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Introduction

What were Antonovsky's ambitions for salutogenesis research? Fortunately, he had a penchant for writing about his 'thinking about his thinking,' which greatly enlivened his books and many published articles. Three late papers in particular tell us something of his ambitions for salutogenesis research.

In the first paper, Antonovsky took an explicitly future perspective on the sense of coherence (Antonovsky, 1996a). He called for robust research on the measurement of the sense of coherence, with other methodological approaches than his own survey research approach that yielded the Orientation to Life Questionnaire (OLQ). He called for the development of measures of the three components of the sense of coherence, noting the OLQ's stubborn single factor structure. Antonovsky identified as a priority research on the relationship of the sense of coherence to social class and sex. He also noted that, almost without exception, sense of coherence studies had been carried out with samples of European origin, and that its cross-cultural validity beyond Eurocentric cultures needed testing. He was deeply interested in the search for the sources of the sense of coherence, especially in the social structure of people's lives. He championed further research on the idea of collective sense of coherence, which he thought to be a "most problematic" concept meriting "very hard work" (ibid., p. 177). Highest on his agenda for future research were three issues. How does a strong, stable sense of coherence come into being? Is

major change in the sense of coherence unlikely after early adulthood? Can one speak of/study collective sense of coherence?

In the second paper, based on a presentation at a World Health Organization (WHO) workshop in Copenhagen in 1992, Antonovsky called for further research on the sense of coherence as a buffer (moderator) versus a direct determinant of health, and on the linearity/nonlinearity of the relationship between sense of coherence and health (Antonovsky, 1996b). He suggested research on the sense of coherence relationship to well-being (distinct from health as he defined it) and the comparison of the sense of coherence relationships to emotional well-being and to physical well-being. He called for basic research on the mechanisms linking the sense of coherence and health. Along with these lines of research in which the sense of coherence would be positioned as an independent variable, he called for intervention research in which the sense of coherence would be treated as a dependent variable. He suggested the development of programmes designed to strengthen the sense of coherence, and to prevent the weakening of the sense of coherence of people cared for in institutions. Perhaps of most significance to the field of health promotion, Antonovsky used the occasion of his presentation to the WHO to voice his concern that "*the basic flaw of the field is that it has no theory... the salutogenic model, I believe... is particularly appropriate to health promotion.*" (ibid., p. 18).

In the third paper, published a few months after his death, Antonovsky wrote about his wish for research that would define health relatively narrowly and "*far from coextensively with all of well-being or happiness*" (Antonovsky, 1995, p. 10). He believed this was vital to avoid blurring the line between the sense of coherence and health, to distinguish health from other aspects of well-being, and to protect against using salutogenesis to pressure people to live moral lives. He warned against the danger of assuming that "*the morally good is salutary*" (ibid., p. 11). The morally good,

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might in fact, be quite the opposite of salutary, as in the sacrifice of one's own health for the good of others. And the salutary might be morally repugnant, as in the case of persons who harm others, with the help of their strong sense of coherence.

By the end of his life, Antonovsky had achieved the highly enviable. He had produced a coherent and important theory of health that was a clear departure from the mainstream biomedical model of health. He had influenced many hundreds of other researchers to take the salutogenic orientation to health research. His scholarship spawned many questions of significance for the further development of his idea of salutogenesis.

Now we turn to the main subject of this chapter, theory developments related to the salutogenic model of health in the era after Antonovsky. The term salutogenic model of health is used here with precision, distinct from the looser salutogenic orientation (see Chap. 2). The explication of the salutogenic model of health in *Health, Stress, and Coping* and of the sense of coherence in *Unraveling the Mystery of Health* were the result of Antonovsky's salutogenic orientation, but no pair of these three terms is synonymous. Today, the salutogenic orientation is often used as an umbrella term, with the emphasis placed on the idea of "assets for health," which are represented in the salutogenic model of health by the concept generalized resistance resources (Lindström & Eriksson, 2010). The salutogenic orientation calls for researchers to turn from a disease and risk factor orientation, in which people have problems and needs, to the salutogenic orientation, in which people are seen as having the potential and capacity to control their own health and well-being. The salutogenic orientation has place for an extraordinarily wide range of constructs, well beyond the generalized resistance resources, generalized resistance deficits, sense of coherence and ease/disease anchors of the salutogenic model of health. Antonovsky himself had interest in many ideas about health that went beyond his theorizing about the salutogenic model of health and the sense of coherence. He wrote about "salutogenic strengths" and about one class of strengths he termed "*generalized personality orientations*" that included self-efficacy, locus of control, hardiness, . . . and the sense of coherence (Antonovsky, 1991, p. 70).

To return to Antonovsky's concern that the field of health promotion has no theory, he was not alone in this worry, expressed straightforwardly by Frolich and Potvin (1999): health promotion needs to "*move beyond the traditional theories used in health education such as Bandura's social cognitive theory, Ajzen and Fishbein's Theory of Reasoned Action and the Health Belief Model of Becker*" (ibid., p. 211). By "move beyond" they meant a repositioning of health promotion away from risk factors like tobacco use, to social and structural forces on health, and to "salutary" factors like education. They crystallized their argument

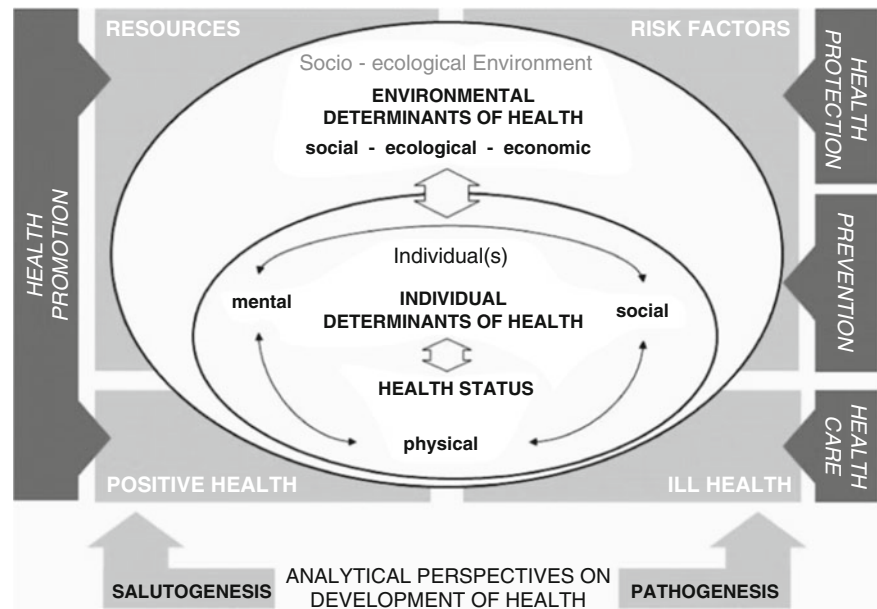
with a call for health promotion to foster salutogenic settings—environments in which no particular individuals, target groups, risk factors, or diseases are in focus. Rather, the salutogenic setting is a place where the physical and social arrangements support health in its general sense, supported by policies, at all societal levels, that value health. Their call, in short, was for health promotion to adopt the salutogenic orientation, imaginably as a step on a path to the adoption of the salutogenic model of health as the theory for health promotion. This Handbook is a progress report; where is health promotion (and other academic fields) in relation to the salutogenic orientation? The span of this chapter is narrowed to theory developments stimulated by the salutogenic model of health (with one exception, a discussion of "positive deviance" at the end of the chapter). Yet the dividing line between developments in the salutogenic orientation and the salutogenic model of health is not distinct. That is due partly to a dearth of academic writing in which there is a clear focus on a critique of the salutogenic model of health. Writings about the salutogenic model of health have been mostly scholarly summaries about bits of the salutogenic model of health, such as the conceptualization and measurement of the sense of coherence, and its relationship to various health outcomes. In the sections that follow, we present briefly some advances having relevance for the further development of the salutogenic model of health in its fuller sense.

The Health Development Model

Antonovsky posited salutogenesis as distinct from and yet complementary to pathogenesis as concepts useful in characterizing the human experiences of health (ease/disease) and of illness (sick/well). Yet health promotion models that explicitly address this complementarity are rare. An important advance in this regard is the Health Development Model (Fig. 6.1), which is meant as a framework for the development of research indicators to monitor the effects of health promotion interventions (Bauer, Davies, Pelikan, & the EUPHID Theory Working Group, 2006).

The starting point was dissatisfaction in the health promotion community with the European Community (EC) project *European Community Health Indicators* (Kramers, 2003). This project focussed mostly on indicators relevant to disease prevention and neglected health promotion. To address the gap, the European Health Promotion Indicator Development project (EUHPID) received funding from the EC to focus more particularly on the health promotion part. The result, the Health Development Model, integrates the pathogenic and salutogenic orientations, showing how disease prevention and health promotion perspectives complement each

Fig. 6.1 The health development model



other. The Health Development Model has three major objectives (Bauer et al., 2006, p. 154):

- “To provide a clear rationale for selecting, organizing and interpreting health promotion indicators (classification system);*
- To communicate the unique health promotion approach to the larger public health community (advocacy tool); and*
- To develop a common frame of reference for the fields of health promotion and public health which shows their interrelationship (dialogue tool).”*

Salutogenesis is explicit in the model as an analytical approach and is specified through health promotion, being oriented towards resources and positive health, as demonstrated in the left part of Fig. 6.1. The pathogenic approach works through protection, prevention, and care, being risk factor and ill-health-oriented (right part of the Model). However, both analytical perspectives work toward the same center: the health of the individual in the context of her environment. Bauer and colleagues (2006) emphasize that while the analytical perspectives of salutogenesis and pathogenesis differ, the approaches often overlap in practice and are implemented in combination. However, linking these as two distinct analytical perspectives, as the Model does, raises consciousness about their distinctiveness. This also serves the Model’s purpose, which is to raise awareness that health promotion indicators are needed also on the “salutogenic side,” in addition to the disease and risk factor indicators which predominate in health research.

How closely does the Model follow Antonovsky? An interesting aspect of the Model is its use of the terms “positive health” and “ill-health,” neither of which are consistent with Antonovsky’s preferred terminology: ease/disease (rather than positive health), and healthy/sick in nonpatients and diseased/not diseased in patients (rather than ill-health) (Antonovsky, 1979, p. 41; Mittelmark & Bull, 2013). This illustrates a characteristic of much of the salutogenesis

literature, which tends to eschew Antonovsky’s preferred terminology. Antonovsky’s main argument against including well-being—and health as more than absence of disease—into the health concept was that the lack of precision in a value-laden positive health concept would place too much power into the hands of the institutions and the health elite (Antonovsky, 1979, pp. 53–54). Antonovsky gives examples of how deviations can be culturally defined and deemed amenable to “treatment,” for instance during the wartime Nazi regime. The Health Development Model, however, overcomes this potential danger by placing illness, prevention, and treatment within the pathogenic part of the model, leaving positive health outside the agenda of the healthcare system. Contemporary health promotion researchers have integrated the positive health concept into salutogenic thinking. Antonovsky (1996a, 1996b) was open to this, even if he was not interested in pursuing such research personally. Given the considerable shift of attention towards positive health, also within salutogenesis research, Mittelmark and Bull (2013) argue that it is time to include positive conceptualizations of health into the salutogenic model of health, not just conceptually but also operationally. The Health Development Model is a large stride in that direction.

Asset Models in Health Promotion

A major contribution of the Health Development Model is that it positions salutogenesis alongside pathogenesis. Morgan and Ziglio (2007) have similar ambitions for salutogenesis, using it as one of three building blocks in their Asset Model of public health (Fig. 6.2). The other two building blocks of the Asset Model are the use of *assets*

indicators in public health evaluation, and *assets mapping* as a key step in implementing policies that promote health. The aim here is not to review the Asset Model in its entirety, but rather to point out how it is an extension of the salutogenic model of health and how it builds on salutogenesis concepts. Nevertheless, a brief tour of the Assets Model is useful to set the stage for the main discussion. The Asset Model's starting point is the conclusion that current public health approaches (pathogenesis-inspired and risk factor-oriented) are failing to reduce social inequalities in health. This calls for public health to rethink “*the theoretical basis on which the public health evidence base is built*” (ibid., p. 19). The key questions change from “*what are the risk factors for disease and how can we prevent them?*” to “*what are the key assets for health and how can they be used to reduce health inequalities?*” This is a call for the development of an evidence base on what assets-based actions are effective in promoting health.

Morgan and Ziglio's pie-chart depiction of the Asset Model shown in Fig. 6.2 illustrates how the three building blocks interrelate. The first slice of the Model is “Theory of salutogenesis,” calling for public health actors to create the needed evidence base. The second slice is action-oriented, calling for a mapping of existing resources of communities and persons in public health initiatives. Building on Kretzman and McKnight (1993), Morgan and Ziglio (2007) discuss the benefits of this approach, stating that:

- it opens possibilities for action even if public resources are scarce,
- it focuses on human dignity though not classifying large groups as merely resource poor, vulnerable, and needy, and
- it contributes to empowerment processes through local influence and ownership of programmes and activities.

The third slice of the Model focuses on evaluation. Morgan and Ziglio (2007) call for evaluation that includes assets-based public health indicators, emphasizing the importance of opening up for “realistic evaluation.” Morgan and Ziglio (2007) borrow an illustration from Whitehead and colleagues (2004), describing how various pieces of evidence must be fitted together to create a “jigsaw” of a fuller picture.

To what degree do Morgan and Ziglio lean on Antonovsky and his salutogenic model of health in their description of the Assets Model? They state explicitly that the Asset Model is based on salutogenesis, using the expression “theory of salutogenesis.” It is clear that their focus is on two elements of salutogenesis: (1) the salutogenic question of what generates health as opposed to what generates disease, and (2) a focus on the importance of resources in the creation of health in the context of stressful conditions and events. When describing resources, they use the word assets.

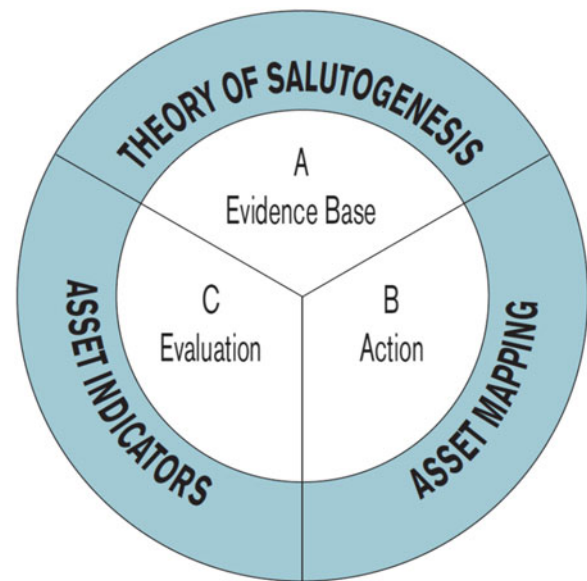


Fig. 6.2 An asset model of public health. Reproduced from Morgan and Ziglio (2007)

Their definition of assets is wide and not contradictory to Antonovsky's conceptualization of generalized resistance resources. They do not mention the construct sense of coherence explicitly, but there is reference to its elements: understanding the world one lives in, a world which is manageable and has meaning, enables individuals to make use of resources to protect and promote their health. There is one point on which Morgan and Ziglio partly deviate from Antonovsky. While Antonovsky himself mostly focused on the individual, not being firmly convinced that the sense of coherence could operate at a community level, Morgan and Ziglio, leaning on Lindström and Eriksson (2005), extend the application of the resource perspective to be applied at group and societal levels in addition to the individual one. This falls into developments in salutogenesis research since the mid-1990s. However, theorizing about the salutogenic model of health and its key elements like generalized resistance resources and the sense of coherence is not part of Morgan and Ziglio's project. Their project might rather be seen as strengthening the salutogenic strand in public health approaches, having much in common with the aim of Health Development Model reviewed earlier.

Margin of Resources Model (MRM)

As a sociologist, Antonovsky was deeply interested in social structural aspects of the salutogenic model of health. A pervasive finding in the literature on the social determinants of health is that of persistent health differentials related to

socioeconomic position (SEP), with the relationship between health and SEP being graded all the way up the SEP ladder (Marmot, Friel, Bell, Houweling, & Taylor, 2008). The salutogenic model of health has been used as a launching point to develop an explanation of this phenomenon, called the Margin of Resources Model—MRM (Charlton & White, 1995). The MRM views SEP as a marker for cumulative life experience. Translating the MRM into salutogenic model of health terms, generalized resistance resources are distributed unevenly in a society, of which SEP is a marker. The margin of resource is the gap between the level of generalized resistance resources needed for essential consumption (at the individual or group level) and the generalized resistance resources that are available. Marginal generalized resistance resources are analogous to disposable income. Needs are defined not only as objective necessities for survival, but also socially- and culturally determined needs (aspirations) that are inextricably linked to participation in social life. The MRM posits that aspirations are universal across cultures. The capacity to realize aspirations is constrained by the size of the margin. The margin's size rises with higher SEP in all societies:

“The size of the margin predicts the degree to which the members of a group can step back from their immediate imperatives and shape their own lives strategically. A long-term view of life is likely to be healthier than one [that] cares only for the present moment. Investment in the future is largely a matter of deferring satisfaction in order to maximise long-term gains, and this strategy is generally good for health.” (ibid., p. 238).

The MRM suggests that health can be promoted by increasing the margin, by strengthening resources, by decreasing needs, or by all of these. A potentially very important contribution to the salutogenic model of health is the MRM's concept of “long-termism,” as shown in Fig. 6.3.

One can imagine that Antonovsky would have been delighted with the MRM, since it posits a mechanism for a phenomenon that he appreciated, but could not name. Writing about generalized resistance resources—resistance deficits, he craved a measurement tool that would link stressors and resources: “*would that I could coin a single word!*” (Antonovsky, 1987, p. 31). While the MRM does not address explicitly the full scope of the stress concept as Antonovsky appreciated it, the Model's attention to needs—and therefore unmet needs—suggests measurement strategies that might have given Antonovsky the measurement tool he sought.

The MRM suggests how increased differential generalized resistance resources margin may be associated with increased differential health, in a graded manner at all levels in a society, whatever the culture, social arrangements, and living conditions of a particular society.

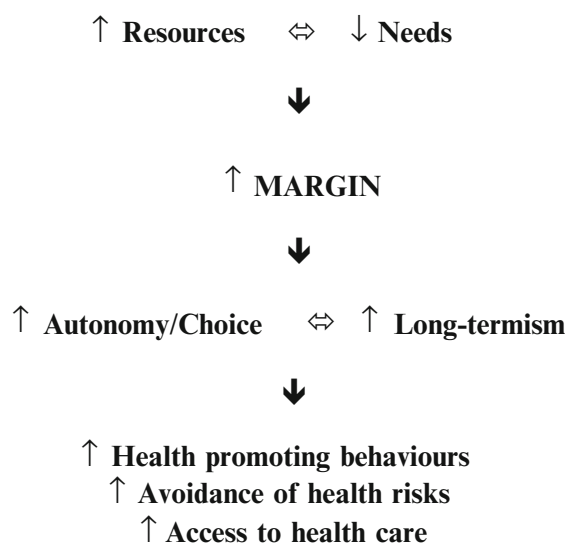


Fig. 6.3 The margin of resources model (reproduced with permission)

What mechanism might connect the size of the margin with health? One suggestion comes from the field of evolutionary psychology (Cosmides & Tooby, 2013), centered on the idea that human psychology evolved in the hunter-gatherer environment wherein surplus generalized resistance resources did not exist. The mismatch between human psychology and today's environment leads to health differentials (Charlton, 1996). Humankind was designed for hunter-gatherer life when there was little to no surplus of resources, not the characteristic “delayed return” of societies today, in which resource surpluses exist, and more resources seem always to lead to better health.

The social–psychological mechanism is that those with surplus generalized resistance resources will share with those they are close to, and with others having surplus (to maximize the benefits of social exchange). Surplus begets surplus and imparts higher social status, which imparts reproductive advantage. Thus, it is the status-seeking instinct that drives the rise in SEP, which comes from acquiring surplus generalized resistance resources. Health is indirectly enhanced since surplus produces more health, and health in turn imparts reproductive advantage.

This salutogenic psychological mechanism is assumed universal in nature. While this evolutionary psychology explanation is offered in the salutogenic framework as described, no discussion of the sense of coherence is included. Yet it seems one could offer the same evolutionary explanation for the development of a strong sense of coherence. In the complex, chaotic, and dangerous world of the hunter-gatherer, the man or woman with a strong sense of coherence would have had early childhood experiences in families that managed scarce resources to maximum

advantage. High sense of coherence would reinforce one's ability to marshal and use generalized resistance resources to meet life's challenges, and the social mechanisms already mentioned would provide the conditions for those having surplus generalized resistance resources to acquire even more surplus. The connection between generalized resistance resources and the sense of coherence is assumed direct. This pattern would be intergenerational, and leads to a question Antonovsky did not pose, as far as we are aware: does strong and weak sense of coherence run in families through generations? It might, since socioeconomic advantage and high achievement do seem to run in families, although this notion is highly controversial (Beenstock, 2012).

Fortigenesis

It was clear from his many writings that Antonovsky hoped salutogenesis would stimulate theoretical developments and the illumination of other answers to the salutogenic question than his own—the sense of coherence. He also hoped researchers would take interest in other forms of well-being than his own interest; the subjective experience of physical health (Antonovsky, 1996a, 1996b). One of the earliest responses was the work of Deodandus Strümpfer and colleagues in South Africa, who broadened salutogenesis to *fortigenesis*, referring to “*the origins of psychological strength in general*” (Strümpfer, 1995), and to strengths in social roles including worker, marriage partner, and parent (Strümpfer, 2006). Fortology (originally Psychofortology) is the study of fortigenesis (Wissing, 2013), and is indistinct from positive psychology; the two terms are used as synonyms, i.e., “positive psychology/fortology” (Strümpfer, 2006, p. 30).

The question is this: is fortigenesis a new theory, a revision or expansion of salutogenesis, or the specification of an additional ease/disease continuum within the salutogenic model of health? The answer does not seem hard to come to. Fortigenesis is an “expansion of salutogenesis into fortigenesis that did not change the rest of the Antonovskian model” (Strümpfer, 2013, p. 13). Fortigenesis is a specification of additional ease/disease continua within the salutogenic model of health—many endpoints related to *psychological strength*. Such developments were anticipated by Antonovsky, whose salutogenic model of health had room for “*Other Ease/Disease Continua*” (Antonovsky, 1979). The range of endpoints embraced by fortigenesis is all-encompassing:

“Beyond health, fortigenesis is also likely to contribute to effectiveness with regard to work, family life, friendships, community involvement, spiritual expression, and economic and political functioning. Fortigenesis is thus more embracing than salutogenesis, especially when salus is used in its literal sense of freedom from physical disease.” (Strümpfer, 2013, p. 9).

If Fortigenesis is a specification of additional ease/disease continua in the salutogenic model of health, is the term fortigenesis superfluous? As even Strümpfer (2013) has noted, the term salutogenesis is the favored term, and recent calls for well-being research using the salutogenic model of health have avoided using the term fortigenesis altogether (Keyes, 2012; Mittelmark & Bull, 2013). Despite a flourished and highly productive tradition of well-being research in South Africa (Wissing, 2013) where the terms fortigenesis and fortology were conceived, it seems the hegemony of Northern Hemisphere science will continue to place the terms salutogenesis and positive psychology in the favored positions.

Tension Management, the Sense of Coherence, and the Self-Tuning Model of Self-Care

Langeland and Vinje and other colleagues use the salutogenic model of health as the foundation for research on talk-therapy for people with mental health problems (Langeland & Vinje, 2013). As the term “foundation” implies, the talk-therapy research is anchored in the salutogenic model of health, coupled with elements from theory and research on flourishing, flow, happiness, recovery processes, and the Self-tuning Model of Self-care (Langeland & Vinje, 2013, p. 306). The aim of the resultant talk-therapy intervention is to:

“...increase participants’ awareness and confidence in their potential, their internal and external resources, and their ability to use these to increase their SOC, coping, and level of mental health and well-being”.

(Langeland and Vinje, 2013, p. 307).

The talk-therapy intervention process is illustrated in Table 6.1, in which the salutogenic model of health is the basis for 14 principles that are in turn linked to mental health and well-being outcomes. An example of how the salutogenic model of health is an explicit foundation for the talk-therapy intervention is the utilization of the “stream of life” metaphor. In this way, a core concept of the salutogenic model of health plays out on the therapeutic stage: promoting health cannot be achieved by avoiding all stress and erecting safeguards to keep people from falling into the river of life. We are all *in* the river of life from our first breath, and we have to learn to swim, even if it is strenuous. The core question is, how can we learn to swim well enough to survive—and even thrive—in a river that has dangerous features?

The salutogenic model of health is a foundation for talk-therapy intervention research, augmented by several other salutogenic-oriented health promotion approaches. We illustrate this dynamic by focusing on the salutogenesis point in Table 6.1 and the associated principle “promoting resistance resources, particularly social support and self-identity.”

Table 6.1 A mental health promotion process in talk-therapy groups based on the salutogenic model of health

Salutogenesis	Salutogenic therapy principles	Desired outcomes
1. Health as two continua	– Movement toward health	– <i>Increasing tolerance for various feelings</i>
	– Universalizing mental health problems	– <i>Improving active adaptation</i>
	– Introducing the metaphor of the stream of life	
2. The story of the participant	– Diagnosis as a narrow description	– <i>Experiencing oneself as a person</i>
	– Listening to the participant’s narrative identity: shedding light on individual coping ability	– <i>Structuring life experiences that reinforce sense of coherence</i>
		– <i>Increasing perception of coping in the narrative identity</i>
3. Health-promoting (salutory) factors	– Extending coping resources	– <i>Improving self-identity</i>
	– Paying attention to what is currently functioning well and asking questions to increase the awareness of resources	– <i>Increasing perception of the quality of social support such as attachment, social integration, opportunity for nurturing, reassurance of worth, reliable alliance, and guidance</i>
	– Promoting resistance resources, particularly social support and self-identity	
4. Stress, tension, and strain as potentially health-promoting	– Discussing appropriate challenges	– <i>Increasing acceptance of one’s own potential and coping capability</i>
	– Universalizing the feelings of tension	– <i>Experiencing one’s resources</i>
5. Active adaptation	– Promoting a climate of unconditional positive regard, empathy, and genuineness	– <i>Experiencing motivation for change</i>
	– Developing participants’ unique capacities	– <i>Thinking more salutogenic and developing positive patterns for health promotion</i>
	– Developing crucial spheres in human existence	– <i>Increasing perceptions of comprehensibility, manageability, and meaning; improving SOC</i>
	– Stimulating flow experiences	– <i>Increasing emotional, psychological, and social well-being; positive mental health</i>

From Langeland and Vinje, 2013, p. 309, reproduced with permission

This principle is translated into action with the help of a model that is meant to augment the salutogenic model of health, namely the Self-tuning Model of Self-care (Vinje & Mittelmark, 2006).

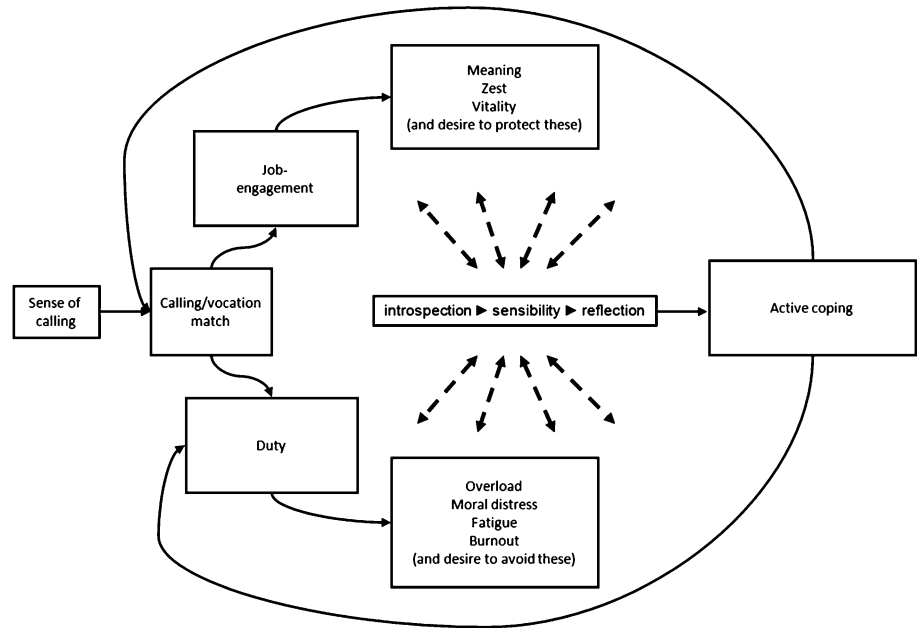
Antonovsky was keen to understand the mechanisms by which sense of coherence enabled the efficacious use of generalized resistance resources. He viewed the salutogenic model of health from a systems perspective and wrote about the importance of feedback and course corrections in the process of transforming the potentiality of generalized resistance resources into reality (Antonovsky, 1990, p. 48). Is the process mostly reflexive or more reflective? He certainly opted for reflection, writing about stages of appraisal when a stimulus becomes salient enough in the brain to signal the need for appraisal: *is it a stressor, or not?*

If it is defined as a stressor, tension is created, “manifested in increased psychophysiological activity and emotion” (ibid., p. 36). This activity and emotion arouses consideration of potential generalized resistance resources (and perhaps specific resistance resources; see the chapter on specific resistance resources elsewhere in this volume). The activation of generalized resistance resources/specific resistance resources may result in coping, resulting in tension dissolution. But what is the nature of the brain’s activity and emotion? One emerging answer is “self-tuning,” a term

from systems theory. Many machines are designed to engage in self-tuning, to remain within their intended operating range (Strmčnik & Juričić, 2013). A simple example is a machine that has the built-in capacity to slow down or speed up its operating speed to stay within a safe operating temperature range. In the context of coping with stressors, self-tuning is the learned ability to adjust coping responses to avoid extreme outcomes, for example to avoid burnout in the face of extreme work stress. Figure 6.4 shows the self-tuning process as revealed in studies of nurses coping with work-related stress (Vinje & Mittelmark, 2006, 2007, 2008; Vinje, 2007; Bakibinga, Vinje, and Mittelmark, 2012a, 2012b, 2013) and further explored in municipal workers (Vinje & Ausland, 2013).

The empirically grounded Self-tuning Model has its beginning in the research finding that a typically stressful occupation, nursing, is a source both of job engagement, but also of a strong sense of duty. Job engagement, in turn, enriches one’s positive experience of meaning in life, zest, and vitality. At the same time, the sense of duty can lead to job-related overload, fatigue, and risk of burnout. As research shows, nurses who experience a strong match between their call in life and their nursing vocation—presumably the case for many if not most nurses—cope by taking deep stock of their situation

Fig. 6.4 The self-tuning model of self-care



(Vinje & Mittelmark, 2006). This is a complex process rooted in taking time for introspection about meaningfulness in life. This self-examination may enhance one's self-sensitivity and self-awareness and promote reflection about one's life circumstances, motivated by the desire to retain/regain job-related meaning, zest, and vitality and to cope positively to avoid the deleterious effects of a zealous attention to duty. This is the "stimulus" in self-tuning, and when people become adept at it, introspection is habitual in the form of sensibility: the ability to read and interpret one's own physical and emotional signals and signals from one's surroundings (Vinje & Mittelmark, 2006). The positive "response" is to make changes in one's situation and/or in one's self that enhance recovery of well-being.

Self-tuning is taken into talk-therapy by the group facilitator, who explicitly encourages participants to:

"...engage in self-examination and the contemplation of their own thoughts, feelings, desires, dreams, and the meaningfulness of life (introspection), in addition to comparing this inner comprehension with the outer world, available resources, and the possibilities of living in accordance with it (reflection). Vital to this process is the strengthening of one's sensibility, referring to the participants' self-sensitivity and awareness."

In their research on talk-therapy processes and outcomes, Langeland and Vinje observed that participants were able to engage in self-tuning which "seemed to enhance the participants' health-promoting recovery processes" (Langeland et al., 2007, p. 316).

The Positive Deviance Approach to Social Change

The salutogenic model of health provides an explanatory framework for health development as well as a framework for behavioral and social change. This "double functionality" has not been fully put to use. While a large quantity of evidence suggests the sense of coherence is related to health, well-being, and a healthy life orientation, relatively few studies have applied the salutogenic model of health in the design of action strategies (see important exceptions in the chapters in this Handbook on applications in various settings). The opposite holds for the strongly action-oriented Positive Deviance approach (PD), which in its principles is in close kinship with the salutogenic model of health. While the salutogenic model of health is a strong theoretical formulation, the PD approach was developed directly out of practice. The PD approach is presented in this chapter because of its synergy potential: the salutogenic model of health's action potential is invigorated by PD and PD is more robust when used in the salutogenic model of health framework. The synergy potential is illustrated with an example near the end of the chapter.

Both the salutogenic model of health and the PD approach acknowledge the active role of people in creating health, their crucial role in bringing about change, and that health arises from interplay between people and their context

(van Dick & Scheffel, 2015). PD arose from the observation in public health practice “*that in every community or organization, there are a few individuals or groups whose uncommon but successful behaviors and strategies have enabled them to find better solutions to problems than their neighbors who face the same challenges and barriers and have access to same resources.*” (The Positive Deviance Initiative, 2010). These individuals are referred to as positive deviants (Pascale, Sternin, & Sternin, 2010). Since the PD approach emerged in the 1970s it is widely applied to tackle issues of child nutrition, reproductive health, and healthcare services and access (van Dick & Scheffel, 2015). An interesting suggestion for an alternative label for PD is “optimal outlier,” since the term “deviance” carries a negative connotation for many (van Dick & Scheffel, 2015).

The PD focus on those who develop solutions is similar to the study of those who deviate from health deterioration that inspires salutogenic thinking. Deviants in both approaches are those who exercise their capacity to move towards the positive—in salutogenic terms “ease”—side of the health continuum.

The PD approach engages with families and communities in action learning processes around locally existing experiences. “PD” represents the practices that positively deviate from a dominant norm, such as the practices of a family with well-nourished children in a community with a high prevalence of stunting. PD practices emerge at multiple levels and include individual skills, family bonding, local organizations’ capacities, history, stories, and culture of the community.

With the use of participatory research methods, PD practices are identified and initiatives are developed to facilitate other community members to adopt the practices or adapt them to their own purposes. The design of PD-based programs reported in the scientific and gray literature is diverse and range from pre- and post-test without control to RCTs (for an overview see the systematic review in the area of child malnutrition of Bullen, 2011).

The literature presents different versions of the PD implementation steps. In general these include problem and outcome definition, determination of common practices and existence of positive deviants, discovery of uncommon but successful practices and lastly, the design and implementation of dissemination strategies. In line with the emphasis on the crucial role of people themselves in creating health, the community should have full ownership in all steps. Professionals take on the role of process facilitators.

The insights derived from decades of testing PD-based programs are useful to accelerate the application of salutogenic model of health-based action strategies. In addition to providing examples of program design, the PD literature gives insight about the generalized resistance resources that people apply to face challenges. Marsh, Schroeder,

Dearden, Sternin, and Sternin (2004) provide a short list of PD behaviors and enablers illuminated in studies in the fields of child and maternal health and girl trafficking. In turn, the PD approach may benefit from the multidimensional operationalization of the concept of generalized resistance resources. The current PD approach encourages health-promoting practices, yet does not address root-causes that originate from the broader political, socioeconomic and political context (Sternin, 2002). Generalized resistance resources include resources that originate at a range of levels, from the individual-physical, to interpersonal and macro-sociocultural levels. In addition, the life-course orientation of the salutogenic model of health may further enrich the PD approach by incorporating past, present, and future perspectives on issues and solutions.

Our example illustrates how the use of the salutogenic model of health and PD leads to new insights on the origins of healthy eating practices and potential action strategies. Plenty of evidence is available on multiple risk factors for *unhealthy* eating. Yet little is known about the factors and mechanisms that drive healthy eating practices. Tapping into the determinants of success of positive deviants who are coping well with the so-called obesogenic environment is crucial to the design of strategies that enable people to accomplish lifestyle changes in their everyday-life context (van Woerkum & Bouwman, 2014). In a first study, the salutogenic model of health guided a cross-sectional study of generalized resistance resources associated with eating practices in Dutch adults (Swan, Bouwman, Hiddink, Aarts, & Koelen, 2015). Participants with the best eating practices were selected as PDs. Common to virtually all the Dutch is the presence of abundant resources to make “the healthy choice the easy choice” (e.g., healthy food, nutritional education). So, the population is faced with a ubiquitous obesogenic environment, and resources that promote healthy eating. The PDs manage to cope: for many others, the same environment impedes health. Multivariate logistic regression analysis was applied to study the PD’s generalized resistance resources. A set of five factors was found to predict PDs healthier eating practices: being female, living with a partner, a strong sense of coherence, flexible restraint of eating and self-efficacy for healthy eating. Factors previously found to predict *unhealthy* eating including income, employment status, education level, nutrition knowledge, social support, and affordability, accessibility and availability of healthy food, were not related to healthier eating in this study.

In a fresh study not yet in the literature as of this writing, salutogenic principles and concepts were used to develop the “Food-Life-Story” narrative inquiry methodology to further map out specific enablers which could increase adoption of healthy eating practices. The method fully recognizes the active role of people in constructing their own life and thus,

their eating practices. PDs were selected from an existing research panel using the criteria of high dietary score, no diet-related risk factors, being a woman and living with a partner. Preliminary findings indicate that foresight, determination, and self-reliance were used to counter stressful situations such as time-constraints. Coherent eating habits were supported by the ability to construct life-stability (early or later in life), combined with positive food associations. The findings suggest action strategies that target change beyond food habits, reaching to lifestyle and life perspective.

This raises the idea of a collaborative “PD” stance that could/should be taken by all community actors to focus not only on food-related matters, but also to enhance self-efficacy, family warmth, and stability and community actions to foster positive and healthy food interactions. Current efforts include the study of those who live in disadvantaged circumstances, further testing of the Food-Life-Story methodology and its application to the steps of the PD approach, to unravel practices and the underlying mechanisms that enable healthier eating. The third author is a resource for more information about the examples just presented.

Conclusions

We return to Antonovsky’s ambitions for further scholarship on the salutogenic model of health. He called for:

- Robust research on the measurement of the sense of coherence with diverse methods
- The development of measures of the three components of the sense of coherence
- Research on the relationship of the sense of coherence to class and sex
- Sense of coherence studies testing its cross-cultural validity beyond Eurocentric cultures
- A search for the sources of the sense of coherence
- Research on the idea of collective sense of coherence
- Research on how a strong, stable sense of coherence come into being
- Research on the sense of coherence stability/lability after early adulthood
- Research on collective sense of coherence
- The sense of coherence as a buffer versus a direct determinant of health
- The linearity/nonlinearity of the relationship between the sense of coherence and health
- Research on the sense of coherence relationship to well-being
- Intervention research in which the sense of coherence would be treated as a dependent variable

- The development of programmes designed to strengthen the sense of coherence, and to prevent the weakening of the sense of coherence
- Health promotion research grounded in the salutogenic model of health

There seems to be no doubt that Antonovsky’s attention from 1987 on was almost solely on the sense of coherence. Of all the research problems just listed, only the last is general to the salutogenic model of health, and we are not aware that Antonovsky pondered on the further development of the salutogenic model of health, or theorizing founded on the salutogenic model of health. As we have suggested elsewhere in this Handbook, it seems Antonovsky’s lead was mesmerizing. He and many others in the salutogenesis arena paid and still pay all-consuming attention to the sense of coherence, particularly its measurement (Lindström & Eriksson, 2005) and its relationship to health and well-being (Eriksson & Lindström, 2006, 2007). There has been little interest in the study of the origins of the sense of coherence, and what mediates and moderates the sense of coherence and health. Put another way, the nature of the sense of coherence and its relationship to health has dominated salutogenic model of health scholarship.

True, some theory developments are evident, as sketched above. Yet these seem to be developed in isolation of one another, nor are they explicitly tests of the salutogenic model of health, or aimed at development of the salutogenic model of health as theory.

It seems fairer to say that the salutogenic model of health is a useful foundation for thinking about and describing departures from traditional risk factor thinking. This is quite evident in the Assets Model with its utility for resource-oriented policy and practice, and the Health Development Model, which is unique in its attractive amalgamation of pathogenesis and salutogenesis. The same seems true for Fortigenesis, with the room it makes for health-as-well-being. The Margin of Resources Model does seem to have relevance for development of the salutogenic model of health, even if the two are not explicitly linked. It suggests a mechanism connecting generalized resistance resources and health that does not involve the sense of coherence. Yet one wonders the degree to which the health promotion research community is even aware of the Margin of Resources Model; our search revealed no connection to health promotion, only the distant promise that a connection might be fruitful.

Closer to the health promotion area is the Self-tuning Model of Self-care, developed as it is by health promotion scholars, and actually used to guide intervention. It places the brain (cognitions, emotions, information processing) at the crux of coping, and suggests mental processes—

introspection, sensibility, and reflection—that can result in differential coping: changing one’s situation, and/or changing one’s perception of one’s situation. The use of the PD approach seems to have significant potential to direct action research to exploit the links between generalized resistance resources and health.

Elsewhere in this volume Mittelmark and Bauer (Chap. 2) write about salutogenesis in various guises: as understood by Antonovsky in the salutogenic model of health, as a process intertwined with pathogenesis, and as an umbrella-like rubric for a positive health paradigm. It seems still too early to know which of these guises—or others—may come to define the salutogenesis of the future.

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