The utility of salutogenesis for guiding health promotion: the case for young people's wellbeing

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The utility of salutogenesis for guiding health promotion: the case for young people's wellbeing

Abstract

Twenty years has passed since the publication of the seminal paper '*The salutogenic model as a theory to guide health promotion*' (Antonovsky, 1996), in which Antonovsky proposed salutogenesis and its central construct sense of coherence (SOC) as a way of boosting the theoretical basis for health promotion activities. Since then there has been a notable amount of conceptual and empirical work carried out to further explore its significance. The aim of this paper is to critically assess the current theoretical status of salutogenesis and its utility to advance effective health promotion practice for young people. The assessment was carried out in the context of contemporary international policy agendas on wellbeing. An analytic framework was developed using previous literature on the definition and function of theory. This organizing framework comprised four criteria: description, explanation, prediction and measurability. The paper concludes with a perspective on the status of salutogenesis as a theory and how it can be further developed. Specifically, the critical assessment highlighted that salutogenesis has been subjected to considerable empirical testing over the last few decades resulting in convincing evidence of the relevance and subsequent advancement of the idea. However, less emphasis seems to have been placed on a systematic process of testing and iteration to develop its theoretical basis. The paper identifies a number of aspects that should be developed to support the progression of salutogenesis to the next level. A research-practice cycle approach is proposed that can facilitate that important next step.

Keywords: salutogenesis, sense of coherence, young people, wellbeing

INTRODUCTION

Nearly 30 years ago salutogenesis was introduced into our lexicon as an idea that could explain health or, more specifically, demonstrate how health could be promoted (Antonovsky, 1987). In the mid-nineties, Antonovsky (1996) went further and suggested it as a theory to guide health promotion. He claimed that 'the basic flaw' in health promotion's ability to progress was due to a lack of solid theoretical foundation and suggested salutogenesis could help advance health promotion practice.

Since then much work has taken place to further understand salutogenesis and its links to a range of health, wellbeing and related outcomes. Interest in the idea also re-emerged in the 21st century in the context of public health and its efforts to reduce health inequalities (Morgan and Ziglio, 2007; Eriksson and Lindström, 2008). Most notably, the work of Lindstrom and Eriksson (2010) and others (García-Moya *et al.*, 2013b; Mittelmark and Bull, 2013) have highlighted its theoretical potential both in academic and practice circles and have gone some way to enhance the evidence base to demonstrate its worth as a health concept. Pivotal works include the seminal systematic reviews on the links of sense of coherence (SOC – the central construct of salutogenesis) with wellbeing and quality of life (Eriksson and Lindström, 2006, 2007), and a systematic review about SOC in adolescent samples (Rivera *et al.*, 2013) – see methods section for further details. In addition, further conceptual development has made more explicit connections to the guiding principles of the Ottawa Charter for health promotion and contemporary international public health agendas (Eriksson and Lindström, 2008; Lindström and Eriksson, 2010).

The ideas behind salutogenesis have been associated with a shift in thinking in policy and practice. That is, it has contributed to making the case for more emphasis to be placed on positive approaches to health and wellbeing programmes (as opposed to the usual deficit approach). In this context, salutogenesis is seen as a useful idea to support the implementation of an approach which seeks to maximise capability rather than deficiency and need (Morgan and Hernán, 2013). With the increasing amount of attention placed on wellbeing in policy, Morgan (2014) argues that the principle tenets of salutogenesis (and its central construct – SOC) have the potential to make explicit the types of initiatives and programmes that lead to wellbeing as an outcome.

Given the importance of explaining pathways to health related outcomes, it seems timely to assess whether after twenty years of conceptual and empirical developments the original claims made in the paper '*The salutogenic model as a theory to guide health promotion*" (Antonovsky, 1996) can be upheld. The aim of this paper therefore, is to critically assess the current theoretical status of salutogenesis and its utility to advance effective health promotion practice for young people. An analytic framework will be used to assess its ability to explain and predict wellbeing. The assessment will conclude with a perspective on how salutogenesis can be utilised now in practice and what further research is needed to continue to improve its validity and robustness.

An international policy context

The concept of wellbeing is increasingly set in policy agendas as a necessary accompaniment to those that seek to elongate life and prevent premature mortality. Enhancing the wellbeing of European citizens is one of the targets of the European Health 2020 policy (WHO, 2012).

International policy efforts have a long standing tradition of including the notion of wellbeing in strategic documents (WHO, 2012, 2014b). However, despite its accumulating prominence an analysis of the impact of the previous European Child and Adolescent Health strategy has revealed that its translation into a set of concrete actions for practice has been limited (WHO, 2014a).

Part of the challenge in promoting wellbeing may be related to its complexity as a construct and differing definitions (Dodge *et al.* 2012; Pollard and Lee, 2003). Nevertheless, as the interest in it has grown, efforts have been made to make its parameters more explicit. Whilst there may be no consensus on a definitive and all encompassing definition, most researchers and professionals now agree that wellbeing is a multi-dimensional construct which encompasses psychological, social and emotional dimensions (Diener *et al.*, 2009). Based on previous evidence demonstrating the links between salutogenesis (or at least its central construct – SOC) and a range of wellbeing outcomes (Eriksson & Lindström, 2006), Morgan (2010) argues that more should be made of it to inform and evaluate practical actions. Specifically salutogenesis fits with two popular approaches currently taking central stage in strategies that focus on young people's positive development – that is the life course and asset-based approaches to health and wellbeing.

Life course approaches are central to many international strategies and initiatives for young people (WHO, 2014a, 2014b). These strategies recognise that wellbeing can be achieved as a result of accomplishing the goal that all young people move into adulthood equipped with "any necessary skills and competences to enjoy a productive, healthy and happy life" (WHO, 2014a) and these skills cumulate as a result of positive development in the early years .

The evidence associated with the life course approach suggests that positive and negative factors for wellbeing accumulate throughout life and a policy response which seeks to maximise protective factors whilst minimising risks can be successful in achieving wellbeing and health gains (Marmot, 2010). In this context salutogenesis and SOC in particular presents itself as an example of a key skill that can help young people thrive even in difficult circumstances.

In addition, policy documents (WHO, 2012; South, 2015) increasingly contextualize wellbeing in the context of an 'asset based approach'. With respect to young people, WHO and the Health Behaviour in School Aged Children (HBSC) study emphasised that a range of 'health assets' necessary for the growth and development of children and young people could lead to higher levels of positive mental health. Salutogenesis (sources of health), or more specifically, SOC has been described as a potential health asset for wellbeing (Morgan and Ziglio, 2007) and a possible intermediary factor that can help

to link and explain the range of antecedents necessary for the achievement of wellbeing during childhood and beyond.

Therefore, if its theoretical potential can be realised, salutogenic thinking can support policy and practice and redress the balance between programmes that aim to create environments for health and those that solely focus on addressing problems that already exist.

The use of theory in health promotion

In order to see how far salutogenesis has developed in its ability to guide health promotion, we need to understand the relevance of theory in securing effective practice.

So what is theory and why is it important? Evidence based health promotion has grown in importance over the last couple of decades and the need to find solutions for effective practice has become an imperative to securing improvements in health and reductions in health inequalities (Learmonth and Mackie, 2000). It is also acknowledged that practice is more likely to be effective if it is based on appropriate theory (Judge and Bauld, 2001). Discussions around evidence based practice and theory development go hand in hand when seeking to improve the basis for health promotion activities (Green, 2000; Van den Broucke 2012).

Whilst there seems not to be a definitive definition of what good theory looks like, a number of distinctions in the literature have been made. Glanz and Rimer (2005) distinguish explanatory theory and theory of change. They argue that the former focuses on description, as it explains the reasons why a phenomenon exists aiming to identify the factors that significantly contribute to an understanding of the phenomenon of interest. The latter on the other hand aims to explain concepts enabling them to be translated into a set of strategies and processes for implementation including program design and evaluation. It could be assumed therefore, that explanatory theory needs to be sufficiently developed before a theory of change can follow through.

In a similar vein, Van den Broucke (2012) explains that theory can be formulated at two differing levels of abstraction, both of which are considered to be essential and complementary. Theory can broadly provide basic values, foundations for practice and general directions in which the field should progress. In addition, it can provide a more detailed roadmap that guides the planning, implementation and evaluation of specific programmes. Glanz and Rimer (2005) further elaborate that the nature and function of theory is to describe a 'set of interrelated concepts, definitions and propositions that present a systematic view of events or situations by specifying relations among variables, in order to explain and predict the events of situations'.

Three main functions arise from the work of these authors - description, explanation and prediction. These provide a useful organising framework for a critical assessment of the current status of salutogenesis. The notion of 'measurability' is a useful addition to this framework as it emanates from

the idea that the implementation of health promotion activities should be scientific, theory based and evaluated (Glanz and Rimer, 2005; McQueen, 2001).

METHODOLOGY

An analytic framework was developed to summarise what we already know about salutogenesis; discuss current issues and debates; make an assessment of its fitness for purpose; and set out the gaps in knowledge and need for further research.

The readiness of salutogenesis to guide health promotion was analytically assessed using four aspects of theory: description, explanation, prediction and measurability. These are described below along with the associated salutogenic themes:

Description

The theory provides an accurate and adequate characterization of the phenomenon being studied. The salutogenic themes used to assess this were: approach to the study of wellbeing, segments of the population to which it applies, and relevance of the proposed concept SOC.

Explanation

The theory goes beyond description by specifying relationships between variables of interest and identifies mechanisms which underlie the observed events. The salutogenic themes assessed were: links between SOC and wellbeing, underlying mechanisms, developmental course, stability vs changeability of SOC and sources of SOC.

Prediction

The theory has been tested in empirical research. That is, the relationships among variables and the mechanisms proposed at the explanatory level are tested in a number of populations and situations. This allows expected outcomes in different contexts and population to be reliably estimated. The salutogenic themes assessed were: evidence regarding different cultural and ethnic groups and causal links.

Measurability

A valid and reliable way to operationalize the theory is available, so that its main tenets can be translated into testable sets of hypotheses. SOC was presented initially by Antonovsky (1996) as the core construct of salutogenesis. Additionally, most empirical papers on salutogenesis to date have used the SOC scale as a central measurement tool. This paper therefore focuses on SOC measurement as a means of analysing the measurability aspects of salutogenesis, but this should not be translated to mean that salutogenesis is synonymous with SOC. The salutogenic themes used to assess measurability were: psychometric properties of the SOC scale and cut-off points to define high and low SOC.

The above framework was used to gather and synthesis published literature on salutogenesis. A 3-step strategy was used:

- Step 1: Antonovsky's 1996 paper along with monographic books and existing review level material, which cover an overall description of salutogenesis and both conceptual and empirical explorations on its links with health and its precursors, were selected (The list is available as supplementary material in appendix 1).
- Step 2: Reference lists from material identified in step 1 were used to identify additional primary papers.
- Step 3: The latest data from systematic review evidence was up to 2011. Therefore, material identified from steps 1 and 2 was supplemented by a search of more recent papers (published between 2011 and 2014) in P*roquest, PubMed, Ovid SP, Wiley Online Library* and *ISI Web of Knowledge* using salutogenesis, salutogenic and sense of coherence as keywords.

As stated in the aims, our assessment focuses on the utility of salutogenesis for the promotion of young people´s well-being and on the current theoretical status of salutogenesis. Accordingly, a priority subset of papers was identified within the above databases using the appearance of the following words ('strings') in the title, abstract or keywords as a criterion: *adolesc*, children, young, youth, students* or *school-age*. Similarly, identifying any conceptual/theoretical papers available was important for the aim of the paper, so the database created as a result of steps 1, 2 and 3 was used to identify any papers with a focus on conceptual and theoretical issues.

TESTING SALUTOGENESIS AS A HEALTH PROMOTION THEORY: A CRITICAL ASSESSMENT

Salutogenesis and description

In the context of young people´s well-being, salutogenesis has a number of descriptive strengths.

First, salutogenesis provides a positive paradigm approach to the promotion of wellbeing amongst young people and fits with the increasingly evident 'glass half full' approach to policy and practice. By definition it is positive, because it asks what creates health rather than merely focusing on finding solutions to prevent or alleviate disease (Antonovsky, 1987). Salutogenesis is also in line with developmental psychology thinking to shift from studying the potential risks associated with adolescent years to perspectives in which adolescents' strengths and resources are considered to be similarly important but seriously understudied (Lerner *et al.*, 2009).

Second, salutogenesis is broad in scope. Specifically, it can be applied at the level of the whole population. Unlike some approaches to health promotion, it has relevance to everyone irrespective of their social status or population group. If we classify youth according to risk and outcome status (Tiêt and Huizinga, 2002) we can make a comparison of salutogenesis with, for example, a deficit approach

or such concepts as resilience that can be useful to illustrate this point (see Fig. 1). In this context, the deficit approach directs attention to segments of the population that have problems and seeks to identify risk factors associated with them. Approaches based on resilience despite focussing on positive adaptation, still maintain adversity as its defining characteristic (Luthar *et al.*, 2000). Deficit and resilience approaches therefore rule out certain segments of the population, since most people do not encounter severe adversity and do not suffer physical or mental health problems.

- Fig. 1 around here -

Salutogenesis embraces everyone regardless of their position on the continuum of health and disease, their life circumstances or the stressors they have experienced. This is advantageous, as it places salutogenic theory with the persuasion often articulated that the mere absence of illness does not necessarily equate with wellbeing (Seligman and Csikszentmihalyi, 2000). From the perspective of young people, it helps to overcome some of the difficulties associated with a popular confusion that the absence of risk taking behaviour and internalizing or externalizing symptoms is synonymous with positive development (Lerner *et al.*, 2009). Seen as more holistic, salutogenesis allows us to pay attention to all young people. As such there is congruence with the idea of proportionate universalism, which recognises that health actions need to be universal (to all people) but with a scale and intensity that is proportional to the level of disadvantage or vulnerability (Marmot, 2010).

The central construct of salutogenesis – sense of coherence (SOC) - adds strength to it as a theory at the descriptive level. SOC is described as a 'global orientation' (Antonovsky, 1987) that comprises an array of significant factors that help to explain an individual´s ability to do and feel well in life.SOC includes three interrelated dimensions: the ability to find order and structure in life (comprehensibility), the confidence in the ability to deal with life demands successfully (manageability) and a view of life that is meaningful and worthy of commitment and engagement (meaningfulness).

SOC relates to other prominent concepts and theories in the explanation of individual differences in wellbeing. For example, SOC is linked to the importance attributed to cognitive appraisals for successful coping (Lazarus and Folkman, 1984) as well as to the concepts of self-efficacy and coping styles (Amirkham and Greaves, 2003; Posadzki *et al.*, 2010). In addition, Antonovsky (1987) acknowledged himself that meaningfulness is quite similar to Frankl´s concept of purpose in life (Frankl, 1962). SOC's relation to other similar concepts which have been shown to have an association with wellbeing may be a strength. Morgan and Hernán (2013) suggest that SOC could be seen as a supra-order asset that operates by increasing the ability to mobilize internal and external resources for wellbeing.

However, whilst the aforementioned links to other constructs support the relevance of SOC, the overlaps present a challenge to understand its unique benefits. Geyer (1992) saw this as one of the

main criticisms of the SOC construct. A helpful starting point for the assessment of similarities and differences between salutogenesis and other positive constructs is to map them. The salutogenic umbrella by Eriksson and Lindstrom (2010) is helpful in this respect. The umbrella identifies 21 other concepts or theories that have the potential to explain health and quality of life. Eriksson and Lindström (2010) and others (e.g., Almedon, 2005; Lundman et al., 2010) have made head way into assessing the extent of overlaps among some of these constructs but it is fair to say that much work remains to be done to test the uniqueness of the different concepts empirically (Konttinen, Haukkala and Uutela, 2008). Therefore, investigation of the interrelationships between SOC and other key constructs in the study of wellbeing, such as optimism, emotional regulation, mindfulness, etc. should be a priority. Clarifying to what extent SOC is different (or similar) to these constructs is a prerequisite to unravel how they interact to promote wellbeing amongst young people. Such work would facilitate making progress in the other aspects assessed in this paper: explanation, prediction and measurability.

Salutogenesis and explanation

Substantial progress has been made in documenting the associations between salutogenesis via its central construct of SOC and wellbeing. Numerous studies over recent decades have provided evidence of SOC's positive contributions to wellbeing and quality of life in general populations (Eriksson and Lindström, 2006, 2007). Whilst less research has being carried out amongst young people (Rivera *et al.*, 2013), there is some evidence that has shown similar associations between higher levels of SOC and significant positive outcomes such as greater subjective wellbeing (García-Moya *et al.*, 2013c; Mosknes *et al.*, 2013).

Gaps in the evidence base exist that could afford better understanding of the mechanisms underpinning the aforementioned links between SOC and wellbeing. In this regard, Antonovosky's (1987) original formulation of salutogenesis pointed to three possible pathways: (1) that a high SOC may make individuals less likely to perceive life demands as stressful (direct effect); (2) that SOC may act as a mediator between stressful situations and coping; and (3) that SOC may act as a moderator, i.e. buffering the potentially negative consequences of stressful situations in health (Antonovsky, 1987). Some associational evidence does exist to support the first of these pathways. For example, analyses of the HBSC study have shown that high-SOC adolescents seemed to be less prone to perceive school life as stressful (García-Moya *et al.*, 2013d; Torsheim *et al.*, 2001). This mirrors evidence from the adult literature which demonstrated that high-SOC adults tended to report a lower number of negative life events (Volanen *et al.*, 2007). Establishing causality seems to be the next logical step. The second pathway remains quite unexplored, except for Amirkham and Greaves' findings (2003) that high-SOC individuals are more likely to choose problem-solving and reject avoidance as their coping strategy, promoting improved physical and mental health. With respect to the third pathway, there is conflicting evidence. For example, Torsheim *et al.* (2001) found marginal

moderation effects of SOC in the relationship between school stress and psychosomatic complaints. In contrast, Moksnes *et al.* (2011) concluded that SOC did not moderate the relationship between stress (including school stress) and subjective health complaints.

Antonovsky (1987) emphasised another aspect to SOC which further complicates its utility at the explanatory level. He suggested that SOC is dynamic, which means that it could change over an individual's life span. Specifically, he proposed two hypotheses, referred by Feldt *et al.* (2011) as the *age hypothesis* and the *level hypothesis*. According to the *age hypothesis,* SOC is unstable and tentative until the third decade of life. It then becomes fairly stable as a result of an individual's previous life experience; at that point, only very stressful life events can modify the attained SOC. The *level hypothesis* states that stability is expected to be greater for individuals with an initially strong SOC. This is because they have a heightened ability to mobilise resources and therefore are more likely to regain equilibrium after stressful life events.

Empirical research with adolescents has found no evidence to support the *age hypothesis*. In fact, evidence indicates that SOC has a similarly significant impact on adolescent wellbeing as that found in adult populations (García-Moya *et al.*, 2013c; Mosknes *et al.*, 2013). Some support however has been found for the *level hypothesis*. Both within adult (Feldt *et al.*, 2011; Eriksson and Lindström, 2005) and adolescent (Buddeberg-Fischer *et al.*, 2001; Nilsson *et al.*, 2003) samples greater stability of SOC has been found amongst those with an initially strong SOC compared to those that started from a lower base. Some very valuable longitudinal large scale studies in adult populations have significantly contributed to our current understanding of this matter (Feldt *et al.*, 2011; Volanen *et al.*, 2007). However, despite this evidence, understanding stability and change requires a careful consideration of life events occurring during the period of analysis.

A final important consideration regarding salutogenesis and explanation is that most of the research activity around salutogenesis has been to study the relationships between SOC and a range of health and wellbeing outcomes. Much less has been carried out to study the sources of a strong SOC and this could be considered to be a weakness in relation to the ability of salutogenesis to guide health promotion activity. That said, there is an increasing awareness of the importance of this type of research and it is important to acknowledge work that has started to break ground in this critical area. Relationships with parents (Feldt *et al.*, 2005; García-Moya *et al.*, 2012), support from teachers and classmates (García-Moya *et al.*, 2013d; Natvig *et al.*, 2006), behavioural models in the peer group (García-Moya *et al.*, 2013b) and neighbourhood quality (García-Moya *et al.*, 2013a; Marsh *et al.*,2007) have all been identified as potential precursors of SOC during adolescence.

Salutogenesis and prediction

A theory's predictive ability arises when relationships between variables and the mechanisms proposed at the explanatory level can be repeatedly tested in a number of different populations and

contexts. This is particularly important as recent publications and studies have underlined the importance of taking account of culture when thinking about the relevance of salutogenesis in different country contexts (Braun-Lewensohn and Sagy, 2011; Benz *et al.*, 2014).

Although SOC has been studied in more than 30 countries worldwide and in a diverse set of ethnic groups (Eriksson and Lindstrom, 2005), this has been mostly the case for studies devoted to the links between SOC and wellbeing, but not that much for those devoted to other aspects. For instance, the aforementioned question on stability vs changeability of SOC has been mostly studied in Finish adults where findings suggest a predominance of stability but this topic needs to be examined in other countries, since it is widely acknowledged that Finland's welfare system is one of the most solid and supportive of their citizens worldwide. Similarly, the meaning and subsequent potential impact of certain factors on SOC needs to be assessed and compared among different countries. Volanen *et al.* (2004), in a sample of Finnish general population, found that unsatisfactory working conditions were more detrimental to SOC than unemployment, but it seems very likely that being unemployed has very different implications for individuals in different countries (as well as in different historical moments), especially more so given the differential impact of the current European economic crisis across countries. Cultural values and expectations are also likely to lead to a differential impact of potential SOC-promoting factors, so we concur with Braun-Lewensohn and Sagy's view (2011, p. 533) that "in seeking to understand how the SOC works, it is culture that seems to define which resources are appropriate".

Ultimately the power of prediction will be enhanced when causal links can be more solidly established between SOC, its antecedents and its consequences. Unfortunately, most of the available evidence continues to be associational. Relatively few longitudinal studies have been conducted in the field of salutogenesis (even less in young populations), so further work to establish causal links is essential. Importantly, longitudinal studies should go beyond testing the relationships between SOC and health outcomes by paying an equal attention to how the interactions of life experiences contribute to SOC development. This has seldom been explored even at the associational level, as discussed previously in the section on salutogenesis and explanation.

Salutogenesis and measurability

Finally, we argue that a good theory is one that can be measured. For the purpose of this paper, SOC and its measurement, as already mentioned, will be the focus of attention as this was the core tenet of Antonovsky's original idea (Antonovsky, 1996) and most empirical papers on salutogenesis include the assessment of SOC. SOC, the underpinning construct of salutogenesis, can be assessed by means of the *Orientation to Life Questionnaire* (Antonovsky, 1987) otherwise known as the SOC scale. The two most widely used versions of this scale in young people are the *SOC-29* and a shortened version, the *SOC-13* (Rivera *et al.*, 2013).

Measurement is a complex matter and current evidence on the psychometric properties of the SOC scale seems to reflect that complexity. The SOC-scale has been translated into different languages and used in more than 32 countries around the world (Eriksson and Lindström, 2005). These studies consistently report a good reliability of the scale, as shown by high Cronbach's alpha values for internal consistency and short-term test-retest reliability analyses, and a good external validity i.e., SOC scores are useful predictors of diverse health outcomes and they correlate in the expected directions with measures on anxiety and depression as well as with self-efficacy and hope, for divergent and convergent validity evidences respectively. Rivera *et al.*'s systematic review (2013) provided similar evidence for adolescents.

Despite this however, doubts have been expressed regarding the process followed for the scale development and discrepancies have been found in the studies devoted to the factorial analysis of the SOC scale (Rivera *et al.*, 2011). Besides, whilst in general the completion of the SOC questionnaire is deemed not to be difficult, Eriksson and Lindstrom's review (2005) highlighted some reported problems for specific adult population subgroups. Moksnes and Haugan (2013) also warned that it can be challenging for adolescents to comprehend the semantic meaning and wording of some items which include abstract concepts. In addition, temporal references in the formulation of some items (such as "in the last 10 years") may pose problems when applied to young people.

Another issue relates to the lack of validated cut-off points to make a distinction between high and low levels of SOC. Some studies conducted in large representative samples of young people have used tertiles to make such distinctions (García-Moya *et al.*, 2013c, Koushede and Holstein, 2009), which may provide some starting evidence in this respect, but additional efforts in this direction would improve the practical utility of the measure.

IMPLICATIONS FOR PRACTICE AND RESEARCH

To reiterate, Antonovsky (1996) proposed salutogenesis and its central construct SOC as a way of boosting the theoretical basis for health promotion activities. Antonovsky went further and stated that in the absence of any other theoretical model, the options were to do nothing or to embrace salutogenesis as a guiding theory. He said this despite acknowledging that evidence at this time had not powerfully demonstrated the efficacy of salutogenesis to produce significant improvements in health outcomes.

So are Antonvosky's claims still valid almost twenty years on?

It would be naïve to claim that health promotion's success is dependent on only one guiding light. Indeed Lindstrom and Eriksson (2010) recognised that there were a plethora of ideas and concepts overlapping to some extent with salutogenesis, that could be drawn upon to guide health promotion programmes. However, there is some uniqueness in salutogenesis which is valuable.

The specific aim of this paper was to critically assess the current theoretical status of salutogenesis and its utility to advance effective health promotion practice specifically in the context of contemporary international policy agendas on wellbeing for young people. We argue following a critical assessment of its tenets that salutogenesis holds a uniqueness for supporting the attainment of this goal. Descriptively, its positive approach fits well with the notion that the more opportunities that young people have to acquire and accumulate the positive effects of protective factors (health assets) the more they are likely to achieve health and wellbeing in later life (Scales, 1999; Morgan, 2014). In addition, its inclusion of whole populations irrespective of their health status or life circumstances makes it a useful idea to secure proportionate universalism. Given the drive in policy to redress the balance between asset and deficit based approaches, it could be argued that salutogenesis - which helps us to think about how health can be created for all - is even more important now than it was 20 years ago.

Similarly, although further conceptual and empirical work is needed on the potential overlap of SOC with other concepts, we argue that the uniqueness of SOC is that it brings together a range of cognitive, behavioural and motivational/emotional components that are useful for thinking about wellbeing. The extant evidence base on the links between SOC and a diverse range of health outcomes and the potential to use SOC as an intermediary indicator of an individual's propensity to be actively in control of their own health and wider life skill outcomes have also been considered a key benefit of using salutogenesis (Morgan, 2014).

Our critical assessment also shows that evidence on the value of salutogenesis and SOC is more powerful nowadays than it was at the time of Antonovsky's claim (Antonovsky, 1996). Most of Antonovsky's questions about SOC as an independent variable have now been answered. Seminal reviews have now documented ample evidence about the significant associations of SOC with wellbeing and quality of life (Eriksson and Lindström, 2006, 2007), also in adolescence (Rivera *et al.*, 2013). The issue of causality remains though, albeit that some longitudinal studies have provided some evidence (Suominen *et al.*, 2001). Further work in this domain is urgently needed as the majority of existing evidence continues to be associational.

In contrast, evidence about SOC as a dependent variable, which was considered to be the next step in using salutogenesis to guide research and action in health promotion, has been scarce. With some notable exceptions (García-Moya *et al.*, 2013b; Marsh *et al.*, 2007), that have started the journey to understand more about the sources of SOC. In this respect, Antonovsky (1996, p. 16) claimed that the following question should be at the core of health promotion programs: "What can be done in this 'community'—factory, geographic community, age or ethnic or gender group, chronic or even acute hospital population, those who suffer from a particular disability, etc.—to strengthen the sense of comprehensibility, manageability and meaningfulness of the persons who constitute it?". The clear imbalance between the available evidence on the antecedents of a strong SOC compared to its links

with health outcomes makes it clear that this is an area in need of further research. In our view, it is a strategic area since identifying the factors that foster the development of a strong SOC will provide an essential understanding of how policies and interventions can be designed to promote wellbeing from a salutogenic perspective.

So is salutogenesis in a fit state for a theory of change to emerge? Despite identifying a number of research gaps, the main conclusion from our critical assessment is that progress in the last two decades has led to substantial development of salutogenesis as an explanatory theory, especially in the areas of description and explanation. However, some barriers have to be overcome for a theory of change to emerge.

With regard to measurability, research in general populations has provided evidence of the good psychometric properties of the SOC scale in terms of reliability and validity (Eriksson and Lindström, 2005; Rivera *et al.*, 2013). However some challenges arise for the SOC scale as an evaluation tool for health promotion interventions. This is especially true for certain target populations such as non-native speakers or populations in lower socio-economic groups. The language used in the SOC scale includes abstract terms and temporal references that may pose problems when used with young people (Moksnes and Haugan, 2013) and consequently more attention to this area is needed. As for the unresolved question on the stability vs changeability of SOC, understanding the developmental course of SOC and the mechanisms that may lead to changes in SOC levels across the life span is a critical matter as how far it can be implemented successfully in policy and practice. For example, if we use SOC in programme evaluation, it is important to know at what moment it is appropriate to measure it. Similarly, it would be helpful to know whether SOC is open to change across the life span or there is a moment when it becomes stable and little permeable to external influences in order that the timing of interventions can be made more specific. Better understanding of these issues, which remain in the most part unanswered, is required to secure salutogenesis as a practical phenomenon.

Another aspect which deserves more attention is the role of culture. In our assessment of the predictive ability of salutogenesis, more could be done to enhance the evidence based on how SOC operates in different countries and ethnic groups. The generalizability of the findings regarding the stability of SOC and the factors that can contribute to the development of a strong SOC must be cautiously evaluated in terms of the cultural values and macrosystemic factors that surround the population under study. As stated in the asset model, it is fundamental to know which factors have a significant impact for who and under which circumstances (Morgan and Ziglio, 2007) and, consequently, cross-cultural studies have to be an important way forward.

Finally, it is important to note that there remains a paucity of published papers on salutogenesis as a theory compared to the growing body of empirical papers assessing its links to wellbeing and related outcomes. Theories help us to predict what may happen by creating structure and systems out of sets

of observations, thus helping us to understand the empirical world in a systematic way. Whilst it is undeniable that salutogenesis has been subjected to considerable empirical testing with positive results in some areas, less emphasis has been placed on a systematic process of testing and iteration of it as a theory. It is this iterative approach that will allow the original formulation of salutogenesis to be further developed and kept up to date.

In summary, and in the context of Van de Broucke's (2012) definition of theory, salutogenesis has been and can continue to be very useful as an overarching framework which provides general directions for practice. However, in order that salutogenesis does not become the flavour of the month in the early part of the 21st century, there are numerous aspects that need to be resolved or further developed in order that a set of detailed roadmaps can be made explicit for better programme definition and implementation. It is hoped that this paper can be seen as a starting point to support future empirical work and new conceptual efforts to help address the identified gaps in salutogenesis as a theory. As already noted, theory development is an iterative process which can also benefit from a research-practice cycle (Green, 2000). Therefore, while researchers work to provide new evidence to fill the aforementioned research gaps, testing salutogenesis and SOC through practice can in turn contribute to inform research and the further development of the theory. One practical way forward is to develop a series of logic models (Kaplan and Garrett, 2005) which can make more specific the pathways required to move towards young people having the SOC which makes them more likely to achieve wellbeing and sustain it into the future. An example would be the emerging interest in the concept of mindfulness. Recent intervention studies have suggested that mindfulness may contribute to strengthen SOC in adult populations (Ando *et al.,* 2011; Weissbecker *et al.,* 2002). Such research efforts could be expanded to non-clinical and younger populations and used as a means of implementing the research-practice cycle approach. In doing so, the utilisation of salutogenesis as a theory to guide health promotion advocated for by Antonovsky (1996) could be moved on to the next level.

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Fig. 1: Segments of population studied by deficit approaches, resilience and salutogenesis