks of disease and/or objective disease tracers are diminished and eliminated. However, this definition leaves no room for subjective dimensions of health and well-being, nor does it take ecological systems of health-promoting capacities into account.

Surely, the biomedical definition of health was suitable when infectious diseases were the greatest threats of public health. Now, however, the diagnostic picture is altered. Objectively, people in Western societies have never been healthier. But increased life expectancy has also increased the number of years spent with chronic- and non-life-threatening illness. Further, there has been an explosion of lifestyle-related and psychosocial problems, even amongst young people (Norwegian Ministry of Health and Care Services 2003; 2009; Dahlgren and Whitehead,

2007). Thus, due to increased living expectancy, improved living conditions and general prosperity in industrialized countries, the real health concern eventually becomes quality of life, not the absence of disease (Antonovsky, 1979). These alterations have stimulated a re-evaluation of health, including the role and responsibility of health institutions in taking responsibility of people's health (Stroebe, 2000). As Antonovsky (1984) pointed out, all of us, by virtue of being human, are in a high-risk group. Thus, in terms of promoting health of societies, groups and individuals in the industrialized post-modern world, the biomedical, negative definition of health has essentially been shown to be insufficient. In contrast to the biomedical definition of health, health promotion has generally adopted two distinct, but related, definitions: 1) health as a resource, available for other purposes and 2) health as well-being (Keyes, 2007, Mæland, 2005). These represent positive definitions of health, which are both reflected by the Ottawa Charter of Health Promotion (WHO, 1986).

The concept of negative health basically refers to health as the absence of something unwanted (i.e., disease), while positive definitions of health encompass both negative and positive life conditions as well as quality of life. Thus, poor positive health does not directly accumulate disease. However, it indicates a relationship between the two conceptualizations, assuming that people with poor positive health are more prone to illness, while people holding good positive health regain health easier when sick. As the positive concept of health promotes subjective dimensions, it also implies a respect for the autonomy of each subject. Thus, the meaning of health is created in each case, defined by the person himself and not by the "expert." This way of viewing and defining health produces a more balanced power structure and further reduces the risk of paternalism (Mæland, 2005).

It has been argued that health and well-being in their essence are inseparable, hence causing problematic implications both for theory and research addressing these topics. The WHO's definition of health as "a state of physical, social and mental well-being, and not merely the absence of disease or infirmity" (WHO 1948), basically defines health within the concept of well-being. Despite these ambiguities, Antonovsky (1979; 1987) explicitly argued that health and well-being should be investigated separately because of different theory bases. Although Antonovsky assumed health to play an important role in the well-being of individuals, he stated that defining health as coextensive with many other dimensions of well-being makes the concept of health meaningless and impossible to study. Hence, it is crucial that the nature of this

relationship is subjected to theoretical clarification and empirical investigation (Antonovsky, 1979). The inseparability problem basically rests on the components and indicators used to describe and measure these phenomenon, which leads to a solution for empirical investigation where greater clarity is needed. Hence, Bogner (2008) especially stresses the need for distinguishing between different dimensions of well-being, as health often is considered a component of or predictor for various kinds of well-being.

Research on well-being has increasingly recognised the different streams of theory guiding this broad domain, which basically can be divided into two major traditions: 1) The eudaimonistic perspective (often referred to as psychological well being), focusing on positive functioning including ways of thought and behaviour that foster engagement and fulfilment, and 2) the hedonic perspective, focusing on happiness and positive feeling including elements of mood and life satisfaction. This perspective is often referred to as subjective, or emotional, well-being (Keyes, Ryff and Shmotkin, 2002; Keyes and Magyar-Moe, 2003, Diener, 2000). Subjective well-being (SWB) refers to evaluation of life in terms of satisfaction and the balance between positive and negative affect (Keyes, Ryff and Shmotkin, 2002), whereas happiness is based upon spontaneous reflections of pleasant and unpleasant feelings in a person's immediate experience. Life satisfaction represents a long-term assessment of one's life (Keyes and Magyar-Moe, 2003). Although the concept of life satisfaction is theoretically different from the amount of positive or negative affect a person experiences, it is apparent that affect and life satisfaction are interrelated (Lucas, Diener and Suh, 1996).

Public health work has changed over the past decades. Since the WHO definition of health was written in 1946, defining health as something "complete" has increasingly been criticised as being utopian, medicalizing human existence unnecessarily. Defining health as something complete basically creates a dichotomous understanding of something complete versus something incomplete. As implied, therefore, this definition still defines health as the absence of disease (Lindström and Eriksson, 2010a). In line with Antonovsky's idea of health as a continuum, Lindström and Eriksson (2010a) propose a continuum model with three different dimensions: Disease and its opposite "contra-disease," health and its opposite "contra-health" and well-being and its opposite "contra-well-being." This dynamic perception assumes that the state of health, contra-disease and well-being are situated in separate, but related poles. Thus, a person with high levels of well-being may have a medium degree of health and a high degree of disease.

Or, contrarily, a person may have low levels of well-being and quality of life and a high degree of health with no disease. In fact, Lindström and Eriksson (2010a) argue that one can imagine any combination of the three dimensions.

How health and well-being are understood and defined is ultimately what determines exactly what should be promoted when theorizing about and performing health-promotion activities. If health is understood as the mere absence of objective, measurable disease, the promotion of health will necessarily be understood as synonymous with prevention of the risk and occurrence of disease. A holistic and resource-oriented perspective, where health is considered as a subjective resource for life and not the object of living (WHO 1986), might be the most fruitful way of viewing health in the context of health promotion. As this definition partly separates the concept of health from the realm of well-being, it is apparent that both health (i.e., a resource for everyday life) and well-being (i.e., quality of life) become central outcomes for health-promotion practice and research. However, in general, there is much more knowledge and evidence on the causes and treatment of disease (pathogenic orientation) than the causes and maintenance of good health (salutogenic orientation). One obvious reason for this is the comparative lack of theoretical and empirical knowledge base within the field of health promotion (McQueen, 2001; Raphael, 2000; Rychetnik and Wise, 2004; Bauer, Davies, Pelikan, Noack, Broesskamp and Hill, 2003; McQueen, 1996). In this picture, knowledge about psychosocial resources is vital. The present article provides a short review of previous research contributing in this matter:

PSYCHOSOCIAL RESOURCES FOR HEALTH AND WELL-BEING

Many central determinants for health have improved dramatically in industrialized societies throughout history. Clean water, more than enough food, sanitary systems, general prosperity, and material resources have, amongst other factors, contributed to increased longevity in populations. However, it has been argued that the development of our society also accumulates a significant decrease in other segments of basic resources for health and well-being, creating a movement towards the dis-ease end of the continuum for individuals and societies. Accordingly, Eckersley (2006) raises an important question: “Is modern Western culture a health hazard?” In times when materialism and individualism (e.g., the pursuit of individual success) by many is

recognized as the highest of all values, what then happens to the virtues of being in touch with oneself, caring for others, and engaging in the community? Eckersley (2006) argues that cultural factors such as materialism and individualism are underestimated determinants of population health and well-being in Western societies, as evidence links cultural factors via psychosocial pathways to the development of health and well-being. Both individualism and materialism have conferred benefits to health and well-being in the past, but now these values appear to have passed a threshold, where rising costs exceed diminishing benefits (Eckersley, 2005). It may therefore seem like a paradox that today's promotion of images and ideals of "the good life" serve the economy very well, but essentially fail to meet basic human psychological needs or reflect social realities.

The creation of health and well-being is inextricably linked to social, cultural and emotional factors. Thus, health can be conceptualized as the interaction between the self, the community and the environment. A social-ecological approach is therefore required to gain a fuller understanding of the creation of health (Kickbusch, 1996). In times when health was synonymous with the absence of disease and merely addressed physical factors, psychosocial aspects and assets for health and well-being were more or less neglected in a scientific context. However, alongside the development of health promotion and salutogenesis, promoting a holistic perspective of health and the importance of studying psychosocial resources for health and well-being has gained increased attention during the past few decades. Psychosocial resources for health and well-being is now perhaps the most promising field of research in health promotion (Martikainen, Bartley and Lahelma, 2002; Stroebe, 2000; Seligman, 2003).

To gain a fuller understanding of the creation of health and well-being, more knowledge about psychosocial assets for health and well-being is needed. Such assets can be conceptualised as synonymous with Antonovsky's definition of the psychosocial segment of generalised resistance resources (GRR). However, Antonovsky was not particularly accurate when describing and specifying the extension and functions of the GRRs and their interrelations. He did, however, describe ego identity and close interpersonal relationships as the most crucial factors for positive health development (Antonovsky, 1979; Langeland, 2007). These are both generalized resistance resources within the segment of psychosocial factors. But the question now is, what are these factors – or at least examples of such -- and does previous research verify their importance for health and well-being?

Social capital and community connectedness

Research back to Durkheim's study of the causes of suicide has shown that social integration can enhance the well-being of populations (Durkheim, 1897). Where you live and to what extent individuals experience trust, support, integration and security within larger societal and community groups have shown great significance for human health and well-being (Putnam, 2000; Baumeister and Leary, 1995; Whitlock, 2007). The obvious benefits of social support, including a basic attachment to significant others, is therefore found to be vital in a societal and community context. According to Nutbeam (1998), social capital represents a degree of social cohesion, which exists in communities. Thus, it refers to the processes between people that create networks, norms and social trust. The stronger these networks and bonds appear, the more likely it is that members of a community will cooperate for mutual benefit. Antonovsky (1987) also emphasized the relationship between the individual and the community as significant resistance resources. Thus, the concept of connectedness has gained increased attention in recent years, including a focus on community connectedness. Community connectedness (i.e., neighbourhood social capital) and the linkage of mental disorder to geographic areas with certain characteristics has previously been described by Leighton (1959). Communities were ordered along an integration-disintegration axis and compared with the distribution of psychiatric disorders. The empirical findings suggested a causal relationship between increased community connectedness and a decrease in mental health problems in the community population (Leighton and Murphy, 1987; Leighton, Harding, Macklin, Mackmillan and Leighton, 1963). Further studies have later supported these findings (Sørensen, Mastekaasa, Sandanger, Kleiner, Moum, Klepp and Bøe 2002; Sund, Jørgensen, Jones, Krokstad and Heggdal, 2007). There has also been reported a positive relationship between community connectedness and self-rated health (Sund, Jørgensen and Jones et al., 2007) as well as subjective well-being (Davidson and Cotter, 1991; Unger and Wandersman, 1985).

Social support

Social support is an essential element of social capital (Nutbeam, 1998). The beneficial effects of social support on health and well-being have been well documented over the past few decades. Social support has been defined as information from others that one is loved and cared for, esteemed and valued, and part of a network of communication and mutual obligation (Cobb,

1976). Such information can typically be provided by a spouse or partner, friends, children, or from participation in social activities such as clubs or churches (Stroebe, 2000; Cohen, 1988). Thus, social support enables people to enjoy life and cope with strain and stressful encounters, acting as a buffer against adverse life events (Argyle and Martin, 1991; Diener and Seligman, 2004; Nutbeam, 1998). The conceptualization and measurement of social support has, however, been characterized by great heterogeneity. Still, the vast amount of literature in the field agrees upon a main separation of the concept into two basic categories: 1) structural (e.g., social network) and 2) functional (e.g., emotional support) measures of social support (Cohen, 1988; Stroebe, 2000; Uchino, Cacioppo and Kiecolt-Glaser, 1996). Most studies addressing the relationship between health and/or well-being and social support utilize a combination of structural and functional measures (Doeglas, Suurmeijer, Briançon, Moum, Krol, Bjelle, Sanderman and van den Heuvel, 1996; Uchino, Cacioppo and Kiecolt-Glaser, 1996).

There is now a great deal of evidence that the quantity and quality of social support is highly associated with reduced risk of mental and physical illness and mortality (Cobb, 1976; Cassell, 1976; Uchino, Cacioppo and Kiecolt-Glaser, 1996; House, Landis and Umbertson, 1988; Reblin and Uchino, 2008). For example, House and colleagues reviewed evidence from six large studies with prospective design. The findings indicated that mortality is higher among more socially isolated persons, even after controlling for age and initial health status. Further, House et al. showed that the association between social support and health (here conceptualized as the absence of disease) is comparable to standard risk factors such as physical activity, smoking and blood pressure (House, Landis and Umbertson, 1988). Further, people who experience extensive social support have greater recovery and higher survival rates when afflicted by leukaemia, endocrine or cardiovascular disease than people with lower social support. Thus, social support provides beneficial physiological responses in defeating various diseases (Williams, Barefoot, Califf, Haney, Saunders, Pryor, Hlatky, Siegler and Mark, 1992; Case, Moss, Case McDermott and Eberly, 1992; Uchino, Cacioppo and Kiecolt-Glaser, 1996; Colon, Callies, Popkin and McGlave, 1991).

Social support is also extensively considered a fundamental source of life satisfaction and emotional well-being (Seligman, 2003; Reis and Gable, 2002). The connections between social support and well-being are so indispensable that some theories view positive relations with others as an intrinsic component of well-being and not just as a predictor for it (e.g., Keyes, 1998; Ryff,

1995) However, most theories view social support as a central determinant for well-being, including subjective well-being (Reis and Gable, 2002; Stroebe, 2000). There is conclusive empirical evidence for the importance of social support for subjective well-being (SWB) (Diener and Fujita, 1995; Pavot, Diener and Fujita, 1990; Diener and Seligman, 2002). For example, Ed Diener reviewed cross-national studies of the sources of SWB. Social support was the only factor consistently predicting SWB in every country that was included in the study (Diener, 2001, referred by Reis and Gable, 2002). According to Diener (2004), material prosperity is less important than social relationships when it comes to SWB. Thus, it may essentially seem like money can't buy happiness. Investment in family and friends is by far more important. In his comprehensive review, Putnam (2000) states that close friends, supportive family and good colleagues are a key source of health, highly correlated with a general satisfaction with life. This message has been supported by numerous studies, confirming that people with spouses/partners, family and friends that provide them with psychological and material resources (including help when needed) are happier and in better health than people less socially connected (Cohen and Wills, 1985; Lyubomirsky, King and Diener, 2005; Oishi, Diener, Lucas and Suh, 1999).

Self-esteem

Self-esteem is widely considered a crucial resource for health and well-being as a central part of a person's ego-identity. Self-esteem is conceptualized as the evaluative dimension of the self-concept that corresponds to an overall view of the self as worthy or unworthy (Baumeister, 1998; Hewitt, 2005). Hence, self-esteem is a way of thinking about the self that is related to personal beliefs about skills, abilities, social relationships and future outcomes. Theorists have long discussed whether self-esteem is a relatively stable (personality) trait or a dynamic state that can be manipulated or affected (Heatherton and Wyland, 2003). However, recent empirical findings suggest that self-esteem can be improved by interventions directed towards improving people's self esteem (Swann, Chang-Schneider, and McClarty, 2007; Borrás, Boucherie, Mohr, Lecomte, Perroud and Huguelet, 2009; Guindon, 2010).

It is well known that explicit self-esteem is correlated with subjective well-being (i.e., high life-satisfaction, high positive affect, low negative affect), particularly in individualistic cultures (Diener and Diener, 1995). In a later study by Bosson, Swann and Penebaker (2000), these findings have been replicated. Explicit self-esteem (e.g., Rosenberg's self-esteem scale) predicted

individual differences both in positive and negative affects. Further, low self-esteem has been associated with a series of negative life outcomes, including depression, eating disorders, substance abuse and worsened recovery after illness (Leary and Baumeister, 2000; Swann, Chang-Schneider and McClarty, 2007). High self-esteem has, on the other hand, been associated with a host of positive characteristics such as strong coping skills, initiative, general happiness and longevity (Baumeister, Campbell, Krueger and Vohs, 2003; Guindon, 2010) as well as higher levels of self-rated health in general populations and amongst people with chronic illness and disability (Cott, Gignac and Badley, 1999). Also, high self-esteem is associated with successful aging, cognitive stability and greater health in old age (Baltes and Baltes, 1990).

Education

Education is considered another critical source to health and well-being, because it indicates and enhances human capital (e.g., skills and abilities of general value) and helps people accumulate other resources that promote health and well-being (Ross and Mirowsky, 2006). Years of education represent skills, knowledge, values and behaviour learned and accumulated during educational attainment. Although some social scientists view educational accomplishments as one of several interchangeable measures of socioeconomic status, Sen (1997) argues that education is a unique resource that is part of a person rather than being external (like one's income), and hence part of people's psychosocial resources. This is also in line with Antonovsky's conception of education as a facilitator for knowledge-intelligence GRR (Antonovsky, 1979).

Education has previously been reported as strongly related to longevity, higher levels of physical and mental health (including both objective and subjective measures), and healthier lifestyles (Marmot et al., 1997; Doornbos and Kromhout, 1990; Winkleby, Jatulis, Frank and Fortmann, 1992; Krogstad, Kunst and Westin, 2002; Kunst and Mackenbach, 1994; Matthews, Kelsey, Meilahn, Muller and Wing, 1989; Bjelland, Krokstad and Mykletun, Dahl, Tell and Tambs, 2008). The empirical relationship between education and subjective well-being is far less examined. However, a meta-analysis by Witter and colleagues (Witter, Okun, Stock and Haring, 1984) concluded that educational attainment only explains between 1% to 3% of the total variation in subjective well-being. Further, comprehensive reviews of factors influencing subjective well-being do not even mention education as a contributing cause (Myers and Diener,

1995; Diener and Seligman, 2004).

Job satisfaction

For most people, work is a central life activity. Job satisfaction has been defined as "... a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (Locke, 1976:1304). Thus, it involves both cognition (appraisal) and affect (emotional state). Work life is shown to have a major influence on people's general health and well-being through interaction with a network of colleagues (social support), having an identity, and providing an enriching and meaningful life activity (Hanson, 2007). Research on work life has shown that job satisfaction is significantly related to overall subjective well-being, including life satisfaction (see Rain, Lane and Steiner, 1991 for a review). However, many articles on job satisfaction only discuss this issue in relation to life satisfaction (e.g., the cognitive component of SWB). Different theories exist on the causal relationships between the two constructs. Some theorists argue that life satisfaction predicts job satisfaction (top-down), whilst the majority promote a bottom-up perspective, where job satisfaction is considered a significant predictor for life satisfaction (Harter, Schmidt and Keyes, 2002; Turner, Barling and Zacharatos, 2005; Rode, 2004). However, only a few have investigated this relationship with a longitudinal design to examine causal relationships. Judge and Watanabe (1993) found that the relationships between the two were reciprocal, but life satisfaction was in fact a stronger predictor for job satisfaction than the other way around. Further, empirical findings in a longitudinal study by Rode (2004) suggest that job satisfaction is related to life satisfaction through the mediating effect of core self-evaluations (e.g., mastery, self-esteem and neuroticism), and that the two constructs were not directly related when controlled for a series of covariates including non-work satisfaction domains.

The relationship between job satisfaction and health has also been extensively studied. In a comprehensive meta-analysis, Faragher and colleagues (Faragher, Cass and Cooper, 2005) reviewed 485 studies for a combined sample size of 267,995 individuals. The included studies were predominantly cross-sectional and used self-report measures of both job satisfaction and health. The meta-analysis concluded that job satisfaction correlated strongly with psychological problems such as burnout, low self-esteem, depression and anxiety. However, the correlation with subjective physical illness was more modest. Overall, the relationships found suggest that

job satisfaction is a significant factor influencing different aspects of health and well-being.

To sum up, social support, community connectedness, self-esteem, education and job satisfaction have been previously reported, although partly inconclusive, as crucial resources for various measures of health and subjective well-being. However, health and well-being are both very complex phenomenon, understood and operationalized in various ways throughout history. In line with the biomedical paradigm, psychosocial assets for health and well-being have previously mainly been investigated in terms of lack of such resources in relation to disease and illness, an actuality also represented by the present literature review. According to Antonovsky (1979; 1987), it is the presence of such assets (GRRs) and not their relative absence that matters. Thus, the importance of examining positive, health-promoting factors is crucial. The salutogenic perspective emphasizes the positive development of health and well-being, as opposed to a focus on risk, deficits and disease. Thus, the way we define, operationalize and measure health and well-being is vital for the perspective of current interest. A theoretical foundation therefore becomes fundamental.

THE ROLE OF THEORY: MOVING TOWARDS A SALUTOGENIC PARDIGM

As shown by the historical development of health promotion, the health-promotion approach originated from a growing criticism against the dominant paradigm of health--the pathogenic orientation of biomedicine. In recent years, it has been increasingly apparent that this dominance, encompassing reactive approaches concerned with deficits, actually fosters patient-hood instead of health (Prillettensky, 2005; Nettelton 2006). The number of people receiving medical treatment of some form is rapidly increasing, as the threshold of interventions has been lowered. Further, as biomedicine and health personnel promise to solve increasingly larger proportions of life difficulties, lay people's expectations for them to do so continue to grow. Thus, as Skolbekken (2000) points out, this development could essentially separate human populations in two basic groups -- doctors and patients. However, the uncomfortable truth is this: life has never been and will never be free of obstacles, stress, disease or death. These factors are all inseparable parts of human life. However, the responses to these challenges provided by the health sector and by people involved in public health, basically rely on the underpinning perspective.

Whilst biomedical, preventive advances provide a clear theoretical framework, the health-promotion approach is much more ambiguous. Health promotion is essentially a theoretical melting pot embodying a number of disciplines and requiring a variety of expertise. However, on the other hand, the obvious strength in clarity in the biomedical realm also represents what can be described as the Achilles heel of health promotion. It is said that there exist just as many definitions of health promotion as there are on health itself. Therefore, a single and unified description of health promotion is hardly available (Seedhouse, 2004; Medin and Alexanderson, 2000). Thus, there are no unified answers on what health promotion essentially is, how it can or should be carried out in practice, or what a successful outcome might be (Naidoo and Wills, 2000; Raphael, 2000).

As health promotion rapidly developed in an optimistic period of time, the warning signals of what creates a sustainable discipline were basically neglected. At the time of the Ottawa Charter, the field of health promotion was still consumed with defining its role. A lot of effort went into defining and delimiting the concepts and principles of health promotion. However, this discussion was never satisfactorily concluded, and the basic core of health promotion remains uncertain today (McQueen, 2000). Thus, health promotion has been criticised for having problems standing on its own feet, in lack of a coherent and unifying theoretical perspective. In recent years, there has been increasing debate on the theoretical roots of health promotion (Bunton and Macdonald, 2002; Eriksson and Lindström, 2008; Bauer et al., 2003; McQueen, 1996; McQueen and Kickbush, 2007) and about the evidence base underpinning practice (McQueen, 2001; Raphael, 2000; Rychetnik and Wise, 2004; Nutbeam, 1998; Koelen, Vaandrager and Colomé, 2001). Smith, Tang and Nutbeam (2006) stress the need for greater clarification and consistency in the use of health promotion terminology. According to Seedhouse (2002; 2004), health promotion has admirable ambitions on how to live a flourishing life, but sadly, there is no theoretical basis to support it. Seedhouse (2004) further argues that failure to be explicit about definitions and values of health promotion leads to conceptual confusion and deprived practice. As McQueen (2000) points out, “How robust is the largely a-theoretical, loose confederation of health promotion practice, when faced with terms demanding rigor, consensus and accountability?” While pluralism most certainly is a valuable goal, the development of health promotion as a discipline requires closure on central issues (Raphael, 2000).

The need for a theoretical foundation of health promotion

The term “discipline” refers to bounded groups or federations of theories, perspectives, and methods associated with an area of study (Bunton and Macdonald, 2002). To understand the mechanisms of potential progress in health promotion science and practice, it is useful to take a closer look at the nature of development and change in bodies of knowledge and disciplines. In this matter, the work of Thomas Kuhn (1970) and the notion of a scientific paradigm provides a conceptual framework to describe and evaluate changes in bodies of knowledge. A scientific paradigm is conceptualized as a kind of licensed way of seeing, describing and acting upon the world. Thus, a paradigm provides an image of the theme, premise of a discipline, and levels of agreement on valid ways to understand and scientifically study the subject matters. A paradigm is thereby created and situated by the ideas, concepts and theories of a scientific community. Thus, as an outcome of collective efforts, a paradigm is subject to social and cultural influence, responding to changes in society (Kuhn, 1970; Bunton and Macdonald, 2002).

According to Kuhn (1970), there are three basic stages of scientific development: a “pre-paradigmatic stage” where several theories compete for dominance; a period of “normal science,” when a single paradigm is widely recognized and provides the primary structuring of a field; and a stage of crisis, in which one paradigm is replaced by another (Kuhn, 1970; Stroebe, 2000; Bunton and Macdonald, 2002;). In times of “normal science,” scientists and professionals do not feel the need to reflect upon philosophic issues of ontology and epistemology; the rules for defining, understanding and explaining the world are given by the established paradigm. According to Kuhn (1970), disciplinary development and change is driven by crisis and revolutions, emerging when the paradigm fails to place a brick in the puzzle and when an anomaly undermines the basic tenets of the current practice. Thus, the establishment of new assumptions – new paradigms – requires a re-evaluation and reconstruction of prior assumptions and “facts.” Although the application of the concept “scientific paradigms” has caused heated discussions in the social sciences, it can be argued that the emergence of health promotion happened when uncomfortable data piled up; more and more bricks failed to fit into the pathogenic puzzle (Anonovsky, 1996b).

In its essence, the pathogenic paradigm of biomedicine was highly successful when infectious diseases were the greatest threat of public health. As previously described, the diagnostic picture is now fundamentally altered, with a growing recognition that these changes

require elementary alterations in research, practice and politics. Further, the biomedical paradigm of pathogenesis, in its constricted sense, leaves no room for psychological, social and spiritual dimensions of health. Thus, change is in order. The puzzle of pathogenesis is too limited to answer the complex challenges of promoting health and well-being amongst individuals and populations. Furthermore, it does not enclose the bricks of solving the puzzle of social inequalities in health.

The biomedical paradigm of pathogenesis, serving as a leading star for medical treatment and disease prevention, can be described as a well-functioning machinery of “normal” science. However, health promotion still struggles to define itself and could, according to the terms of Kuhn (1970), be described as pre-paradigmatic. This implies that there are still no clearly-defined research problems or “gold standards” for how to achieve new knowledge and further perform practice. Thus, a situation like this could foster chaos in the inner structure of the emerging paradigm before key elements of the paradigm are established and the contours of the new puzzle emerge (Kuhn, 1970). A pre-paradigmatic field of knowledge can hardly compete with a “bulldozer” of normal science. Unquestionably, a better balance between pathogenesis and salutogenesis demands a greater consensus within the field of health promotion and a movement towards the characteristics of a “normal science.”

Sorting out the puzzles of health: The critique of pathogenesis and the rise of salutogenesis

Antonovsky (1979; 1987) widely recognizes the significance and achievements of the biomedical paradigm of pathogenesis. However, he points out some adverse consequences of the domination of the pathogenic paradigm: First, the pathogenic conceptualization of health makes us think dichotomously about people, classifying them as either healthy or diseased (Antonovsky, 1987). This leads to categorization of people as normal (i.e., healthy) or deviant (i.e., diseased). Consequently, this disregards people with chronic illness or some kind of “dysfunction” who are able to manage life very well and are pleased with their quality of life. The definition and classification of disease is inevitably, to some extent, socially constructed. The definitions of high-risk groups and people labeled with a diagnosis continue to expand in line with the progresses made by the pathogenic paradigm (Macdonald, 2005; Lupton, 1995). Thus, as the pathogenic perspective brings a medicalization of society, the concept of “normality” essentially becomes the deviant cases.

Second, the pathogenic paradigm leads one to think of specific diseases such as diabetes or schizophrenia instead of the concept of dis-ease in terms of a continuum (Antonovsky 1984; 1987). This obsession with morphology pays no attention to holistic accounts, including viewing human existence across the lifespan and looking at people's unique life experiences in relation to their environment, including the experience of health and illness (Sidell, 2007).

Third, the pathogenic perspective leads us to look for specific causes for specific diseases. Thus, the major goal becomes to eradicate such causes instead of accepting that pathogens are endemic in human existence (Antonovsky 1987; 1984). According to Antonovsky (1996a), the "bugs" will always be smarter than people. Thus, it is not enough to eliminate the "bugs" in terms of prevention and treatment; we also need to explore the capacity of individuals, groups and societies to cope with pathogens and dysfunctions. In other words, we must consider what creates movement towards the health end of the continuum.

Fourth, Antonovsky (1987; 1984) argues that the pathogenic paradigm misleads us to believe that if we can eliminate "risks" and "disease," the outcome will be "health." As Dubos (1961) points out, this "mirage of health" has been the driving force behind the "technological fix" and the "magic bullet" approach to eliminate disease. However, stressors might also stimulate healthy development; it all depends on people's attitude towards problem solving and successful coping strategies. Instead of always favoring "magic bullets," we should search for sources supporting positive health development, including active adjustments to people's environment.

This way of thinking leads us to Antonovsky's final concern: The pathogenic paradigm concentrates on "the deviant cases" and the "at risk groups" instead of studying the "symptoms of wellness" (Antonovsky, 1984; 1987). Thus, the pathogenic orientation basically disregards positive aspects of human life, including the factors that make people flourish. Movement towards the healthy end of the continuum is not necessarily due to low risk factors. Hence, the need for a new paradigm in public health is obvious--a paradigm reevaluating central ontological and epistemological underpinnings, enclosing a new perspective on health and the possibilities for studying it. Thus, Antonovsky argued that the study of those who manage well in the river of life--people with excellent health and high quality of life (e.g., moving towards the ease/health end of the continuum)--would make a significant difference in public health work.

As mentioned, Antonovsky was anxious that a reorientation towards health, a salutogenic paradigm, does not minimize the achievements of the pathogenic paradigm. He also widely recognized the progress of technological change. Thus, the pathogenic paradigm of biomedicine has still not outplayed its role. However, Antonovsky addressed a definite imbalance inherent in the way we view health; the purpose is not to abandon the struggle against disease, but to examine the mystery of health from another perspective, widening the armory for other ways of achieving health (Antonovsky, 1987; Sidell, 2007).

Moving towards a paradigm of salutogenesis: creating “coherence” within health promotion

The emerging discipline of health promotion is a multi-faceted conglomerate, having complex and interweaving philosophical, scientific, political and practical dimensions. Despite the fact that the health-promoting approach of public health strives towards ideals of freedom, interdisciplinary and eclectic approaches, this also forms the basis for the massive criticism directed towards health promotion as a science and practical discipline. The approach is criticized for being vague and fragmented, as well as putting forward ideas for public health work that are not reflected by research or interventions. In short, the field of health promotion is being criticized for lack of clarification of its theoretical foundation, its divergent and few high-quality theories, inadequate empirical knowledge base and improper methodology, as well as strong normative and value-charged entries for scientific activity (Mæland, 2005; Anderssen, 2001; Andrews, 2001; Seedhouse, 2004; McQueen & Kick Busch, 2007). Further, health promotion is being criticized for advancing camouflaged, biomedical ideals. Thus, a large number of theoretical, empirical and practical efforts labeled “health promotion” are still founded in a pathogenic perspective, with a main focus on risk avoidance and individual lifestyles related to specific diseases (Seedhouse, 2004; Anonovsky 1996b). Despite large internal inconsistencies, health promotion continues to expand. Unfortunately, instead of complimenting each other in building a sustainable discipline of health promotion, new and dissimilar theoretical concepts are flourishing.

Unquestionably, the complex field of health promotion requires a variety of middle-range theories to guide specific fields of practice and research. However, in the case of health promotion, there is no consensus of an overreaching perspective to guide or bring coherence to

these. Thus, as previously argued, there is a compelling need to lay down a puzzle framework for the health-promotion paradigm. As stated by Lewin (1951:169), “there is nothing so practical as a good theory”. Certain theories aim to give more overarching explanations of phenomenon and can, at their meta-theoretical level, serve as a guide for other theories, constituting a sustainable paradigm for science and practice (Hanson, 2007). A theory provides a guiding light and tells us what to study (and what not to study); it helps us define appropriate methods and further define what we cannot understand within a particular theoretical framework. Thus, a theoretical perspective helps us to understand how different pieces in a particular puzzle fit together and why we should value certain combinations of variables more than others. Accordingly, the use of theory can help us achieve a better fit among problems and programs (Nutbeam and Harris, 1999; McQueen, 1996).

Health promotion is diverse, and diversity is most certainly an obvious strength. However, it seems mandatory that researchers and practitioners within a paradigm are able to speak the same language, including a coherent understanding of the health concept (Naidoo and Willis, 2000; Seedhouse, 2004). Chipuer and Pretty (1999) propose that some of the obvious inconsistencies due to discipline diversity could be solved through integrating theoretical perspectives and methods that are flexible through their having the capacity to adapt in diverse settings. Thus, theoretical grounding of central concepts will enable us to interpret such variations. A salutogenic orientation directs both research and action efforts to encompass all persons (individuals, groups, populations) in all settings and across all cultures, wherever they are on the continuum of health (Antonovsky 1987; 1996b). The key is a focus on salutary factors, enhancing individuals and societies to be more capable of understanding their situation, to believe in finding solutions, and to experience a sense of coherence in their existence (Eriksson and Lindström, 2008; Antonovsky 1996b). In other words, the focus is to create a more meaningful, comprehensible and manageable world in active participation with individuals and populations, thus leading to healthy development and quality of life.

A holistic, salutogenic approach, covering the entire complexity of human beings (Antonovsky 1996b), would also encompass a variety of methods to gain a fuller understanding of key phenomenon: health, well-being and the assets that provide a positive movement on the continuums. Within the field of health promotion research, there is no consensus about the “rules of evidence” and “hierarchy of evidence” (McQueen, 2000; Koelen, Vaandrager and

Colomér, 2001; Nutbeam, 1998; Raphael, 2000). In his search for the origins of health, Antonovsky applied a variety of methods, holding a pragmatic way of thinking when it came to the development of new knowledge. Thus, to better understand the complex processes of health and well-being, it could be argued that pragmatism and eclecticism, rather than rigor and parsimony, constitutes the “gold standards” of health promotion research. The unifying theme is a focus on health and resources, not disease and risks. Health promotion research therefore needs to select methods that are most likely to illuminate issues (Koelen, Vaandrager and Colomér, 2001). This approach to research makes relevant contributions to both science and practice, thereby furthering the crucial development of a comprehensive theory of salutogenesis to guide health-promotion processes. As an adaptable orientation, the salutogenic framework could provide a steady hand to guide the entire field of health promotion.

Antonovsky (1996b) argued that the conceptual neologism of salutogenesis – the origins of health – could serve as a powerful foundation for health promotional research and practice. According to Suominen and Lindström (2008), salutogenesis could offer a solution to central inconsistencies within the emerging discipline of health promotion. The salutogenic framework as proposed by Aaron Antonovsky has been increasingly acknowledged as an efficient paradigm to guide the field of health promotion (Eriksson and Lindström, 2008; Kickbush, 1996; Ellery, 2007; Morgan and Ziglio, 2010). A unified metatheory of salutogenesis could provide necessary direction and focus in terms of ontological and epistemological clarifications, move beyond the symptoms of being pre-paradigmatic, and thus improve a “sense of coherence” of the emerging discipline of health promotion.

Revitalizing the evidence base for public health – a salutogenic approach

The notion of “evidence” has been considered one of the thorniest issues for health promotion, much because of the lack of a coherent paradigm to guide the field. Nonetheless, evidence and a solid knowledge base are crucial, because health promoters need appropriate justifications for decisions and actions (Raphael, 2000; McQueen, 2000). Evidence-based public health is now well established and constitutes an elementary part of the decision-making processes for health development. However, there is an urgent need to redress the balance between evidence derived from the identification of deficits and problems to one which emphasizes positive capability to activate solutions on identified problems. In turn, this might promote the self-esteem of

individuals and communities, advancing a decline in dependency of professional services and improve people's quality of life (Morgan and Ziglio, 2010).

Fortunately, the field of health promotion has made progress in recent years. Much work has already been done to create a scientific evidence base for action (IUHPE, 2000). However, much more work is needed to fully exploit the potentials of health promotion to foster health and well-being for individuals and populations. Thus, there is a compelling need to systematize these efforts. As mentioned, the salutogenic framework of Aaron Antonovsky has gained increased attention in the past few years. Adapting this framework, Morgan and Ziglio (2010) propose an "Asset model for public health," which aims to 1) generate a salutogenic evidence base that identifies the most important health promoting and/or protecting factors for health and actions required to create vital conditions for health, 2) assess how most effectively to implement the actions needed to create such conditions (asset mapping), and 3) develop the most appropriate measures and evaluation frameworks (asset indicators) to assess the effectiveness of these actions. Similarly, Raphael (2010) has developed a working tool, "The population health template," which can be used by multiple groups for various purposes: policy makers, health educators, evaluators, researchers and academia. The model is displayed in the figure below (fig 2). Thus, the asset model, as proposed by Morgan and Ziglio, and "The population health template" by Raphael (2010) could contribute to build a more systematic approach to collecting and synthesizing health-promotion evidence based on the theory of salutogenesis.

Population Health Key Elements

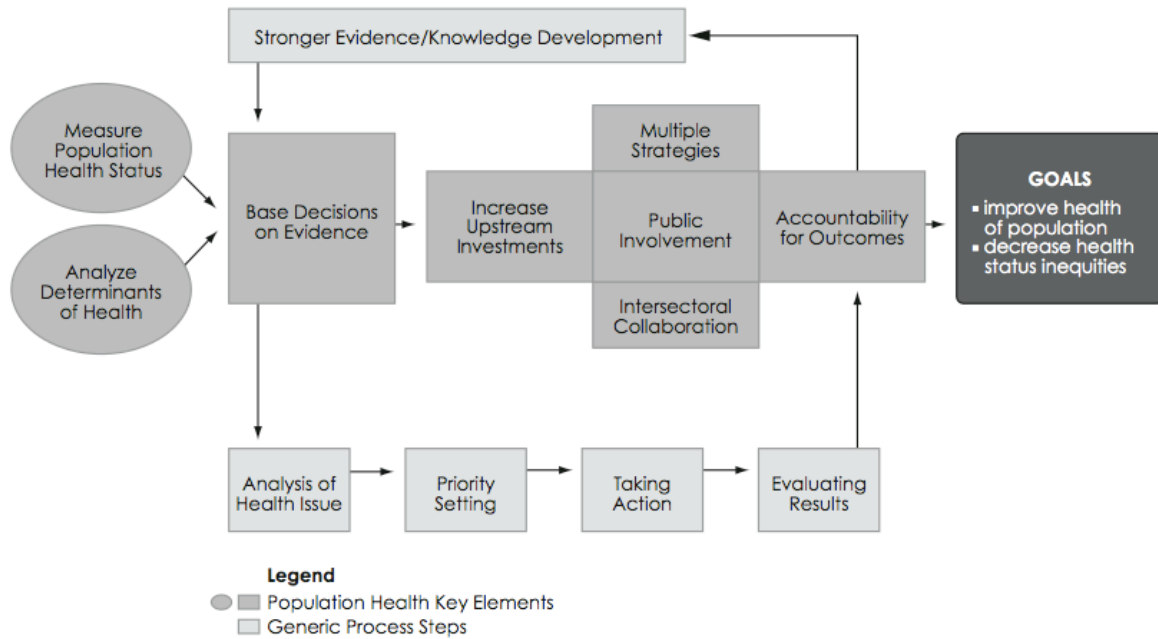


Fig. 2. “The Population Health Template”, Raphael, 2010:171

In accordance with the asset model by Morgan and Ziglio (2010), Raphael (2010) emphasizes measuring the population’s health status and analyzing determinants of health as a foundation for various actions and evaluations. Therefore, a first step in building an efficient evidence base for health promotion--a salutogenic asset model for public health--should concentrate on indentifying vital assets for positive health development. In its essence, this would be to recognize the general resistance resources as described by Antonovsky (1979; 1987). This encourages researchers to ask questions such as the following: What external and internal factors promote positive health development? What factors enable people to cope with stress and hardship? What opens us to a fuller experience of life? What produces overall levels of well being, making people flourish? (Morgan and Ziglio, 2010). Indeed, such questions need to address a variety of assets, including the settings where they are created. However, such questions implicate a profound focus on psychosocial resources for health and well-being as previously described in this paper.

To unravel the mystery of health--to understand the movement towards the positive end of the health and well-being continuums--a starting point could be to identify the assets required, the positive determinants of health and well-being. Although this most certainly would vary among individuals, it would be productive to examine such assets at an aggregated level in order to assess and discover the most crucial assets for health and well-being. Thus, epidemiological approaches could be beneficial (Tannahill, 2002). Traditionally, epidemiological methods have been performed within the context of pathogenesis, concerned with generating evidence about the causes and distributions of disease and mortality. However, guided by a health-promotion paradigm of salutogenesis, the epidemiological rationale searches for causes and distributions of health and well-being. It is thereby defined and operationalized to reflect the core of salutogenesis and health promotion. Thus, in line with previous efforts within the field of positive psychology (Seligman, 2008; Diener and Seligman, 2002), relevant “salutogenic” epidemiological research questions would be: What characterizes people with excellent health and subjective well-being? Which assets/resources are most likely to be present in their lives? Essentially, the key question is as follows: What can we learn from healthy and happy people in order to promote health and well-being for all people, wherever they are on the continuums?

It takes a lot of time and effort to collect the databases needed to perform sufficient “salutogenic” epidemiological studies, especially when we seek knowledge that requires longitudinal designs. However, there already exists a wealth of databases, enclosing crucial information, which can be exploited in a salutogenic way. One example is the massive database of the Nord-Trøndelag Health Study (HUNT). Despite the fact that the HUNT study also contains data on central resources for health and well-being, nearly every scientific article utilizing the HUNT databank is ultimately based on a pathogenic orientation. Hence, future studies should be encouraged to take a “new look at old data” through the lens of salutogenesis. This could help us strengthen the evidence base needed to develop efficient interventions and further build a healthy public policy across all sectors and on all societal levels in a salutogenic way.

CONCLUSIONS

Traditionally, public health has focused on “what works” from a deficit point of view in order to improve health and combat disease. Whilst pathogenic deficit models most certainly are necessary to identify needs and levels of priorities, they have, as described, fundamental shortcomings that need to be complemented by salutogenic perspectives (Morgan and Ziglio, 2010; Eriksson and Lindström, 2008; Macdonald, 2005). To make the emerging discipline of health promotion thrive and gain scenery in a scientific and political landscape that today can be characterised as highly risk-oriented and “biomedicalized,” it is necessary to develop a strong theoretical and empirical basis--an evidence base of health promotion (Seedhouse, 2004; Antonovsky, 1996; Bauer et al., 2003; McQueen, 2000). Aaron Antonovsky (1979; 1987) stated that a body of research that only evolves around the basic concepts of disease and breakdown is incapable of making serious advances much needed in contemporary health care and public health. Biomedical knowledge is certainly still needed, but instead of only plugging holes in dikes and throwing out lifebuoys, scientists and practitioners should also turn their attention toward teaching people how to swim. In order to do so, the salutogenic framework could provide a guiding light to build an efficient evidence base, develop practice, and evaluate efforts.

The salutogenic framework could direct the emerging discipline of health promotion to regain focus on its core as represented by the Ottawa Charter: the understanding of health as a resource, human rights and the primacy of equity and social justice, participative methods, creating supportive environments, and developing empowerment and personal competences. In its essence, the salutogenic perspective commits to: 1) encompassing the entire spectrum of health (i.e., the continuum[s]), 2) focus on resources and problem-solving solutions in active collaboration and to 3) always see the entire, unique person (or collective) in the context of their environment, rather than being preoccupied by disease or disease rates. In this perspective, a reinforced focus on psychosocial resources for health and well-being becomes vital. Thus, redressing the balance between the salutogenic and pathogenic perspectives for evidence-based public health, and paying stronger attention to psychosocial resources for health and well-being, most hopefully, could help us solve some of the existing barriers to effective public health action.

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ARTICLE II

HEALTH DETERMINANTS OF THE NORWEGIAN HUNT STUDY PSYCHOSOCIAL RESISTANCE RESOURCES: A SALUTOGENIC APPROACH

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Abstract

Objectives: The salutogenic perspective, a focus on health and resources, has been proposed as a viable paradigm for health promotion. Adapting this framework, the present study examines a system of psychosocial resources identified in the Norwegian HUNT study (i.e., education, job satisfaction, social support, community connectedness and self-esteem) in relation to two outcomes; self-rated health (SRH) and subjective well-being (SWB). The aim of the paper is: 1) to investigate and describe a set of psychosocial resistance resources that characterize people who report excellent SRH and great SWB, 2) to investigate the significance of these psychosocial factors for SWB, 3) to describe how much of the variance in SWB can singularly be explained by self-rated health and 4) to construct and evaluate a structural, theoretical model of the present data. **Design:** A cross-sectional design was adopted. The analyses included “between-groups analyses” (one-way ANOVAs and cross tabulations) and hierarchical multiple-regression analysis and structural equation modelling (SEM-analysis). **Setting:** The county of Nord-Trøndelag, Norway, 1995-1997. **Participants:** 54,241 men and women, 19-69 years. **Results:** All of the psychosocial variables were significantly related to self-rated health and subjective well-being. Self-esteem, job satisfaction and functional-emotional measures of social support and social integration appeared as the psychosocial variables contributing the most to high levels of SWB and SRH. SRH emerged as the most influential predictor of SWB, closely followed by self-esteem. Structural equation modelling revealed significant paths between independent and dependent variables, where the included psychosocial resistance resources, with the exception of educational attainments, were more closely related to SWB than SRH. The model formed a reciprocal relationship between SRH and SWB. In total, the model explained 61% of the variance in SWB and 31% of the variance in SRH. **Conclusions:** Psychosocial resistance resources appear to have a profound influence on SRH and SWB, although these relationships might be reciprocal. Such resources need to be examined through socio-ecological approaches to gain a fuller understanding of the creation of health and well-being. Thus, structural-equation modelling provides an efficient approach in this matter.

Key words: Health promotion, public health, salutogenesis, psychosocial, positive epidemiology.

INTRODUCTION

Studies concerning the determinants of ill-health are numerous within medical and psychological research. Most previous studies have focused on harmful factors, risk of disease and a variety of stressors in relation to negative health outcomes (Seligman, 2003; Volanen, Lahelma, Silventoinen and Suominen, 2004; Manderbacka, Lahelma and Martikainen, 1998). As a consequence, the factors behind ill-health are much better understood than those behind good and improving health and well-being (Ejlertsson, Edén and Leden, 2002). Because health is conceptualised as more than the absence of disease, the question of what creates health cannot be fully answered by pathogenic deficit models (Antonovsky, 1979; 1987, Eriksson and Lindström, 2008; 2010). Thus, posing questions on the origins of health is imperative. Aaron Antonovsky was first to bring this question to a scientific context when he asked the crucial question why some people, despite stressful life experiences and hardship, manage to stay happy and healthy. This initial quest led to the formulation of the salutogenic theory of health (i.e., the origin of health), searching for factors of positive health development and health preservation, rather than purely focusing on the causes of disease.

According to Antonovsky (1979; 1987), health is conceptualised as a dynamic continuum in constant movement across the lifespan. The movement towards the health end of the continuum basically relies on people's ability to use and reuse the resources available for them in order to cope with strain and stressors, which, to some extent, are part of all human life. Antonovsky identified these particular resources as generalised resistance resources (GRRs), which provide sets of meaningful, coherent life prerequisites that facilitate effective tension management (i.e., coping) and surviving (Antonovsky, 1987; Lindström and Eriksson, 2010; Eriksson and Lindström, 2005; Eriksson, Lindström and Lilja, 2007).

The Ottawa Charter of Health Promotion (WHO 1986) states that the main focus of public health should be directed towards how we can enable people to exert control over the determinants of health in order to improve health and well-being for individuals and populations. Thus, to identify and fully understand such positive determinants for health and well-being, more knowledge about the resistance resources is needed. Although previous research has rendered support to a wide array of resistance resources (e.g., material and biological assets), public health and health promotion research has shown that psychosocial factors are among the key

determinants for health and well-being (Volanen, Lahelma, Silventoinen and Suominen, 2004). Antonovsky himself also pointed out elements within the psychosocial segment (e.g., ego identity and social support) as the most vital resources for health and well-being (Antonovsky, 1979; Langeland, 2007). Thus, a more comprehensive understanding of such factors is crucial.

Previous research has rendered support to the associations among various measures of health and well-being and *social support* (Cobb, 1976; Cassell, 1976; Uchino, Cacioppo and Kiecolt-Glaser, 1996; House, Landis and Umbertson, 1988; Reblin and Uchino, 2008; Williams, Barefoot, Califf, Haney, Saunders, Pryor, Hlatky, Siegler and Mark, 1992; Case, Moss, Case McDermott and Eberly, 1992; Colon, Callies, Popkin and McGlave, 1991; Diener and Fujita, 1995; Pavot, Diener and Fujita, 1990; Diener and Seligman, 2002), *community connectedness* (Sørensen, Mastekaasa, Sandanger, Kleiner, Moum, Klepp and Bøe 2002; Sund, Jørgensen, Jones, Krokstad and Heggdal, 2007; Davidson and Cotter, 1991; Unger and Wandersman, 1985), *self esteem* (Diener and Diener, 1995; Bosson, Swann and Pennebaker, 2000; Leary and Baumeister, 2000; Swann, Chang-Schneider and McClarty, 2007; Baumeister, Campbell, Krueger and Vohs, 2003), *job satisfaction* (Harter, Schmidt and Keyes, 2002; Turner, Barling and Zacharatos, 2005; Rode, 2004; Judge and Watanabe, 1993; Faragher, Cass and Cooper, 2005) and *education* (Marmot, Ryff and Bumpass, Shipley and Marks, 1997; Krogstad, Kunst and Westin, 2002; Kunst and Mackenbach, 1994; Matthews, Kelsey, Meilahn, Miller and Wing, 1989; Bjelland, Krokstad, Mykletun, Dahl, Tell and Tambs, 2008; Witter, Okun, Stock and Haring, 1984).

However, the majority of previous research addressing the importance of psychosocial resources for health and well-being primarily has had a pathogenic focus, with great concerns directed towards the lack of psychosocial resources in relation to negative health outcomes such as morbidity and mortality. Thus, in line with Antonovsky's salutogenic agenda, Seligman (2008) and Diener and Seligman (2002) stress and promote exactly the obverse strategy; the main focus should be directed towards the assets of individuals that report excellent health and great well-being. What can we learn from them? And further, is it possible to translate this knowledge into health promotion action? Antonovsky (1979; 1987) clearly stated that it is the presence of the GRRs, and not their relative absence, that matters. Thus, empirical evidence about the nature of these relationships is needed to advance and develop health-promotion theory and further provide efficient health-promotion interventions.

Subjective dimensions of health and well-being are both regarded as vital goals for public health and health promotion. However, the relationship between these outcomes and their respective determinants remains somewhat ambiguous (Antonovsky, 1979; Bogner, 2008). According to the salutogenic model of health and due to the theoretical and empirical complexity of health and well-being, both were equally and separately included as outcomes in the present study in terms of self-rated health (SRH) and subjective well-being (SWB).

Typically, studies within the field of positive psychology and salutogenic health research have assessed one or two dimensions of psychosocial resources and their relation with health and/or well-being. Antonovsky particularly posited that health is always created in a context, where internal and external resistance resources influence each other in an ecological system of health-promoting capacities (Antonovsky 1979; 1987). Thus, the present study attempts to enlarge the picture by investigating several psychosocial health resources at once. The question about joint effects of two or more of these factors is important for a more comprehensive understanding (Antonovsky, 1979). Due to the complex relationship between SRH and SWB, it is also vital to broaden the understanding of the significance of psychosocial resistance resources for both of these outcomes, as well as the interrelationship between them.

Main aims

The present study explores central psychosocial capacities for SRH and SWB (i.e., education, job satisfaction, social support, community connectedness and self-esteem), identified in one of the world's largest health surveys -- the Nord-Trøndelag Health Study (HUNT). The study, therefore, represents a new look at epidemiological data through the lens of salutogenesis. Four main aims were outlined to guide the present investigation: 1) investigate and describe a set of psychosocial resistance resources (i.e., education, job satisfaction, social support, community connectedness and self-esteem) that characterize people who report excellent SRH and great SWB, 2) investigate the significance of these psychosocial factors for SWB, 3) describe how much of the variance in SWB can singularly be explained by self-rated health and 4) put the pieces together by constructing and evaluating a structural, theoretical model of the present data. The study is limited to investigate psychosocial resistance resources located in the HUNT questionnaire.

METHODS AND MATERIAL

The present study extracted variables representative to the salutogenic theory of health (Antonovsky 1979; 1987), focusing on psychosocial resistance resources and their relationship with self-rated health and subjective well-being. The massive amount of data allowed inclusion of a wide range of variables in the analysis. Important elements of the salutogenic theory, like the sense of coherence and the constructs of comprehensibility, meaningfulness and manageability were not included because of the underlying limitations of the applied questionnaires. A theory-driven explorative approach was chosen to answer the main aims of this study because of the relative lack of empirical knowledge within this field.

Data and procedures

The data were provided by the Health Study of Nord-Trøndelag (HUNT). The HUNT study is one of the largest health surveys ever performed due to its size and massive data collection. The county of Nord-Trøndelag in central Norway has approximately 130,000 inhabitants and is considered to be well-fitted for public-health and epidemiological research because of a stabile and homogenous population (Holmen, Midthjell, Krüger, Langhammer, Holmen, Bratberg, Vatten and Lund-Larsen, 2003). In most respects, the county is also fairly representative of Norway in aspects of geography and demographical composites (including age distribution, morbidity and mortality). However, there are also some differences that separate the county from the rest of the country. There are no big cities with more than 25,000 inhabitants in the area. Further, the average income and the proportion of highly-educated people are fairly lower than the national mean. So far, three major health surveys have been conducted; HUNT 1 (1984-86), HUNT 2 (1995-97) and HUNT 3 (2006-2008). Together, it is possible to recognise these cross-sectional studies as a comprehensive cohort study of this population. However, the present study only made use of HUNT 2 data. Thus, the design of the present study can be classified as cross-sectional.

The HUNT 2 data collection was performed in a two-year period between August 1995 and June 1997. All inhabitants of Nord-Trøndelag County aged 13 or more were invited to participate. The invitations were sent out in a letter, where a self-administrated questionnaire had

to be completed prior to clinical examinations. In addition, the participants received a second questionnaire that was returned by mail afterwards, free of cost for the participants. The present study includes data from participants aged 19 to 69 years. Participants aged 70 years and older were excluded from the analysis because of age-specific questionnaires and lack of survey information. Hence, the majority of the included population represents people within working age, as the general retirement age in Norway is between 67 - 70 years. In total, 76,953 persons between 19-69 years were eligible for participation in the HUNT 2 survey. Out of these, 54,241 persons actually participated (72.22% of the total population) (Holmen et al., 2003). The quality assurance of the data, provided by the HUNT Research Centre, was highly acceptable. However, there were severe difficulties identifying the metadata used in the construction of the questionnaires, as the HUNT Research Centre was incapable of providing this information. Thus, this information had to be detected through literature searches.

Variables and measures

The focus of the present study is to investigate the relationship and effect of several psychosocial resistance resources in relation to two dependent variables: self-rated health and subjective well-being. According to previous theoretical arguments, the dependent variables were treated separately. In line with the salutogenic theory of health (Antonovsky, 1979; 1987), independent variables represent theoretically chosen psychosocial resistance resources. Demographic variables of age and sex (coded 1 for males and 0 for females) were also included in the analysis.

Self-rated health (SRH): The present study relies on self-rated health as a single indicator of health status, measured by a single item: “How is your health at the moment?” This question had four answer categories: (1) “Poor,” (2) “Not very good,” (3) Good and (4) Very good. Self-rated health is one of the most commonly used health measures in literature and has previously been identified as an important indicator of health as a multi-dimensional construct (Cott, Gignac and Badley, 1999). Self-rated health has previously shown very good predictive values for “hard-end measures” like morbidity, mortality and health service attendance (Manderbacka, Lahelma and Martikainen, 1998; Idler and Benyamini, 1997). Moreover, previous studies also show good test-retest reliability of self-rated health, even better than for more-specific health questions (Lundberg and Manderbacka, 1996).

Subjective well being (SWB) was measured by three items: (a) “When you think about your life at present, would you say you are mostly satisfied with your life, or mostly dissatisfied?” Seven response options were used, ranging from 1= “very satisfied” to 7=“very dissatisfied.” (b) “Are you usually happy or dejected?” The seven response categories ranged from 1=“very dejected” to 7=“very happy.” (c) Do you mostly feel strong and fit or tired and worn out?” The seven response options ranged from 1=“very strong and fit” to 7=“very tired and worn out.” Items (a) and (b) were reversed prior to construction of an index of means. Thus, a high score reflected a high degree of SWB. The selection of items used in the present study was identical to the SWB measure developed by Mastekaasa (1992), where the current reliability analysis showed a Cronbachs alpha of 0.77. SWB was mostly treated as a continuous variable. In the ANOVA, SWB (range 1-7) was divided into four equal categories (very high, high, low, very low). As suggested by Diener and associates (Diener, Suh, Lucas and Smith,1999; Pavot and Diener, 1993), the SWB index used in the present study comprised a cognitive aspect (i.e., life satisfaction), a positive affect (i.e., happy, strong) and negative affect (dejected, tired and worn out). This threefold structure of SWB has previously been confirmed in numerous studies (Davern, Cummings and Stokes, 2007; Diener, Oishi and Lucas, 2003).

Social support measures: The current investigation extracted three single-item variables as indicators of social support: (a) “Do you live with a spouse/partner?” Response options were “no” (value 0) or “yes” (value 1). (b) “How often do you usually participate in social activities such as a sewing club, athletic club, political association, religious or other groups?” Responses were (1) “Never, or only a few times a year,” (2) “1-2 times a month,” (3) “About once a week,” (4) “More than once a week.” Finally, (c) “Do you feel that you have enough good friends?” The response options were no (value 0) or yes (value 1). As suggested by Doeglas, Suurmeier, Briançon, Moum, Krol, Bjelle, Sanderman and van den Heuvel (1996), these measures included both structural measures and functional/emotional measures of social support. The questions concerning living with a spouse/partner and participating in social activities are thought to reflect structural measures of social support, while the subjective feeling of having enough good friends was conceptualized as a functional-emotional measure of social support.

Community connectedness: Twelve questions measured community integration and connectedness. This instrument, theoretically grounded in Aleksander Leighton’s work (Leighton, 1959; Leighton and Murphy, 1987; Leighton, Harding, Macklin, Mackmillan and

Leighton, 1963), was originally developed by Tom Sørensen and has previously shown good construct and predictive validity (Sørensen, Kleiner, Bøe, Moum and Sandanger, 2000). The original instrument was further adjusted in the HUNT questionnaire, downsized from 49 to 12 statements such as “I feel a strong sense of community with the people who live here” and “People can have major problems without the neighbours knowing anything about it.” A five-point Likert scale with response options indicating agreement or disagreement was used. Six items were reversed, so high scores indicated higher levels of community connectedness. The alpha reliability of the index was 0.853. All questions were included in a composite index of means (range 1-5). Subjects with less than 8 out of 12 completed items were regarded as missing.

Educational level was measured by a single question: “What is your highest level of education?” Answer options were (1) Primary school 7-10 years, continuation school, folk high school; (2) High school, intermediate school, vocational school, 1-2 years high school; (3) university or other post-secondary education, less than 4 years; (4) university/college, 4 years or more.

Work satisfaction was measured by a single question: “All things considered, how much do you enjoy your work?” Answer options were (1) “A great deal,” (2) “A fair amount,” (3) “Not much,” (4) “Not at all.” The item was reversed to ease the following analysis. A one-item rating of global job satisfaction has previously shown to be a valid and reliable measure of job satisfaction (Scarpello and Cambell, 1983; Wanous et al., 1997; Nagy, 2002). Reviews of job satisfaction measures conclude that a single item measuring job satisfaction in fact can be superior to summing up facet scales, because multiple-item scales may ignore some components of a job that are important to a person (Scarpello and Cambell, 1983; Wanous, Reichers and Hudy, 1997; Nagy, 2002).

Self esteem: A short form of the Rosenberg Scale was used to measure self-reported self-esteem. Rosenberg’s Self Esteem Scale is the most-widely used measure of global self-esteem and has previously been shown to be a valid and reliable instrument (Rosenberg, 1965; Heatherton and Wyland, 2003). The full scale of 10 items was downsized to four items in the HUNT questionnaire. Ystgaard (1993) has previously shown a correlation of 0.95 between the full scale and the short version of the instrument. The selection included in the questionnaire was as follows: (a) “I have a positive opinion of myself,” (b) “I feel really useless at times,” (c) “I feel that I do not have much to be proud of,” (d) “I feel that I am a valuable person, at least equal to

others.” Each item consisted of a four-point Likert scale, indicating agreement or disagreement. Questions b and c were reversed so high scores indicated greater self-esteem. The internal consistency measured by Cronbach’s alfa was 0.723. All four items were included in a composite index score of means (range 1-4).

Statistical analysis

An extensive analysis of data was preformed according to the explorative qualities of the study design. The statistical analysis was preformed stepwise. The data material was initially screened for univariate normality, and assumptions for performing current parametric statistics were checked. As suggested by Byrne (2001), normally distributed ordinal variables with more than four levels were treated as continuous due to the large sample size. Factor and reliability analysis was used to determine the suitability of constructing scales, and composite scores of means were made when appropriate. Further, bivariate analysis was obtained. Different types of Pearson’s correlation coefficient was calculated, applicable to the present level of measurement.

Analyses of variance and cross-tabulation were chosen to answer the first aim of this study: to investigate and describe central psychosocial resistance resources that characterize people who report excellent health and great subjective well-being. Previous studies have often used logistic regression techniques with dichotomous health measures as a single dependent variable (Manor, Matthews and Power, 2000). However, this technique does not sufficiently discriminate between different response categories in subjective health and different levels of well-being. Thus, as an alternative approach, the present study made use of analysis of variance to investigate differences in means between groups using subjective health and well-being reports as grouping variables. Several independent, one-factor ANOVA were preformed where continuous and ordinal variables (> four levels) reflecting psychosocial resistance resources were used as dependent variables. All pos-hoc analysis was converted into the effect size d . Cohen’s (1988; 1992) interpretation of d recommended for the behavioural sciences was chosen to evaluate effect size. The effect size $d = 0.2$ is considered small, $d = 0.5$ is medium and $d = 0.8$ is large. Dichotomous variables were assessed with crosstabs and Chi square tests to detect possible group differences.

The second aim of the present study (to investigate the significance of currently depicted psychosocial factors for SWB) and the third aim (to describe how much of the variance in SWB

that singularly can be explained by self-rated health) were assessed through hierarchical multiple-regression analysis in three steps. The first step included age and gender as control variables. In the second step, all variables representing psychosocial resistance resources were entered simultaneously, holding the control variables constant. Self-reported health was entered in the final block, holding the two previous models constant. Thus, this last step assessed the unique explained variance of health on subjective well-being.

The fourth aim of this study was set out to put the pieces together by constructing and evaluating a model of the present data based on theoretical assumptions and preliminary empirical results. This final model was tested through Structural Equation Modelling (SEM). Basic statistical methods most often utilize a small number of variables and are not capable of dealing with the sophisticated theories being developed (i.e., the understanding of complex phenomenon is very limited) (Schumacker and Lomax, 2004). Thus, SEM was considered the most appropriate approach in testing the present theoretically and empirically nested model. Only substantial predictors from the previous analysis were included in the analysis. Multiple-regression imputation of missing values was preformed prior to the SEM analysis, as the SEM analysing programme (AMOS) does not handle missing data. This was chosen as the preferred imputation method because of the large variety of accessible variables, causing a legitimate pool of predictors for the regression procedure. Comparisons in correlation coefficients between the imputed dataset and the original dataset showed only small differences. In general, correlations among relevant variables were slightly lower in the imputed dataset. Thus, this dataset implies an increased risk of committing a type 1 error.

SEM statistics have developed a number of criteria to evaluate the fit of the model, and there are no definite answers of choosing between them (Byrne, 2001; Schumacker and Lomax, 2004). The most common goodness-of-fit statistics, the chi-square (χ^2_{GoF}), were not considered appropriate because of sensitivity (inflation) to large sample sizes. Hence, in relation to the present study's generous sample size, this measure could increase the danger of committing a type-2 error (Byrne, 2001; Schumacker and Lomax, 2004). Thus, the root mean square error of approximation (RMSEA), the goodness-of-fit index (GFI), and the comparative fit index (CFI) were chosen to assess the model fit. The RMSEA has widely been recognised as one of the most informative criteria in covariance structure modelling. Values $< .05$ indicate a good fit, values between $.08$ and $.10$ indicate a mediocre fit, and values $> .10$ indicate a poor fit (Byrne, 2001).

The GFI and the CFI are both scaled between 0-1, where values close to 1.00, primarily $> .90$ indicate a good fit (Byrne, 2001; Schumacker and Lomax, 2004; Kline, 2005). Only the final model that provided the best fit to the data will be reported because of the massive amount of analysis in the present study.

For all analysis, a significance level of $p = .01$ was chosen to evaluate the significance of the results. Data was analyzed using SPSS version 16 for Mac and Amos version 7.0 for Windows. Calculations of effect sizes (d) were computed on a manual calculator.

Ethical considerations

The HUNT study applies to strict ethical guidelines, securing complete anonymity, autonomy and informed consent of respondents. All computer files containing data from the HUNT study shall be returned to the HUNT filing system or deleted after termination of the project. The study has been approved by The Regional Committees for Medical Research Ethics (REK) and the Norwegian Social Science Data Services (NSD).

RESULTS

Descriptive results

The final sample was fairly normally distributed by age with a mean age of 44.5 years ($SD = .50$). 52.6% of the respondents were females ($n = 38503$) and 47.4% were males ($n = 25688$).

Descriptive results of the study variables are shown in Table 1. Only 1.4% reported their health as poor, but a whole 21.4% demonstrated not so good health. As many as 58.7% considered their health to be good, and 17.6% of the sample reported very good health. In line with the high ratings of SRH, the mean score of SWB was also relatively high ($M = 5.14$, $SD = .91$).

Variable intercorrelations

SRH was unsurprisingly negatively correlated with increasing age ($r_s = -.33$, $p < 0.001$). Further, age was also negatively correlated with educational attainments ($r_s = -.38$, $p < 0.001$) and self-esteem ($r = -.22$, $p < 0.001$). Females reported slightly lower self-esteem than males ($r_{pb} = .15$, $p < 0.001$). The other demographic correlates were, however, unsubstantial. The highest psychosocial correlates with the dependent variables were found between SRH and self-esteem ($r_s = .30$, $p < 0.001$), educational level ($r_s = .25$, $p < 0.001$), job satisfaction ($r_s = .17$, $p < 0.001$), and community connectedness ($r_s = .12$, $p < 0.001$). For subjective well-being, the highest correlations were detected between SWB and self-esteem ($r_s = .48$, $p < 0.001$), job satisfaction ($r_s = .34$, $p < 0.001$), the feeling of having enough friends ($r_{pb} = .28$, $p < 0.001$) and community connectedness ($r_s = .27$, $p < 0.001$). Of all psychosocial resources, living with a spouse or partner displayed the weakest association with both the dependent variables and the other psychosocial variables included in this study. Nearly all of the psychosocial variables shared more common variance with SWB than SRH. The unadjusted correlation between the dependent variables SRH and SWB was $r_s = .46$ ($p < 0.001$), which was the highest correlation of all in the matrix.

Table 1. Descriptive statistics. Total N = 54191 (100%)

Variables	Total N = 54191 (100%)		
	Missing (%)	M	SD
Subjective well-being (range 1-7)	369 (0.7)	5.14	0.91
Self-esteem (range 1-4)	9880 (18.2)	3.11	0.50
Community connectedness (range 1-5)	10775 (19.9)	3.64	0.68
Education (range 1-5)	1539 (2.8)	2.34	1.27
	Missing (%)	No.	%
Self-rated health	423 (0.8)		
Poor		754	(1.4)
Not so good		11628	(21.4)
Good		31835	(58.7)
Very good		9561	(17.6)
Job satisfaction	18855 (34.8)		
Not at all		197	(0.4)
Not much		1820	(3.4)
A fair amount		21599	(39.9)
A great deal		11720	(21.6)
		18855	(34.8)
Living with spouse/partner	12083 (22.3)		
No		6166	(11.4)
Yes		35942	(66.3)
		12083	(22.3)
Enough friends	9835 (18.1)		
No		7634	(14.1)
Yes		36722	(67.8)
Participation in social activities	9581 (17.7)		
Never, or a few times a year		19106	(35.3)
1-2 times a month		13462	(24.8)
About once a week		7629	(14.1)
More than once a week		4413	(8.1)

Group comparisons

According to the preliminary hypothesis, people reporting very good health and very high levels of SWB were separately used as references in the following comparisons between groups. Five psychosocial resistance resources (educational level, job satisfaction, participation in social activities, community connectedness and self-esteem) were analyzed through multiple, one-way ANOVAs, followed by post-hoc comparisons. Because of unequal group size and slight violations of the homogeneity of variance assumption, Games-Howell's modification of Tukey's HSD, which adjusts for these violations, was used to interpret differences in means between groups in the ANOVA Post-Hoc tests for each of the grouping variables (Field, 2005). Two variables (living with spouse/partner and the feeling of having enough friends) were assessed through cross-tabulations and Chi-square tests. Because the group means and patterns of relations were essentially the same for women and men, these data were examined together.

One-way ANOVA and effect sizes for self-rated health

Levene's test of homogeneity of variance showed significant differences in the variance of the groups on all psychosocial variables ($p < .001$). Hence, Welch's F-ratios are reported instead of the ordinary F-values (Field, 2005). The one-way ANOVAs indicated statistically significant differences among the four groups of self-rated health in all outcomes: Educational level ($F [3, 52271] = 1008.33, p < .001$), job satisfaction ($F [3, 35090] = 370.05, p < .001$), participation in social activities ($F [3, 44278] = 323.25, p < .001$), community connectedness ($F [3, 43107] = 194.93, p < .001$), and self-esteem ($F [3, 43987] = 1262.06, p < .001$). Subsequently, Games-Howell tests of contrasts were performed as a post-hoc procedure. As suggested by the American Psychological Association (2001), group differences of self-rated health on the psychosocial variables were converted into effect-sizes (d), displayed in Table 2.

Table 2: Post Hoc analysis of one-way ANOVA with SRH as the grouping variable. Group differences are translated into effect sizes (*d*).

	Very good vs. poor	Very good vs. not so good	Very good vs. good
<i>Parameter</i>	Effect Size (Cohen's <i>d</i>)		
Educational level	0.77**	0.76**	0.37**
Job satisfaction	0.64**	0.54**	0.37**
Participation in social activities	0.57**	0.46**	0.23**
Community connectedness	0.52**	0.36**	0.17**
Self-esteem	1.21**	0.89**	0.49**

Note: * = $p < 0.01$, ** = $p < 0.001$. Post-hoc analysis: t-test with Games-Howell modification of Turkey's HSD. 95% confidence interval.

As shown by Table 2, self-esteem caused the most substantial effects when the group of “very good health” was compared to the other groups of self-rated health. Large effect was found between the groups of “very good health” vs. “poor health” ($d = 1.21$, $p < .001$) and “very good health” vs. “not so good health” ($d = 0.89$, $p < .001$). The effect of self-esteem between the groups of “very good health” vs. “good health” was approximately medium ($d = 0.49$, $p < .001$). Thus, people reporting very good health had considerably higher levels of self-esteem than the other groups. Next to self-esteem, educational attainments made a sizeable difference among the groups of self-rated health. A large to medium effect was detected between the groups of “very good health” vs. “poor health” ($d = 0.77$, $p < .001$) and between people reporting “very good” vs. “not so good” health ($d = 0.76$, $p < .001$), whereas the effect of education between “very good” vs. “good” health was medium ($d = 0.37$, $p < .001$). Job satisfaction, participation in social activities and community connectedness demonstrated medium effects between the groups of “very good” vs. “poor” health and “very good” vs. “not so good” health. Medium effects were also found between “very good” vs. “good” health on job satisfaction and participation in social activities, while a small effect was detected between the group of “very good” vs. “good” health on community connectedness.

Cross-tabulation and Chi-square tests for SRH

Significant associations were found among the different levels of self-rated health and living with a spouse/partner ($\chi^2(3)=78.08, p<.001$) as well as the feeling of having enough friends ($\chi^2(3)=289.66, p<.001$). Although the question concerning cohabitation with a spouse/partner did yield a significant association, the differences between the groups were relatively negligible. 82.3% of the respondents with very good health lived with a spouse or partner, whereas 81.9% of the group reporting poor health lived with a spouse or partner. Interestingly, in the within-groups comparison, more people in the groups of “not so good health” (86.2%) and “good health” (86.1%) lived with a spouse or partner than those reporting very good health. The question regarding the feeling of having enough friends showed considerably higher contrasts in percentages. In the group of “very good health,” 87% said they had enough friends compared with 70.7% of those with poor health. 78.4% in the group of “not so good health” and 83.3% in the group of “good health” felt that they had enough friends. Hence, a higher percentage of people reporting “very good health” felt that they had enough friends compared with the other groups.

One-way ANOVA for subjective well-being

Just as for the ANOVAs on self-rated health, Levene’s statistics also showed significant differences in the variance of the groups on all psychosocial variables ($p<.001$) when SWB was used as a grouping variable. Hence, the ANOVAs of SWB report Welch’s F-ratios as well. The ANOVA showed significant differences between groups of SWB on all psychosocial parameters analyzed through this approach. Differences between groups were significant by educational level ($F [3, 52476] = 110.21, p < .001$), job satisfaction ($F [3, 35316] = 1155.45, p < .001$), participation in social activities ($F [3, 44576] = 271.30, p < .001$), community connectedness ($F [3, 43399] = 951.70, p < .001$), and self-esteem ($F [3, 44301] = 2797.00, p = < .001$). Games-Howell tests of contrasts were preformed as a post-hoc procedure. Group differences of SWB on the psychosocial variables were converted into effect-sizes (d) (Table 3).

Table 3: Post-hoc analysis of one-way ANOVA with SWB as a grouping variable. Group differences are translated into effect sizes (*d*).

	Very high vs. very low	Very high vs. low	Very high vs. high
<i>Parameter</i>	<i>Effect Size (Cohen's d)</i>		
Educational level	0.27**	0.20**	0.14**
Job satisfaction	1.18**	0.87**	0.53**
Participation in social activities	0.58**	0.38**	0.19**
Community connectedness	1.11**	0.78**	0.34**
Self esteem	2.13**	1.44**	0.71**

Note: * = $p < 0.01$, ** = $p < 0.001$. Post-hoc analysis: t-test with Games-Howell modification of Turkey's HSD. 95% confidence interval.

Similar to health, self-esteem was the most pronounced of the psychosocial resistance resources when the group of very high levels of SWB was compared with the others. The largest effect of self-esteem was found between the groups reporting very high SWB and very low SWB ($d = 2.13$, $p < .001$). There were also major differences in self-esteem between the groups reporting very high SWB and low SWB ($d = 1.44$, $p < .001$), while the effect of SWB between very high and high SWB was large to medium ($d = 0.71$, $p < .001$). Job satisfaction was the second-largest cause to differences among the groups of SWB. Large effects were found between the groups reporting very high levels of SWB and very low levels of SWB ($d = 1.18$, $p < .001$) and between very high and low SWB ($d = 0.87$, $p < .001$). The effect between the groups of very high SWB and high SWB on job satisfaction was medium ($d = 0.53$, $p < .001$). This indicates that the group with very high levels of SWB experience considerably more job satisfaction than the other groups. Further, community connectedness also caused significant differences among the groups. A large effect was detected between the groups reporting very high SWB vs. very low SWB ($d = 1.11$, $p < .001$). The effect between people reporting very high SWB vs. low SWB was high to medium ($d = 0.78$, $p < .001$), while a small to medium effect was found between the groups of very high SWB vs. high SWB ($d = 0.34$, $p < .001$).

In general, the effect sizes of the different groups of subjective well-being tended to be higher than among groups of self-rated health. However, participation in social activities showed similar and slightly lower effects among the groups of SWB than those of self-rated health. Educational level was the only parameter that was far less powerful in differentiating among the groups when it came to SWB compared with health. When persons who reported very high levels of SWB were weighed against the others, only small effects were found in all comparisons. Highest among them was the difference between the group of very high levels of SWB vs. very low SWB ($d = 0.27$, $p < .001$) Thus, the group with very high levels of SWB was only slightly higher educated than the other groups.

Cross-tabulation and Chi-square tests for SWB

There was a significant association between the different levels of SWB in relation to the questions concerning living with a spouse/partner ($\chi^2(3) = 136.84$, $p < .001$) and the feeling of having enough friends ($\chi^2(3) = 3120.31$, $p < .001$). In the group of very high SWB, 86.2% lived with a spouse or partner, compared with 71% of those with very low levels of SWB. In the group of low levels of SWB, 81.5% lived with a spouse or partner, compared to 86% of those reporting high levels of SWB. Accordingly, the group with very high levels of SWB did live with a spouse or partner slightly more frequently than the other groups. The contrast between those with very high levels of SWB compared to the other groups was far more pronounced when it came to the subjective feeling of having enough friends. 92.1% in the group of very high levels of SWB felt that they had enough friends in contrast to 43.9% of those reporting very low SWB. Further, 62.3% of the group with low SWB and 82% of those with high SWB felt that they had enough friends. Hence, the group with very high SWB experienced substantially more social support in terms of having enough friends than the other groups.

Hierarchical multiple regression analysis

A hierarchical multiple regression analysis was performed to examine the relative predictive strength of psychosocial resistance resources and health on the criterion variable “subjective well-being”. Assumptions for performing this technique were initially checked and found satisfactory. Inter-correlations between predictors entered into the regression were far below $r = .80$, which indicates a limited danger of multicollinearity. Further, none of the variables violated the criteria of having a tolerance value less than .1, and all variables held low VIF values (average < 1.2). The Durbin Watson value was 1.98, which indicates that the residuals are highly independent (Field, 2005). Inspection of plots indicating standardized residuals against standardized predictive values confirmed that the assumptions of homoscedasticity and linearity had been met. The normality of residuals was also satisfactory. This assumption was interpreted through a P-P plot where the residuals demonstrated an approximately straight line.

In order to examine the predictive power of psychosocial resistance resources and health on SWB, a hierarchical block regression analysis with the enter method were applied (see Table 4). Gender and Age were entered as control variables in the first step. The second block consisted of the psychosocial resistance resources Education, Job satisfaction, Living with spouse/partner, The feeling of having enough friends, Participation in social activities, Community connectedness and Self-esteem. Self-rated health was included in the third and final model based on theoretical assumptions and the relatively high correlation between SRH and SWB ($r_s .46$; $p < .001$).

As shown by Table 4, the control variables entered in Model 1 only explained 1% of the variation in SWB (adjusted $R^2 = .01$, $F(2, 31473) = 154.46$, $p < .001$). The second model included the psychosocial resistance resources, holding control variables constant.

Table 4. Hierarchical multiple regression analysis with Subjective Well-Being as the criterion variable.

Model		<i>B</i>	<i>SE B</i>	β
Step 1	Constant	5.39	.19	
	Gender	.10	.01	.06**
	Age	-.01	.00	-.08**
Step 2	Constant	1.15	.04	
	Gender	.03	.01	.02**
	Age	.00	.00	-.03**
	Education	-.01	.00	-.02**
	Job satisfaction	.31	.01	.21**
	Living with spouse/partner	.05	.01	.02**
	Friends	.32	.01	.14**
	Participation social act.	.03	.00	.03**
	Community connected.	.14	.01	.11**
	Self-esteem	.71	.01	.40**
Step 3	Constant	.19	.04	
	Gender	.02	.01	.01**
	Age	.00	.00	.04**
	Education	-.04	.00	-.06**
	Job satisfaction	.26	.01	.18**
	Living with spouse/partner	.06	.01	.02**
	Friends	.30	.01	.13**
	Participation social act.	.02	.00	.02**
	Community connected.	.11	.01	.09**
	Self-esteem	.61	.01	.34**
	SRH	.47	.01	.35**

Note: N= 31473. Levels of significance: * = $p < 0.01$, ** = $p < 0.001$.

Step 1 $R^2=.01^{**}$; step 2 $\Delta R^2=.35^{**}$; Step 3 $\Delta R^2=.45^{**}$.

F-change step 1=154.46; step 2= 2351.82; step 3= 5948.01

Listwise deletion of missing values.

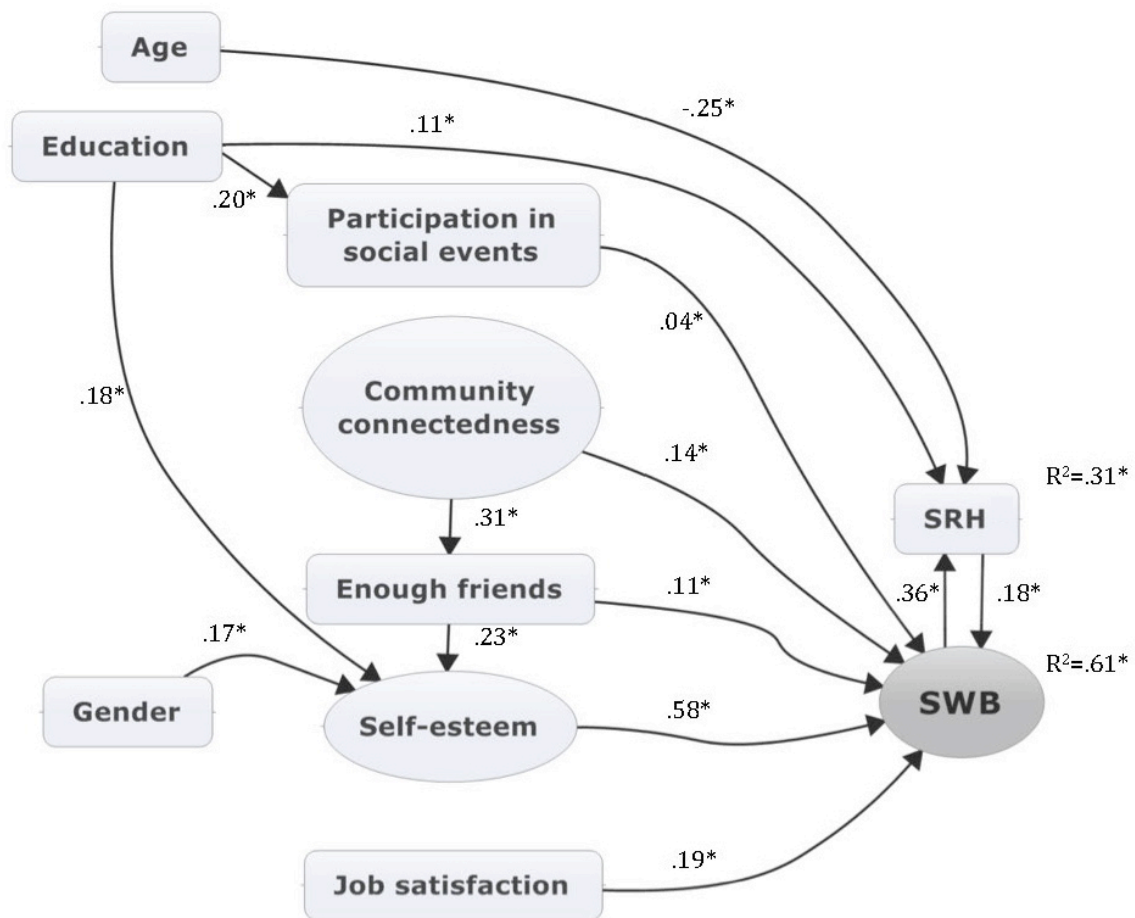
Combined, model 2 was also significantly different from zero, and explained 35% of the variance in SWB, which was a substantial improvement from model 1 (adjusted $R^2=.35$, $F(7, 31473)=2351.83$, $p<.001$). Self-esteem was the strongest predictor of the model ($\beta .40$, $t(31473)=80.46$, $p<.001$), followed by Job Satisfaction ($\beta .21$, $t(31473)= 44.39$, $p<.001$).

Self-rated health was included in the final model, holding the two previous models constant. SRH displayed the strongest predictive value in explaining SWB ($\beta .35$, $t(31473)= 77.12$, $p<.001$), slightly above Self-esteem, which accounted for a β value of $\beta =.34$ in the final model ($p<.001$). Job satisfaction was still a strong predictor for SWB in model 3 ($\beta .18$, $t(31473)= 39.96$, $p<.001$). The subjective feeling of having enough friends was the most powerful of the variables reflecting social support ($\beta .13$, $t(31473)= 30.1$, $p<.001$), as living with a spouse/partner and participating in social activities both produced β values of only $\beta=.02$ ($p<.001$). Further, community connectedness also contributed relatively well in predicting SWB ($\beta .09$, $t(31473)= 20.33$, $p<.001$), while education, in fact, yielded a very small--but still negative--effect ($\beta -.06$, $t(31473)= -12.33$, $p<.001$). With age and education as exceptions, all predictors produced lower β values in model 3 than model 2. In total, the final model accounted for 45% of the explained variance in SWB (adjusted $R^2=.45$, $F(1, 31473) = 5948.01$, $p<.001$).

Structural Equation Modelling

Based on the preliminary results, a theoretically and empirically induced model was developed and tested through Structural Equation Modelling (SEM). The latent factor variables, self esteem, community connectedness and SWB were initially assessed in the measurement model, where one-factor solutions (with adequate levels of Chronbachs alpha) were found to be acceptable in all three cases. Subsequently, the structural model was accumulated. Alternative and more complex models were developed and tested, but no substantial improvement in fit was achieved. The final model, which provided the best fit to the data, is displayed in Figure 1.

Figure 1: Final SEM-model.



Note: *=Sig 0,001. GFI= .860, CFI= .781, RMSEA= .071
 Regression imputation of missing values.
 N=54191.

Variables shaped oval represent factors, while squares represent single variables. Arrows symbolize standardised regression weights.

As suggested by previous analyses, the psychosocial resistance resources yielded a stronger connection with SWB than SRH. Thus, age and education were the only exogenous variables directly connected to SRH in the model, both yielding low to moderate paths. In addition to age, gender was the only other demographic variable included in the model. In accordance with the previous results, gender was only noteworthy when connected to self-esteem, as women reported slightly lower self-esteem than men ($\beta=.17, p<.001$). The highest path

of the model was found between self esteem, acting as an endogenous mediator, and SWB ($\beta=.58, p<.001$). The feeling of having enough friends was also positively, but rather weakly, directly related to SWB ($\beta=.11, p<.001$). This variable was, however, moderately explained by community connectedness ($\beta=.31, p<.001$) and contributed further to elucidate the variation in self-esteem ($\beta=.23, p<.001$). It is also important to notice that Work satisfaction showed a positive path towards SWB with a β value of $\beta = .19 (p<.001)$. The squared multiple correlation (R^2) was .31 for SRH and .61 for SWB, which indicates that the model explained 31% of the variation in SRH and 61% of the variation in SWB. This final model yielded a medium fit to the data (GFI=.860, CFI=.781, RMSEA=.071).

DISCUSSION

The main objective of this study was to investigate precursors of excellent self-rated health and great subjective well-being. Four main aims in line with the salutogenic spirit were set to guide the current investigation. With regard to the first aim of the study, the results consistently showed that people with very good health and very high levels of well-being possessed considerably higher levels of all psychosocial resources assessed in the present investigation (i.e., social support, community connectedness, self-esteem, job satisfaction and education). The sizes of effect, compared with the groups of lower levels of SWB and SRH, were in general substantial. The second aim concerned the joint significance of these factors for SWB. Altogether, the results suggest that the examined psychosocial resistance resources are strongly predictive for SWB. Thus, the results of this study are congruent to the salutogenic theory of health (Antonovsky 1979; 1987), suggesting that psychosocial GRRs are imperative for movement towards the positive end of the health continuum. Individuals who possess and are able to use and reuse available resistance resources are more likely to view their existence as coherent. Thus, they are more liable to avoid the transformation of tension into stress, and the outcome becomes either neutral or salutary (Antonovsky, 1979; 1987). The results of the present study suggest that self-esteem, followed by job satisfaction and social support and social integration (i.e., community connectedness), seem to be the most vital psychosocial resistance resources when it comes to both self-rated health and subjective well-being.

Self-esteem

The strong association between self-esteem, health and well-being has previously been extensively confirmed in previous studies and could suggest, as some theorists argue, that the constructs conceptually overlap (Hewitt, 2005). However, empirical evidence suggests that the discriminate validity between measures like SWB (happiness) and global self esteem (e.g., Rosenberg) is highly acceptable and that the construct has different determinants (Lyubomirsky, Tkach and Dimatteo, 2006). Thus, the main question to be answered is the direction of causality: Does high self-esteem lead to greater health and well-being, or does health and well-being foster positive self-esteem? Despite these ambiguities, an extensive review of self-esteem studies concludes that self-esteem does lead to greater happiness, and low self-esteem seems to foster negative health outcomes, such as depression (Baumeister et al., 2003). Still, it can be hypothesised that the relationships are reciprocal. It can further be hypothesised that self-esteem, as an intrapersonal resource, serves as a stronger predictor for health and well-being in individualistic cultures than more collectivistic-oriented cultures. Thus, the major significance of personal self-esteem for SWB and SRH could have been altered if the data were collected elsewhere. It must also be noticed that self-esteem can be confounded with personality traits such as openness, sociability (Ramsdal, 2008) and optimism (Mäkikangas, Kinnunen and Feldt, 2004). Thus, inclusion of such variables could have altered the results of this study.

Job satisfaction

Moreover, the results from the present study confirm the importance of job satisfaction as a central resistance resource. This is in line with previous research, suggesting that job satisfaction is a central component in the creation of health (Faragher et al., 2005) and well-being (Rain, Lane and Steiner, 1991; Harter, Schmidt and Keyes, 2002; Turner, Barling and Zacharatos, 2005; Rode, 2004). However, previous research further supports a reciprocal relationship, suggesting that life satisfaction (e.g., one of the dimensions of SWB) has a stronger effect on job satisfaction than the other way around (Judge and Watanabe, 1993). When it comes to health, it is also logical that a person's health status may influence the level of satisfaction with their total job situation in a reciprocal manner. Still, the findings in the present study contribute to confirm Antonovsky's suggestion of the importance of qualitative factors of paid work as a central resource for health and well-being. Regardless of causality ambiguities, it is apparent that having a meaningful job,

which provides opportunities for personal development, skills and a sense of mastery, can enhance one's health and well-being. In contrast, having a passive and meaningless job with poor working conditions might generate negative feelings towards employment and thus lead to a drawback on the health continuum and well-being spectrum (Volanen, Lahelma, Silventoinen and Suominen, 2004).

Job satisfaction was an even stronger predictor for SWB than the selection of measures of social support and produced the second-largest beta coefficients of the regression analysis. Also, job satisfaction generated some of the largest effects in the between-group analysis in this study, both within SRH and SWB. This is a noteworthy finding, as social support generally is accepted as a more powerful predictor for health and well-being than factors within our working life. Thus, this finding partly contradicts Antonovsky's conception of the "hierarchy" of psychosocial resistance resources. A possible explanation could be found in the extension of individualistic ideals in today's modern Western societies. Working life is an essential ground in the individualistic quest for self-development and self-realization. However, as Putnam (2000) has pointed out, this individualistic development has contributed to a dramatic decline in social capital in many industrialized countries. Hence, these circumstances could explain the relative importance of job satisfaction compared to social support. The present study does not focus on predictors for job satisfaction. Previous research has, however, identified social support at work as one of the most significant factors for job satisfaction and quality of life (Niedhammer and Chea, 2003). Regarding the powerful association between job satisfaction, health and SWB, it is apparent that these relationships, including the underlying factors of job satisfaction, deserve great attention when it comes to public health and health promotion.

Social support and social capital

Social support and social capital have previously been described as a fundamental psychosocial resource for health and well-being. This was confirmed by the findings of the present study as well. However, functional-emotional social support (i.e., having enough friends) was a significantly stronger predictor for SWB than structural measures (i.e., living with a spouse/partner and participating in social activities) and also showed stronger associations to SRH. Previous research has rendered support to the notion of functional-emotional measures of

social support as being more closely connected to subjective measures of health and well-being than structural measures of social support (Keyes 2002; Power, 1988).

With regard to the structural measures of social support, the findings of the present study are partly inconsistent with previous research. Although previous research suggests that marital status (i.e., living with a spouse or partner) is a central asset for health and well-being (Mastekaasa, 1992; Lau, Moum, Sørensen and Tambs, 2002), the results of the present study only displayed weak and contradictory associations in this matter. However, the results must be interpreted with caution, as structural measures do not account for the quality of the relationship. For example, a negative relation between spouses and partners could logically cause great stress and further contribute to the deterioration of a person's SWB and SRH (Gottman, 1994). Thus, it can be speculated that more qualitative-oriented variables, concerning the emotional experience of received support from a partner, could have altered the results.

The construct of community connectedness also emerged as a significant predictor for SWB in this study. Community connectedness represents a vital aspect of social capital involving basic trust and a feeling of worth and appreciation by others within larger social and community groups (Sørensen, Bøe, Ingebrigtsen and Sandanger, 1996). Thus, the findings of the present study are consistent with Whitlock's (2007) hypothesis; belonging to a community of others is one of the most significant protective factors for positive health development. Although less substantial than the case of SWB, Community connectedness also produced substantial effects in the group comparisons of SRH of the present study. Baumeister and Leary (1995) posit that feeling connected to a community represents an extension of people's fundamental need to belong and thus contributes to positive individual and social outcomes. As Putnam (2000) clearly points out, in high-social-capital areas, public spaces are cleaner, people are friendlier and the streets are safer. Thus, social capital contributes towards raising trust and enhancing safe and productive neighbourhoods, while its absence hampers efforts of improvement. Community connectedness, as measured in this study, may further be conceptualized as a functional-emotional aspect of social integration. Thus, these findings also contribute towards elevating the qualitative dimensions of social capital.

SRH and SWB: Highly related, but distinct constructs

The third aim of this study concerned the relationship between SWB and SRH. When SRH was included in the third model of the regression analysis, the explanatory power rose to 45%. Thus, when controlled for the present selection of psychosocial factors, SRH accounted for an increase of 10% of the explained variance from the former model. SRH stood out as the most significant predictor for SWB in this model, closely followed by self-esteem. Although the beta values of the psychosocial variables were slightly lower in the last model compared to the previous, the differences were not substantial. These findings implicate that SRH, to some extent, has somewhat different determinants than SWB. The findings from the group comparisons of SRH and SWB also support this understanding.

Nearly all of the psychosocial resistance resources yielded stronger contrasts in the comparisons between the groups of SWB and SRH. Despite the similarities in differentiations between the groups of SRH and SWB, there were also contrasting differences. The most substantial exception was the case of educational attainments. Whereas education yielded large effects among the groups of SRH, there were only minor contrasts among the groups of SWB. The weak association between SWB and educational attainments was also confirmed by the result of the multiple-regression analysis. This is consistent with previous findings, suggesting that educational attainments are a much stronger predictor for health (Marmot, Ryff and Bumpass et al., 1997; Krogstad, Kunst and Westin, 2002; Kunst and Mackenbach, 1994; Bjelland, Krokstad and Mykletun et al., 2008) than SWB (Witter et al., 1984). A possible explanation might be that education is very closely linked to socioeconomic status, which is tightly connected to several measures of health status (Dahlgren and Whitehead, 2007; Marmot, Ryff and Bumpass et al., 1997), whereas happiness does not show consistent findings in this matter (Martin, 2008).

Despite the fact that there were some similarities in the patterns of effects among the different groups of SWB and SRH, these findings suggest that the psychosocial assets of people with very good health and very high levels of subjective well-being are not identical. Thus, these findings contribute toward broadening the understanding of health and well-being as related, but distinct, constructs. A possible explanation is that lay people perhaps more often associate self-rated health with objective health complaints than with SWB. A large Norwegian study by Moum (1992) concludes that when a sufficiently fine-grained array of medical information is available, socio-cultural factors contribute only marginally to explain the variance in self-rated health.

Beliefs about health and illness are at once individual and social. Thus, subjective perceptions of health are highly influenced by people's prevailing cultural and societal contexts (Nettelton, 2006). Undoubtedly, health beliefs in contemporary Western societies are highly influenced by the biomedical deficit model, which has dominated Western medicine for centuries. Consequently, since this model defines health as the relative absence of disease, this consideration would naturally influence lay people's evaluation of their health status.

A salutogenic model of psychosocial resistance resources, SRH and SWB

The fourth aim of the present study was to develop and test a theoretically and empirically nested model through SEM analysis. The best-fitting model managed to explain 31% of the variance in SRH and a whole 61% of the variance of SWB. In accordance with the previous analysis of this study, these results provide sufficient evidence for the importance of psychosocial determinants. As described, the majority of the psychosocial resources yielded stronger relationships with SWB than with SRH. In the best-fitting model, which represents a highly simplified depiction of the data, education was the only of the psychosocial resources that is directly linked with SRH in addition to the demographical variable of age. The other psychosocial variables in the model show a relationship with SWB due to stronger predictive values.

However, it is important to recognize the interconnected paths among the psychosocial resources themselves. Although education did not yield strong associations with SWB, it produced significant contributions in explaining the variance of two other GRRs, namely participation in social activities and self-esteem. Thus, these connections show that education, mainly through the mediating role of self-esteem, do have an indirect impact on SWB. Although previous studies have suggested that high self-esteem leads to higher educational attainments, the present study suggests an opposite causal direction. This view has previously been supported by Bowles (1999). In addition to social status, it might be that education as a psychosocial GRR contributes to self-development and self-awareness, which could enhance people's feeling of self worth. However, a review by Baumeister et al. (2003) concludes that the association between educational attainments (mainly measured as school success) and self-esteem is positive, but still weak and ambiguous. Thus, more knowledge about the effects and interrelations of education and other GRRs is needed.

According to the final SEM model, the feeling of having enough friends appears to have an impact on people's self-esteem. Baumeister and Leary (1995) state that people have a fundamental need to belong that motivates them to seek out social interactions with significant others. Further, people who succeed in satisfying this need tend to have greater self-esteem than their counterparts. This prediction has previously been strongly supported by Denissen, Penke, Schmitt and Aken (2008). On an intrapersonal level, they found that people who generally felt close to important others were also the ones with highest levels of self-esteem. On an international level, they found that countries whose inhabitants regularly interact with friends had a higher nationwide self-esteem than countries without such cultural practices.

Further, the SEM model suggests that the level of community connectedness seems to contribute in the explanation of people's experienced support from friends. There is considerable overlap between personal social networking and positive relationships in the local community; the more integrated local communities are, the easier it is for people to bound and maintain close friendships. This hypothesis is supported by previous research, suggesting that local community connectedness is significant for several dimensions of one's personal social network and experienced social support (Sørensen et al., 2002).

The findings of the present study support a strong connection between SRH and SWB. Health is widely considered an essential source of SWB. Studies do, however, suggest that perceived health (often represented by single items such as "How is your health at the moment?") is a much stronger predictor for SWB than objective health measures (Brief, Butcher, George and Link, 1993; Zautra and Hempel, 1984; Angner, Ray, Saag and Allison, 2009). Further studies suggests that the strong association between subjective health and SWB is found in common genetic and environmental factors that influence the two independently of objective health measures (Røysamb, Neale, Tambs, Reichborn-Kjennerud and Harris, 2003). Still, the causality between health and SWB is somewhat ambiguous. Although vast literature suggests that health is an essential determinant for well-being, there is also empirical evidence for the reverse, where well-being is found to be vital for positive health development (Ryff, Singer and Love 2004; Veenhofen, 2008). This is to a large extent in line with the psychosomatic hypothesis, suggesting that positive affect and positive thinking may slow physical and mental pathogenic processes and functional decline, and further enhance healing and positive function (Farmer and Ferraro, 1997).

This has also been supported by the famous Nun Study, where positive affect is found to have a major impact on longevity (Danner, Snowdon and Friesen, 2001).

A reciprocal relationship between SWB and SRH implies that these two outcomes act upon each other as central resistance resources. Antonovsky (1979) also noted the fact that health may serve as a GRR by the definition that a GRR is a factor that fosters meaningful life experiences. He further suggested that health usefully could be viewed as an independent variable, because it also can affect the extent to which one is exposed to stressors. Being on the healthy end of the continuum can facilitate the acquisition of other GRRs. Hence, it is vital to embrace systemic approaches when it comes to enquiring about the complex relationship of health, well-being and their determinants.

Strengths and limitations

This study is based on one of the world's largest health surveys--The Nord-Trøndelag Health Study (HUNT)--where the main objectives were aimed at large public health issues such as cardiovascular disease, cancer, diabetes, depression and anxiety, just to mention a few. Despite the fact that the HUNT study also contains data on positive health determinants, nearly every scientific article utilizing the HUNT databank is ultimately based on a pathogenic orientation. Hence, the present study represents a "new look at old data" through the lens of salutogenesis. In contrast to traditional pathogenic research, therefore, the present study turns the attention towards individuals who enjoy great health and high levels of subjective well-being, in order to investigate psychosocial resources and salutary processes for health and well-being. This way of utilizing epidemiological data and methods can be conceptualized as a natural consequence of the health perspective emanating from the Ottawa Charter (Kemm, 1993). Such knowledge may truly contribute toward illuminating the causes and assets of health and well-being and thus serve as a contribution to an "evidence base" for health-promotion practice.

Ecological approaches and interrelationships between assets for health and well-being have become a requested focus in recent health-promotional research (Krieger, 2001). The use of more sophisticated methodologies has become a valuable tool in refining theories to make specific predictions about how input variables influence components differentially. These methodologies have also expanded our understanding of the interaction between internal factors and external life circumstances. Thus, SEM statistics, as pertained by the present study, can be

helpful in painting a broader and more comprehensive picture of the creation of health and well-being.

From the outset, a number of limitations of the present study were acknowledged, and only the most significant limitations are discussed here: The HUNT2 survey is a part of a larger and longitudinal study of the population in a district fairly representative of the Norwegian population. The present study only made use of cross-sectional data from this particular part of the survey. Thus, any conclusions about prediction can only be understood in theoretical and statistical terms and not in a causal sense. Further, the data analyzed in this study are over a decade old. Although there are limited reasons to believe that the age of the data may weaken the validity of the results, the findings should be replicated using more recent data.

Further, the variables and measurements included in this study were mainly single-item variables and short versions of previously validated scales because of the wide range of topics in the health questionnaire. Single items and short-form scales have often been associated with poorer psychometric properties than with more complex, full scaled versions (Field, 2005; Skog, 2004). This could therefore weaken the reliability of the results. Also, no variables were included as covariates in the ANOVA and cross-tabulation. The differences in means and sums of squares could hypothetically be caused by unidentified third variables.

Missing data can also cause great concern. The challenge of missing data was mainly handled with a pairwise deletion strategy, whereas a listwise deletion of missing values was preformed in the regression analysis. Some items, like job satisfaction, had substantial amounts of missing data (34.8% missing). This might reflect segments of retired and unemployed participants. Subsequently, the results of the regression analysis could be biased only accounting for employed persons. However, the path analysis required a full-information dataset. The present study recognized that unobserved values were missing at random; hence, a regression imputation method was used to complete the dataset. Still, this assumption was not initially checked in a missing-value analysis. The notion of non-response bias should therefore be kept in mind.

The study variables in the present dataset were mainly of an ordinal character; however, the waste analysis in this study was preformed through parametric statistical methods. This may reduce the reliability of the findings. Further, when it comes to the SEM model, it is important to notice that this analysis does not evaluate whether the model is true or false; it is a highly simplified representation of factors associated with SWB and SRH and an evaluation of how well

this model fits the present data (Kline, 2005). Thus, this model only represents a part of the factors that influence self-rated health and subjective well-being, as these outcomes surely are highly influenced by other determinants as well. The results must be interpreted with great caution, as the fit indices of the SEM model were only marginally acceptable. Then again, as SEM fit statistics are quite sensitive, the fit values could, for example, have been influenced by the ordinal nature of the variables and by light skewness in opposite directions between some of the variables. Thus, a different technique and/or transformation of the skewed variables could have improved the fit statistics of the model (Byrne, 2001; Kline, 2005).

Finally, most of the variables used in the present study represent life dimensions of a highly subjective character. Psychosocial factors, health and well-being are complex in nature, and thus, they are not “directly” accessible for measurement. This could signify an uncertainty of actual measurement and can therefore be conceptualised as a threat to the validity of the study. Conversely, such criticism is ultimately based on positivistic ideals – a realm of scientific research upon which the current study is not based. Still, it is well known that self-reports are prone to bias by the effects of mood and social desirability (Lyuombirsky et al., 2005). Such potential reporting biases might limit the evidence of the study.

The salutogenic perspective conceptualises health, wellness and healing as cultural phenomena, not just as biological entities. Thus, to understand the substance of the results, it is vital to look at the data per se and the contextual landscape in which it has been produced. However, the HUNT study is one of the largest health surveys ever conducted, and the magnitude of the massive data sample is a significant strength of this study. Thus, it would be fair to assume that the results are accurate in terms of describing the actual population.

Implications for practice and research

Public health work must include both the avoidance of negative health determinants and the promotion of positive life factors. But as of yet, the creation of health and assets for health and well-being has not been adequately studied and recognized as significant in health literature (Antonovsky, 1987; Snyder and Lopez, 2005). Thus, the balance between these complementary approaches is still substantially skewed. Much more effort is needed to build blocks of theory and empirical evidence to guide the field of health promotion. The present study, grounded in a salutogenic wellness perspective, has endeavoured to serve as a contribution to this matter.

Knowledge about positive health determinants is useful for health promotion activities in general populations, but it could also promote health and well-being among individuals with chronic illness and disability (Ejlertsson, Edén and Leden, 2002). Thus, the relevance of health promoting capacities goes far beyond the mere interest of public health.

The creation of health does not happen in a vacuum – it is an intricate interplay of societal context, living conditions, social relationships and individual characteristics and attitudes. Traditionally, research has merely focused on health determinants on an individual level, implicating that health is an individually constrained responsibility. Health promoters should focus more, however, on health-creating factors within all segments of health determinants in an ecologically initiated approach. This study has demonstrated that a great deal of attention also should be directed towards the inter-relationship of health-creating resources to fully exploit the potential movement towards the positive end of the health continuum. Antonovsky (1979; 1987) assumed such knowledge to be crucial for a broader understanding of what creates health, but as of yet, few studies have addressed this topic. Thus, future research should engage in these complex relationships. The present study has made use of structural equation modelling in the exploration of psychosocial resources for health and well-being. This approach is highly suitable for assessing ecological systems of health determinants, as it allows the examination of interrelationships among independent variables in relation to multiple outcomes. Thus, future research in health promotion should make more use of such multifaceted methods, pragmatically supplemented by other research design, to gain a fuller understanding of the complexity of the field. In this matter, qualitative and participative approaches would be valuable.

From a health promotional perspective, it is fundamentally interesting whether or not a determinant for health and well-being can be influenced by some kind of intervention. The cross-sectional design of this study prevents any clear conclusions regarding causal relationships and further precludes the drawing on how interventions should be realized. Thus, future research should focus on longitudinal designs as well as interventional and action research. Although this study has only explored associations, it may provide some indication of how we can influence self-rated health and subjective well-being. Improving external resources, such as providing opportunities for social interaction and work satisfaction, should be considered to represent a different strategy than efforts to strengthen internal-resistance resources like self-esteem. However, as this study has pointed out, it is necessary to pay attention to ecological systems of

health-promoting resources, as this may reinforce the potential of any health-promoting activity across the boundaries of internal and external factors.

The present study has contributed to the understanding of SRH and SWB as related, but distinct, constructs. Antonovsky (1979; 1987) also suggested that health and well-being should be investigated separately because of different theory bases. However, these are both equally important outcomes for health promotion, and as this study has demonstrated, they may act upon each other as generalized resistance resources. Thus, future research should focus on both outcomes, as they are equally important goals for health-promoting practices. This study has explored the salutogenic theory of Aaron Antonovsky (1979; 1986) as a theoretical foundation for epidemiological research. To conclude, the salutogenic theory provides an excellent framework for “positive epidemiology” in the search for generalized resistance resources fostering health and well-being for individuals and populations. Future research in the field of health promotion should further explore the salutogenic framework to guide the development of an evidence-based rationale. The HUNT study provides a prosperous database in the quest for health-promoting capacities. However, for a fuller understanding of health-promoting mechanisms, future HUNT surveys should incorporate the salutogenic concept of sense of coherence, including the constructs of meaningfulness, comprehensibility and manageability. This could truly elevate HUNT as a goldmine for health-promotional research and further advance health promotion as a practical discipline.

CONCLUSIONS

This study has explored dimensions of the salutogenic benchmark: What creates health? What are the mechanisms, and which assets are vital in this process? The present study has contributed towards confirming the importance of psychosocial resistance resources as vital for positive health development. The lessons learned from people who enjoy great subjective health and well-being are unambiguous: They do possess considerably larger amounts of psychosocial resources than people reporting lower levels of SRH and SWB. What is more, the psychosocial resistance resources assessed through this study seem to be strongly predictive for SWB. Though these resources partly overlap, there was no real multicollinearity among them. There were several

differences in the way the psychosocial resources were associated with SWB and SRH. SRH and SWB are clearly highly related, but at the same time, it is apparent that they are separate constructs with somewhat divergent determinants. Altogether, it is still apparent that self-esteem, followed by job satisfaction and functional-emotional measures of social support and social integration (i.e., community connectedness) seem to be the most significant of the psychosocial resistance resources analyzed through the present study, both in terms of SWB and SRH. However, these analyses have only explored associations. More research is needed to draw further conclusions.

This study has aspired to contribute to the evidence base of health promotion and further supplement the development of a salutogenic theoretical framework to guide this vital field. However, it is clear that gathering evidence for the value of health promotion remains a challenging task. For future development, a salutogenic orientation could serve as a unifying concept, broadening the vision of evidence that embraces and supports the complex field of health promotion.

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Personlig innbydelse



Spørreskjemaet er en viktig del av Helseundersøkelsen. Her finner du spørsmål om tidligere sykdom og om andre forhold som har betydning for helse. Vennligst fyll ut skjemaet på forhånd og ta det med til Helseundersøkelsen. Dersom enkelte spørsmål er uklare, lar du dem bare stå ubesvarte til du møter fram, og drøfter dem med personalet som gjennomfører undersøkelsen. Alle svar vil bli behandlet strengt fortrolig.

Flere steder i skjemaet ber vi deg oppgi din alder da eventuell sykdom inntrådte. Hvis du ikke husker nøyaktig hvor gammel du var, skriver du et tall som er nærmest det du antar er korrekt.

Når resultatene fra undersøkelsen foreligger, vil det være enkelte som trenger ny undersøkelse hos egen lege. Dette vil du få beskjed om i det brevet som vi sender deg om dine resultater. Samtidig sender vi melding om resultatene dine til legen din. Det er derfor

om å gjøre at du i rubrikken helt til slutt i skjemaet oppgir navnet på den allmennpraktiserende lege, kommunelege eller det helsesenter som du ønsker skal ta hånd om eventuell etterundersøkelse, og som vi skal sende resultatene til.

Med vennlig hilsen

Helsetjenesten i Nord-Trøndelag • Statens helseundersøkelser • Statens Institutt for Folkehelse

DET HANDLER OM HELSA DI

Hvordan er helsa di nå?

Bare ett kryss

- Dårlig 12 1
 Ikke helt god 2
 God 3
 Svært god 4

LUFTVEGSPLAGER

Hoster du daglig i perioder av året?

JA	NEI
<input type="checkbox"/>	<input type="checkbox"/>

Hvis JA:

- Er hosten vanligvis ledsaget av oppspytt? .. 14
- Har du hatt hoste med oppspytt i minst 3 mnd. sammenhengende i hvert av de to siste åra?

Har du hatt noe anfall med pipende eller tung pust de siste 12 måneder? 16

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

Har du eller har du hatt astma? 17

JA	NEI	Alder første gang
<input type="checkbox"/>	<input type="checkbox"/>	år

Har du brukt eller bruker du astmamedisin? 20

JA	NEI
<input type="checkbox"/>	<input type="checkbox"/>

HJERTE-KARSYKDOMMER, DIABETES

Har du, eller har du hatt:

- | | JA | NEI | Alder første gang |
|--|--------------------------|--------------------------|-------------------|
| Hjerteinfarkt 21 | <input type="checkbox"/> | <input type="checkbox"/> | år |
| Angina pectoris (hjertekrampe) 24 | <input type="checkbox"/> | <input type="checkbox"/> | år |
| Hjerneslag/hjerneblødning 27 | <input type="checkbox"/> | <input type="checkbox"/> | år |
| Diabetes (sukkersyke) 30 | <input type="checkbox"/> | <input type="checkbox"/> | år |

Hva ble resultatet siste gang du målte blodtrykket ditt?

Bare ett kryss

- Begynne med/fortsette med blodtryksmedisin 33 1
 Komme til kontroll, men ikke ta blodtryksmedisin 2
 Ingen kontroll og ingen medisin nødvendig 3
 Har aldri fått målt blodtrykket 4

Bruker du medisin mot høyt blodtrykk?

Bare ett kryss

- Nå 34 1
 Før, men ikke nå 2
 Aldri brukt 3

Har en eller flere av foreldre eller søsken hatt hjerteinfarkt (sår på hjertet) eller angina pectoris (hjertekrampe)?

JA	NEI	VET IKKE
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

STOFFSKIFTE

Har du noen gang fått påvist:

- | | JA | NEI | Alder første gang |
|-------------------------------------|--------------------------|--------------------------|-------------------|
| for høyt stoffskifte 36 | <input type="checkbox"/> | <input type="checkbox"/> | år |
| for lavt stoffskifte 39 | <input type="checkbox"/> | <input type="checkbox"/> | år |
| struma 42 | <input type="checkbox"/> | <input type="checkbox"/> | år |
| annen sykdom i skjoldbruskkjertelen | <input type="checkbox"/> | <input type="checkbox"/> | år |

Bruker du eller har du brukt

noen av disse medisinene:

- | | JA | NEI | Alder første gang |
|------------------------|--------------------------|--------------------------|-------------------|
| Thyroxin 48 | <input type="checkbox"/> | <input type="checkbox"/> | år |
| Neo-Mercazole 51 | <input type="checkbox"/> | <input type="checkbox"/> | år |

Er du operert i skjoldbruskkjertelen

- | | | |
|--------------------------|--------------------------|----|
| <input type="checkbox"/> | <input type="checkbox"/> | år |
|--------------------------|--------------------------|----|

Har du fått radiojodbehandling 57

- | | | |
|--------------------------|--------------------------|----|
| <input type="checkbox"/> | <input type="checkbox"/> | år |
|--------------------------|--------------------------|----|

MUSKEL/SKJELETT-PLAGER

Har du i løpet av det siste året vært plaget med smerter og/eller stivhet i muskler og ledd som har vart i minst 3 måneder sammenhengende? 60

JA	NEI
<input type="checkbox"/>	<input type="checkbox"/>

Hvis NEI, gå videre til neste side øverst.

Hvis JA, svar på følgende:

Hvor har du hatt disse plagene?

- | | JA | NEI |
|--------------------------|--------------------------|--------------------------|
| Nakke 61 | <input type="checkbox"/> | <input type="checkbox"/> |
| Skuldre (aksler) | <input type="checkbox"/> | <input type="checkbox"/> |
| Albuer | <input type="checkbox"/> | <input type="checkbox"/> |
| Håndledd, hender | <input type="checkbox"/> | <input type="checkbox"/> |
| Bryst/mage 65 | <input type="checkbox"/> | <input type="checkbox"/> |
| Øvre del av ryggen | <input type="checkbox"/> | <input type="checkbox"/> |
| Korsryggen | <input type="checkbox"/> | <input type="checkbox"/> |
| Hofter | <input type="checkbox"/> | <input type="checkbox"/> |
| Knær | <input type="checkbox"/> | <input type="checkbox"/> |
| Anklær, føtter 70 | <input type="checkbox"/> | <input type="checkbox"/> |

Hvis du har hatt plager i flere områder i minst 3 mnd. det siste året, setter du ring rundt det ja-krysset hvor plagene har vart lengst

Hvor lenge har plagene vart sammenhengende?

Svar for det området hvor plagene har vart lengst

- Hvis under 1 år, oppgi antall mnd. . 71

Antall mnd.

- Hvis 1 år eller mer, oppgi antall år.. 73

Antall år

Har plagene redusert din arbeidsevne det siste året?

Gjelder også hjemmearbeidende. Bare ett kryss

- Nei/ubetydelig I noen grad I betydelig grad Vet ikke

Har du vært sykmeldt pga. disse plagene det siste året? 76

JA	NEI	IKKE I ARBEID
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Har plagene ført til redusert aktivitet i fritida? | | | |----|-----| | JA | NEI | |----|-----|

JA	NEI
<input type="checkbox"/>	<input type="checkbox"/>

Har lege noen gang sagt at du har/har hatt noen av disse sykdommene:

	JA	NEI
Beinskjørhet (osteoporose) 78		
Fibromyalgi (fibrositt/kronisk smertesyndrom)		
Leddgikt (reumatoid artritt)		
Slitasjegikt (artrose)		
Bechterews sykdom 82		
Andre langvarige skjelett- eller muskelsykdommer		

Har du noen gang hatt:

	JA	NEI	Alder siste gang
Lårhalsbrudd 84			år
Brudd i håndledd/underarm 87			år
Nakkesleng (whiplash) 90			år
Skade som førte til sykehusinnleggelse			år

ANDRE PLAGER

I hvilken grad har du hatt disse plagene i de siste 12 månedene?

	Ikke plaget	Litt plaget	Mye plaget
Kvalme 96	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Brystbrann/sure oppstøt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diaré	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Treg mage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hjertebank	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Åndenød 101	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ANDRE SYKDOMMER

Har du eller har du noen gang hatt:

	JA	NEI	Alder første gang
Epilepsi 102			år
Psykiske plager hvor du har søkt hjelp			år
Kreftsykdom 108			år
Annen langvarig sykdom 111			

DAGLIGE FUNKSJONER

Har du noen langvarig sykdom, skade eller lidelse av fysisk eller psykisk art som nedsetter dine funksjoner i ditt daglige liv? ... 112

Langvarig: minst ett år

Hvis JA:

Hvor mye vil du si at dine funksjoner er nedsatt?

	Litt nedsatt	Middels nedsatt	Mye nedsatt
Er bevegelsehemmet 113	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Har nedsatt syn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Har nedsatt hørsel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hemmet pga. kroppslig sykdom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hemmet pga. psykiske plager... 117	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

MENN fortsetter øverst neste spalte

BESVARES BARE AV KVINNER

Hvor mange barn har du født? 118

Sett 0 hvis du ikke har født barn

Hvis du har født barn, besvar:

	Alder
Hvor gammel var du da du fødte ditt første barn? 120	år
Hvor gammel var du da du fødte ditt siste barn? 122	år

Besvares ikke hvis du har født bare ett barn

Hvor gammel var du da du fikk menstruasjon? 124

Sett 0 hvis du ikke noen gang har hatt menstruasjon

Fortsett neste spalte øverst

RØYKING

Røykte noen av de voksne hjemme da du vokste opp? 126

JA	NEI
----	-----

Bor du, eller har du bodd, sammen med noen dagligrøykere etter at du fylte 20 år? 127

JA	NEI
----	-----

Hvor lenge er du vanligvis daglig til stede i røykfylt rom? 128

Antall timer

Sett 0 hvis du ikke oppholder deg i røykfylt rom

Røyker du selv?

Sigaretter daglig? 130

Sigarer/sigarillos daglig?

Pipe daglig? 132

Aldri røykt daglig (Sett kryss)

JA	NEI

Hvis du har røykt daglig tidligere, hvor lenge er det siden du sluttet? 134

Antall år

Hvis du røyker daglig nå eller har røykt tidligere:

Hvor mange sigaretter røyker eller røykte du vanligvis daglig? 136

Antall sigaretter

Hvor gammel var du da du begynte å røyke daglig? 140

Alder
år

Hvor mange år tilsammen har du røykt daglig? 142

Antall år

KAFFE/TE/ALKOHOL

Hvor mange kopper kaffe/te drikker du daglig?

Sett 0 hvis du ikke drikker kaffe/te daglig

Kokekaffe 144

Annen kaffe 146

Te 148

Antall kopper

Alkohol:

Er du total avholdsmann/-kvinne? 150

JA	NEI
----	-----

Hvor mange ganger i måneden drikker du vanligvis alkohol? 151

Regn ikke med lettøl. Sett 0 hvis mindre enn 1 gang i mnd.

Antall ganger

Hvor mange glass øl, vin eller brennevin drikker du vanligvis i løpet av to uker?

Regn ikke med lettøl.

Sett 0 hvis du ikke drikker alkohol 153

Øl	Vin	Brennevin
glass	glass	glass

FYSISK AKTIVITET

I FRITIDA

Hvordan har din fysiske aktivitet i fritida vært det siste året? Tenk deg et ukentlig gjennomsnitt for året.

Arbeidsveg regnes som fritid

Lett aktivitet (ikke Ingen Under 1 1-2 3 og mer
svett/andpusten) 159

Hard fysisk aktivitet (svett/andpusten) 160

UNDER ARBEID

Hvis du er i lønnet eller ulønnet arbeid:

Hvorledes vil du beskrive arbeidet ditt?

Bare ett kryss

For det meste stillesittende arbeid (f.eks. skrivebordsarbeid, montering) 161 1

Arbeid som krever at du går mye (f.eks. ekspeditørb., lett industriarb., undervisning) 2

Arbeid hvor du går og løfter mye (f.eks. postbud, pleier, bygningsarbeid) 3

Tungt kroppsarbeid (f.eks. skogsarbeid, tungt jordbruksarb., tungt bygningsarb.) 4

Bla om!

HVORLEDES FØLER DU DEG?

Har du de siste to ukene følt deg:

	Nei	Litt	En god del	Svært mye
Trygg og rolig? 162	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Glad og optimistisk?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Har du følt deg:				
Nervøs og urolig?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plaget av angst? 165	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irritabel?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nedfor/deprimert?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ensom? 168	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4

Her kommer noen flere spørsmål om hvorledes du føler deg. For hvert spørsmål setter du kryss for ett av de fire svarene som best beskriver dine følelser **den siste uka**. Ikke tenk for lenge på svaret - de spontane svarene er best

Jeg gleder meg fortsatt over ting slik jeg pleide før 169
 Avgjort like mye 1 Bare lite grann 3
 Ikke fullt så mye 2 Ikke i det hele tatt 4

Jeg har en urofølelse som om noe forferdelig vil skje 170
 Ja, og noe svært ille 1 Litt, bekymrer meg lite . 3
 Ja, ikke så veldig ille ... 2 Ikke i det hele tatt 4

Jeg kan le og se det morsomme i situasjoner 171
 Like mye nå som før 1 Avgjort ikke som før 3
 Ikke like mye nå som før 2 Ikke i det hele tatt 4

Jeg har hodet fullt av bekymringer 172
 Veldig ofte 1 Av og til 3
 Ganske ofte 2 En gang i blant 4

Jeg er i godt humør 173
 Aldri 1 Ganske ofte 3
 Noen ganger 2 For det meste 4

Jeg kan sitte i fred og ro og kjenne meg avslappet 174
 Ja, helt klart 1 Ikke så ofte 3
 Vanligvis 2 Ikke i det hele tatt 4

Jeg føler meg som om alt går langsommere 175
 Nesten hele tiden 1 Fra tid til annen 3
 Svært ofte 2 Ikke i det hele tatt 4

Jeg føler meg urolig som om jeg har sommerfugler i magen 176
 Ikke i det hele tatt 1 Ganske ofte 3
 Fra tid til annen 2 Svært ofte 4

Jeg bryr meg ikke lenger om hvordan jeg ser ut 177
 Ja, har sluttet å bry meg 1 Kan hende ikke nok 3
 Ikke som jeg burde 2 Bryr meg som før 4

Jeg er rastløs som om jeg stadig må være aktiv 178
 Uten tvil svært mye 1 Ikke så veldig mye 3
 Ganske mye 2 Ikke i det hele tatt 4

Jeg ser med glede frem til hendelser og ting 179
 Like mye som før 1 Avgjort mindre enn før . 3
 Heller mindre enn før ... 2 Nesten ikke i det hele tatt 4

Jeg kan plutselig få en følelse av panikk 180
 Uten tvil svært ofte 1 Ikke så veldig ofte 3
 Ganske ofte 2 Ikke i det hele tatt 4

Jeg kan glede meg over gode bøker, radio og TV 181
 Ofte 1 Ikke så ofte 3
 Fra tid til annen 2 Svært sjelden 4

UTDANNING

Hvilken utdanning er den høyeste du har fullført?

- Grunnskole 7-10 år, framhaldsskole, folkehøgskole 182 1
 Realskole, middelskole, yrkesskole, 1-2 årig videregående skole..... 2
 Artium, øk.gymnas, allmennfaglig retning i videregående skole 3
 Høgskole/universitet, mindre enn 4 år 4
 Høgskole/universitet, 4 år eller mer 5

ARBEID

Hva slags arbeidssituasjon har du nå?

Ett eller flere kryss

- Lønnet arbeid 183
 Selvstendig næringsdrivende
 Heltids husarbeid
 Utdanning, militærtjeneste
 Arbeidsledig, permittert
 Pensjonist/trygdet 188

Hvor mange timer lønnet arbeid har du i uka? 189

Antall timer

JA	NEI
----	-----

Har du skiftarbeid, nattarbeid eller går vakt?

ALT I ALT

Når du tenker på hvordan du har det for tida, er du stort sett fornøyd med tilværelsen eller er du stort sett misfornøyd?

Bare ett kryss

- Svært fornøyd 192 1
 Meget fornøyd 2
 Ganske fornøyd 3
 Både/og 4
 Nokså misfornøyd 5
 Meget misfornøyd 6
 Svært misfornøyd 7

DIN LEGE

Hvis denne helseundersøkelsen viser at du bør undersøkes nærmere, hvilken allmennpraktiserende lege/kommunelege ønsker du skal foreta undersøkelsen?

Skriv navnet på legen her:

193

--

Ikke skriv her

Takk for utfyllingen!

Nok en gang:

Velkommen til undersøkelsen!

NORD-TRØNDELAG



Helseundersøkelsen i Nord-Trøndelag

Takk for frammøtet til undersøkelsen!

Vi vil også be deg fylle ut dette spørreskjemaet. Opplysningene vil bli brukt i større forskningsarbeider om forebyggende helsearbeid. Noen av spørsmålene likner på spørsmål du har svart på i det skjemaet du fylte ut heime og leverte ved frammøte til helseundersøkelsen. Det er likevel viktig at du svarer på alle spørsmålene også i dette skjemaet. Det utfylte skjemaet returneres i vedlagte svarkonvolutt. Porto er betalt. Alle opplysningene er underlagt streng taushetsplikt.

Vennlig hilsen

Helsetjenesten i Nord-Trøndelag

Statens Institutt for Folkehelse Statens helseundersøkelser

Hvis du ikke ønsker å besvare spørreskjemaet, sett kryss her og returner skjemaet. Da slipper du purring. Jeg ønsker ikke å besvare skjemaet

UTFYLLING

Dato for utfylling av skjema: / 19

OPPVEKST

I hvilken kommune bodde du da du fylte 1 år?
Hvis du ikke bodde i Norge, oppgi land i stedet for kommune.

24

ARBEID

Nåværende eller tidligere arbeid:

Hva slags inntektsgivende arbeid har du og event. din ektefelle/samboer? Hvis du/dere ikke har inntektsgivende arbeid nå: Oppgi det siste yrket.

	Dag	Ektefelle/ selv samboer
Spesialarbeider eller ufaglært arbeider	25 <input type="checkbox"/>	36 <input type="checkbox"/>
Fagarbeider, handverker, formann	<input type="checkbox"/>	<input type="checkbox"/>
Underordnet funksjonær (f.eks. butikk, kontor, off. tjenester)	<input type="checkbox"/>	<input type="checkbox"/>
Fagfunksjonær (f.eks. sykepleier, tekniker, lærer)	<input type="checkbox"/>	<input type="checkbox"/>
Overordnet stilling i off. eller privat virksomhet	<input type="checkbox"/>	<input type="checkbox"/>
Sjåfør	30 <input type="checkbox"/>	41 <input type="checkbox"/>
Gårdbruker eller skogeier	<input type="checkbox"/>	<input type="checkbox"/>
Fisker	<input type="checkbox"/>	<input type="checkbox"/>
Selvstendig i akademisk erverv (f.eks. tannlege, advokat)	<input type="checkbox"/>	<input type="checkbox"/>
Annen selvstendig næringsvirksomhet	<input type="checkbox"/>	<input type="checkbox"/>
Har ikke vært i inntektsgivende arbeid	35 <input type="checkbox"/>	46 <input type="checkbox"/>

Hvis du NÅ ikke har inntektsgivende arbeid eller du ikke har heltids husarbeid: Gå til BOLIG.

Har du i løpet av de siste 12 månedene hatt sykefravær: Ja Nei

med egenmelding 47

med sykmelding fra lege 48

Hvis «Ja»: Hvor lenge tilsammen? Bare ett kryss

2 uker eller mindre 49 1

2-8 uker 2

Mer enn 8 uker 3

Har du i løpet av de siste 12 månedene vurdert å skifte yrke eller arbeidsplass? Ja Nei 50

Er arbeidet ditt så fysisk anstrengende at du ofte er sliten i kroppen etter en arbeidsdag? Bare ett kryss 51

Ja, nesten alltid 1 Ganske sjelden 3

Ganske ofte 2 Aldri, eller nesten aldri 4

Krever arbeidet ditt så mye konsentrasjon og oppmerksomhet at du ofte føler deg utslitt etter en arbeidsdag? 52

Ja, nesten alltid 1 Ganske sjelden 3

Ganske ofte 2 Aldri, eller nesten aldri 4

Hvordan trives du alt i alt med arbeidet ditt? 53

Veldig godt 1 Ikke særlig godt 3

Godt 2 Dårlig 4

BOLIG

Hvem bor du sammen med?
Ett kryss for hver linje og angi antall

	Ja	Nei	Antall
Ektefelle/samboer	54 <input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Andre personer over 18 år	55 <input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Personer under 18 år	58 <input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

Hvor mange av barna har plass i barnehage? 61

Hvilken type bolig bor du i? Bare ett kryss

Enebolig/villa	63 <input type="checkbox"/>	1
Gårdsbruk	<input type="checkbox"/>	2
Blokk/terrasseleilighet	<input type="checkbox"/>	3
Rekkehus/2-4 mannsbolig	<input type="checkbox"/>	4
Annen bolig	<input type="checkbox"/>	5

Hvor stor er din boenhet? 64 kvm

Er det heldekkende tepper i stua? 67 Ja Nei

Er det heldekkende tepper på ditt soverom?

Er det katt i boligen? 69

Er det hund i boligen?

Er det andre pelskleddede dyr eller fugler i boligen?

ØKONOMI

Mottar du noen av følgende offentlige ytelser? Ja Nei

Sykepenger/sykelønn/rehabiliteringspenger	72 <input type="checkbox"/>	<input type="checkbox"/>
Ytelser under yrkesrettet attføring	<input type="checkbox"/>	<input type="checkbox"/>
Uførepensjon	74 <input type="checkbox"/>	<input type="checkbox"/>
Alderspensjon	<input type="checkbox"/>	<input type="checkbox"/>
Sosialstøtte	<input type="checkbox"/>	<input type="checkbox"/>
Arbeidsløshetsstrygd	<input type="checkbox"/>	<input type="checkbox"/>
Overgangsstønad	<input type="checkbox"/>	<input type="checkbox"/>
Etterlattepensjon	79 <input type="checkbox"/>	<input type="checkbox"/>
Andre ytelser	<input type="checkbox"/>	<input type="checkbox"/>

Har det i løpet av det siste året hendt at husholdningen har hatt vansker med å klare de løpende utgifter til mat, transport, bolig og liknende? Bare ett kryss 81

Ja, ofte 1 Ja, en sjelden gang 3

Ja, av og til 2 Nei, aldri 4

VENNER

Hvor mange gode venner har du? Antall

Regn med de du kan snakke fortrolig med og som kan gi deg god hjelp når du trenger det 82

Tell ikke med de du bor sammen med, men regn med andre slektninger

Føler du at du har mange nok gode venner? 84 Ja Nei

Hvor ofte tar du vanligvis del i foreningsvirksomhet som f.eks. sykkklubb, idrettslag, politiske lag, religiøse eller andre foreninger? 85

Aldri, eller noen få ganger i året 1 Omtrent en gang i uka 1

1-2 ganger i måneden 2 Mer enn en gang i uka 2

DER DU BOR

Svar ut fra nærmiljøet, dvs. nabolaget/grenda:

Ett kryss for hvert spørsmål

Jeg føler et sterkt fellesskap med de som bor her ⁸⁶
 Helt enig 1 Delvis enig 2 Usikker 3 Delvis uenig 4 Helt uenig 5

Selv om noen tar initiativ, er det ingen som blir med på det som settes i gang her ⁸⁷

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Hvis jeg flytter herfra, vil jeg lengte tilbake ⁸⁸

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Man kan ikke stole på hverandre her ⁸⁹

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Når noe skal gjøres her, er det lett å få folk med ⁹⁰

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Det er vanskelig å få kontakt med folk her ⁹¹

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Det er godt samhold her ⁹²

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Ingen orker å ta initiativ til noe lenger her ⁹³

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Folk trives godt her ⁹⁴

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Folk her kan ha store problemer uten at naboen vet noe ⁹⁵

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Det er alltid noen som tar initiativ til å løse nødvendige oppgaver her ⁹⁶

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Folk snakker lite med hverandre her ⁹⁷

Helt enig 1 Delvis enig 2 Usikker 3 Delvis uenig 4 Helt uenig 5

SYKDOM I FAMILIEN

Kryss av for de slektingene som har eller har hatt noen av sykdommene. Kryss av for "ingen" hvis ingen av slektingene har hatt denne sykdommen: Evt. flere kryss på hver linje

Mor Far Bror Søster Barn Ingen

Hjemeslag eller hjerneblødning ⁹⁸

Hjerteinfarkt før 60 års alder ¹⁰⁴

Astma ¹¹⁰

Allergi ¹¹⁶

Kreftsykdom ¹²²

Høyt blodtrykk ¹²⁸

Psykiske plager ¹³⁴

Osteoporose (benskjørhet) ¹⁴⁰

Diabetes (sukkersyke) ¹⁴⁶

Alder da de fikk diabetes ¹⁵² år år år år år

Ja Nei

Har du selv høysnue eller neseallergi? ¹⁶²

BRUK AV HELSETJENESTER

Har du i løpet av de siste 12 månedene vært hos:

Ett kryss på hver linje

Ja Nei

allmennpraktiserende lege (kommunelege, privatpraktiserende lege, tumuskandidat) ¹⁶³
 bedriftslege
 lege ved sykehus (uten at du var innlagt)
 annen lege
 fysioterapeut
 kiropraktor
 homøopat ¹⁶⁹
 annen behandler (naturlæger, fotsoneterapeut, håndspålegger, "healer", "synsk", e.l.)

Ja Nei

Har du vært innlagt i sykehus de siste 5 åra? ¹⁷¹

ALKOHOL

Hvis du er totalavholdskvinne: Gå til KOSTHOLD.

Ett kryss for hver spørsmål

Har du noen gang følt at du burde redusere alkoholforbruket ditt? ¹⁷²

Ja Nei

Har andre noen gang kritisert alkoholbruken din? ¹⁷³

Ja Nei

Har du noen gang følt ubehag eller skyldfølelse pga. alkoholbruken din? ¹⁷⁴

Ja Nei

Har det å ta en drink noen gang vært det første du har gjort om morgenen for å roe nervene, kurere bakrus eller som en oppkvikker? ¹⁷⁵

Ja Nei

KOSTHOLD

Hvor mange måltider spiser du vanligvis daglig (middag og brødmåltid)? ¹⁷⁶

Antall

Hvor mange dager i uka spiser du varm middag?

Antall

Hva slags type brød (kjøpt eller hjemmebakt) spiser du vanligvis? Inntil to kryss

Brødtypen ligner Loff Fint Kneipp- Grov- Knekke- mest på ¹⁷⁸

Hva slags fett blir vanligvis brukt i din husholdning?

Ett kryss for matlaging og ett kryss for brød

Til matlaging På brød

Bruker ikke smør eller margarin ¹⁸³ 1 ¹⁸⁴ 1
 Meierismør 2 2
 Hard margarin 3 3
 Bløt (soft) margarin 4 4
 Smør/margarin blanding 5 5
 Lettmargarin 6 6
 Oljer 7

MEDISINBRUK

Har du i deler av de siste 12 måneder brukt noen medisiner daglig eller nesten daglig? ¹⁸⁵

Ja Nei

Hvis «Ja»:

Angi hvor mange måneder du brukte følgende medisiner: Sett 0 hvis du ikke har brukt medisinerne

	Antall mndr.	Antall mndr.
smertestillende ¹⁸⁶	<input type="checkbox"/>	hjertermedisin (ikke blodtrykksmedisin) <input type="checkbox"/>
sovemedisin ¹⁸⁸	<input type="checkbox"/>	annen medisin <input type="checkbox"/>
beroligende medisin	<input type="checkbox"/>	Kosttilskudd:
medisin mot depresjon	<input type="checkbox"/>	jemtabletter ²⁰²
allergimedisin ¹⁹⁴	<input type="checkbox"/>	vitamintilskudd
astmamedisin ¹⁹⁶	<input type="checkbox"/>	tran/fiskeoljer ²⁰⁶

Hvor ofte har du brukt avslappende/beroligende medisin eller sovemedisin den siste måneden? ²⁰⁸

Daglig 1 Sjeldnere enn hver uke 3
 Hver uke, men ikke hver dag 2 Aldri 4

HODEPINE

Har du vært plaget av hodepine

I løpet av de siste 12 måneder? ²⁰⁹

- Ja, anfallsvis (migrène)..... 1
 Ja, annen slags hodepine.... 2
 Nei 3

Antall anfall
siste 12 mndr. ²¹⁰

Hvis «Nei»: Gå til MUSKEL-/SKJELETTPLAGER

Omtrent hvor mange dager i pr. måned har du hodepine?

Mindre enn 7 dager 1 7 til 14 dager 2 Mer enn 14 d. 3

Hvor lenge varer hodepinen vanligvis hver gang? ²¹³

Mindre enn 4 timer 1 4 timer–3 døgn 2 Mer enn 3 døgn 3

Hvor ofte er hodepinen preget av eller ledsaget av:

Ett kryss på hver linje

Sjelden eller aldri Av og til Ofte

- | | | | |
|---|--------------------------|--------------------------|--------------------------|
| bankende/dunkende smerte ²¹⁴ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| pressende smerte | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| halvsidighet, alltid samme side | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| halvsidighet, vekselvis h. og v. side | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| smarter i «hele hodet» | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| kvalme ²¹⁹ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| lys- og/eller lydskyhet | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| forverring ved fysisk aktivitet..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| synsforstyrrelser før hodepine ²²² | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Hvor mange tabletter/stikkpiller har du eventuelt brukt av disse medisinene alt i alt i løpet av den siste måneden?

Skriv 0 hvis du ikke har brukt medisinen.

Cafergot ²²³ Anervan ²²⁵ Imigran ²²⁷

MUSKEL-/SKJELETTPLAGER

Har du hatt plager (smarter, verk, ubehag) i muskler og/eller ledd i den siste måneden? ²²⁹

Ja Nei

Hvis «Ja»: Hvor har du hatt disse plagene (ett eller flere kryss) og omtrent hvor mange dager tilsammen var du plaget?

Plager (Sett kryss)	Antall dager
Nakke ²³⁰	<input type="checkbox"/>
Skuldre/aksler ²³³	<input type="checkbox"/>
Øvre del av ryggen	<input type="checkbox"/>
Albuer ²³⁹	<input type="checkbox"/>
Korsryggen ²⁴²	<input type="checkbox"/>
Handledd/hender ²⁴⁵	<input type="checkbox"/>
Hofter ²⁴⁸	<input type="checkbox"/>
Knær ²⁵¹	<input type="checkbox"/>
Anklær/føtter ²⁵⁴	<input type="checkbox"/>

Dersom flere kryss: Sett ring rundt krysset der plagen var verst

Har plagene hindret deg i å utføre daglige aktiviteter den siste måneden?

Ja Nei

- I arbeidet.....²⁵⁷
 I fritida²⁵⁸

SMERTER I BEINA

Har du sår på tå, fot eller ankel som ikke vil gro?²⁵⁹

Ja Nei

Har du smerter i det ene eller i begge beina når du går?²⁶⁰

Har du oppsøkt lege p.g.a. smerter i beina?²⁶¹

Hvis «NEI» på disse spørsmålene: Gå til MENSTRUASJON

Kan du gå lenger enn 50 meter?²⁶²

Ja Nei

Forsvinner smerten når du står stille en stund? ²⁶³

Må du sette deg for at smerten skal gå over? ²⁶⁴

Hvor gjør det mest vondt? Ett kryss ²⁶⁵

Fot Legg Lår Hofte

Ja Nei

Har du smerter i beina når du er i ro?²⁶⁶

Er smertene verst når du ligger i senga?²⁶⁷

Blir søvnen forstyrret av smertene?²⁶⁸

Får du mindre vondt når beinet ligger høyt?²⁶⁹

Får du mindre vondt når beinet ligger lavt, f.eks. om beinet henger utfor sengekanten?²⁷⁰

Bedres smertene når du står opp og går litt?²⁷¹

MENSTRUASJON

Har du menstruasjon fremdeles?.....²⁷²

Ja Nei

Hvis «Nei»: Hvor gammel var du da den sluttet? ²⁷³

år

Ja Nei Vet ikke

Er du gravid nå?²⁷⁵

Har du innsatt spiral nå?²⁷⁶

Ja Nei

Når hadde du siste menstruasjon?²⁷⁷

Dag Måned År

Husker du ikke dag, bare angi måned og år, husker du bare år, angi år.

Menstruasjonen din de siste 12 måneder:

Har du det siste året hatt regelmessige menstruasjoner?

At menstruasjonen har vart omtrent like lenge hver gang med omtrent like lange mellomrom²⁸³

Ja Nei Usikker

Hvor mange dager hadde du blødning siste gang du hadde menstruasjon?²⁸⁴

Antall dager

Hvor mange dager var du uten blødning mellom nest siste og siste menstruasjon? ...²⁸⁶

Antall dager

Har menstruasjonen din det siste året uteblitt i mer enn 3 måneder uten at du var gravid? ²⁸⁹

Ja Nei

Hvis «Ja»: Hvor mange måneder i trekk har du vært uten menstruasjonsblødninger?²⁹⁰

Antall mndr.

Hvis «Ja»: Oppsøkte du lege?²⁹²

Ja Nei

Menstruasjonen tidligere (dvs. før de siste 12 månedene):

Har menstruasjonen din tidligere uteblitt uten at du var gravid?²⁹³

Ja Nei

Hvis «Ja»: Hvor lenge og hvor ofte var den borte sammenhengende? Sett kryss eventuelt flere steder

1 gang 2 ganger Ofte

3–6 måneder.....²⁹⁴

6–12 måneder.....

Over ett år²⁹⁶

OPERASJONER I UNDERLIVET

Har du noen gang blitt operert i underlivet? 297 Ja Nei Vet ikke

Hvis «Ja»: Kryss av for hver operasjon: Ja Nei Vet ikke

Fjernet deler av eller bare én eggstokk 298

Fjernet begge eggstokkene (totalt) 299

Hvis du har fjernet begge eggstokkene, hvor gammel var du da? 300 år

Ja Nei Vet ikke

Operert for endometriose 302

Sterilisert

Utskraping fra livmor (sykehus)

Fjernet hele livmoren 305

Hvis du har fjernet hele livmoren, hvor gammel var du da? 306 år

P-PILLER

Har du noen gang brukt p-piller, minipiller inkludert? 308 Ja Nei

Hvis «Ja»: Hvor gammel var du første gang du brukte p-piller? 309 år

Hvor lenge har du brukt p-piller i alt? 311 år

Hvis under ett år, antall måneder 313 mndr.

Bruker du p-piller nå? Ja Nei

Hvilket merke bruker du? 316

HORMONBEHANDLING

Utenom p-piller

Har du noen gang brukt medisiner som inneholder østrogen? Vanlige navn på slike medisiner er: Cyclabil, Estraderm, Kilogest, Ovesterin, Progynova, Trisekvens.

Nå Før Aldri

Tabletter eller plaster 318

Krem eller stikkpiller 319

Hvis «Ja»: Hvor gammel var du første gang du fikk østrogenmedisin, og omtrent hvor mange år brukte du slik medisin?

Din alder Antall år

Tabletter eller plaster 320

Krem eller stikkpiller 324

Hvis du bruker østrogenmedisin nå, hvilket merke bruker du? 328

PROBLEMER MED Å BLI GRAVID

Har du noen gang prøvd i mer enn ett år å bli gravid? 329 Ja Nei

Hvis «Ja»: Hvor gammel var du første gang du hadde problemer med å bli gravid? 330 år

Har du noen gang oppsøkt lege fordi du hadde problemer med å bli gravid? 332 Ja Nei

GRAVIDITETER, FØDSLER OG AMMING

Hvor mange ganger har du vært gravid totalt?

Regn med alle svangerskap, spontane eller selvbestemte aborter, så vel som fødsler (også dødfødsler) 333 ganger

Hvor mange barn har du født? 335 barn

Fyll ut for hvert barn (de første 7) opplysninger om fødselsår og omtrent antall måneder du ammet hvert barn og antall måneder menstruasjonen din var borte etter fødselen (fylles ut også for dødfødte eller for barn som er døde senere i livet).

Barn	Fødselsår	Antall måneder med amming	Antall blødningsfrie måneder
1	336 19	<input type="text"/>	<input type="text"/>
2	342 19	<input type="text"/>	<input type="text"/>
3	348 19	<input type="text"/>	<input type="text"/>
4	354 19	<input type="text"/>	<input type="text"/>
5	360 19	<input type="text"/>	<input type="text"/>
6	366 19	<input type="text"/>	<input type="text"/>
7	372 19	<input type="text"/>	<input type="text"/>

URINLEKKASJE

Har du ufrivillig urinlekkasje? 378 Ja Nei

Hvis «Nei»: Gå til KALK I KOSTEN ...

Hvor ofte har du urinlekkasje? 379

sjeldnere enn en gang pr. måned

en eller flere ganger pr. måned

en eller flere ganger pr. uke

hver dag og/eller natt

Hvor mye urin lekker du vanligvis hver gang? 380

dråper eller lite små skvetter større mengder

Har du lekkasje av urin i forbindelse med hosting, nysing, latter, tunge løft 381 Ja Nei

Har du lekkasje av urin i forbindelse med plutselig og sterk vannlatingstrang? 382 Ja Nei

Hvor lenge har du hatt urinlekkasje? 383

0-5 år 5-10 år Over 10 år

Har du søkt lege på grunn av urinlekkasje? 384 Ja Nei

Hvordan opplever du lekkasjeplagene dine? 385 *Ett kryss*

ikke noe problem mye plaget

en liten plage svært stort problem

en del plaget

KALK I KOSTEN OG KOSTTILSKUDD

Hvor mange glass melk (alle sorter, også drikkeyoghurt) drikker du vanligvis daglig? Bare ett kryss 386

Ingen 1 1-2 glass 3

Mindre enn ett ... 2 3 eller mer 4

Hvor mange brødskeer med kvitost spiser du vanligvis daglig? Bare ett kryss

Ingen 1 1-2 skiver 3

Mindre enn en ... 2 3 eller mer ... 4

Bruker du vanligvis noen av disse kosttilskuddene?

vitamin D-tilskudd 388 Ja Nei

kalktabletter eller benmel

HUMØR OG TRIVSEL

Ett kryss på hver linje

Angi hvordan du har følt deg den siste måneden:

	Aldri	Noen ganger	Ganske ofte	For det meste
i godt humør .....390	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i dårlig humør .....391	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Er du rask til å oppfatte et humoristisk poeng? 392

	Svært treg	Ganske treg	Ganske rask	Svært rask
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Er du enig i at det er noe ansvarsløst over folk som stadig prøver å være morsomme? 393

Nei, slett ikke .....1	<input type="checkbox"/>	Ganske enig .....3	<input type="checkbox"/>
I noen grad .....2	<input type="checkbox"/>	Ja, absolutt .....4	<input type="checkbox"/>

Er du en munter person? 394

Nei, slett ikke .....1	<input type="checkbox"/>	Ganske munter .....3	<input type="checkbox"/>
I noen grad .....2	<input type="checkbox"/>	Ja, absolutt .....4	<input type="checkbox"/>

SINNE

Sett kryss på det svaret som best beskriver deg i forhold til de to påstandene nedenfor:

Jeg gir uttrykk for mitt sinne, og andre mennesker vet at jeg er sint 395

Nesten aldri .....1	<input type="checkbox"/>	Ganske ofte .....3	<input type="checkbox"/>
Noen ganger .....2	<input type="checkbox"/>	Nesten alltid .....4	<input type="checkbox"/>

Jeg koker av sinne, men jeg viser det ikke til andre 396

Nesten aldri .....1	<input type="checkbox"/>	Ganske ofte .....3	<input type="checkbox"/>
Noen ganger .....2	<input type="checkbox"/>	Nesten alltid .....4	<input type="checkbox"/>

HVILE OG AVSLAPPING

Hvor mange timer tilbringer du vanligvis i liggende stilling i løpet av et døgn?

(nattesøvn, middagshvil)397

Antall timer

Hvor mange timer tilbringer du vanligvis i sittende stilling i løpet av et døgn?

(arbeid, måltider, TV, bil etc.)399

Antall timer

Hvor ofte er du plaget av søvnløshet? 401

Aldri, eller noen få ganger i året .....1	<input type="checkbox"/>
1-2 ganger i måneden .....2	<input type="checkbox"/>
Omtrent 1 gang i uka .....3	<input type="checkbox"/>
Mer enn en gang i uka .....4	<input type="checkbox"/>

Har du siste år vært plaget av søvnløshet slik at det har gått ut over arbeidsevnen? 402

Ja Nei

Har du i løpet av siste måned hatt innsøvningsproblemer? Bare ett kryss 403

Nesten hver natt .....1	<input type="checkbox"/>	Av og til .....3	<input type="checkbox"/>
Ofte .....2	<input type="checkbox"/>	Aldri .....4	<input type="checkbox"/>

Har du i løpet av siste måned våknet for tidlig og ikke fått sove igjen? Bare ett kryss 404

Nesten hver natt .....1	<input type="checkbox"/>	Av og til .....3	<input type="checkbox"/>
Ofte .....2	<input type="checkbox"/>	Aldri .....4	<input type="checkbox"/>

Har du i løpet av siste måned vært plaget av nervøsitet (irritabel, urolig, anspent eller rastløs)? 405

Nesten hele tida .....1	<input type="checkbox"/>
Ofte .....2	<input type="checkbox"/>
Av og til .....3	<input type="checkbox"/>
Aldri .....4	<input type="checkbox"/>

HVORDAN DU HAR HATT DET

Har det noen gang i løpet av ditt liv vært sammenhengende perioder på 2 uker eller mer da du:

følte deg deprimeret, trist og nedfor .....406	<input type="checkbox"/>	Ja	<input type="checkbox"/>	Nei	<input type="checkbox"/>
hadde problemer med matlysten eller spiste alt for lite	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
var plaget av kraftløshet eller mangel på overskudd	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
virkelig bebredet deg selv og følte deg verdiløs ...	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
hadde problemer med å konsentrere deg eller vanskelig for å ta beslutninger	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
hadde minst tre av de problemene som er nevnt ovenfor samtidig.....411	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

HVORDAN DU SER PÅ DEG SELV

Folk ser på seg selv på ulike måter. Kryss av for hvert utsagn hvor enig eller uenig du er. Ett kryss på hver linje

	Svært enig	Enig	Uenig	Svært uenig
Jeg har en positiv holdning til meg selv .....412	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Jeg føler meg virkelig ubrukelig

til tider413

Jeg føler at jeg ikke har mye

å være stolt av414

Jeg føler at jeg er en verdifull

person, i allefall på lik linje med andre415

Synes du at du har funnet et virkelig betydningsfullt innhold i livet ditt?416

Føler du at du lever fullt ut?417

HVORDAN DU FØLER DEG NA

Sett kryss i den ruta utenfor det svaret som best beskriver dine følelser den siste uka. Bare ett kryss

Er du vanligvis glad eller nedstemt? 418

Svært nedstemt	<input type="checkbox"/>	1
Nedstemt.....	<input type="checkbox"/>	2
Nokså nedstemt	<input type="checkbox"/>	3
Både – og	<input type="checkbox"/>	4
Nokså glad	<input type="checkbox"/>	5
Glad.....	<input type="checkbox"/>	6
Svært glad	<input type="checkbox"/>	7

Har du i det store og hele en rolig og god følelse inne i deg? 419

Nesten hele tida	<input type="checkbox"/>	1
Ofte	<input type="checkbox"/>	2
Av og til	<input type="checkbox"/>	3
Aldri.....	<input type="checkbox"/>	4

Føler du deg stort sett sterk og opplagt, eller trøtt og sliten? 420

Meget sterk og opplagt	<input type="checkbox"/>	1
Sterk og opplagt	<input type="checkbox"/>	2
Ganske sterk og opplagt	<input type="checkbox"/>	3
Både – og	<input type="checkbox"/>	4
Ganske trøtt og sliten	<input type="checkbox"/>	5
Trøtt og sliten	<input type="checkbox"/>	6
Svært trøtt og sliten	<input type="checkbox"/>	7

Legg det utfylte spørreskjemaet i den vedlagte svarkonvolutt og postlegg den så snart som mulig!

Porto er betalt.

Hjertelig takk for hjelpa!

Helseundersøkelsen i Nord-Trøndelag

Takk for frammøtet til undersøkelsen!

Vi vil også be deg fylle ut dette spørreskjemaet. Opplysningene vil bli brukt i større forskningsarbeider om forebyggende helsearbeid. Noen av spørsmålene likner på spørsmål du har svart på i det skjemaet du fylte ut heime og leverte ved frammøte til helseundersøkelsen. Det er likevel viktig at du svarer på alle spørsmålene også i dette skjemaet. Det utfylte skjemaet returneres i vedlagte svarkonvolutt. Porto er betalt. Alle opplysningene er underlagt streng taushetsplikt.

Vennlig hilsen

Helsetjenesten i Nord-Trøndelag

Statens Institutt for Folkehelse Statens helseundersøkelser

Hvis du ikke ønsker å besvare spørreskjemaet, sett kryss her og returner skjemaet. Da slipper du puring. Jeg ønsker ikke å besvare skjemaet

UTFYLLING

Dato for utfylling av skjema: / 19

OPPVEKST

I hvilken kommune bodde du da du fylte 1 år?

Hvis du ikke bodde i Norge, oppgi land i stedet for kommune.

24

ARBEID

Nåværende eller tidligere arbeid:

Hva slags inntektsgivende arbeid har du og event. din ektefelle/samboer? Hvis du/dere ikke har inntektsgivende arbeid nå: Oppgi det siste yrket.

	25	36
Spesialarbeider eller ufaglært arbeider	<input type="checkbox"/>	<input type="checkbox"/>
Fagarbeider, handverker, formann	<input type="checkbox"/>	<input type="checkbox"/>
Underordnet funksjonær (f.eks. butikk, kontor, off. tjenester)	<input type="checkbox"/>	<input type="checkbox"/>
Fagfunksjonær (f.eks. sykepleier, tekniker, lærer)	<input type="checkbox"/>	<input type="checkbox"/>
Overordnet stilling i off. eller privat virksomhet	<input type="checkbox"/>	<input type="checkbox"/>
Sjåfør	30 <input type="checkbox"/>	41 <input type="checkbox"/>
Gårdbruker eller skogeier	<input type="checkbox"/>	<input type="checkbox"/>
Fisker	<input type="checkbox"/>	<input type="checkbox"/>
Selvstendig i akademisk erverv (f.eks. tannlege, advokat)	<input type="checkbox"/>	<input type="checkbox"/>
Annen selvstendig næringsvirksomhet	<input type="checkbox"/>	<input type="checkbox"/>
Har ikke vært i inntektsgivende arbeid	35 <input type="checkbox"/>	46 <input type="checkbox"/>

Hvis du NÅ ikke har inntektsgivende arbeid eller du ikke har heltids husarbeid: Gå til BOLIG.

Har du i løpet av de siste 12 månedene hatt sykefravær:

	47	48
med egenmelding	<input type="checkbox"/>	<input type="checkbox"/>
med sykmelding fra lege	<input type="checkbox"/>	<input type="checkbox"/>

Hvis «Ja»: Hvor lenge tilsammen? Bare ett kryss

2 uker eller mindre	49 <input type="checkbox"/>	1 <input type="checkbox"/>
2-8 uker	<input type="checkbox"/>	2 <input type="checkbox"/>
Mer enn 8 uker	<input type="checkbox"/>	3 <input type="checkbox"/>

Har du i løpet av de siste 12 månedene vurdert å skifte yrke eller arbeidsplass? 50

Er arbeidet ditt så fysisk anstrengende at du ofte er slitent i kroppen etter en arbeidsdag? Bare ett kryss 51

Ja, nesten alltid	<input type="checkbox"/>	1 Ganske sjelden	<input type="checkbox"/>	3 <input type="checkbox"/>
Ganske ofte	<input type="checkbox"/>	2 Aldri, eller nesten aldri	<input type="checkbox"/>	4 <input type="checkbox"/>

Krever arbeidet ditt så mye konsentrasjon og oppmerksomhet at du ofte føler deg utslitt etter en arbeidsdag? 52

Ja, nesten alltid	<input type="checkbox"/>	1 Ganske sjelden	<input type="checkbox"/>	3 <input type="checkbox"/>
Ganske ofte	<input type="checkbox"/>	2 Aldri, eller nesten aldri	<input type="checkbox"/>	4 <input type="checkbox"/>

Hvordan trives du alt i alt med arbeidet ditt? 53

Veldig godt	<input type="checkbox"/>	1 Ikke særlig godt	<input type="checkbox"/>	3 <input type="checkbox"/>
Godt	<input type="checkbox"/>	2 Dårlig	<input type="checkbox"/>	4 <input type="checkbox"/>

BOLIG

Hvem bor du sammen med?

	54	55	58	61
Ektefelle/samboer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Andre personer over 18 år	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personer under 18 år	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Hvor mange av barna har plass i barnehage?

Hvilken type bolig bor du i? Bare ett kryss

Enebolig/villa	63 <input type="checkbox"/>	1 <input type="checkbox"/>
Gårdsbruk	<input type="checkbox"/>	2 <input type="checkbox"/>
Blokk/terrasseleilighet	<input type="checkbox"/>	3 <input type="checkbox"/>
Rekkehus/2-4 mannsbolig	<input type="checkbox"/>	4 <input type="checkbox"/>
Annen bolig	<input type="checkbox"/>	5 <input type="checkbox"/>

Hvor stor er din boenhet? kvm.

	67	69
Er det heldekkende tepper i stua?	<input type="checkbox"/>	<input type="checkbox"/>
Er det heldekkende tepper på ditt soverom?	<input type="checkbox"/>	<input type="checkbox"/>
Er det katt i boligen?	69 <input type="checkbox"/>	<input type="checkbox"/>
Er det hund i boligen?	<input type="checkbox"/>	<input type="checkbox"/>
Er det andre pelskleddede dyr eller fugler i boligen?	<input type="checkbox"/>	<input type="checkbox"/>

ØKONOMI

Mottar du noen av følgende offentlige ytelser? Ja Nei

Sykepenger/sykelønn/rehabiliteringspenger	72 <input type="checkbox"/>	<input type="checkbox"/>
Ytelser under yrkesrettet attføring	<input type="checkbox"/>	<input type="checkbox"/>
Uførepensjon	74 <input type="checkbox"/>	<input type="checkbox"/>
Alderspensjon	<input type="checkbox"/>	<input type="checkbox"/>
Sosialstøtte	<input type="checkbox"/>	<input type="checkbox"/>
Arbeidsløshetsstrygd	<input type="checkbox"/>	<input type="checkbox"/>
Overgangsstønad	<input type="checkbox"/>	<input type="checkbox"/>
Etterlattepensjon	79 <input type="checkbox"/>	<input type="checkbox"/>
Andre ytelser	<input type="checkbox"/>	<input type="checkbox"/>

Har det i løpet av det siste året hendt at husholdningen har hatt vansker med å klare de løpende utgifter til mat, transport, bolig og liknende? Bare ett kryss 81

Ja, ofte	<input type="checkbox"/>	1 Ja, en sjelden gang	<input type="checkbox"/>	3 <input type="checkbox"/>
Ja, av og til	<input type="checkbox"/>	2 Nei, aldri	<input type="checkbox"/>	4 <input type="checkbox"/>

VENNER

Hvor mange gode venner har du? Antall

Regn med de du kan snakke fortrolig med og som kan gi deg god hjelp når du trenger det 82

Tell ikke med de du bor sammen med, men regn med andre slektninger

Føler du at du har mange nok gode venner? 84

Hvor ofte tar du vanligvis del i foreningsvirksomhet som f.eks. syklubb, idrettslag, politiske lag, religiøse eller andre foreninger? 85

Aldri, eller noen få ganger i året	<input type="checkbox"/>	1 Omtrent en gang i uka	<input type="checkbox"/>	1 <input type="checkbox"/>
1-2 ganger i måneden	<input type="checkbox"/>	2 Mer enn en gang i uka	<input type="checkbox"/>	2 <input type="checkbox"/>

DER DU BOR

Svar ut fra nærmiljøet, dvs. nabolaget/grenda.

Ett kryss for hvert spørsmål

Jeg føler et sterkt fellesskap med de som bor her ⁸⁶

Helt enig 1 Delvis enig 2 Usikker 3 Delvis uenig 4 Helt uenig 5

Selv om noen tar initiativ, er det ingen som blir med på det som settes i gang her ⁸⁷

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Hvis jeg flytter herfra, vil jeg lengte tilbake ⁸⁸

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Man kan ikke stole på hverandre her ⁸⁹

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Når noe skal gjøres her, er det lett å få folk med ⁹⁰

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Det er vanskelig å få kontakt med folk her ⁹¹

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Det er godt samhold her ⁹²

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Ingen orker å ta initiativ til noe lenger her ⁹³

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Folk trives godt her ⁹⁴

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Folk her kan ha store problemer uten at naboen vet noe ⁹⁵

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Det er alltid noen som tar initiativ til å løse nødvendige oppgaver her ⁹⁶

Helt enig Delvis enig Usikker Delvis uenig Helt uenig

Folk snakker lite med hverandre her ⁹⁷

Helt enig 1 Delvis enig 2 Usikker 3 Delvis uenig 4 Helt uenig 5

SYKDOM I FAMILIEN

Kryss av for de slektingene som har eller har hatt noen av sykdommene. Kryss av for «ingen» hvis ingen av slektingene har hatt denne sykdommen. Evt. flere kryss på hver linje

Mor Far Bror Søster Barn Ingen

Hjerneslag eller hjerneblødning ⁹⁸

Hjerteinfarkt før

60 års alder ¹⁰⁴

Astma ¹¹⁰

Allergi ¹¹⁶

Kreftsykdom ¹²²

Høyt blodtrykk ¹²⁸

Psykiske plager ¹³⁴

Osteoporose (benskjørhet) ¹⁴⁰

Diabetes

(sukkersyke) ¹⁴⁶

Alder da de fikk

diabetes ¹⁵² år år år år år

Ja Nei

Har du selv høysnue eller neseallergi? ¹⁶²

BRUK AV HELSETJENESTER

Har du i løpet av de siste 12 månedene vært hos :

Ett kryss på hver linje

Ja Nei

allmennpraktiserende lege (kommunelege, privatpraktiserende lege, turnuskandidat) ¹⁶³

bedriftslege

lege ved sykehus (uten at du var innlagt)

annen lege

fysioterapeut

kiropraktor

homøopat ¹⁶⁹

annen behandler (naturmedisiner, fotsoneterapeut, håndspålegger, "healer", "synsk", e.l.)

Ja Nei

Har du vært innlagt i sykehus de siste 5 åra? ¹⁷¹

ALKOHOL

Hvis du er totalavholdsmann: Gå til KOSTHOLD.

Ett kryss for hvert spørsmål

Har du noen gang følt at du burde

Ja Nei

reducere alkoholforbruket ditt? ¹⁷²

Har andre noen gang kritisert

Ja Nei

alkoholbruken din? ¹⁷³

Har du noen gang følt ubehag eller

Ja Nei

skyldfølelse pga. alkoholbruken din? ¹⁷⁴

Har det å ta en drink noen gang vært det første

Ja Nei

du har gjort om morgenen for å roe nervene,

kurere bakrus eller som en oppkvikker? ¹⁷⁵

KOSTHOLD

Hvor mange måltider spiser du vanligvis daglig (middag og brødmåltid)? ¹⁷⁶

Antall

Hvor mange dager i uka spiser du varm middag?

Antall

Hva slags type brød (kjøpt eller hjemmebakt) spiser du vanligvis? Inntil to kryss.

Brødtypen ligner	Loff	Fint brød	Kneipp-brød	Grov-brød	Knekke-brød
mest på	..... ¹⁷⁸ <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Hva slags fett blir vanligvis brukt i din husholdning?

Ett kryss for matlaging og ett kryss for brød

Til matlaging På brød

Bruker ikke smør eller margarin	..... ¹⁸³ <input type="checkbox"/> 1	¹⁸⁴ <input type="checkbox"/> 1
Meierismør <input type="checkbox"/> 2	<input type="checkbox"/> 2
Hard margarin <input type="checkbox"/> 3	<input type="checkbox"/> 3
Bløt (soft) margarin <input type="checkbox"/> 4	<input type="checkbox"/> 4
Smør/margarin blanding <input type="checkbox"/> 5	<input type="checkbox"/> 5
Lettmargarin <input type="checkbox"/> 6	<input type="checkbox"/> 6
Oljer <input type="checkbox"/> 7	<input type="checkbox"/> 7

MEDISINBRUK

Har du i deler av de siste 12 måneder brukt noen medisiner daglig eller nesten daglig? ¹⁸⁵

Ja Nei

Hvis «Ja»:

Angi hvor mange måneder du brukte følgende

medisiner: Sett 0 hvis du ikke har brukt medisinene

	Antall mndr.	Antall mndr.
smertestillende	..... ¹⁸⁶ <input type="checkbox"/>	hjertemedisin (ikke
sovemedisin	..... ¹⁸⁸ <input type="checkbox"/>	blodtrykksmedisin)
beroligende medisin	<input type="checkbox"/>	annen medisin
medisin mot depresjon	<input type="checkbox"/>	Kosttilskudd:
allergimedisin	..... ¹⁹⁴ <input type="checkbox"/>	jerntabletter
astmamedisin	..... ¹⁹⁶ <input type="checkbox"/>	vitamintilskudd
		tran/fiskeoljer
		..... ²⁰⁶ <input type="checkbox"/>

Hvor ofte har du brukt avslappende/beroligende medisin eller sovemedisin den siste måneden? ²⁰⁸

Daglig 1 Sjeldnere enn hver uke 3

Hver uke, men ikke hver dag. 2 Aldri 4

HODEPINE

Har du vært plaget av hodepine i løpet av de siste 12 måneder? ²⁰⁹

Ja, anfallsvis (migrene) 1

Ja, annen slags hodepine 2

Nei 3

Antall anfall siste 12 mndr. ²¹⁰

Hvis «Nei»: Gå til MUSKEL-/SKJELETTPLAGER

Omtrent hvor mange dager i pr. måned har du hodepine? Mindre enn 7 dager 1 7 til 14 dager 2 Mer enn 14 d. 3

Hvor lenge varer hodepinen vanligvis hver gang? ²¹³ Mindre enn 4 timer 1 4 timer–3 døgn 2 Mer enn 3 døgn 3

Hvor ofte er hodepinen preget av eller ledsaget av: Ett kryss på hver linje

	Sjelden eller aldri	Av og til	Ofte
--	---------------------	-----------	------

bankende/dunkende smerte ²¹⁴	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pressende smerte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
halvsidighet, alltid samme side	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
halvsidighet, vekselvis h. og v. side	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
smarter i «hele hodet»	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
kvalme ²¹⁹	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
lys- og/eller lydskyhet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
forverring ved fysisk aktivitet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
synsforstyrrelser før hodepine ²²²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Hvor mange tabletter/stikkpiller har du eventuelt brukt av disse medisinene alt i alt i løpet av den siste måneden?

Skriv 0 hvis du ikke har brukt medisinen.

Cafergot ²²³ Anervan ²²⁵ Imigran ²²⁷

MUSKEL-/SKJELETTPLAGER

Har du hatt plager (smerter, verk, ubehag) i muskler og/eller ledd i den siste måneden? ²²⁹ Ja Nei

Hvis «Ja»: Hvor har du hatt disse plagene (ett eller flere kryss) og omtrent hvor mange dager tilsammen var du plaget?

Plager (Sett kryss)	Antall dager
Nakke ²³⁰	<input type="text"/>
Skuldre/aksler ²³³	<input type="text"/>
Øvre del av ryggen	<input type="text"/>
Albuer ²³⁹	<input type="text"/>
Korsryggen ²⁴²	<input type="text"/>
Handledd/hender ²⁴⁵	<input type="text"/>
Hofter ²⁴⁸	<input type="text"/>
Knær ²⁵¹	<input type="text"/>
Ankler/føtter ²⁵⁴	<input type="text"/>

Dersom flere kryss: Sett ring rundt krysset der plagen var verst

Har plagene hindret deg i å utføre daglige aktiviteter den siste måneden? Ja Nei

I arbeidet ²⁵⁷

I fritida ²⁵⁸

SMERTER I BEINA

Har du sår på tå, fot eller ankel som ikke vil gro? ²⁵⁹ Ja Nei

Har du smerter i det ene eller i begge beina når du går? ²⁶⁰

Har du oppsøkt lege p.g.a. smerter i beina? ²⁶¹

Hvis «NEI» på disse spørsmålene: Gå til URINVEGS...

Kan du gå lenger enn 50 meter? ²⁶² Ja Nei

Forsvinner smerten når du står stille en stund? ²⁶³

Må du sette deg for at smerten skal gå over? ²⁶⁴

Hvor gjør det mest vondt? Ett kryss ²⁶⁵

Fot Legg Lår Hofte

Har du smerter i beina når du er i ro? ²⁶⁶ Ja Nei

Er smertene verst når du ligger i senga? ²⁶⁷

Bliir søvnen forstyrret av smertene? ²⁶⁸

Får du mindre vondt når beinet ligger høyt? ²⁶⁹

Får du mindre vondt når beinet ligger lavt, f.eks. om beinet henger utfor sengekanten? ²⁷⁰

Bedres smertene når du står opp og går litt? ²⁷¹

URINVEGS- OG PROSTATAPLAGER

Ett kryss på hver linje

Har du noen gang blitt fortalt av lege at du har: Ja Nei

forstørret prostata ²⁷²

prostatakreft ²⁷³

Har du gjennomgått noe av følgende: Ja Nei

sterilisering ²⁷⁴

tatt vevsprøve (biopsi) av prostata ²⁷⁵

kirurgisk fjerning av prostata (helt eller delvis) ²⁷⁶

De neste spørsmålene gjelder siste måned

Bare ett kryss for hvert spørsmål

Hvor ofte har du hatt følelsen av at blæren ikke er blitt fullstendig tømt etter avsluttet vannlating? ²⁷⁷

Aldri 1 Omtrent annenhver gang ... 4

Omtrent 1 av 5 ganger 2 Omtrent 2 av 3 ganger 5

Omtrent 1 av 3 ganger 3 Nesten alltid 6

Hvor ofte har du måttet late vannet på nytt mindre enn 2 timer etter forrige vannlating? ²⁷⁸

Aldri 1 Omtrent annenhver gang ... 4

Omtrent 1 av 5 ganger 2 Omtrent 2 av 3 ganger 5

Omtrent 1 av 3 ganger 3 Nesten alltid 6

Hvor ofte har du måttet stoppe og starte flere ganger under vannlatingen? ²⁷⁹

Aldri 1 Omtrent annenhver gang ... 4

Omtrent 1 av 5 ganger 2 Omtrent 2 av 3 ganger 5

Omtrent 1 av 3 ganger 3 Nesten alltid 6

Hvor ofte synes du det har vært vanskelig å holde igjen når du har følt trang til å late vannet? ²⁸⁰

Aldri 1 Omtrent annenhver gang ... 4

Omtrent 1 av 5 ganger 2 Omtrent 2 av 3 ganger 5

Omtrent 1 av 3 ganger 3 Nesten alltid 6

Hvor ofte har du hatt svak urinstråle? ²⁸¹

Aldri 1 Omtrent annenhver gang ... 4

Omtrent 1 av 5 ganger 2 Omtrent 2 av 3 ganger 5

Omtrent 1 av 3 ganger 3 Nesten alltid 6

Hvor ofte har du måttet trykke eller presse for å begynne vannlatingen? ²⁸²

Aldri 1 Omtrent annenhver gang ... 4

Omtrent 1 av 5 ganger 2 Omtrent 2 av 3 ganger 5

Omtrent 1 av 3 ganger 3 Nesten alltid 6

Hvor mange ganger har du vanligvis måttet stå opp i løpet av natta for å late vannet? ²⁸³

Ingen 1 2 ganger 3 4 ganger 5

1 gang 2 3 ganger 4 5 ganger eller mer 6

Hvis du resten av livet måtte leve med de vannlatingproblemene du har nå, hvordan ville du føle det? ²⁸⁴

Være meget godt fornøyd ... ¹Være for det meste utilfreds 5

Være fornøyd ²Være misfornøyd 6

Være for det meste tilfreds. ³Ha det forferdelig 7

Ha blandete følelser 4

HUMØR OG TRIVSEL

Ett kryss på hver linje

Angi hvordan du har følt deg den siste måneden:

	<i>Aldri</i>	<i>Noen ganger</i>	<i>Ganske ofte</i>	<i>For det meste</i>
i godt humør ²⁸⁵	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i dårlig humør ²⁸⁶	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Er du rask til å oppfatte et humoristisk poeng?²⁸⁷

<i>Svært treg</i>	<i>Ganske treg</i>	<i>Ganske rask</i>	<i>Svært rask</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Er du enig i at det er noe ansvarsløst over folk som stadig prøver å være morsomme?²⁸⁸

Nei, slett ikke ¹	Ganske enig ³
I noen grad ²	Ja, absolutt ⁴

Er du en munter person?²⁸⁹

Nei, slett ikke ¹	Ganske munter ³
I noen grad ²	Ja, absolutt ⁴

SINNE

Sett kryss på det svaret som best beskriver deg i forhold til de to påstandene nedenfor:

Jeg gir uttrykk for mitt sinne, og andre mennesker vet at jeg er sint.²⁹⁰

Nesten aldri ¹	Ganske ofte ³
Noen ganger ²	Nesten alltid ⁴

Jeg koker av sinne, men jeg viser det ikke til andre.²⁹¹

Nesten aldri ¹	Ganske ofte ³
Noen ganger ²	Nesten alltid ⁴

HVILE OG AVSLAPPING

Hvor mange timer tilbringer du vanligvis i liggende stilling i løpet av et døgn?

(nattesøvn, middagshvil)²⁹²

Antall timer

Hvor mange timer tilbringer du vanligvis i sittende stilling i løpet av et døgn?

(arbeid, måltider, TV, bil etc.)²⁹⁴

Antall timer

Hvor ofte er du plaget av søvnløshet?²⁹⁶

Aldri, eller noen få ganger i året ¹	<input type="checkbox"/>
1-2 ganger i måneden ²	<input type="checkbox"/>
Omtrønt 1 gang i uka ³	<input type="checkbox"/>
Mer enn en gang i uka ⁴	<input type="checkbox"/>

Har du siste år vært plaget av søvnløshet slik at det har gått ut over arbeidsevnen?²⁹⁷

Ja Nei

Har du i løpet av siste måned hatt innsøvningsproblemer? Bare ett kryss²⁹⁸

Nesten hver natt ¹	Av og til ³
Ofte ²	Aldri ⁴

Har du i løpet av siste måned våknet for tidlig og ikke fått sove igjen? Bare ett kryss²⁹⁹

Nesten hver natt ¹	Av og til ³
Ofte ²	Aldri ⁴

Har du i løpet av siste måned vært plaget av nervøsitet (irritabel, urolig, anspent eller rastløs)?³⁰⁰

Nesten hele tida ¹	<input type="checkbox"/>
Ofte ²	<input type="checkbox"/>
Av og til ³	<input type="checkbox"/>
Aldri ⁴	<input type="checkbox"/>

HVORDAN DU HAR HATT DET

Har det noen gang i løpet av ditt liv vært sammenhengende perioder på 2 uker eller mer da du:

følte deg deprimert, trist og nedfor ³⁰¹	Ja Nei <input type="checkbox"/> <input type="checkbox"/>
hadde problemer med matlysten eller spiste alt for lite ³⁰²	<input type="checkbox"/> <input type="checkbox"/>
var plaget av kraftløshet eller mangel på overskudd virkelig bebreidet deg selv og følte deg verdiløs ... ³⁰³	<input type="checkbox"/> <input type="checkbox"/>
hadde problemer med å konsentrere deg eller vanskelig for å ta beslutninger ³⁰⁴	<input type="checkbox"/> <input type="checkbox"/>
hadde minst tre av de problemene som er nevnt ovenfor samtidig ³⁰⁶	<input type="checkbox"/> <input type="checkbox"/>

HVORDAN DU SER PÅ DEG SELV

Folk ser på seg selv på ulike måter. Kryss av for hvert utsagn hvor enig eller uenig du er. Ett kryss på hver linje

	<i>Svært enig</i>	<i>Enig</i>	<i>Uenig</i>	<i>Svært uenig</i>
Jeg har en positiv holdning til meg selv ³⁰⁷	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Jeg føler meg virkelig ubruklig til tider³⁰⁸

Jeg føler at jeg ikke har mye å være stolt av³⁰⁹

Jeg føler at jeg er en verdifull person, i allefall på lik linje med andre³¹⁰

Synes du at du har funnet et virkelig betydningsfullt innhold i livet ditt?³¹¹

Føler du at du lever fullt ut?³¹²

Ja Nei

HVORDAN DU FØLER DEG NA

Sett kryss i den ruta utenfor det svaret som best beskriver dine følelser den siste uka. Bare ett kryss

Er du vanligvis glad eller nedstemt?³¹³

Svært nedstemt ¹	<input type="checkbox"/>
Nedstemt ²	<input type="checkbox"/>
Nokså nedstemt ³	<input type="checkbox"/>
Både – og ⁴	<input type="checkbox"/>
Nokså glad ⁵	<input type="checkbox"/>
Glad ⁶	<input type="checkbox"/>
Svært glad ⁷	<input type="checkbox"/>

Har du i det store og hele en rolig og god følelse inne i deg?³¹⁴

Nesten hele tida ¹	<input type="checkbox"/>
Ofte ²	<input type="checkbox"/>
Av og til ³	<input type="checkbox"/>
Aldri ⁴	<input type="checkbox"/>

Føler du deg stort sett sterk og opplagt, eller trøtt og sliten?³¹⁵

Meget sterk og opplagt ¹	<input type="checkbox"/>
Sterk og opplagt ²	<input type="checkbox"/>
Ganske sterk og opplagt ³	<input type="checkbox"/>
Både – og ⁴	<input type="checkbox"/>
Ganske trøtt og sliten ⁵	<input type="checkbox"/>
Trøtt og sliten ⁶	<input type="checkbox"/>
Svært trøtt og sliten ⁷	<input type="checkbox"/>

Legg det utfylte spørreskjemaet i den vedlagte svarkonvolutten og postlegg den så snart som mulig!

Porto er betalt.

Hjertelig takk for hjelpa!



Prosjektleder: Professor Geir Arild Espnes

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Medisinsk teknisk forskningscenter
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Haakon Jarls gt 11
St.Olavs Hospital

Vår dato:
02.12.2008

Vår ref.:
4.2008.2608

Deres dato:

Deres ref.:

Positive helse-determinanter i et salutogent perspektiv. En tverrsnittsstudie av nord-trønderske kvinner og menn 20-69 år

Med hjemmel i lov om behandling av etikk og redelighet i forskning § 4 har Regional komité for medisinsk og helsefaglig forskningsetikk, Midt-Norge vurdert prosjektet i sitt møte 21. november 2008 med følgende vilkår og vurdering:

Man ønsker å se nærmere på psykososiale helsefremmende faktorer/helseressurser ved å studere mennesker som rapporterer svært god helse/høy grad av velvære. Hva kjennetegner i grove trekk mennesker som rapporterer god helse? Er det mulig å lære noe av mennesker som har svært god helse? Formålet med studien er å skape en dypere forståelse for helsefremmende faktorer og bidra til en større kunnskapsbase for det helsefremmende folkehelsearbeidet. Rette et salutogent blick på data hentet fra helseundersøkelsen i Nord-Trøndelag (HUNT 2) for å se på (eventuelle) sammenhenger mellom sosial støtte, trivsel i arbeidsliv, utdanningsnivå og fritidsaktiviteter relatert til egenvurdert helse og velvære. Man vil også undersøke om disse forholdene medieres/modereres av selvfølelse, positive følelser og humor.

Komiteen har følgende kommentarer:

- Komiteen har ingen merknader til prosjektet som er beskrevet, og finner at det ligger klart innenfor de rammer som er lagt for HUNT og innenfor det samtykket som deltakerne har gitt til bruk av dette materialet.

Vedtak:

”Regional komité for medisinsk og helsefaglig forskningsetikk, Midt-Norge godkjenner at prosjektet gjennomføres med de vilkår som er gitt.”

Vedtaket kan påklages og klagefristen er tre uker fra mottagelsen av dette brev, jf. fvl. §§ 28 og 29. Klageinstans er Den nasjonale forskningsetiske komité for medisin og helsefag (NEM), men en eventuell klage skal rettes til REK Midt-Norge. Avgjørelsen i NEM er endelig. Det følger av fvl. § 18

at en part har rett til å gjøre seg kjent med sakens dokumenter, med mindre annet følger av de unntak loven oppstiller i §§ 18 og 19.

Med hilsen



Arne Sandvik
Professor
Leder i komiteen



Jacob C Hølen
Seniorkonsulent

Appendix E

NTNU
Norges teknisk-naturvitenskapelige
universitet

Det medisinske fakultet
Institutt for samfunnsmedisin
HUNT forskningscenter
Verdal



Avtale

mellom

HUNT forskningscenter, DMF, NTNU

og

Institutt for sosialt arbeid og helsevitenskap, SVT-fakultetet, NTNU

om utlevering av forskningsdata fra Helseundersøkelsene i Nord-Trøndelag (HUNT) til hovedoppgave for student Dina von Heimburg

**Prosjekttittel: "Positive helse-determinanter i et salutogent perspektiv.
En tverrsnittsstudie av nord-trønderske menn og kvinner 20-69 år"**

- Avtalen bygger på søknad med prosjektbeskrivelse og publikasjonsplan datert 25.11.08. Avtalen bygger også på godkjenning ved Regional komite for medisinsk og helsefaglig forskningsetikk (4.2008.2608 datert 2.12.08). Prosjektet er meldt til NSD. Veileder for prosjektet er Geir Arild Espnes. Avtalen gjelder for hovedoppgave og publisering av en vitenskapelig artikkel basert på oppgaven.

Rammene for rettigheter til å analysere på HUNT-data er beskrevet i *Forvaltning av HUNT-data: Reviderte retningslinjer 2008.* Veileder er ansvarlig for at analysearbeidet skjer i henhold til disse retningslinjene. Veileder har ansvar for datasikkerheten og at data oppbevares forsvarlig i henhold til lover og forskrifter.

En avidentifisert datafil sendes til veileder Geir Arild Espnes. Veileder kan la andre personer få analysere på datafilen, så framtid arbeidet holder seg innenfor rammen for prosjektbeskrivelsen og publikasjonsplanen.

Kopi av godkjent hovedoppgave skal sendes til HUNT forskningscenter, Verdal.

Når analysearbeidet er fullført og prosjektet avsluttes ønsker HUNT forskningscenter en dialog om hvilke data som skal tilbakeføres til HUNT databasen og hvordan slik tilbakeføring kan skje. Deretter skal datasettet slettes og bekreftelse på dette sendes skriftlig til HUNT forskningscenter, Verdal, jfr. punkt 11 i gjeldende retningslinjer. Dette skal ikke skje senere enn 31.12.09, med mindre ny avtale om forlengelse er inngått med HUNT forskningscenter.

Denne avtalen er undertegnet i to eksemplarer, hvorav hver av partene beholder ett.

Institutt for sosialt arbeid og helsevitenskap
SVT-fakultetet, NTNU

HUNT forskningscenter, DMF, NTNU

Leranger 10.01.09
Sted og dato

Verdal, 5.1.09

Dina von Heimburg
student Dina von Heimburg

Geir Arild Espnes
veileder Geir Arild Espnes

Steinar Krokstad
daglig leder/førsteamanuensis