

Salutogenesis – an introduction

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What generates health? What makes us move in the direction of health? These simple and original questions created an opening to a new way of thinking in health research. It was raised in the late 1970ies by Aaron Antonovsky, a medical sociologists interested in stress theory who had undertaken a traditional epidemiological study on the effects of menopause on women who had undergone extremely stressful life events, some of them had survived the Holocaust. Compared to the control group most of these women were struck much harder by stress and carried more symptoms related to the menopause. However, there was a small group of women who, in spite of these extreme negative life experiences, managed life just as well as the ordinary woman.

Had Antonovsky ignored these results and viewed them as non-significant in statistical terms, we would probably stand without this completely new framework for health, the salutogenesis, addressing the question of the origin of health. Instead he was intrigued, how was it at all possible that persons who had suffered such extreme conditions as the Holocaust were able love, carry on with ordinary life, create good social relationships and manage children, family and work - not having a severely dysfunctional life as most of them did. Antonovsky said: "Had it been just one woman, it would still have been important to find out why"!

The women were interviewed in depth. On basis of a qualitative analysis of the results Antonovsky begun to form a new theory of health, the direction of health or a healthy life orientation he named the Sense of Coherence Theory. Further, he constructed a questionnaire, called the Life Orientation Questionnaire based on interviews of these women. The reliability and validity of the instrument, has later been assessed as good. To make it short: it seems these women were able to use their internal and external resources in a health promoting way. They were able to reflect and draw conclusions based on their earlier life experiences in a new situation and in a flexible way re-orientate their life in a constructive and meaningful direction conducive to overall health.

How Antonovsky graphically described his theory

Antonovsky himself drew the health continuum or as he said the fully appropriate term “the ease/dis-ease continuum” as a horizontal line between total absence of health (H-) and total health (H+) and explained that all people are positioned somewhere on this line (Antonovsky 1987). We encounter stressors every day that we have to deal with. Stressors can upset our position and we come under tension. Here there are two options either the pathogenic forces overtake us and we break down or we regain our health through salutogenesis and move towards H+. Conceptually salutogenesis means the movement towards the H+

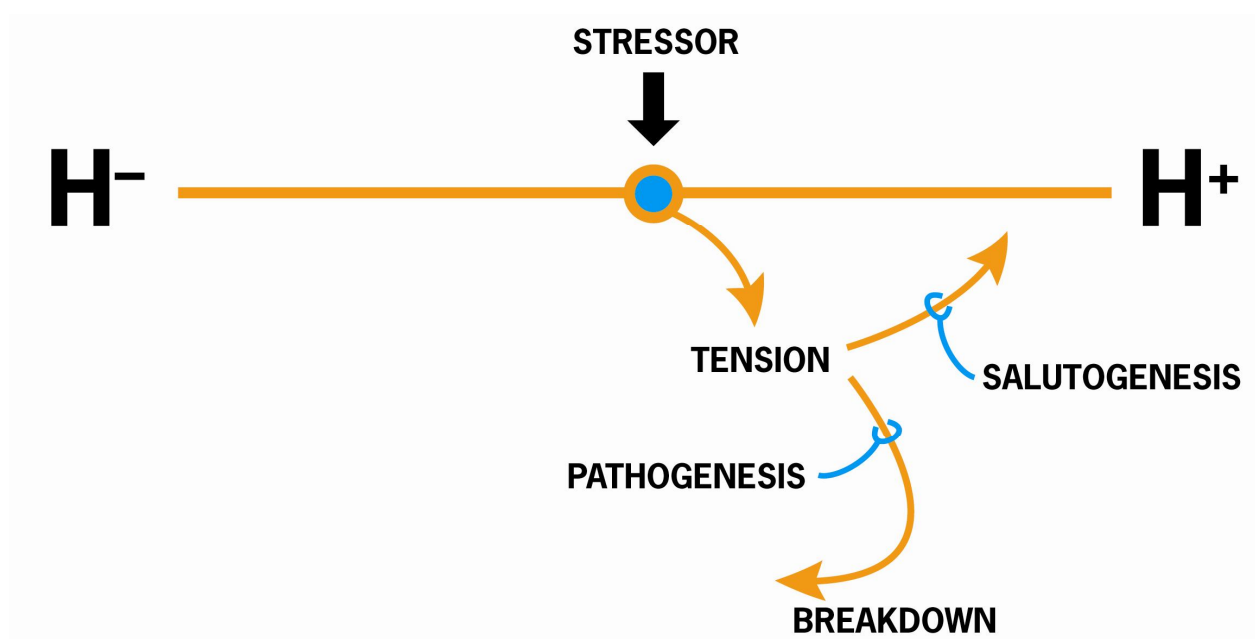


Figure 1. Antonovsky's own way of explaining the health continuum and the salutogenic direction

The philosophical question trying to respond to what creates health, in addition, having a method to measure this raised interest in the world of science causing many debates and questions in medical sociology, psychology and medicine extending to health care and public health. There were some preliminary mutually supportive discussions with some of the key actors of the newly formed health promotion movement. Research was initiated in many places. Antonovsky set up a Newsletter and the scene was set for a continuous exploration of

this new area in health research based on the development of resources for health, instead of as before, only studying risks and disease (3). Then Antonovsky died suddenly in the early stage of cancer treatment and the momentum and natural focus point of salutogenic research was lost. Research continued but without its natural leader.

After Antonovskys death research continued all over the world, however, nobody consolidated the research nor brought the whole picture together again. In 2005 the Health promotion Research Programme at the Folkhälsan Research Centre in Helsinki, Finland, decided to initiate the ambitious task of trying to find out what the potential of the salutogenic approach to health was. This initiative was an attempt to continue Antonovsky´s earlier work and collect and systematically review and analyze all studies in the world focused on salutogenesis. The initiators had previously been in personal contact with Antonovsky from the early 1980ies until he deceased. Therefore the understanding of the salutogenesis had been developed in depth in a direct dialogue with its creator. A set of research criteria was established and through systematic search of the major sources and databases and other literature the image of the effectiveness of salutogenesis began to take shape. There were also direct contacts with other researchers to clarify details and finally an updated contemporary profile of this research area of scientific knowledge emerged. This was then analyzed systematically and presented in scientific journals, as scientific papers in conferences and also put together and defended as a PhD thesis.

In 2007 the key international scientific and professional organization of Health Promotion, the IUHPE gave the Folkhälsan Research Center the task to establish and run the Global Working Group on Salutogenesis and coordinate this research and development on a world basis. Since then a continuous systematic analytical review of research on salutogenesis is in effect. In addition, connected to this, a global data base has been established (www.salutogenesis.fi). This will make the research results more easily available to everybody through open access. All this has made it possible to draw better conclusions on the potential of the salutogenic approach because the evidence base is systematically refined also extensively covering research from the whole world.

Traditionally, the difference between the biomedical model and public health has been described metaphorically as a river. The following stages are described moving up the river: (i) cure or treatment of diseases; (ii) health protection/disease prevention; (iii) health education and finally on top health promotion. Health promotion holds a rather different perspective relating mainly to resources for health and life not primarily risk and disease. All approaches ultimately strive to improve health, but out of different perspectives. This is a classic image called The River of Health where "the down river bias" is focusing on processes where the risk exposure already may have caused damage (cure, protection, prevention and often health

education) (Eriksson and Lindström 2008). The health concept in this paradigm is constructed from the understanding of disease, illness and risks. However, in the health promotion approach we bring the focus upstream finding resources, initiating processes not only for health but wellbeing and quality of life. This classic image explains the difference between care, protection, prevention and health education and opens for health promotion.

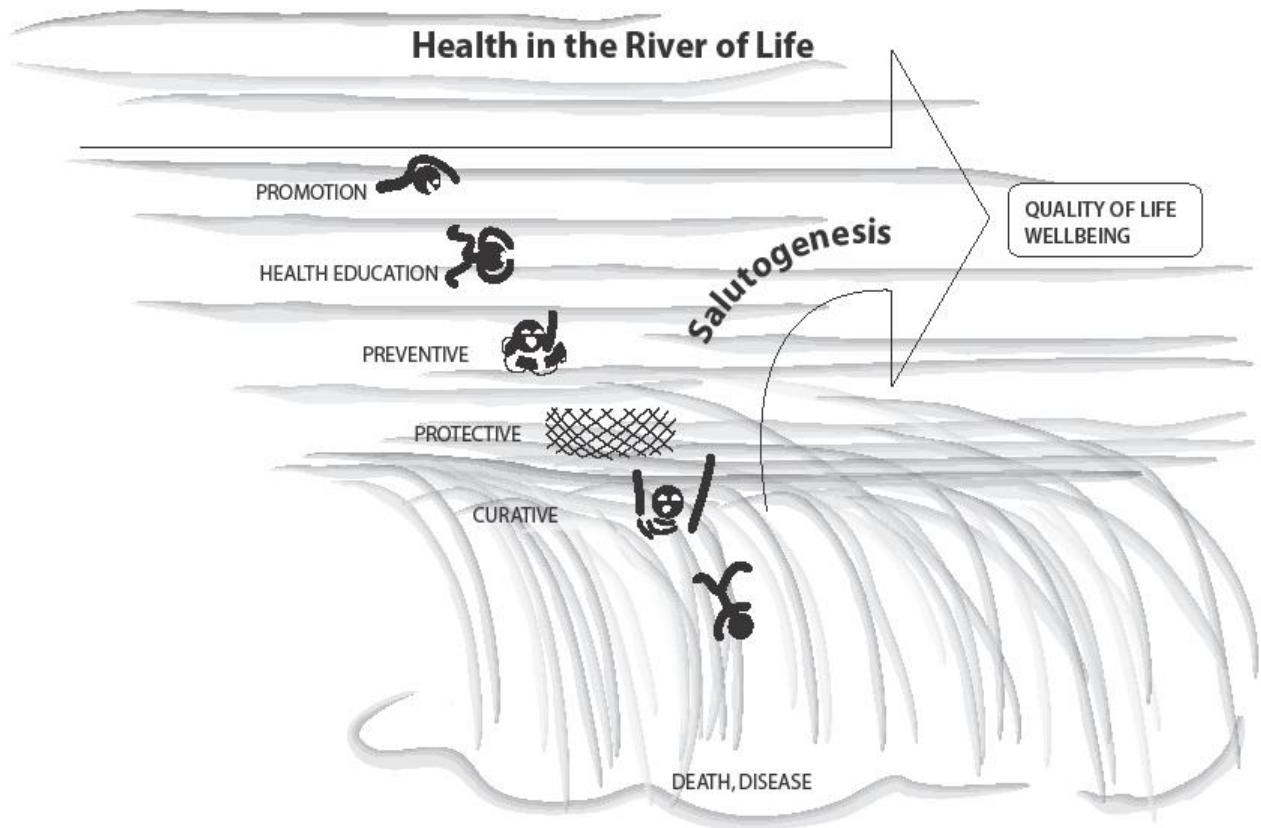
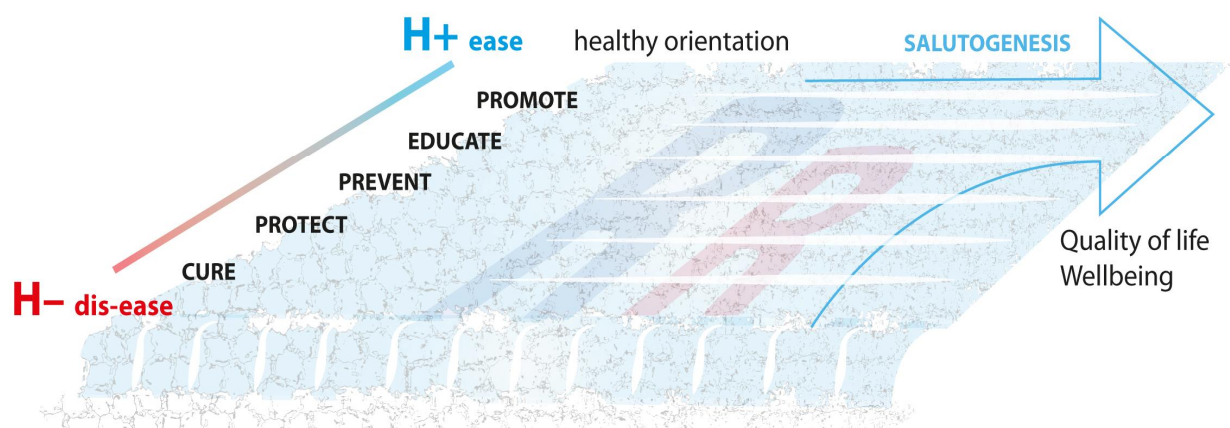


Figure 2 The classic River of Health, the “down river bias” here with an indication of the salutogenic direction

From the River of Health to the River of Life

In the salutogenic approach we focus on the direction towards health. The ultimate objective of health promotion activities is to facilitate prerequisites for a good life. Perceived good health is a determinant for quality of life. Antonovsky did not live long enough to elaborate on these images. In our reading and thinking on salutogenesis we have changed the River into a different and more salutogenic framework placing *Health in the River of Life*. Here the main flow of the river is in the direction of *life* while illness, disease and risks are seen as disruptive forces one

will encounter in life - still life as such is the main force and the main direction. Antonovsky explicitly talked about resources for life and constructed a life orientation questionnaire, the SOC questionnaire. Antonovsky's ease – dis-ease continuum is placed vertically. To explain the shift of paradigm of the salutogenic framework, the metaphor of the river needs to be different. This is *Health in the River of Life* (Eriksson and Lindström 2008). Here the river flows vertically across your view. Along the front side of the river, there is a continuous waterfall following the whole stretch of the river meaning wherever you are there is always a possibility to encounter risks, disease and death. However, the main flow and direction of the river is not down the waterfall but running vertically in the direction of life. At birth, we drop into the river and float with the stream and over life learn how to swim. Some are born *at ease* where the river flows gently, where there is time to learn, where one can float and the prerequisites for life are good with many resources at disposal, like being born in a welfare society. Others are born close to the waterfall, *at dis-ease*, where the struggle for survival is hard and the risk of going over the rim is much greater



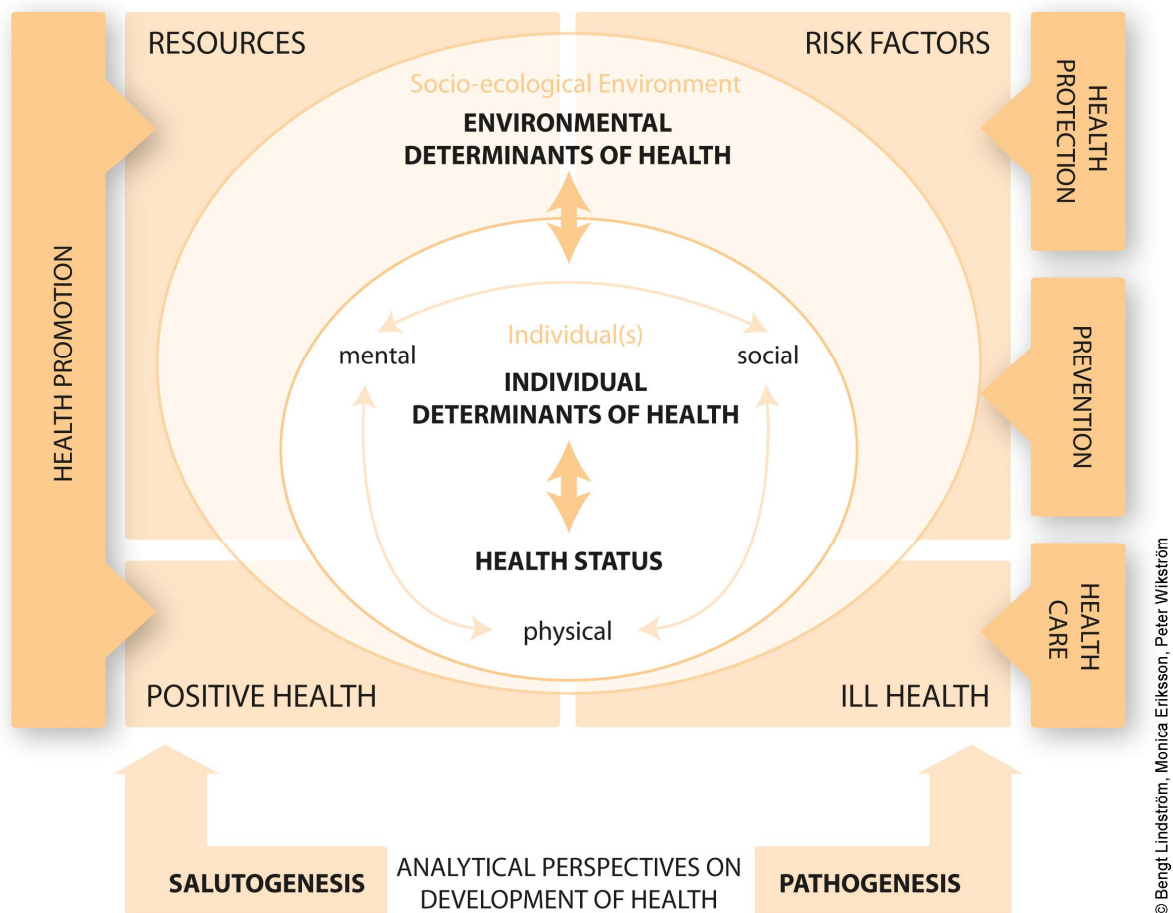
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Figure 3 The River of Life. Note the vertical right hand flow in the direction of life towards wellbeing and Quality of life. The image includes Antonovsky's health continuum H- to H+, R stands for Risk and Resource.

The river, just like life, is full of risks and resources, however, our outcome is based on our orientation and learning through our life experiences thus acquiring an ability to identify and use the resources necessary to improve our options for a better health and ultimately life. Over time the experience of a risk can eventually develop into a resource, risk and resource thus become relative concepts. The health process can be seen as a life-long-learning process where we reflect on what will create health and what are the options for life and improves QoL. If we

never ask these questions we never know the answers and never learn. Before Antonovsky these questions were not asked systematically in health science.

The overall picture



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Figure 4. The overall force field of pathology and salutogenesis, disease and health, risk and resource cure, prevention and promotion.

Regarding the assumptions and predictions of Antonovsky the evidence is rather affirmative in most respects. However we must be humble, the salutogenesis will not solve all problems of health. There is a need to combine the actors in the area of health, medicine, public health and health promotion to create synergy in health research and practice. Also it must be clear we by no means have all the answers today. This is only a new and different starting point, an opening for a new arena of research and practice in health science. Presently it is partly a patch work with “white areas on the map”. However, now 30 years later we know much more about the salutogenesis than Antonovsky ever knew. He only spent 15 years with the salutogenesis and made assumptions he at that time could not confirm due to the lack of evidence. Today we have more than 30 years of research and new evidence that either support or rebuke the original assumptions. Overall the basic assumptions were correct. The evidence base is much more solid and gives a clearer direction for future research and implementation of salutogenesis. However, one must not neglect the fact that there is just as much a need to understand pathology, cure and prevention in combination with salutogenesis as a complement

Summary: The General Knowledge Basis on the Effectiveness of the Salutogenic Approach to Health

The existing epidemiological evidence speaks in favor of Antonovsky’s assumption that the Sense of Coherence (SOC) or the ability to identify and use one’s health resources’ is a key capacity for people’s ability to gain health and have a healthy orientation in life . This is probably a very effective way to establish prerequisites for a long and productive life of good quality on both the individual and population basis. There are today some other theoretical frameworks “under the salutogenic umbrella” (see figure below) and models demonstrating similar correlations.

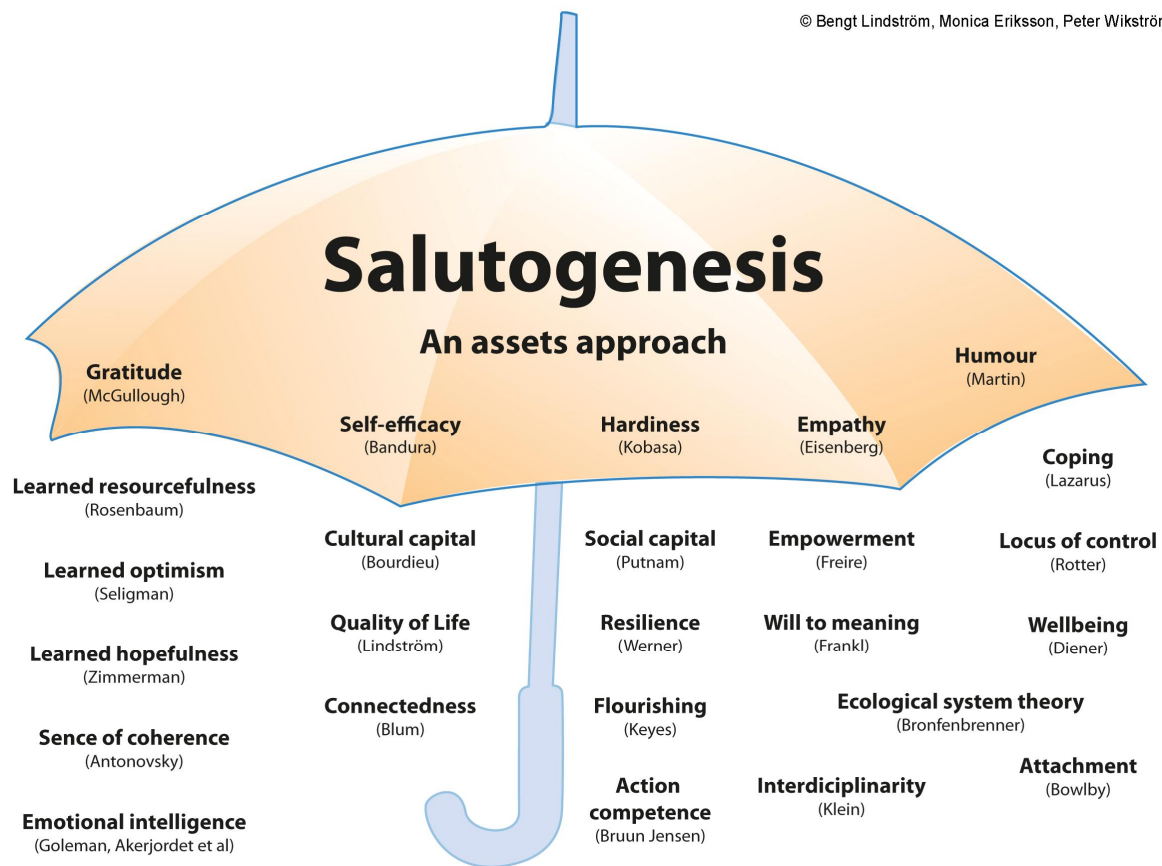
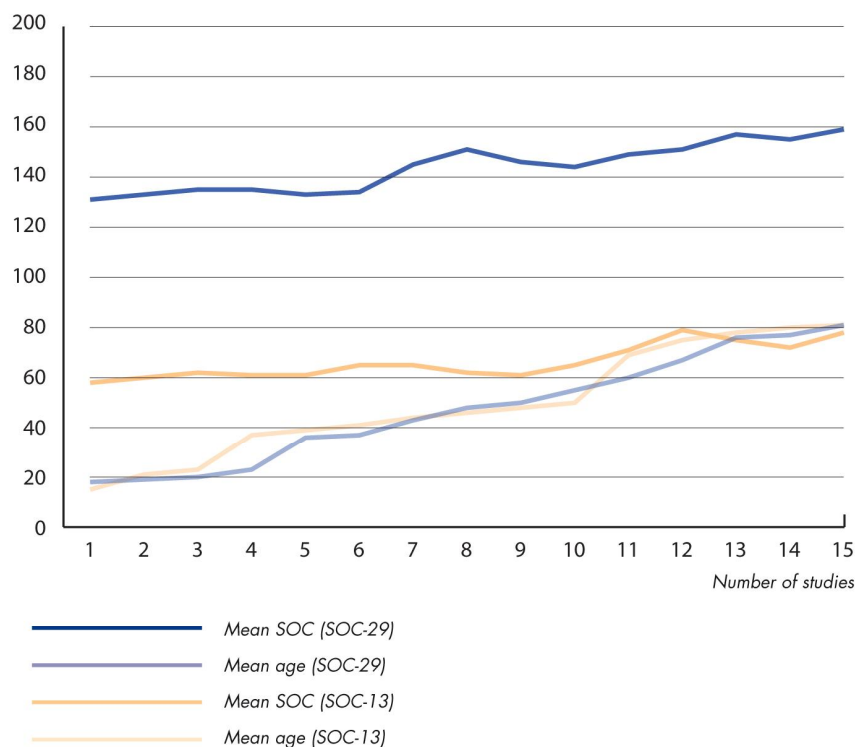


Figure 5 Asset and resource concepts under the salutogenic umbrella

However, Antonovskys´ theory on the Sense of Coherence is still the best explored with the strongest and broadest evidence base covering more than 50 countries all over the globe. The model, originally a stress-management model is based on a system approach that can be implemented on both individual, group and society level. It seems people who are well connected to the setting they live in can develop a strong SOC. Finding synergy or coherence between the individual, group and the surrounding socio-economic, cultural and psycho-emotional structures is of central importance for the development of a healthy orientation in life. Thus the development of SOC is a life-long process and consequently we find the highest mean SOC values among the oldest living in society.



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Figure 6. The mean SOC increases over the life span giving the highest averages among the elderly indicating it is a question of life-long healthy learning process

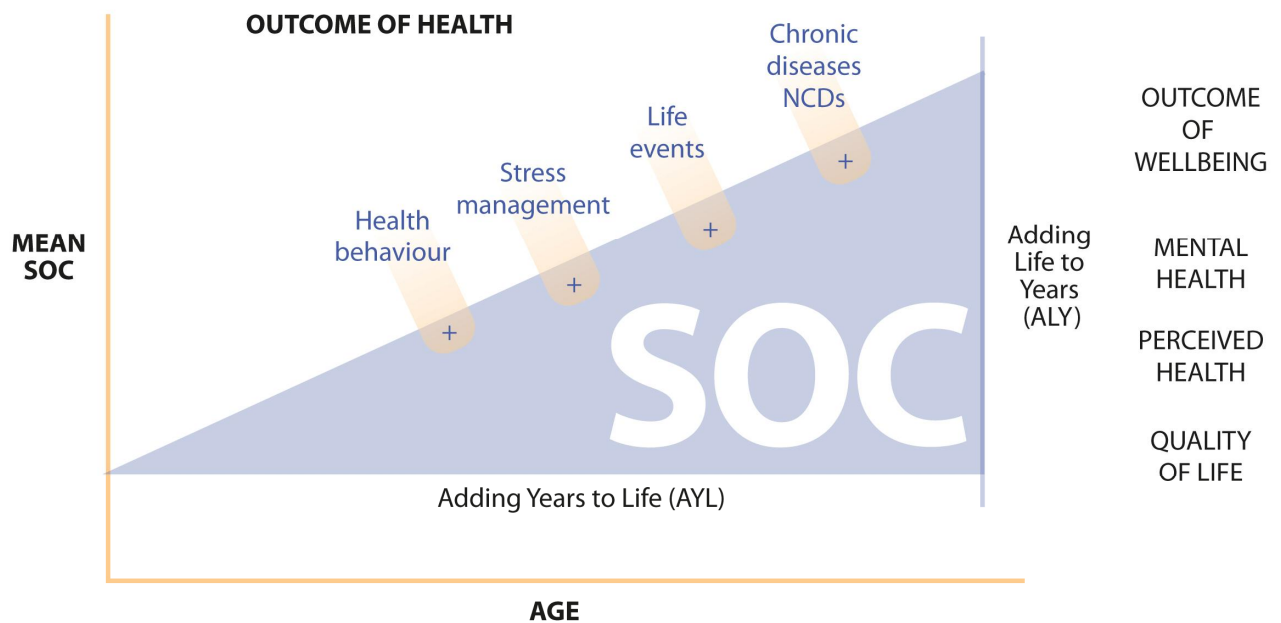
To be able to identify what mechanisms are important in and between the key health promoting settings (such as family, learning institutions (kinder garden, schools, universities), workplaces, health care institutions, leisure time arenas...) is important for the overall healthy process. Components like social capital, cultural capital, the historical and contextual understanding of the context of life are key factors. At the heart, finding everyday life meaningful, having well-functioning social networks, being in touch with one's inner life (psychological wellbeing), having clear coordinates in life (such as having an existential position) are all conducive to a strong SOC and subsequently good health, wellbeing and quality of life. There are stronger correlates between SOC and mental and perceived wellbeing than to the objective physical status of health. In the construction of a strong SOC, rather surprisingly, psycho-emotional and mental strengths seem to overrule socio-economic and physical conditions in life. This does not contradict measures where the social determinants of health are strengthened through structural and political measures. Here Public Health and Health promotion interventions are of importance too. However, because this is a question initiating a process of reflective learning through ones' life experiences, individually or collectively, it

should be possible to systematically organize structures in society in ways that are conducive to health in a life-course perspective.

Utmost, however, it is possible that the most decisive key resistance resources for health are of psycho-emotional character finding and constructing trustworthy, reciprocal and meaningful possibilities to build a sense of community beyond socio-economic structures and objective bodily physical function. People, politicians and professionals should themselves develop their professional skills or "*a sense for coherence*" to be able to construct societies and institutions that enable people to develop their sense of coherence and finally a healthy society. A strong SOC is conducive to health also under severely stressful situations such as suffering chronic or terminal disease. The role of the health care system should not be neglected. This system of plays an important role in these processes, in addition, among all welfare institutions the health care system has a renowned high status for the population. However, future health care systems should focus much more on the mobilization of health resources and capabilities of patients in community settings and within the health institutions than previously done in the traditional approach.

The Overall Development and Effect of a strong Sense of Coherence in a life course perspective

On a population base the mean SOC increases over the life time. As a consequence we find the highest means in the oldest population groups. As of outcomes one can say that a strong SOC responds positively to the WHO Health for All slogans Adding Years to Life (AYL) and Adding Life to Years (ALY) because people who develop a strong SOC not only live longer they have a tendency to choose positive life behaviors (less tobacco and alcohol, more physical activity and better food habits), they manage stress and negative life events better, they manage better if struck by acute or chronic disease (such as some of the main non communicable diseases (NCDs) diabetes, cardiovascular disease, chronic lung disease, cancer and mental illness). Regarding outcomes of Wellbeing a strong SOC correlates strongly to good mental health, perceived health and quality of life.



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Figure 7. Health outcomes related to the development of a strong SOC (see legend above)

A. Health and quality of life

A strong SOC is associated with good health, particularly mental health. The contemporary global evidence base showed that a strong SOC protects against anxiety, depression, burnout and hopelessness, is strongly and positively related to health resources such as optimism, hardiness, control, and coping, predicts good health and QoL from childhood to adulthood, the stronger the SOC the fewer the symptoms of mental illnesses (Eriksson and Lindström 2006). As of outcomes one can say that a strong SOC responds positively to the WHO Health for All slogans Adding Years to Life (AYL) and Adding Life to Years (ALY) because people who develop a strong SOC not only live longer they have a better quality of life and mental health. Further they have a tendency to choose positive health behaviors (less tobacco and alcohol more physical activity and better food habits), they manage stress and negative life events better. If struck by acute or chronic disease (such as the main non communicable diseases (NCDs) diabetes, cardiovascular disease chronic lung disease, cancer and mental illness) they still manage better. Regarding outcomes of Wellbeing a strong SOC correlates positively to good mental health, perceived health and quality of life.

B. Health Behaviours

The evidence on salutogenic research demonstrates that SOC has an impact on health behaviour, the stronger the SOC the healthier behaviour which empirically speaks in favour of Antonovsky's concept of a healthy orientation (Posadzki, Stockl et al. 2010). A person with a strong SOC consumes less alcohol, tobacco and drugs (Andersen and Berg 2001; Kuuppelomaki and Utriainen 2003; von Ah, Ebert et al. 2005; Bergh, Baigi et al. 2006), exercises more frequently (Hassmén, Koivula et al. 2000), chooses healthier food (Lindmark, Stegmayr et al. 2005), has better oral health-related behavior (Bernabé, Kivimäki et al. 2009). Further, parent's SOC has an impact on the pattern of food intake of children, parents having weaker SOC was associated with children's unhealthier eating patterns (Ray, Suominen et al. 2009). In addition, a strong SOC was related to a lower consumption of medicine for headache (Koushede and Holstein 2009).

The Key Evidence on the Effectiveness of the Salutogenic Approach with Special Reference to **Non Communicable Diseases (NCDs)**

This section is mainly copied from the research report Lindström B. Eriksson M. "The Hitchhikers' Guide to Salutogenesis" – Salutogenic pathways to Health Promotion Folkhälsan Research Report 2010:2.

One of the central themes of the WHO Global Health Promotion Conference in Nairobi 2009 was the question of mainstreaming health promotion according to the Millennium and Global Health Policies. The plan is to focus on how to deal with the major killers among the non communicable diseases (NCDs). To take this discussion further we want to address five of the most important NCDs and demonstrate how they are linked to salutogenesis. The relationship between the SOC and cardio vascular diseases (CVDs), Diabetes, Cancer and mental health is carefully explored. However, studies on how SOC impacts on chronic lung diseases are limited. First the three major killers: CVDs, Diabetes and Cancer as reflected in underlying health risk behaviours, alcohol consumption and tobacco use and finally a short analysis of mental health. If one adds illness and disease related to mental health we are facing a cluster of diseases that have an enormous impact on both morbidity and mortality in chronic disease. All of them are on an increase in Western developed societies and in addition on an increase globally including

low economy countries. Besides death and long term suffering the economic impact on the individuals, on the health care system, including society as a whole turns this into a major global health threat and concern. To limit the NCDs would have an impact not only on health and economy but on the sustainable development of the whole Globe. Therefore WHO in its efforts to mainstream health promotion have turned to the NCDs as a priority area (WHO 2008). Still on the general level SOC has overall an impact in the management of stress related chronic diseases. Because of all of this we put special focus on the knowledgebase related to NCDs and salutogenesis.

Cardiovascular diseases (CVDs)

The number of studies on cardiovascular diseases and the SOC are somewhat limited. However, some findings are reported. The results from the Helsinki Heart Study demonstrated that the impact of the SOC on coronary heart disease differs depending on occupation (Poppius 2007). In white-collar work environment the low SOC tertile had a high CHD incidence 20.1 per 1000 person-years as the incidences in the moderate and high SOC tertiles were respectively 10.9 and 12.3. This effect was not observed in the blue collar work environment. Psychological factors have been shown to determine compliance to antihypertensive medication (Nabi, Vahtera et al. 2008). A strong SOC seemed to be associated with lower odds of being totally non adherent in contrast of being totally adherent (OR 0.55, CI 0.31-0.96), i.e. a strong SOC has an influence on health behaviour. We have convincing evidence from the European Prospective Investigation into Cancer. The EPIC-Norfolk study in UK (Surtees, Wainwright et al. 2007; Wainwright, Surtees et al. 2007) demonstrated that a strong SOC was associated with a reduced rate of stroke incidence (RR 0.76; 95 % CI) after adjustment for age, sex, pre-existing myocardial infarction, diabetes, hypertension treatment, family history of stroke, cigarette smoking, systolic blood pressure, obesity, social class, education, hostility and depression.

Diabetes

Findings from an Israeli study demonstrated that people with diabetes had higher levels of psychological distress than matched controls, although the SOC scores were on the same level (Cohen and Kanter 2004). The SOC was here indirectly related to glycaemic control, through adherence to self-care behaviours and psychological distress. A strong SOC was related to a lower level of psychological distress and a better adherence. Further, a weak SOC in general is associated with indicators of higher morbidity and mortality. The relationship between a weak SOC and the incidence of diabetes was prospectively examined among Finnish male employees

(n = 5827 at baseline) (Kouvonen, Väänänen et al. 2008). The results demonstrated that a weak SOC was associated with a 46 % higher risk of diabetes (≤ 50 years of age at entry). This association was independent of age, education, marital status, psychological distress, self-rated health, smoking status, binge drinking and physical activity. Additional results support the positive effect of having a strong SOC when affected by diabetes (Leksell, Wikblad et al. 2005). Persons with a combination of a strong SOC and the ability to manage daily life (power) perceived their health was better, experienced less burden of diabetes and had better a glycaemic control than people with combined weak SOC and powerlessness. The same was seen among insulin dependent diabetic subjects (Richardson, Adner et al. 2001). A strong SOC was associated with a more effective coping ability in form of acceptance of disability .

Cancer

Much research has been invested in the relationship between the SOC and cancer mainly focusing on patient aspects. Here a strong SOC seems to have an impact on quality of life (Bruscia, Shultis et al. 2008), palliative home care (Milberg and Strang 2004, 2007), adjustment to breast cancer (Kulik and Kronfeld 2005), on how child families with cancer function (Schmitt, Santalahti et al. 2008) and on caregivers of cancer patients (Tang, Li et al. 2008; Tang Tzuh and Li 2008). In general a strong SOC seems to be related to good QoL, i.e. the stronger the SOC the better the QoL. Findings from both quantitative and qualitative studies support the SOC as a factor that enhances good QoL (Eriksson and Lindström 2007). Further there are some interesting findings from a study of the development of SOC 8 and 12 years after the first measurement of SOC. The study group was Finnish middle-aged men (n=5866, initially in working life). Here the aim was to study the effect of the SOC on cancer incidence (Poppius, Virkkunen et al. 2006). For all cancers combined in the 8-year follow-up, those with a weak SOC had a higher incidence of cancer (rate ratio 1.52) compared to people having a strong SOC. This effect weakened in the 12-year follow-up (rate ratio 1.14).

Mental health

Mental health problems are an area difficult to define but also considered to be a non communicable disease (NCD). This single area causes a significant part of the overall premature mortality and long-term morbidity of the global population (Prince, Patel et al. 2007). The consequences such as social isolation, economic deprivation and co-morbidity are formidable. People with mental illness are often exposed to social rejection from friends and the public. Findings in a study of 200 Swedes there were more rejection experiences associated with low sense of coherence, empowerment and self-esteem (Lundberg, Hansson et al. 2009). On the other hand, there are reports on how salutogenic processes function, the stronger the SOC the fewer the symptoms of mental illness. A strong SOC protects against anxiety, depression,

burnout and hopelessness and is strongly and positively related to health resources such as optimism, hardiness, control, and coping (Eriksson and Lindström 2006). Further, a strong SOC was associated with an about 40 % reduction of risk of psychiatric disorder during a 19-year follow-up period among Finnish industrial employees (Kouvonen, Väänänen et al. 2009).

Conclusions

Not only does a strong SOC have a positive influence in the management of these NCDs. The other thing is, if we look at the causes of these diseases there are many life style factors that influence the onset and management of them such as tobacco use, alcohol consumption, choice of food and physical activity. A strong SOC reduces tobacco use, alcohol consumption and correlates positively to the healthy behaviours here mentioned. It is also conducive to mental wellbeing and quality of life independently and in relation to the NCDs. In addition, the fact that children, who have parents who have a strong SOC also show a tendency to choose healthier behaviour is important. We begin to see the whole picture over the life cycle and realise how powerful a salutogenic approach could be: affecting both the overall incidence and the management of people suffering from NCDs. Besides the reduction of suffering there is also the reduction of the economic impact on society. We realize we are on to something that can make a tremendous difference.

Most of the original text of this presentation and more references can be found in

Lindström B. Eriksson M. The Hitchhiker´s Guide to Salutogenesis, Folkhälsan Health Promotion Research Report 2010:2 (can be ordered online from www.salutogenesis.fi)