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Introduction

Antonovsky (1987) developed a questionnaire to measure the sense of coherence. The original form, the Orientation to Life Questionnaire, consists of 29 items, 11 items measuring comprehensibility, 10 items measuring manageability, and 8 items measuring meaningfulness. The response alternatives are a semantic scale of 1 point to 7 points, where 1 and 7 indicate extreme feelings about questions (and statements) about how one's life is experienced (e.g., 'when you talk to people, do you have the feeling that they do not understand you?' is scored from 1 = never have this feeling to 7 = always have this feeling). The questionnaire is a summed index with a total score ranging from 29 to 203 points for the original scale of 29 questions (SOC-29). A shorter version of 13 questions (SOC-13) of the original form was developed by Antonovsky (1987), where the score ranges between 13 and 91 points. Antonovsky intended that the sense of coherence scales be scored with a single total score and not component scores (Fig. 12.1), since he theorized that it was the sense of coherence in its totality that influenced movement along the ease/dis-ease continuum. This issue is taken up again later in this chapter.

Examples of items measuring the comprehensibility dimension are as follows (Antonovsky, 1987, p. 190ff.):

- *When you talk to people, do you have a feeling that they don't understand you? (from 'never have this feeling' to 'always have this feeling')*

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- *Do you have a feeling that you are in an unfamiliar situation and don't know what to do? (from 'very often' to 'very seldom or never')*

The following items are examples that measure manageability:

- *When something unpleasant happened in the past your tendency was: (from 'to eat yourself up about it' to 'to say "ok that's that, I have to live with it" and go on')*
- *When you do something that gives you a good feeling: (from 'it's certain that you'll go on feeling good' to 'it's certain that something will happen to spoil the feeling')*

Meaningfulness is measured with items like these:

- *Doing the things you do every day is: (from 'a source of deep pleasure and satisfaction' to 'a source of pain and boredom')*
- *When you think about your life, you very often: (from 'feel how good it is to be alive' to 'ask yourself why you exist at all')*

Comprehensibility, the cognitive dimension, refers to the extent to which one perceives internal and external stimuli as rationally understandable, and as information that is orderly, coherent, clear, structured rather than noise—that is, chaotic, disordered, random, unexpected, and unexplained (Antonovsky, 1991, p. 39). The ability to create structure out of chaos makes it easier for us to understand one's context and one's own part in it, for example, one's role in the family or in the workplace. A prerequisite to be able to cope with a stressful situation is that one can to some extent understand it. What one comprehends is easier to manage.

Manageability, the instrumental or behavioral dimension, defined as the degree to which one feels that there are resources at one's disposal that can be used to meet the requirements of the stimuli one is bombarded by

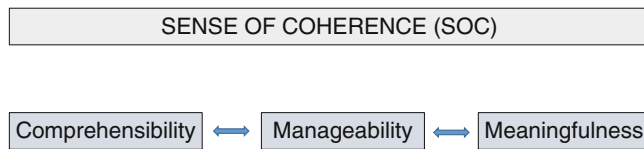


Fig. 12.1 The original view of the Sense of coherence and its three dimensions (Antonovsky, 1987)

(Antonovsky, 1991, p. 40). Formal resources include, for example, social services and care staff in public and private organizations. Informal resources include, for example, family, circle of friends, colleagues, and significant others; in other words, people who are trusted and who can be relied on in difficult situations. Coping also requires that one is motivated to solve the problems that cause stress, is willing to invest energy to solve the problem, and finds meaning in being able to manage the situation. This leads to the third dimension of the sense of coherence, meaningfulness.

Meaningfulness, the motivational dimension, refers to the extent to which one feels that life has an emotional meaning, that at least some of the problems faced in life are worth commitment and dedication, and are seen as challenges rather than only as burdens (Antonovsky, 1991, p. 41). One needs to have a clear desire to resolve difficulties, and willingness to invest energy to get through experiences of stress that have the potential to cause distress.

The Validity and Reliability of the Sense of Coherence

Face validity: The sense of coherence scales have been empirically tested in different cultures, both Western and cultures in Africa and Asia. Studies have been conducted on different samples: general populations, different professions, in persons with disabilities, different patient groups as well as in children, adolescents, adults, and elderly, in families, in organizations, and also on a societal level. A systematic research review shows that as of 2003, the SOC-29 and SOC-13 had been used in at least 33 different languages in 32 different countries (Eriksson & Lindström, 2005). An update shows that another 16 languages can be added: Albanian (Roth & Ekblad, 2006), Croatian (Singer & Brähler, 2007), Brazilian (Bonanato et al., 2009), Hungarian (Biro, Balajti, Adany, & Kosa, 2010), Korean (Han et al., 2007), Lingala (Bantu language spoken in parts of Africa) (Pham, Vink, Kinkodi, & Weinstein, 2010), Persian, Swahili (Rohani, Khanjari, Abedi, Oskouie, & Langius-Eklöf, 2010) as well as local languages in Africa Afar, Bilein, Hidareb, Kunama people, Nara, Saho, Tigre, and Tigrinya (Almedom, Tesfamichael, Mohammed, Mascie-Taylor, & Alemu, 2007).



Fig. 12.2 The distribution of studies using the sense of coherence scale 1992–2015 in a global context

Since 2003, the SOC-29 and the SOC-13 has been used in a further 13 countries (Eriksson, 2014): Eritrea (Almedom et al., 2007), Croatia (Pavicic Bosnjak, Rumboldt, Stanojevic, & Dennis, 2012), Hungary (Biro et al., 2010), India (Suraj & Singh, 2011), Iran (Rohani et al., 2010), Italy (Cairano, Rabaglietti, Roggero, & Callari, 2010), Korea (Han et al., 2007), Kosovo, the Democratic Republic of Congo (Pham et al., 2010), Spain (Virues-Ortega, Martinez-Martin, Del Barrio, Lozano, & Grupo Espanol, 2007), Sudan (Abdelgadir, Shebeika, Eltom, Berne, & Wikblad, 2009), Taiwan (Tang & Li, 2008), and Turkey (Öztekin & Tezer, 2009). More recent research shows three additional countries: Austria (Mautner et al., 2014), Estonia (Höjdahl, Magnus, Mdala, Hagen, & Langeland, 2015), and Malaysia (Rostami, Lamit, Khoshnava, & Rostami, 2014).

In sum, the SOC-29 and the SOC-13 have been used in at least 49 different languages in at least 48 different countries around the world (Fig. 12.2).

Construct validity: The structure of the sense of coherence is complex. Recent research shows that the sense of coherence seems to be a multidimensional construct rather than a unidimensional as proposed by Antonovsky (1987), with all three dimensions constantly interacting with each other and together to form a common, overarching factor, sense of coherence. Following from that, Antonovsky maintained that on theoretical grounds, one should avoid lifting out individual dimensions in order to examine them separately.

Nevertheless, recent research has focused on the study of the structure and content of sense of coherence. There are studies that support Antonovsky's idea of the sense of coherence as a general factor with three dimensions (Antonovsky, 1993; Drageset & Haugan, 2015; Klepp, Mastekaasa, Sørensen, Sandanger, & Kleiner, 2007; Rajesh et al., 2015; Söderhamn & Holmgren, 2004; Söderhamn, Sundsl, Cliffordson, & Dale, 2015; Spadoti Dantas et al., 2014). Söderhamn et al. (2015) found evidence in a confirmatory factor analysis that confirmed the SOC-29 as one theoretical construct with three dimensions, comprehensibility, manageability, and meaningfulness. In a cross-sectional survey among Norwegian cognitively intact nursing home residents, Drageset and Haugan (2015) found that the three-factor model fit their data. However, the item 'has it happened in the past that you were surprised by the behavior of people whom you thought you knew well?' was troublesome, and removing this item resulted in a better fit. Recent research suggests that the sense of coherence seems to be a multidimensional concept consisting of many different dimensions rather than a single factor (Eriksson & Lindström, 2005; Feldt, 2007; Naaldenberg, Tobi, van den Esker, & Vaandrager, 2011). Figure 12.3 shows the sense of coherence as a multidimensional construct.

Sandell et al. (1998) examined the sense of coherence instrument among a sample of Swedes and could not find support for a common factor, nor the three dimensions of comprehensibility, manageability, and meaningfulness. Three more or less stable dimensions emerged, where lust and depression were two extremes which could best be referred to the dimension of meaningfulness. Antonovsky's concepts comprehensibility could in this study be seen in the form of tolerance versus intolerance. The third factor, manageability, was reflected by trust and distrust (Sandell et al., 1998, p. 701).

Consensual validity is a term that indicates the extent to which various scientists agree on the properties of an

instrument (Cooper, 1998). The consensual of validity is somewhat weak. While many researchers use either the SOC-29 or the SOC-13, there are also many different modified versions in use, with different numbers of questions and different possibilities of response options. Most of the modified versions have partially abandoned the original scale of 1–7 points (but the wording of the questions is usually the same as in the SOC-29 and SOC-13). Results from a research review 1992–2003 showed that there were at least 15 different modified forms from form consisting of only three questions to 28 questions (Eriksson & Lindström, 2005). This includes the special version adapted for families (FSOC) (Antonovsky & Sourani, 1988; Sagy & Antonovsky, 1992), for children (Margalit & Efrati, 1996), and a version for a school context (Nash, 2002). The Children's Orientation to Life Scale consists of 16 questions plus 3 distracters (Idan & Margalit, 2014; Margalit & Efrati, 1996). The response options follow a scale of 1–4, where 4 indicates the highest degree of sense of coherence. There are also two variants of the FSOC, the original with 26 questions and a shorter version with 12 questions (Antonovsky & Sourani, 1988; Sagy, 2008; Sagy & Antonovsky, 1992). The questions are the same as in the original form, but tailored to the child or to a family context. Table 12.1 provides a summary of some of the other sense of coherence scales in the literature, demonstrating a range of items from 3 to 16, and intended for use by various sociodemographic groups.

Antonovsky (1979) originally described the sense of coherence as an individual property. He later widened the perspective (Antonovsky, 1987) with sense of coherence also conceived at the family level. Recent research shows that the sense of coherence concept and measurement also can be applied in organizations such as a workplace (Bauer & Jenny, 2012; Bringsén, 2010; Bringsén, Andersson & Ejlertsson, 2009; Forbech & Hanson, 2013; Graeser, 2011; Mayer & Krause, 2011; Mayer & Boness, 2011; Nilsson, Andersson, Ejlertsson, & Troein, 2012; Orvik & Axelsson, 2012; Vogt, Jenny & Bauer, 2013).

Fig. 12.3 The sense of coherence as a multidimensional construct. 1) Antonovsky, 1987, 2) Sandell, Blomberg, & Lazar, 1998, 3) Sakano & Yajima, 2005

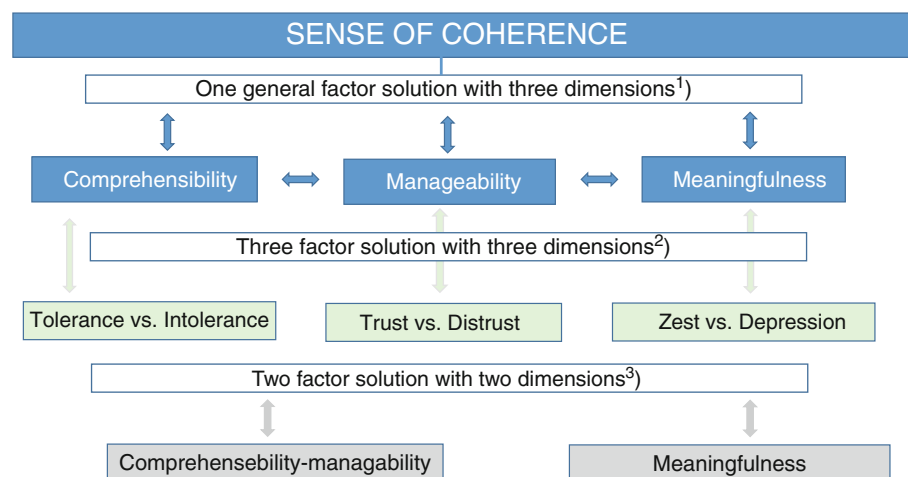


Table 12.1 A selection of different versions of the sense of coherence instrument

Authors	Country	Sample	N	Number of items	Response options	Cronbach's alpha
Agardh, E. E., Ahlbom, A., Andersson, T. et al. (2003). Work stress and low sense of coherence is associated with type 2 diabetes in middle-aged Swedish women. <i>Diabetes Care</i> , 26 (3), 719–724	Sweden	Healthy middle aged women	4821	SOC-3	3	
Schumann, A., Hapke, U., Meyer, C. et al. (2003) Measuring Sense of Coherence with only three items: A useful tool for population surveys. <i>British Journal of Health Psychology</i> , 8, 409–421	Germany	General population	3515	SOC-3 BASOC Brief Assessment—SOC	3	0.45
Bayard-Burfield, L., Sundquist, J., Johansson, S-E. (2001) Ethnicity, self-reported psychiatric illness, and intake of psychotropic drugs in five ethnic groups in Sweden. <i>Journal of Epidemiology and Community Health</i> , 55, 657–664	Sweden	Immigrants/ refugees Swedes	4981	SOC-3	7 - Likert	
Kivimäki, M., Elovainio, M., Vahtera, J. et al. (2002) Sense of coherence as a mediator between hostility and health. Seven-year prospective study on female employees. <i>Journal of Psychosomatic Research</i> , 52, 239–247	Finland	Women employed in municipalities	433	SOC-6	7 - Likert	0.76
Toft Würtz, E., Fonager, K., Tølbøll Mortensen, J. (2015). Association between sense of coherence in adolescence and social benefits later in life: a 12-year follow-up study. <i>BMJ Open</i> , doi: 10.1136/bmjopen-2014-006489	Denmark	Pupils	773	SOC-7	7 - Likert	0.77
Forsgårde, M., Westman, B., Nygren, L. (2000) Ethical discussion groups as an intervention to improve the climate in inter-professional work with the elderly and disabled. <i>Journal of Interprofessional Care</i> , 14(4), 351–361	Sweden	Health professionals	354	SOC-9	3 - Likert	0.60–0.69
Klepp, O.M., Mastekaasa, A., Sørensen, T. et al. 2007 Structure analysis of Antonovsky's sense of coherence from an epidemiological mental health survey with a brief nine-item sense of coherence scale. <i>International Journal of Methods in Psychiatric Research</i> , 16(1), 11–22	Norway	Adults	1062	SOC-9	7 - Likert	0.79
Li, W., Leonhart, R., Schaefer, R. et al. (2014) Sense of coherence contributes to physical and mental health in general hospital patients in China. <i>Psychology, Health & Medicine</i> , doi: 10.1080/13548506.2014.952644	China	Patients in hospitals	491	SOC-9	7 - Likert	
Mayer, J., Thiel, A. (2014) Health in elite sports from a salutogenetic perspective: Athletes' sense of coherence. <i>PLOS One</i> , 9(7),1–11	Germany	Elite sports	698	SOC-L9 Leipzig Short Scale	2	0.82
Naaldenberg, J., Tobi, H., van den Esker, F. et al. 2011 Psychometric properties of the OLQ-13 scale to measure Sense of Coherence in a community-dwelling older population. <i>Health and Quality of Life Outcomes</i> , 9, 37–45	Netherlands	Elderly people ≥ 65	1361	SOC-11	7 - Likert	
Kanhai, J., Harrison, V.E., Suominen, A.L. (2014) Sense of coherence and incidence of periodontal disease in adults. <i>Journal of Clinical Periodontology</i> , 41, 760–765	Finland	Adults	848	SOC-12	7 - Likert	0.85
Sagy, S. (1998) Effects of personal, family, and community characteristics on emotional reactions in a stress situation. <i>Youth & Society</i> , 29(3), 311–330	Israel	School children and their parents	399	SOC-12 Family-SOC	7 - Likert	0.81
Margalit, M., Efrati, M. (1996) Loneliness, coherence and companionship among children with learning disorder. <i>Educational Psychology</i> , 16(1), 69–80	Israel	Children with learning disabilities Barn med inlärnings-svårigheter	324	SOC-16 + 3 Childrens'-SOC	7 - Likert	0.72
Suominen, S., Blomberg, H., Helenius, H. et al. (1999) Sense of coherence and health—does the association depend on resistance resources? <i>Psychology and Health</i> , 14, 937–948	Finland	General population	3115	SOC-16	4 - Likert	0.84
Sagy, S., Antonovsky, A. (1992) The family sense of coherence and the retirement transition. <i>Journal of Marriage & Family</i> , 54(4), 983–994	Israel	Retirees and their relatives	214	SOC-26 Family-SOC	7 - Likert	0.88

Research that examines and discusses salutogenesis and the sense of coherence at a societal level is sparse. Braun-Lewensohn and Sagy (2011) report findings from studies using an instrument adapted for societal sense of coherence (Sense of Community Coherence), which contains seven questions describing how the individual experiences the society in terms of comprehensibility, manageability, and meaningfulness. Comprehensibility at the societal level addresses the experience of society as more or less organized in a way that makes life somewhat predictable, that the structure of society can be more or less understood, and that society is perceived as more or less safe and secure. Manageability is a state in which the individual experiences a society with resources that support individuals, for example, in emergencies or in critical situations. Societal support includes, for example, programs to support young people's mental health and initiatives to create conditions so that people from different generations can meet each other. Meaningfulness refers to the experience that society supports people to experience fulfillment, to develop their abilities, and to feel satisfaction with life (Braun-Lewensohn & Sagy, 2011, p. 535).

The relevance of salutogenesis and the sense of coherence to the building of healthy public policy has also been a focus of theorizing and research (Eriksson, Lindström, & Lilja, 2007; Lindström & Eriksson, 2009). To develop a social policy based on the salutogenic framework means to identify resources for health and welfare of the society, in the past as well as in the present, including risks of illnesses, and how this knowledge and the most effective measures can be used to resolve the current challenges. The core of such policy is to create coherence and synergies, from individuals to groups and organizations in the local community, and finally to the whole of society (Eriksson & Lindström, 2014; Lindström & Eriksson, 2009).

Criterion validity: Eriksson and Lindström (2005) present information about the relation between the SOC-29 to other instruments measuring health, perceived self, stressors, quality of life, well-being, attitudes, and behaviors. The correlation with health ranges in general from slight to good, using instruments such as the General Health Questionnaire, the Health Index, the Hopkin's Symptom Checklist, and the Mental Health Inventory, with such health measures explaining up to 66 % of the variance in the SOC-29. There are numbers of studies on the relation between SOC and quality of life and well-being. In general, they show that a high SOC is related to a high quality of life Eriksson and Lindström (2005).

Predictive validity: The ability of an instrument to predict how, for example, health develops in the future is called predictive validity (Abramson & Abramson, 1999). The predictive validity of the sense of coherence questionnaire

seems to be relatively good, based on a review of longitudinal studies (Eriksson & Lindström, 2005). There are studies that support predictive ability (Lundman et al., 2010; Luutonen, Sohlman, Salokangas, Lehtinen, & Dowrick, 2011; Poppius, Virkkunen, Hakama & Tenkanen, 2006; Surtees, Wainwright, Luben, Khaw, & Day, 2003), whereas other studies have not done so (Norekvål et al., 2010). It seems the time for follow-up is an important factor for the predictive ability of the instrument. The results of a study among elderly persons, the Umeå 85+ study, show that the sense of coherence predicted mortality at 1-year follow-up, but not at follow-up after 4 years (Lundman et al., 2010).

Reliability: SOC-29 test-retest correlations range from 0.69 to 0.78 (1 year), 0.64 (3 years), 0.42 to 0.45 (4 years), 0.59 to 0.67 (5 years), and finally 0.54 after the 10-year follow-up (Eriksson & Lindström, 2005). The *internal consistency* measured by Cronbach's alpha ranges from 0.70 to 0.95 using SOC-29 (124 studies) and 0.70 to 0.92 (127 studies) using SOC-13 (Eriksson & Lindström, 2005, p. 463). The sense of coherence scale shows high internal consistency.

Critique of the SOC-29 and SOC-13

One indirect form of criticism has practical roots: as mentioned earlier, various sense of coherence measures have been developed that are shorter than even the SOC-13, as short as just three items. This reflects the reality that in many health survey applications, questionnaires must be very short. More directly, the SOC-29 and SOC-13 have been criticized on the basis of supposed shortcomings in the instruments' psychometric properties (Korotkov, 1993; Larsson & Kallenberg, 1999; Schnyder, Büchi, Sensky, & Klaghofer, 2000). It is asserted also that the sense of coherence concept does not deal adequately with emotional aspects of life experience (Flannery & Flannery, 1990; Flensburg-Madsen, Ventegodt, & Merrick, 2006c; Korotkov, 1993; Korotkov & Hannah, 1994). Inconsistent evidence about the lability/stability of the sense of coherence over the life course has also been noted by critics (Geyer, 1997). Criticism of salutogenesis generally includes implicit doubt about efforts to measure the sense of coherence via any means (Bengel, Strittmatter, & Willman, 1999; Kumlin, 1998). The leveling of such criticism is welcome as part of the healthy evolution of a 'living' theory or model, and responses to the critics are published (Eriksson, 2007; Lindström & Eriksson, 2010).

In the limits of this chapter, we focus on just the critical ideas of Trine Flensburg-Madsen, Søren Ventegodt and Jaov Merrick. The critique stems from their conclusion that the SOC-29 and SOC-13 are only moderately-to-weakly related to various measures of physical health (Flensburg-Madsen,

Ventegodt, & Merrick, 2005a), leading them to construct and test a new measure of the sense of coherence, intended to overcome limitations in the SOC-29 and SOC-13 (Flensburg-Madsen, Ventegodt, & Merrick, 2006a, 2006b). Their critique can be summarized in this way:

- Antonovsky presumed that one's internal and external environment have to be predictable in order for a person to have a high sense of coherence
- Predictability should not be included in conceptualizing and measuring the sense of coherence, because lack of predictability is not necessarily unhealthy
- Rather, unpredictability is what makes life matter in the first place; it can provide a state of initiative, energy, and positive attitudes

Since the SOC-29 includes several items that have to do with predictability, Flensburg-Madsen, Ventegodt, and Merrick (2005b) regard the instrument as flawed and they developed an alternative 9-item measure that excluded the concept of predictability, but that otherwise was purportedly built, as they write, on the exact same idea, theory, and conceptualization used by Antonovsky (Flensburg-Madsen et al., 2006a, 2006b).

Their conclusion about a weak association between the SOC-29 and SOC-13 and physical health is based on a review of about 50 studies (2005a). They categorize the health instruments in the reviewed studies as having foci on: physical health, biological measures, psychological measures, health measures incorporating psychological aspects, stress, and behavioral aspects. They conclude that the SOC scales are unable to explain health that is measured only by means of physical terms (Flensburg-Madsen et al., 2005a, p. 665). As a solution, Flensburg-Madsen et al. (2006c) propose the concept of 'emotional coherence' in relation to physical health and 'mental coherence' in relation to psychological health supported by Endler, Haug, and Spranger (2008).

Such fragmentation of the concept of the sense of coherence into physical and mental components breaks significantly from Antonovsky's fundamental notion of an 'orientation to life' (1979, 1987). Such fragmentation also reinforces the physical health/mental health divide in modern health care (and in the public's imagination), which has been challenged vigorously (WHO, 2001).

We move on to the issue of excluding predictability in sense of coherence measurement; to do so is to depart emphatically from 'the exact same idea, theory and conceptualization' used by Antonovsky, who wrote:

From the time of birth, or even earlier, we constantly go through situations of challenge and response, stress, tension, and resolution. The more these experiences are characterized by consistency, participation in shaping outcome, and an underload-overload balance of stimuli, the more we begin to see the world as being coherent and predictable. When, however, one's experiences all tend to be predictable, one is inevitably due for unpleasant surprises that cannot be handled, and one's sense of coherence is weakened accordingly. Paradoxically, then, a measure of unpredictable experiences—which call forth hitherto unknown resources—is essential for a strong sense of coherence. One then learns to expect some measure of the unexpected. When there is little or no predictability, there is not much one can do except seek to hide until the storm (of life) is over, hoping not to be noticed. Or else one strikes out blindly and at random until exhaustion sets in. No defense mechanisms can be adequate. We must note an implicit assumption here. If a strong sense of coherence is to develop, one's experiences must be not only by and large predictable but also by and large rewarding, yet with some measure of frustration and punishment. (Antonovsky, 1979, p. 187)

As this extended passage makes clear, reasonable predictability functions inextricably with many other aspects of experience to shape the sense of coherence.

Sense of Coherence Develops Over Time

According to Antonovsky (1987) sense of coherence develops until the age of about 30 years, thereafter sense of coherence was estimated to remain relatively stable until retirement, after which a decrease was expected. This assumption finds no support in subsequent empirical research. The sense of coherence seems to be relatively stable over time, but not as stable as Antonovsky assumed. Research shows that sense of coherence develops over the entire life cycle, that is, it increases with age (Feldt et al., 2007; Nilsson, Leppert, Simonsson & Starrin, 2010). Nilsson and coauthors were able to demonstrate on a sample of 43,500 Swedish respondents, aged 18–85 years, that sense of coherence increases with age in both men and women. Support for a corresponding development of the sense of coherence over time could also be seen in a longitudinal study of more than 18,000 Finns, in the Health and Social Support Study, where the sense of coherence continuously increased with age. A strong sense of coherence initially appears to determine its development over time (Feldt et al., 2011). There is a lack of longitudinal studies with long-term follow-up. The longest follow-up is that of 13 years (Hakanen, Feldt, & Leskinen, 2007). Table 12.2 shows findings from longitudinal studies with different time spans for follow-ups.

Table 12.2 The development of sense of coherence over time based on a sample of longitudinal studies

1 → 2 year	0.2 points	SOC-13	Virtanen and Koivisto (2001)
1 → 2 year	0.8 points	SOC-13	Bergman, Årestedt, Fridlund, Karlsson, and Malm (2012)
1 → 3 year	14.2 points	SOC-28	Kuuppelomäki and Utriainen (2003)
1 → 3 year	0.1 points	SOC-13	Honkinen et al. (2008)
1 → 5 year	1.6 points	SOC-13	Volanen, Suominen, Lahelma, Koskenvuo, and Silventoinen (2007)
1 → 5 year	1.8 points	SOC-13	Bergman et al. (2012)
1 → 5 year	3.6 points	SOC-13	Lövheim, Graneheim, Jonsén, Strandberg, and Lundman (2013)
1 → 9 year	−0.1 points	SOC-13	Luutonen et al. (2011)
1 → 10 year	2.7 points	SOC-13	Kalimo, Pahkin, Mutanen, and Toppinen-Tanner (2003)
1 → 12 year	0.3 points	SOC-29	Holmberg and Thelin (2010)
1 → 13 year	0.4 points	SOC-13	Hakanen et al. (2007)

Fig. 12.4 The salutogenic umbrella, salutogenesis as an umbrella concept

Salutogenesis Is More than the Measurement of the Sense of Coherence

Salutogenesis, focusing on health and on people's resources, is something more than the measurement of the sense of coherence. Today, we can talk about salutogenesis as an umbrella concept with many different theories and concepts with salutogenic elements and dimensions (Lindström & Eriksson, 2010). There is extensive research that focuses on the resources of individuals, groups, and communities. All this and more can be accommodated under the common umbrella. Figure 12.4 shows some related concepts to the sense of coherence collected under an umbrella.

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