Resilience Theory:

A Literature Review

with special chapters on

deployment resilience in military families

& resilience theory in social work

by

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CHAPTER TWO: INDIVIDUAL RESILIENCE

2.1 INTRODUCTION TO INDIVIDUAL RESILIENCE

> *Resilience* is the capacity to maintain competent functioning in the face of major life stressors. (Kaplan, Turner, Norman, & Stillson, 1996, p. 158)
>
> George Vaillant (1993) defines resilience as the "self-righting tendencies" of the person, "both the capacity to be bent without breaking and the capacity, once bent, to spring back" (p. 248). (Goldstein, 1997, p. 30)
>
> Resilience means the skills, abilities, knowledge, and insight that accumulate over time as people struggle to surmount adversity and meet challenges. It is an ongoing and developing fund of energy and skill that can be used in current struggles. (Garmezy, 1994 in Saleebey, 1996, p. 298)
>
> [Resilience is] the capacity for successful adaptation, positive functioning or competence … despite high-risk status, chronic stress, or following prolonged or severe trauma. (Egeland, Carlson, & Sroufe, 1993, in Sonn & Fisher, 1998, p. 458)

Resilience is primarily defined in terms of the "presence of protective factors (personal, social, familial, and institutional safety nets)" which enable individuals to resist life stress (Kaplan et al., 1996, p. 158). An important component of resilience, however, is the hazardous, adverse and threatening life circumstances that result in individual vulnerability (ibid.). An individual's resilience at any moment is calculated by the ratio between the presence of protective factors and the presence of hazardous circumstances.

Polk (1997) has synthesised four patterns of resilience from the individual resilience literature:

❖ **Dispositional Pattern.** The dispositional pattern relates to physical and ego-related psychosocial attributes that promote resilience. These entail those aspects of an individual that promote a resilient disposition towards life stressors, and can include a sense of autonomy or self-reliance, a sense of basic self-worth, good physical health and good physical appearance.

❖ **Relational Pattern.** The relational pattern concerns an individual's roles in society and his/her relationships with others. These roles and relationships can range from close and intimate relationships to those with the broader societal system.

- ❖ **Situational Pattern.** The situational pattern addresses those aspects involving a linking between an individual and a stressful situation. This can include an individual's problem solving ability, the ability to evaluate situations and responses, and the capacity to take action in response to a situation.

- ❖ **Philosophical Pattern.** The philosophical pattern refers to an individual's worldview or life paradigm. This can include various beliefs that promote resilience, such as the belief that positive meaning can be found in all experiences, the belief that self-development is important, the belief that life is purposeful.

Barnard (1994, pp. 139-140) identified nine individual phenomena that the literature repeatedly has shown to correlate with resiliency:

- ❖ "Being perceived as more cuddly and affectionate in infancy and beyond.

- ❖ "Having no sibling born within 20-24 months of one's own birth.

- ❖ "A higher level of intelligence.

- ❖ "Capacity and skills for developing intimate relationships.

- ❖ "Achievement orientation in and outside of school.

- ❖ "The capacity to construct productive meanings for events in their world that enhances their understanding of these events.

- ❖ "Being able to selectively disengage from the home and engage with those outside, and then to reengage.

- ❖ "Being internally oriented and having an internal locus of control.

- ❖ "The absence of serious illness during adolescence."

The capacity of an individual to cope during difficulty is central to their resilience. Pearlin and Schooler (1982, p. 109) define coping as "the thing that people do to avoid being harmed by lifestrain." These authors conducted 2300 interviews in the urbanized Chicago area and through content analysis of these interviews identified three main types of coping that serve distinct functions, viz:

- ❖ "**Responses that change the situation out of which strainful experience arises**" (Pearlin & Schooler, 1982, p. 115). Interestingly, their research found that this type of coping was not widely used. Several reasons are offered to explain this.

People must first recognize the situation which is causing the stress; something which is not always possible. People may not know how to change the situation directly. Acting on a situation to change it may result in even further stressors, which in turn inhibits further action. Some situations are not amenable to change efforts.

❖ It is interesting to note that much of resilience theory and research has revolved around situations which are impervious to change efforts, such as being in a concentration camp, having a terminal illness, being in a war, growing up in poverty, etc. In such circumstances, little can be done to directly change the situation causing the stress. Rather, other forms of coping are required.

❖ "**Responses that control the meaning of the strainful experience after it occurs but before the emergence of stress**" (Pearlin & Schooler, 1982, p. 115). Pearlin and Schooler found this to be the most common coping type. This coping can entail making positive comparisons which reduce the perceived severity of the stressful situation, selectively ignoring parts of the situation so as to concentrate on some less stressful aspect of the situation, and reducing the relative importance of the stress situation in relation to one's overall life situation.

❖ "**Responses that function more for the control of the stress itself after it has emerged**" (Pearlin & Schooler, 1982, p. 115). This coping type does not attack the situation itself, either directly or through meaning or perception. Rather, the focus of the coping is on the resultant stress itself and entails basic stress management responses. "Out of the beliefs and values in the culture people are able to create a strategy for manageable suffering, a strategy that can convert the endurance of unavoidable hardships into a moral virtue" (ibid., p. 117).

An intervention was conducted in an occupational setting to enhance the coping of employed mothers (Kline & Snow, 1994). The group-based intervention was based on Pearlin and Schooler's "model of coping and adaptive behavior: attacking the problem, rethinking the problem, and managing the stress" (ibid., p. 109). In comparison with a control group, "at 6-month follow-up, intervention participants reported significantly lower work-family and work environment stress, higher social support from work sources, less avoidance coping, and lower psychological symptomatology" (ibid., p. 105).

This intervention demonstrates the practical and clinical value of resilience theories. By promoting positive, constructive coping skills, the investigators were able to make significant changes to the problems experienced by the participants, even though these

problems were not specifically addressed. Furthermore, the intervention operationalises the theory of coping developed by Pearlin and Schooler (1982), creating the links between theory, practice and research.

The individual approach to resilience has tended to emphasise resilience as an internal phenomenon, an emphasis that is only challenged later, and with difficulty, by family resilience researchers. Walsh (1996, pp. 262-263), for example, states, "Resilience is commonly thought of as inborn, as if resilient persons grew themselves up: either they had the 'right stuff' all along – a biological hardiness – or they acquired it by their own initiative and good fortune." Similarly, Goldstein (1997, p. 32) states, "Jordan gives greatest weight to resilience as a state of mind. This means that basic principles of helping begin with a primary focus on – or better, a commitment to – how clients perceive their world." This perspective will be apparent throughout this section on individual resilience. Indeed, a great contribution of resilience theory has been to help us understand how an individual's perspective on life difficulties fundamentally affects the individual's experience of and response to the difficulty.

Individual resilience theory began with studies of children who rose above adverse childhood conditions. This research highlighted factors and models to explain how children develop resilience. Antonovsky's salutogenic theory addressed the question of health in adults. Various other models have been advanced over the years to explain how people stay healthy and happy, even in difficult times. These themes will be addressed in the following sections.

2.2 RESILIENCE IN CHILDREN

Longitudinal studies on children who were born into adverse conditions have formed the foundation of much of our current understanding of resiliency in adults and families. These studies tracked children who, according to various indicators, were considered to be children at risk. Over a number of decades, researchers have become increasingly able to identify those features that are associated with the children who rose above their circumstances.

Werner and Smith's (1992) study in Kauai, Hawaii, which began in 1955, is probably the most well known study of this nature. By age 18, one third of the participants, who were assessed at birth to be 'at risk,' had developed into "competent and confident young adults" (Saleebey, 1996, p. 299). By age 32, two thirds of the remaining

participants "had turned into caring and efficacious adults" (ibid., p. 300). This research demonstrates firstly that certain factors protect vulnerable children from dysfunction, and secondly that a vulnerable person's life course can change at any time and is not completely determined in early childhood (ibid.).

Cederblad and her colleagues (Cederblad, Dahlin, Hagnell, & Hansson, 1994) conducted a similar study in Sweden, starting in 1947. Children who were exposed to three or more factors that are associated with later mental illness were included in the study (Dahlin, Cederblad, Antonovsky, & Hagnell, 1990, p. 229). A follow-up of these participants in 1988, when they were in their 40's and 50's indicated that "almost half the sample succeeded in creating a reasonably successful and at least moderately healthy life despite the severe handicaps in their childhoods! … It can be argued that at least half the sample has manifested considerable resilience" (Dahlin et al., 1990, p. 231).

Research such as this has challenged three intransigent ideas that have been and probably still are prevalent in social work and psychology:

❖ "There are fixed, inevitable, critical, and universal stages of development;

❖ "Childhood trauma inevitably leads to adult psychopathology…; and

❖ "There are social conditions, interpersonal relationships, and institutional arrangements that are so toxic they inevitably lead to decrements or problems in the everyday functioning of children and adults, families, and communities" (Saleebey, 1996, p. 299).

Beliefs such as these, which are indicative of pathogenic thinking, are shattered by the discovery that the majority (around 50%) of children who should not develop into well-adjusted adults do in fact just that. While it is true that childhood adversity does increase the likelihood of psychopathology in later life (Cederblad, Dahlin, Hagnell, & Hansson, 1995, p. 322), this adversity is also moderated by a set of identifiable protective factors, such as "a high sense of coherence, high mastery, [and] an inner locus of control" (ibid.).

Children who are able to overcome these odds are called resilient. "Resiliency in children is the capacity of those of who are exposed to identifiable risk factors to overcome those risks and avoid negative outcomes such as delinquency and behavioral problems, psychological maladjustment, academic difficulties, and physical complications" (Rak & Patterson, 1996, p. 368).

Research has shown that the following factors are present in resilient children (Benard & Marshall, 1997; Bogenschneider, 1996; Butler, 1997; Cederblad et al., 1994; Hawley & De Haan, 1996; Parker, Cowen, Work, & Wyman, 1990; Rutter, 1979; Werner, 1984, 1990):

❖ They had an outgoing, socially open, cooperative, engaging, likeable personality. They were able, from infancy on, to gain other people's positive attention. Their behaviour was open, kind and calm.

❖ The children had good early bonding with their mothers or some other caregiver (eg a grandmother, older sister or another relative).

❖ They had a variety of alternative caregivers who played important roles as positive identification models.

❖ Their mothers had steady employment outside the home.

❖ They were required to participate in household chores and activities, ie 'required helpfulness'.

❖ There were clearly defined boundaries between subsystems within the family.

❖ They weren't colicky.

❖ They were active, cuddly and good-natured.

❖ They had at least average intelligence.

❖ They were more likely to be girls.

❖ They experienced no separations from their primary caregiver during the first year of life.

❖ They were more likely to be the oldest child.

❖ They did not have another sibling born before they turned two.

❖ They attended good schools that set appropriately high standards, that provided teacher feedback to students, that praised students for good work, that gave students positions of trust and responsibility, that provided extramural activities, and where teachers were good behaviour models.

❖ They had a high self-esteem.

❖ They had strict parental supervision.

❖ They had good positive coping skills. They had an active, evocative approach towards solving life's problems, enabling them to negotiate successfully emotionally hazardous experiences. They had flexible coping skills that could respond to the changing environment and their own changing development.

❖ They perceived themselves to be competent.

❖ They tended to perceive their experiences constructively, even if the experiences caused pain or suffering.

❖ They had better interpersonal skills.

❖ They had an internal locus of control.

❖ They had good impulse control.

❖ They had high energy and were active.

❖ They enjoyed school.

❖ They had a strong ability to use faith to maintain a positive view of a meaningful life. Their faith provided them with a sense of rootedness and coherence, a conviction that their lives had meaning and a belief that things would work out in the end despite unfavourable odds.

❖ They were autonomous and independent.

❖ They had special interests and hobbies.

❖ They were able to ask for support when they needed it.

Clearly, children are not defenceless against stressful life conditions. There are many factors which can assist to 'buffer' (Rutter, 1985) children against stress, and which assist them in growing up to be well-adjusted and happy adults, who work well, play well, love well and expect well (Werner in Dahlin et al., 1990, p. 228). These resilience studies stand in contrast to "the overwhelming bulk of developmental research [which] has been devoted to exploring the pathogenic hypothesis, ie that risk factors in the

perinatal period, infancy and early childhood are predictive of disturbances in later childhood and adulthood" (ibid.).

The theory that has most strongly drawn together studies such as those described so far is the theory of salutogenesis, developed by Antonovsky.

2.3 SALUTOGENESIS

Aaron Antonovsky, a medical sociologist, coined the term 'salutogenesis' in 1978 (Antonovsky, 1998a, p. 5).   Salutogenesis "emphasizes the origins of health, or wellness, [and comes from the Latin]: *salus* = health, Greek: *genesis* = origins" (Strümpfer, 1990, p. 263).   Literally translated salutogenesis means the '*origins of health'*. Salutogenesis offers a paradigm for thinking about resilience, illness and health, that stands in contrast to the dominant pathogenic paradigm.

2.3.1   PATHOGENESIS

Pathogenesis, the '*origins of disease'*, has been and largely continues to be the dominant model of health and medicine. According to the pathogenic paradigm, "people remain healthy unless some special bug or combination of bugs 'is caught'" (Antonovsky, 1998a, p. 5). Pathogenic research and practice is aimed at determining why people become sick and why certain people develop particular diseases (Strümpfer, 1990).   Pathogenesis assumes that people normally function in a state of homeostasis and order (Antonovsky, 1984), "which may vary somewhat but is maintained by various complexly interacting regulatory mechanisms" (Strümpfer, 1990, p. 264).   When these mechanisms are inadequate to resist the attacks of "microbiological, physical, chemical, and/or psychosocial stressors, vectors or agents", disease results (Antonovsky, 1984, p. 114). Consequently, these 'bugs', be they germs, chemicals or psychosocial stressors, must be 'bad' and should be eradicated or avoided.

The central pathogenic question is, "How do stressors eventuate in undesirable illness outcomes?" (Antonovsky & Bernstein, 1986, p. 53).   In pathogenic research, the outcome variable is always illness of some kind. "Mediating or coping variables" may be introduced as illness "buffers", increasing the validity of the study, but the outcome variable is always illness (ibid.).

The pathogenic paradigm has had six primary consequences for research and clinical practice (Antonovsky, 1984):

❖ **Health versus Disease.** "We have come to think dichotomously about people, classifying them as either healthy or diseased" (Antonovsky, 1984, p. 115). The majority of people are assumed to be in the healthy category, and a minority of people, the "deviants" or "abnormals", are in the diseased category (Antonovsky, 1979, p. 48).

❖ **Specific Focus on Pathogen.** "Thinking pathogenically, we have almost inevitably taken as our focus of concern a specific pathologic entity: heart disease, or cancer, or schizophrenia" (Antonovsky, 1984, p. 115). The researcher or practitioner focuses exclusively on that disease and only that disease (Antonovsky & Bernstein, 1986). Only phenomena that are thought to contribute directly to that disease are considered. Other phenomena, which may be common to various diseases, either as causes or solutions, tend to be ignored due to the high level of specialisation of the practitioner (Antonovsky, 1984).

❖ **Disease Causation.** "The pathogenic paradigm has constrained us to search for the cause or, if enlightened by the concept of multifactorial causation, the causes of disease X" (Antonovsky, 1984, p. 115). Since the pathogenic paradigm assumes that people function in a state of homeostasis, it comes as a surprise to find pathogens and all energy is devoted to the study of these pathogens. Practitioners who think pathogenically are unaware that stress and pathogens are ubiquitous. Consequently, they focus on how these stressors function, rather than on how people cope with them. Stated differently, "When one's focus is on an *undesirable dependent variable*, one's thinking tends to be oriented to studying *undesirable independent variables*" (Antonovsky & Bernstein, 1986, p. 64).

❖ **Stressors are Bad.** "Stressors, by definition, are viewed as pathogenic" (Antonovsky & Bernstein, 1986, p. 64). The goal of pathogenically oriented practice is to eradicate all stressors, since stress is believed to inevitably lead to disease. "Our goal has become the creation of a sterile environment," free of all stressors and pathogens (Antonovsky, 1984, p. 115).

❖ **Illusion of Health.** "The pathogenic paradigm underlies the ambience that Dubos (1960) has so cogently warned against, 'the mirage of health'" (Antonovsky, 1984, p. 115). Wars are waged against various diseases, with the assurances that the diseases can and have been conquered. This results in a false belief that disease and

its biological causes can be eradicated. The behavioural components involved in disease prevention and health promotion are of little consideration and receive minimal funding. Nevertheless, despite enormous efforts to eradicate disease, unhealth remains.

❖ **Group Statistics.** "Pathogenesis has given overwhelming priority to the case or, in considering prevention, to the high-risk group. It tends to ignore what methodologists call deviant cases" (Antonovsky, 1984, p. 116). Researchers' emphasis on group statistics results in satisfaction once "we have established that we can account for so and so much of the variance", even though only a portion of the variance is actually explained (Antonovsky & Bernstein, 1986, p. 65). Group statistics prevent an examination of the "successful coper" or "deviant case" who, despite the prediction of disease, resists disease. "Children of schizophrenic parents who do not become schizophrenic do not interest us, because we are tuned in to the specific disease. They may all have been killed in traffic accidents, but that is not our turf. Because we do not study the deviants, however, we generate neither hypotheses nor methodologies to help us understand the full gamut of human health" (Antonovsky, 1984, p. 116).

2.3.2   THE SALUTOGENIC QUESTION

"Salutogenesis makes a fundamentally different philosophical assertion about the world than does pathogenesis" (Antonovsky, 1998a, p. 5). Salutogenesis asks a question that is unheard of in pathogenic circles. In a 1971 study on concentration camp survivors, Antonovsky and his colleagues (cited in Antonovsky & Bernstein, 1986) write:

> Our data are very consistent in showing that middle-aged Israeli women of central European origin who were concentration camp survivors are, as a group, more poorly adapted … than are the women in a control group. … What is, however, of greater fascination and of human and scientific import … is the fact that a not-inconsiderable number of concentration camp survivors were found to be well-adapted. … *What, we must ask, has given these women the strength, despite their experience, to maintain what would seem to be the capacity not only to function well, but even to be happy* [italics added]. (p. 52)

Where the pathogenic paradigm asks, "Why do people get ill?" the salutogenic paradigm asks, "Why, when people are exposed to the same stress which causes some to become ill, do some remain healthy?" (see Antonovsky, 1979, p. 56; Antonovsky, 1984, p. 117; Strümpfer, 1990, p. 267)

The salutogenic paradigm has six primary consequences for research and clinical practice (Antonovsky, 1984):

❖ **Health as a Continuum.** "Salutogenesis open the way for a continuum conceptualization of what I have called health ease-dis-ease" (Antonovsky, 1984, p. 116). Rather than categorising people as either healthy or diseased, salutogenesis posits that people fall on a continuum somewhere between these two poles, which can be termed ease and dis-ease. Although people towards the dis-ease end of the continuum will require more intensive biopsychosocial intervention, the salutogenic questions asks, "Why does this person – wherever he or she is located on the continuum – move toward the healthy pole?" (Antonovsky, 1984)

❖ **Broad Focus on Health.** We no longer focus exclusively on one or other specific disease entity. Rather, the salutogenic paradigm requires researchers and practitioners to focus broadly on a variety of general factors that promote movement towards health, irrespective of the specific dis-ease being experienced by an individual (Antonovsky, 1984).

❖ **Health Causation.** In contrast with the emphasis on how specific diseases are caused, salutogenesis focuses on the causes or origins of wellness (Antonovsky, 1984):

> Assuming that stressors are ubiquitous, we turn our attention away from the potential pathogen and from the specific answer to a given pathogen and become concerned, in research and in practice, with the resources that are valuable in coping with a wide range of pathogens and stressors. (p. 116)

❖ "Only by focusing on health can we make advances in developing a broad-range theory of successful coping that derives from familiarity with a wide range of studies on different diseases and health outcomes" (Antonovsky & Bernstein, 1986, p. 64).

❖ **Stressors can be Good.** Stress, while undeniably having some negative consequences, can also have salutary consequences: "A stressor may be a challenge, giving rise to successful coping precisely because it makes unanticipated demands" (Antonovsky & Bernstein, 1986, p. 64). Stress is part of our human existence and must be dealt accordingly (Antonovsky, 1984):

> We avoid hysteria about stressors and the gimmicks and instant cures that often accompany such hysteria. The question becomes not "How can we eradicate this or that stressor?" but "How can we learn to live, and live well, with stressors, and possibly even turn their existence to our advantage?" (p. 116)

- ❖ **Struggle for Adaptation.** "Recognition of the limited utility of wars against diseases X, Y, and Z, of the search for utopia, leads us to focus on the overall problem of adaptation, of the perpetual struggle for sources of adaptation" (Antonovsky, 1984, p. 117). This raises the study of health and the clinical practice of development and growth to the same status as the study of disease and the practice of disease prevention. The combination of these two forces will assist in the movement towards the health end of the ease-dis-ease continuum.

- ❖ **Deviant Cases.** "The salutogenic paradigm continually focuses on the deviants, on those who make it against the high odds that human existence poses. It posits that we all, by virtue of being human, are in a high-risk group" (Antonovsky, 1984, p. 117). By studying these few deviant cases (although in some instances they may be in the majority), which pathogenic research overlooks, we all learn how to become more resilient.

Antonovsky and Bernstein (1986) are, however, quick to point out that the salutogenic paradigm is not intended to replace the pathogenic one:

> A friend once remarked, "When I have cancer, I want to be treated for cancer, not for the sense of coherence." Our thesis is that she should *also* be treated for the sense of coherence – or whatever salutogenic variable turns out to be a powerful predictor of health. Nor is it enough to ask, "Who doesn't get disease X?" For, as we have noted, one may get disease Y, which may be as serious as disease X. The salutogenic alternative is intended to add the study of health to the study of diseases. (p. 64)

Antonovsky's work focused specifically on the issue of *physical* health (Antonovsky, 1979):

> My point is that by defining health as coextensive with the many other dimensions of well-being, one makes the concept of health meaningless an impossible to study. It is, of course, folly to deny the interaction between health well-being and other dimensions. … But the nature of this relationship is one that must be subjected to theoretical clarification and empirical investigation. Health well-being must be measured separately. (p. 68)

Yet despite such assertions, in the same book he adopts Dubos' definition of health (Antonovsky, 1979, p. 53), "A modus vivendi enabling imperfect men to achieve a rewarding and not too painful existence while they cope with an imperfect world."

Strümpfer (1995, p. 81) notes "that Antonovsky struggled with a much more encompassing problem [than merely physical health], namely that of the sources of strength in general." In response to this, Strümpfer proposes the term 'fortigenesis' (ibid.):

The term "fortigenesis", from Latin: *fortis* (= strong), seems to be more descriptive of the paradigm than the term 'salutogenesis'. The English words, *fortify* (= to impart physical strength, vigour or endurance, or to strengthen mentally or morally), *fort* (= a fortified place), and *fortitude* (= strength and courage in adversity or pain), all have the same root. Introducing the construct is not to deny the need to search for the origins of health; it is merely to say that, in the process of doing so, Antonovsky could not help but point to the closely related origins of the strength needed to be effective at other end-points of human functioning too. This total endeavour should be acknowledged: "fortigenesis" is more embracing, more holistic, than "salutogenesis". (p. 82)

Owing to the long history of the term 'salutogenesis' and in light of the broad way in which the term has been used by psychologists, medical practitioners, nurses, educationalists and social workers, I have opted to retain the term 'salutogenesis'. Despite both Antonovsky's reservations and Strümpfer's astute observations, 'salutogenesis' has come to mean the 'origins of health', where health is broadly defined as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (World Health Organization, cited in Antonovsky, 1979, p. 52).

2.3.3   THE SALUTOGENIC MODEL OF HEALTH

Antonovsky's studies concerning the origins of health led him to propose the Salutogenic Model of Health (Figure 2.1). This model illustrates how various components work together leading to a prediction of an individual's position along the ease-dis-ease continuum. The following discussion, which clarifies the important components of the model, is summarised from Chapter 7 of Antonovsky's Health, Stress, and Coping (1979, pp. 182-197).

❖ **Sense of Coherence.** Antonovsky's notion of 'Sense of Coherence' is the central tenet of his salutogenic paradigm and will be discussed in greater depth in the following section. He says (Antonovsky, 1979):

> I start the discussion from the sense of coherence. This is, after all, the core of my answer to the problem of salutogenesis. The sense of coherence is measurable; each of us is located at some point on the sense-of-coherence continuum, which can be seen as an ordinal scale. (p. 183)

❖ **Life Experiences.** Arrow A in Figure 2.1 indicates the importance of life experiences in the development of a sense of coherence. "The more these experiences are characterized by consistency, participation in shaping outcome, and an underload-
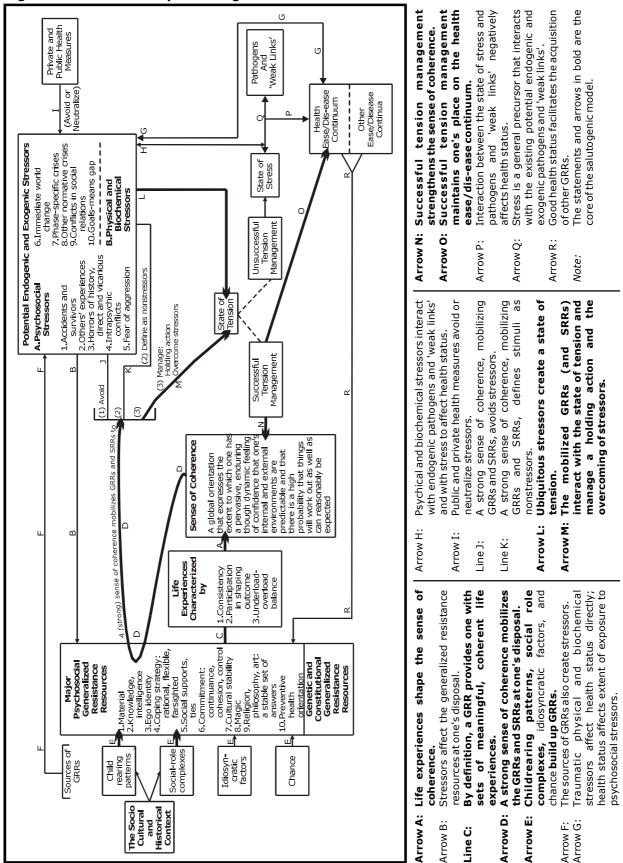
Figure 2.1 Antonovsky's Salutogenic Model of Health

(Antonovsky, 1979, pp. 184-185)

Arrow A: **Life experiences shape the sense of coherence.**

Arrow B: Stressors affect the generalized resistance resources at one's disposal.

Line C: **By definition, a GRR provides one with sets of meaningful, coherent life experiences.**

Arrow D: **A strong sense of coherence mobilizes the GRRs and SRRs at one's disposal.**

Arrow E: **Childrearing patterns, social role complexes,** idiosyncratic factors, and chance **build up GRRs.**

Arrow F: The sources of GRRs also create stressors.

Arrow G: Traumatic physical and biochemical stressors affect health status directly; health status affects extent of exposure to psychosocial stressors.

Arrow H: Psychical and biochemical stressors interact with endogenic pathogens and 'weak links' and with stress to affect health status.

Arrow I: Public and private health measures avoid or neutralize stressors.

Line J: A strong sense of coherence, mobilizing GRRs and SRRs, avoids stressors.

Line K: A strong sense of coherence, mobilizing GRRs and SRRs, defines stimuli as nonstressors.

Arrow L: **Ubiquitous stressors create a state of tension.**

Arrow M: **The mobilized GRRs (and SRRs) interact with the state of tension and manage a holding action and the overcoming of stressors.**

Arrow N: **Successful tension management strengthens the sense of coherence.**

Arrow O: **Successful tension management maintains one's place on the health ease/dis-ease continuum.**

Arrow P: Interaction between the state of stress and pathogens and 'weak links' negatively affects health status.

Arrow Q: Stress is a general precursor that interacts with the existing potential endogenic and exogenic pathogens and 'weak links'.

Arrow R: Good health status facilitates the acquisition of other GRRs.

Note: The statements and arrows in bold are the core of the salutogenic model.

overload balance of stimuli, the more we begin to see the world as being coherent and predictable" (Antonovsky, 1979, p. 187). The foundations of the sense of coherence are laid in childhood, during one's formative life experience, but can change throughout life in response to significant cataclysmic life events or through personal development and growth.

❖ **Generalised Resistance Resources.** Generalised Resistance Resources (GRRs) are the factors give life experiences the qualities of "consistency, participation in shaping outcome and neither underload nor overload" (Antonovsky, 1979, p. 189). GRRs, by definition, provide a person with life experiences that are meaningful and coherent. The relationship between life experiences and GRRs is not causal, hence Line C in Figure 2.1 is a line and not an arrow. GRRs are the ingredients that mix together with life experiences to influence one's sense of coherence.

❖ **Sources of GRRs.** As indicated by Arrow E, GRRs are rooted in still earlier experiences that are located within a sociocultural and historical context. One's position in society affords one certain opportunities and conditions – some better, some worse. These conditions affect the repertoire of and the type of GRRs that can develop. In particular, they influence child rearing patterns and social-role complexes. There are other factors, however, which are not subject to context: idiosyncratic factors such as an individual's personality, appearance, intelligence, etc as well as chance factors influence the development of GRRs. While people who are poor or isolated from participating in society have fewer opportunities to develop GRRs, they are not completely without opportunity.

❖ **Stressors.** Although the sense of coherence occupies the central position of the Salutogenic Model, stressors occupy the most 'busy' position. Arrow F indicates that the sources of GRRs (as discussed in the previous paragraph) influence the kinds of stressors present in an individual's experience. Arrow B indicates that stressors can profoundly influence one's GRRs by introducing unexpected experiences that promote or shake one's GRRs. Arrow G indicates that traumatic physical or biochemical stressors (such as poison, a bullet or a car) affect one's position on the health continuum directly. Arrow H indicates that prolonged exposure to physical and biochemical stressors can indirectly affect one's health through interaction with potential pathogens and one's state of stress. Arrow L indicates that the stressors place one in a state of tension.

❖ **Management of Tension.**   Arrow I indicates that advances in preventive and remedial medicine have increased society's capacity to reduce, restrict or remove some of the stressors. Of course, "the bugs … are smarter" (Antonovsky, 1979, p. 193) making such measures inadequate to ensure health. Arrow D indicates how sense of coherence enables the management of tension that arises from the stressors by mobilising the GRRs and also other Specific Resistance Resources (SRRs). The mobilised GRRs can then be used in three main ways. Firstly, as can be seen by Line J, one can avoid the stressors completely. Secondly, Line K indicates that certain stressors can be redefined "as innocuous or even as welcome" (ibid.). Thirdly, as Arrow M indicates, the GRRs enable one to manage one's state of tension by holding the stress or by overcoming the stressor (see the previous discussion on Pearlin and Schooler's (1982) three types of coping which are relevant here). Successful efforts to manage the state of tension contribute to one's sense of coherence (Arrow N), by enabling one to "learn that existence is neither shattering nor meaningless" (Antonovsky, 1979, p. 194).

❖ **Stress.**   The successful management of stress contributes to one's sense of coherence (Arrow N) and also maintains one's position along the health continuum (Arrow O).   Unsuccessful management of tension contributes to a state of stress, which, together with the indirect work of stressors and the activation of potential pathogens, leads to illness (Arrow P).   Arrow Q indicates that the pathogens that 'cause' illness do so only in interaction with a state of stress. This suggests that, "other than the massive traumata that leave none unscathed (Arrow G), all diseases are usefully understood as psychosomatic. In other words, almost all breakdown involves stress. Stress, however, does not determine the particular expression of the breakdown" (Antonovsky, 1979, p. 196).

❖ **Health.** One's position on the health or ease/dis-ease continuum is the final stage of the Salutogenic Model. One's health status acts on one's life experiences in three main ways. Firstly, Arrow G indicates that one's health status influences the kinds of stressors one is exposed to. Secondly, Arrow R indicates that "good health is in itself a significant generalized resistance resource by the definition of a GRR as a factor that fosters meaningful and sensible life experiences" (Antonovsky, 1979, p. 197). Thirdly, being healthy "can facilitate the acquisition of other GRRs" (ibid.).

In short, childrearing patterns and social-role complexes build up generalised resistance resources (Arrow E), which provide one with sets of meaningful, coherent life experiences (Line C) which shape an individual's sense of coherence (Arrow A). When

one is exposed to life stress, one enters a state of tension (Arrow L). A strong sense of coherence mobilises one's available GRRs (Arrow D), which interact with the state of tension to hold the stress and overcome the stressor (Arrow M).   Successful management of the tension boosts one's sense of coherence (Arrow N) and maintains one's position towards the health end of the ease/dis-ease continuum (Arrow O).

2.4 SENSE OF COHERENCE

2.4.1   INTRODUCTION TO SOC

As the previous section will have made clear, 'Sense of Coherence' (SOC) is the central contribution of Antonovsky's salutogenic theorising. Antonovsky's research investigated the source of resilience and found the GRRs. Further research indicated that GRRs were mobilised by another construct, namely SOC (Antonovsky, 1998b). Ongoing research provided ample evidence to support the notion that people's SOC contributed substantially to their resilience and health.

Before unpacking what SOC is, it is important to clarify what it is not. It is not a specific coping style or method or resource. It is rather a general approach to life that enables the mobilisation of specific coping resources (Antonovsky, 1998a):

> Much as salutogenesis is a very broad construct, seeking to understand health rather than any given diagnostic category of disease, so the SOC is, in two senses, broader than the coping resources that have been studied. First, it is most emphatically not a coping style or a substantive resource. The crucial idea is that, since people confront such a wide variety of bugs, no specific style or resource is ever appropriate all the time.   The person with a strong SOC, believing that she or he understands the problem and sees it as a challenge, will select what is believed to be the most appropriate tool for the task at hand. Second, the SOC distills the core of specific coping or resistance resources (money, social support, mastery, a confidant, a belief in God, and so on), and expresses what they have in common: they enhance one's sense of comprehensibility, manageability, and meaningfulness. In this way, the SOC offers an *explanation* of how these resources may contribute to health. (p. 8)

SOC was originally defined as follows (Antonovsky, 1979):

> The *sense of coherence* is a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that one's internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected. (p. 123)

Ongoing research led Antonovsky to identify three main components of SOC, viz: comprehensibility, manageability and meaningfulness. This resulted in a reformulation of the original definition (1987, cited in Antonovsky, 1998b):

> A global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable, and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement (Antonovsky, 1987, p. 19). (p. 22)

These three components can be discussed in more detail:

❖ **Comprehensibility.** The comprehensibility component of SOC is what was most strongly emphasised by the original 1979 definition of SOC, viz "the extent to which individuals perceive the stimuli that confront them as making cognitive sense, as information that is ordered, consistent, structured, and clear – and, hence, regarding the future, as predictable – rather than as noisy, chaotic, disordered, random, accidental, and unpredictable" (Antonovsky, 1984, p. 118). Comprehensibility is primarily a cognitive dimension, referring to how the individual thinks about or makes sense of a set of internal or external stimuli or situations. It implies that life, which is currently comprehensible, is expected to comprehensible in the future. It also implies that, although one may undergo great difficulties, challenges and complex situations, there is a fundamental conviction that these situations will make sense.

❖ **Manageability.** Manageability is "the extent of the belief that not only did one understand the problem, but that the requisite resources to cope with the problem successfully were at one's disposal" (Antonovsky, 1998a, p. 7). It may appear that manageability refers to the sense that life is 'under my control' and that it is thus equivalent to Rotter's Locus of Control (to be discussed further in a later section). However, Antonovsky (1984) argues that Locus of Control and Manageability are quite different constructs:

> "At one's disposal" may refer to resources under one's own control – the … Rotter understanding – but it may also refer to resources controlled by legitimate others – friends, colleagues, God, history – upon whom one can count. No implication exists that untoward things do not happen in life. They do; but when people are high on manageability, they have the sense that, aided by their own resources or by those of legitimate others, they will be able to cope and not grieve endlessly. Moreover, there will be no sense of being victimized by events or of being treated unfairly by life. (p. 119)

❖ The concept of 'legitimate others' introduces the notion that being tied into a meaningful social network promotes one's resilience, a subject that will be addressed in greater depth later. Strümpfer (1990, p. 269) notes "that the mere perception that help is available may operate [to enhance resilience], without any actual support being provided."

❖ **Meaningfulness.** Meaningfulness is the emotional face of comprehensibility (Antonovsky, 1984). While comprehensibility means that life makes cognitive sense, meaningfulness means that life is emotionally worthwhile and sensible. In this way, meaningfulness accounts for an individual's motivation to engage in a difficult life situation (Antonovsky, 1998a). To say that life is meaningful is to say that one cares (Antonovsky, 1984). When a difficult situation is perceived as meaningful, one chooses to invest emotional energy in dealing with it, one sees the difficulty as a challenge in which it is worth investing energy and commitment, rather than as a burden (ibid.).

An individual who had a weak Sense of Coherence would thus (Strümpfer, 1990):

Perceive internal and external stimuli as noise, not information, as inexplicable disorder and chaos, and as unpredictable in future; (s)he would experience the events of life as unfortunate things that happen to her/him and victimize her/him unfairly; and (s)he would feel that nothing in life mattered much, or worse, are unwelcome demands and wearisome burdens. (p. 269)

By contrast, the person with a strong SOC (Cederblad et al., 1994):

Confronting stressors, is capable of clarifying and structuring the nature of the stressor, believes that the appropriate resources are available and can be mobilized to deal successfully with the challenge, and is motivated to deal with it. Such an orientation to life … allows the selection of appropriate coping strategies and provides a solid base for maintenance and strengthening of health and well being. (pp. 2-3)

2.4.2   DETAILS CONCERNING SOC

In his various writings, Antonovsky unpacks a number of important details concerning Sense of Coherence:

2.4.2.1   SOC is a Paradigm

SOC is a personal paradigm. Inasmuch as salutogenesis is a paradigm, a "set of fundamental beliefs inaccessible to empirical validation" (Strümpfer, 1990, p. 263), SOC is a personal paradigm that indicates an individual's global outlook on life (Antonovsky, 1979):

> The sense of coherence explicitly and unequivocally is a generalized, long-lasting way of seeing the world and one's life in it. It is perceptual, with both cognitive and affective components. Its referent is not this or that area of life, this or that problem or situation, this or that time, or, in our terms, this or that stressor. It is, I suggest, a crucial element in the basic personality structure of an individual and in the ambiance of a subculture, culture, or historical period. (p. 124)

2.4.2.2   SOC is Dynamic

Antonovsky assumes that SOC is established by about age 30 and thereafter remains stable (Antonovsky, 1984, p. 118). A person who enters adulthood with a strong SOC will tend to generate life experiences that reinforce, even promote, their SOC. Even catastrophic life events will, most likely, be survived with SOC remaining intact. On the other hand, a person whose life experiences during the first 30 years are marked by chaos will enter adulthood with a weak SOC. It is unlikely that even regular SOC enhancing life experiences will fundamentally alter their SOC. "By and large … the person with a weak SOC in adulthood will manifest a cyclical pattern of deteriorating health and a weakening SOC" (Antonovsky, 1998a, p. 15). Antonovsky is arguing that people with high SOC get more SOC, while people with low SOC get less.

However, Antonovsky points out that his position is theoretical not empirical, and that he has no evidence to substantiate his argument (Antonovsky, 1998a). He also argues that SOC is dynamic and can change during an individual's life course. "I certainly am not committed to understanding the sense of coherence as being determined forever and anon by genes or early childhood experience. It is shaped and tested, reinforced and modified not only in childhood but throughout one's life" (Antonovsky, 1979, p. 125). He suggests that "change, even significant change, can occur if people can be enabled to alter their lives significantly, encouraging SOC-enhancing experiences to occur with greater frequency over a sustained period" (Flick & Homan, 1998, p. 109).

Antonovsky's somewhat contradictory statements regarding the stability and dynamism of SOC are not well resolved. There is little research pointing to ways to enhance SOC.

There is also little research indicating the degree to which a weak SOC can be bolstered and substantially improved. In 1998, Antonovsky stated that the "developmental dynamics of the sense of coherence" was one of three important areas for ongoing research, indicating this to be an unresolved issue.

2.4.2.3   Boundaries

SOC is the view that a person has about the world around him/her. It does not follow, however, that the person must view the entire world as comprehensible, manageable and meaningful. Antonovsky's research found that people draw boundaries within the objective world – provided those things which fall within the boundaries are considered coherent the person will have a strong SOC, irrespective of the coherence of things outside the boundaries. "Quite conceivably, people might feel that they have little interest in national government or international politics, little competence in manual (or cognitive or aesthetic) skills, little concern for local volunteer groups or trade union activity, and so on, and yet have a strong SOC" (Antonovsky, 1984, p. 119).

This is similar to Covey's notion of circles of concern and influence (Covey, Merrill, & Merrill, 1994, p. 150). The 'circle of concern' refers to everything about which one is concerned. Things outside of the circle of concern are of no importance to that individual. Within the circle of concern is a smaller circle, the 'circle of influence', which refers to those things which concern that individual *and* over which that individual has some influence. Covey's point is that being concerned about something does not give one influence over it. By focusing on the area between the two circles (ie those things which concern one but over which one has no influence) one creates SOC reducing experiences, since the situation is not manageable. In this regard, Antonovsky (1984, p. 119) asks, "First, is there at least some part of my life that does matter very much, which I care about [ie the circle of concern]? Second, within these boundaries, are stimuli meaningful, comprehensible, and manageable [ie the circle of influence]?" By focusing on issues within the circle of influence, one is assured of life experiences that are coherent, and in so doing, one can (theoretically) expand the circle of influence.

Of course, a person may have a very small circle of concern and an even smaller circle of influence, yielding a life that is very limited in scope although potentially high in SOC. Not everything can be left out of the circle of influence, however (Strümpfer, 1990):

Antonovsky (1987) maintained that there are four spheres that cannot be excluded if the person is to maintain a strong SOC, namely, his/her own feelings, immediate interpersonal relations, the major sphere of activity (work, really) and the existential issues of death, inevitable failures, shortcomings, conflict and isolation. (p. 269)

2.4.2.4   SOC and Values

It is tempting to think that people with high SOC will be principled people with humanitarian values. This, however, is not so. "A person with a strong SOC might well be a terrible person in terms of my (or your) values; … a Nazi or … a highly manipulative, unscrupulous academic, or a member of an extreme religious sect" (Antonovsky, 1984, p. 120). In this way, SOC is value neutral and is simply a world-view that tends to promote an individual's health in the face of life stressors.

2.4.2.5   SOC and Work

Given that the workplace is where most people spend a large percentage of their waking hours, the relationship between SOC and work is an area of interest. Strümpfer (1990) has studied this area extensively and says that having high SOC will result in the person:

Making cognitive sense of the workplace, perceiving its stimulation as clear, ordered, structured, consistent and predictable information;

Perceiving his/her work as consisting of experiences that are bearable, with which (s)he can cope, and as challenges that (s)he can meet by availing him-/herself of personal resources or resources under the control of legitimate others;

And making emotional and motivational sense of work demands, as welcome challenges, worthy of engaging in and investing his/her energies in. (p. 270)

Antonovsky notes that work need not be intrinsically satisfying to be a SOC reinforcing experience. "People may find little joy in their work, but if they feel that the work has a meaning because it is how they support their family and keep it functioning smoothly and happily, they can still have a strong SOC" (Antonovsky, 1984, p. 120).

2.4.2.6   Coherence and Locus of Control

Locus of Control implies that that events are under control of an individual, leading to the phrase 'sense of control' or 'I am in control'. "The sense of control is totally related

to the freedom of the individual to choose among available alternatives and to perceive the outcome of the dynamic situation as completely contingent on the choice he or she makes" (Antonovsky, 1979, p. 153). Internal locus of control (ibid.):

> Locates one's fate in one's own hands. The tendency is most ethnocentrically powerful to equate sense of coherence, sense of control, and internal locus of control, using the model of the autonomous individual extolled in the litany of Western societies since the Industrial Revolution – or, perhaps more appropriately, the Protestant Revolution. This ideological paradigm dominates our own lives and shapes our science. (p. 153)

Antonovsky strongly argues that the equation of manageability and control is a Western and culturally biased practice, where the ego is placed at the centre of the universe and where any form of control that is not 'my control' is greatly mistrusted. He draws a distinction between the phrases "I am in control" and "Things are under control" (Antonovsky, 1979, p. 155) to illustrate this difference. "I am in control" is the dominant Western paradigm, while "Things are under control" is a dominant paradigm in many other cultures. He goes further to state that in some cultures SOC is strongly enhanced by the belief that things are under the control of a beneficent deity (or powerful others) (ibid.).

The crux, argues Antonovsky, lies in the concept of 'participation' (Antonovsky, 1979):

> If life offers one the chance of confirming one's predestined salvation by doing the prescribed right things, one can have a strong sense of coherence. Only when there is no deity, no writ, but only meaningless chaos does one's only hope lie in an internal locus of control. There are, then, many cultural roads to a strong sense of coherence. (p. 156)

> The crucial issue is not whether power to determine such outcomes lies in our own hands or elsewhere. What is important is that the location of power is where it is legitimately supposed to be. This may be within oneself; it may be in the hands of the head of the family, patriarchs, leaders, formal authorities, the party, history, or a deity. The element of legitimacy assures one that issues will, in the long run, be resolved by such authority in one's own interests. Thus a strong sense of coherence is not at all endangered by not being in control oneself. (p. 128)

2.4.2.7   Fake SOC

It is possible for a person to have a 'fake sense of coherence' (Antonovsky, 1979, p. 158). "The claim that everything is comprehensible and that all problems can be managed suggests a profound underlying anxiety that this not at all the case, a fragile covering that might easily be rent apart" (Antonovsky, 1984, p. 119). Antonovsky continues elsewhere (1979):

When there is a contention that all problems have an answer, when challenge or doubt is intolerable, when there is no flexibility to adapt to changing circumstances, when one claims to be in control of all things or to understand everything, when there is a denial of sadness, and when there is an incapacity to admit to the uncontrollable without being overwhelmed – there is a clear indication that we are confronted by a fake sense of coherence. (p. 159)

2.4.2.8   Measuring SOC

In order to operationalise SOC, Antonovsky developed a 29-item scale that measures the three constructs comprising SOC. The SOC scale has been used in 14 languages, including Afrikaans and Tswana (two African languages), and has been completed by almost 10,000 people (Antonovsky, 1998b, p. 25). A short-form version of the scale, comprising 13 of the 29 questions, is also available but will not be reported on here.

The scale demonstrates good levels of reliability. Internal consistency measures (Cronbach's Alpha) range from .82 to .95, in 26 studies using different languages and cultures (although all Western) (Antonovsky, 1998b, p. 25). Test-retest reliability coefficients (appropriate since SOC is conceptualised as a stable construct) range from .41 to .55 over a two-year interval, from .52 to .86 over a one-year interval, .80 over six months, .80 to .97 over five to six weeks, and .91 over two weeks (ibid., p. 26).

The scale has also demonstrated good validity. Evidence for content validity includes the fact that the items were carefully selected according to facet theory to cover all aspects of the SOC construct (Antonovsky, 1998b, p. 27). Various studies are presented by Antonovsky which demonstrate criterion validity by reporting appropriate correlations with theoretically expected variables (ibid., pp. 28-33). Known-groups validity studies demonstrate that "Czech cancer patients, Israeli young adults with cerebral palsy, New Zealand chronic pain patients, and older American patients in Department of Veterans Affairs (VA) clinics" have the lowest SOC scores, while "kibbutz members, American university faculty, and Israelis who have reached on-time retirement age" have the highest SOC scores (ibid., p. 34).

Although SOC comprises three components (comprehensibility, manageability and meaningfulness), these components are highly interrelated and "can really only be separated for analytic purposes. Theoretically, an individual can be high on one component and low on others, but this is inherently unstable" (Antonovsky, 1984, p. 120). For this reason, Antonovsky argues that factor analysis of the SOC scale is inappropriate (Antonovsky, 1998b). No factor analytic studies of the SOC scale have

been published, but a number of unpublished studies suggest that a single-factor solution provides the best explanation for the item variances (ibid., p. 35).

2.4.3   STUDIES OF SOC

SOC, as with many of the constructs that have been developed regarding individual resilience, was developed primarily to explain health. Many studies have thus used SOC as the independent variable and various measures of physical health as the dependent variable.   Most studies, however, have introduced a broader range of dependent variables measuring strength or health more holistically defined, and have even moved out of the medical/health field completely.   More recent thinking has also led to the conception of SOC at family level. Although this will be more fully discussed later, such studies are included here for the sake of completeness.

2.4.3.1   Health Narrowly Defined

Health. In a small (N=74) prospective study, SOC was effective in predicting the health status of a group of employees one year into the future, accounting for 22% to 32% of the variance in illness (Fiorentino & Pomazal, 1998, p. 98).   However, when various other variables were entered into the multiple regression analyses (eg various resistance resources, health practices and stress), SOC did not enter any of the equations.

Survival of the Chronically Ill. An initial study (Time I) was conducted with 377 men who were over 55 years and who had at least one chronic condition (Coe, Romeis, & Hall, 1998). Significant correlations were found between SOC and the various measures of health status (including perceived health status, functional health status, nutritional status, mental health, etc) (ibid., p. 267). Five years later (Time II), 199 of the original sample were again interviewed. SOC (at Time I) was significantly correlated with the various measures of health status (at Time II), indicating the predictive validity of SOC regarding health (ibid., p. 270).   The Time I profile of the 199 men who were interviewed at Time II was compared with the Time I profile of the 90 men who had died in the interim. SOC was not found to predict survival (ibid., p. 271); having better functional health status and living with one's spouse and children at Time I were most effective at predicting survival at Time II (ibid.). The researchers conclude that while

SOC does not directly influence survival, it may indirectly influence survival through its direct predictive effect on health status.

Cancer Outcome. A study of 38 cancer patients investigated the effect of SOC and mental imagery on the immune system and cancer outcome (Post-White, 1998). Participants were randomly divided into experimental (n=22) and control (n=16) groups, the former receiving training in mental imagery. SOC scores did not differ between the two groups and over time (ibid., p. 283), although among the experimental group SOC scores correlated with various beliefs of improved health (ibid., p. 284). Baseline SOC also predicted an actual improvement in the immune system over time (ibid.). Baseline SOC predicted increased quality of life and increased hope over time (ibid., p. 285). Baseline SOC did not, however, predict actual disease state; to the contrary, greater baseline disease state predicted lower SOC scores (ibid., p. 287). The researcher concluded that "even though SOC did not directly influence disease state, a strong SOC did result in better quality of life and a more hopeful state" (ibid.).

Immune System. Another study (n=59, American women over 60 years) investigating the effects of SOC on the immune system yielded contradictory results (Milanesi et al., 1998). SOC correlated with the various measures of self-reported health, did not correlate with cortisal levels (a physiological measure of stress) and correlated with only one of several measures of the immune system. The authors (ibid.) conclude:

> That no significant negative correlations appeared between the summated SOC scores and cortisal raises the possibility that *perceived* coping with *perceived* stress constitutes the major operating factor in the sense of coherence and that these perceived experiences do not cover all the actual stress and stress reduction processes operating at the physiological level. (p. 304)

2.4.3.2   Health More Broadly Defined

Mental Health. In the longitudinal Lundby study, 148 participants completed the 29-item SOC scale. Cronbach's Alpha was .89 (Cederblad et al., 1994, p. 4). The scale correlated at .44 with the Locus of Control (LOC) scale (being in control of one's life) and at .59 with the Mastery scale (being the master of one's fate) (ibid.). The moderate correlations indicate that the three constructs are related but not identical. The SOC scale did, however, correlate highly with a number of other measures: A correlation of .76 was found with the Quality of Life (QOL) Scale which measures satisfaction with various areas of life, and a correlation of -.70 was found with the Symptom Checklist (SCL-90) which measures expressions of psychosomatic and emotional distress (Dahlin

et al., 1990, p. 231). This study found that the more salutogenic factors present during childhood (eg positive self-esteem, successful coping, trusting relationships, intellectual capacity) the better the adult's mental health and quality of life (Cederblad et al., 1994, p. 8). "Of the nine personal dimensions [including SOC, LOC, mastery, intelligence and ways of coping] entered into the multiple regression analyses, the SOC contributed most to the explained variance in health measures [including QOL, SCL-90, the Health-Sickness Rating Scale and rated health]" (Cederblad & Hansson, 1996, p. 198). The researchers propose a model in which the various salutogenic factors contribute to the development of high SOC which in turn contributes to better mental health (Cederblad et al., 1994, p. 10).

Family Illness. A study of 78 families in which one adult had a "serious illness" investigated the relationship between a family's sense of coherence and family quality of life in the face of illness (Anderson, 1998). A multiple regression analysis indicated that 57.6% of family quality of life was accounted for by the family's sense of coherence, "illness stress, family system balance, length of family relationship, patient full time job status and family income", with family sense of coherence being the "largest predictor" (ibid., p. 179). The researcher concludes that family sense of coherence was "an important mediator in the impact of illness stress on the family, reducing the direct influence of the illness stress on family quality of life by half" (ibid., p. 182).

Cystic Fibrosis. A study of 123 adolescents with Cystic Fibrosis investigated the various factors (including SOC) that contribute to self-care, defined as "the practice of activities that individuals initiate and perform on their own behalf in maintaining life, health, and well-being" (Baker, 1998, p. 146). SOC was found to correlate significantly (p<.001) with the various 'power components' which which enable specific health-promoting practices, viz. eg "ego strength, valuing of health, health knowledge and decision-making capability, attention to health, energy, and the ability to talk about one's feelings" (ibid.,p. 164). SOC also correlated significantly (r=.76, p<.001) with self-care (ibid.,p. 165), and also was a significant predictor of self-care in the multiple regression analyses. The researcher concludes that "having a sense of coherence is very important to the self-care of adolescents with cystic fibrosis" (ibid.,p. 167).

Single Parents of Disabled Children. A study of 152 single mothers who had children with a variety of developmental disabilities sought to understand what factors help such mothers cope (Gottlieb, 1998). Results indicated that mothers with *higher* SOC scores tended to report fewer child behavioural problems, fewer recent and potentially stressful family experiences, greater family cohesion and adaptability, larger social support

networks, greater parenting satisfaction, less financial concern, less concern about meeting their disabled child's needs, less depression, fewer health problems, greater well-being and less parenting stress (ibid.). SOC was not however related to the severity of the child's disability nor the number of disabilities. The researcher concludes that SOC is an important variable in the way single mothers cope with the stress of raising a disabled child.

Successful Aging. A study of 199 American men aged 55 years and older investigated the role of SOC in 'successful aging', measured as a composite of psychological, social and physical well-being or health (Brooks, 1998). SOC was found to correlate significantly with the various measures of successful aging, with a correlation of $r=-.50$ with physical health (ibid., p. 235). Even when the correlations were controlled for age, income, education, occupation and past health, the correlations ($r=.38$ with life satisfaction, $r=.26$ with social health and $r=.-46$ with physical health) remained significant at $p<.01$ (ibid., p. 236). The researcher concludes that SOC is a significant factor in predicting successful aging.

2.4.3.3   Health Very Broadly Defined

Coping with Recent Life Events. A study in Israel investigated the importance of personal resources (specifically SOC) and collective resources (belonging to a religious kibbutz rather than a nonreligious kibbutz suggested more collective resources) in coping (defined as maintaining psychological well-being, physical well-being and functional status) with recent life events (RLE) (Anson, Carmel, Levenson, Bonneh, & Maoz, 1993). Two hundred and thirty people participated in the study. The personal resource of SOC was much stronger in accounting for health in the face of RLE than either collective resources or personal and collective resources combined. The study did demonstrate, however, that "collective resources (belonging to a religious community) somewhat foster the development of personal resources (SOC)" (Anson et al., 1993, p. 164). Although the study found a negative correlation between RLE and SOC, it was unclear whether people with stronger SOC avoided RLE or whether RLE tended to erode a person's SOC.

Coping with Job Demands. A small study of 20 public health nurses in Hong Kong, investigated the importance of SOC for the "perceptions of task characteristics and for stress perceptions during interruptions" (Shiu, 1998, p. 273). The study's methodology involved the nurses wearing a watch that randomly signalled them six times per day for

seven days. Participants responded to 80% of the signals, which prompted them to complete a dairy concerning task characteristics, work and family role juggling and the effects of these on their mood states. The results indicated that nurses "with high SOC had a greater sense of emotional well-being in the face of occupational stress and work-family juggling, and were more likely to perceive tasks as progressing toward the goal and to be within control" (ibid., p. 278). The researcher concludes that SOC assists nurses in coping with the juggling of work and family responsibilities and in coping with occupational stressors.

Job Performance. In a small retrospective study (sample size not reported), a sample of workers with lower back pain was divided "into two groups based solely on the amount of time lost due to injury". Both groups completed the SOC scale. The "results show that the two groups were significantly different in their sense of coherence scores, particularly with respect to the comprehension component" (Association of Ontario Health Centres, 1995, p. 2). Although the scientific quality of this study is questionable, it suggests that the job performance (attendance) of workers who are experiencing a life stressor (back pain) may be influenced by SOC, indicating its potential value for occupational social work and industrial psychology.

The Ability to Nurture. A small study (N=72) of homeless mothers with children sought to examine the relationship between SOC and the ability of mothers to nurture their children under the extreme stress of homelessness (Flick & Homan, 1998). Correlations of SOC with the Family Environment Scale and mother-child interaction were significant at $p<.10$ (ibid., p. 116). SOC correlated significantly ($p<.001$) with self-esteem and depression (ibid., p. 117). Mothers' SOC correlated significantly and negatively with child behavioural problems ($p<.10$, $p<.05$ and $p<.01$ for the three subscales) (ibid., p. 120). The researchers conclude that SOC is "an important construct in explaining family environment, mother-child interaction, and child problems in an extremely distressed population" and that as such it is likely to predict better treatment outcome (ibid., p. 123).

Salutogenic Effects of an MBA Programme. A study investigated that salutogenic effect of participating in a US based MBA programme (Ryland, Tegarden, & King, 1998). The sample (N=338) comprised 57% American and 43% foreign students. When age is controlled for, the more experience students have had in the MBA programme, the higher their SOC scores are, suggesting that the MBA experience enhances SOC (ibid., p. 133). However, more detailed analysis indicates that only male American students experience an increase in SOC over the course of the MBA programme (ibid., p. 134).

Male foreign students, who started out with similar scores to male American students, experienced a decrease in SOC scores as a result of the MBA (ibid., p. 137). Female American students had higher SOC scores than female foreign students, but neither group experienced any change in SOC as a result of the MBA programme (ibid.).

Retirement. A study of 805 married, retired Israeli men and women investigated the role of SOC in adjustment to 'on-time' retirement (Sagy & Antonovsky, 1998). Various methods of determining the family's SOC were tested and will be discussed in the section on family SOC. Results were however consistent in demonstrating that a strong family SOC predicted adaptation to retirement. When one family member has a higher SOC than the rest of the family, that member seems able to mobilise the family's coping resources.

Caring for the Aged. A study of 126 people caring for chronically ill elderly people (71 caring for nondemented chronically ill people and 55 caring for chronically ill people who were demented) investigated the role of SOC in enabling the caregivers to cope with the demands of giving care (Wagenfeld, Baro, Gallagher, & Haepers, 1998). The SOC of the two groups of caregivers was the same, despite the demented patients having greater levels of disability than the nondemented patients (ibid., p. 256). SOC was found to be "protective against role overload" for all caregivers, but most especially for caregivers of demented patients (ibid., p. 259). The researchers propose a "threshold effect" in which "the SOC seems to be more protective in situations of greater morbidity" (ibid.). Caregivers with stronger SOC tend to utilize healthier coping responses: "redefining the meaning of the situation, selecting realistic coping strategies and avoiding potentially maladaptive or unhealthy behaviors" (ibid). The researchers conclude that SOC is an important factor in enabling caregivers to cope with the demands of caregiving, particularly when caring for high-stress patients.

2.4.4   A CRITIQUE OF SENSE OF COHERENCE

I have been unable to locate any published critiques of the Sense of Coherence. This is surprising given the widespread use of the construct in various disciplines. Perhaps a primary criticism from social work may be the abstract nature of SOC that makes it largely inaccessible to clinical intervention. As a fundamental paradigm or outlook on life, SOC is deeply engrained in the psyche or personality of people. It cannot be affected directly, but only indirectly through generating certain life experiences, which

themselves can only be utilized in the presence of resistance resources. In effect, all clinical work needs to promote the development of resistance resources, and hope that SOC will follow suit.

The clinical utility of SOC (and the GRRs) is largely absent from the literature on SOC. Researchers seem content to demonstrate the role of SOC in one or other form of resilience, but have not made significant progress in addressing the practice utility of SOC. Since there are no practice guidelines detailing how to develop SOC, there are also no evaluation studies addressing the impact of certain interventions on the evolvement of SOC. The study on cancer outcome reported above (Post-White, 1998), for example, addresses the change (or lack of change) in SOC scores over the course of an intervention, but the intervention was not specifically designed to change SOC and thus contributes little to the clinical field.

It appears, therefore, that SOC is of theoretical and research interest, but has few clinical or preventive applications at present.

2.5 THRIVING

In 1998, the Journal of Social Issues (Ickovics & Park, 1998b) brought out a special issue entitled "Thriving: Broadening the paradigm beyond illness to health" in which they made a number of arguments which resemble those of salutogenesis and resilience. The notion of thriving goes somewhat further than these constructs, however, by arguing that the stressor may in fact *enhance* the functioning of the person. Thriving is here defined as (Ickovics & Park, 1998a):

> The effective mobilization of individual and social resources in response to risk or threat, leading to positive mental or physical outcomes and/or positive social outcomes. We suggest that thriving represents something more than a return to equilibrium (ie homeostasis) following a challenge … We propose a "value-added" model, whereby an individual or community may go beyond survival and recovery from an illness or a stressor to thrive. (pp. 237-238)

The notion of thriving prompts the following kinds of questions (Ickovics & Park, 1998a, p. 238):

❖ "What characteristics distinguish the individuals who thrive following a trauma or stressor from those who do not?

- ❖ "How do communities heal and thrive following severe social challenges that result in extreme divisions among citizens of different racial and ethnic groups?

- ❖ "Can resources be distributed to or developed in individuals across the developmental life cycle and across social and cultural contexts to promote the ability to thrive?

- ❖ "How can knowledge about the factors that promote thriving be used to promote public health and inform public policy?

- ❖ "How does thriving relate (or not) to other concepts in psychology and sociology, and can it provide an inclusive framework for guiding further study?"

The distinction between resilience and thriving is well illustrated in Figure 2.2 (Carver, 1998, p. 246), which posits four possible responses to an adverse event, all of which assume an initial deterioration of functioning (a 'downturn'):

- ❖ Firstly, the individual's functioning may continue to deteriorate below the initial level of deterioration brought about in the midst of the crisis of the adverse event. Here the individual *succumbs* to the event.

- ❖ Secondly, the individual's functioning may improve somewhat after the initial crisis, but not to the level it was before the adverse event – "the person *survives* but is diminished or *impaired* in some respect" (Carver, 1998, p. 246).

- ❖ Thirdly, the person bounces back to the level of functioning enjoyed before the adverse event, which can be called *resilience* or *recovery*.

- ❖ Fourthly, "the person may not merely return to the previous level of functioning, but may surpass it in some manner" (Carver, 1998, p. 246), something the author calls *thriving*.

Resilience was previously defined as the ability of people to bounce back after exposure to some or other crisis, a "homeostatic return to a prior condition" (Carver, 1998, p. 247). Resilience literature does not refer to the concept of thriving conceptualised as "better-off-afterward" (ibid.). Thriving by contrast refers to the acquisition of new skills and knowledge (learning about themselves, learning new coping skills, etc), of new confidence or a sense of mastery, and enhanced interpersonal relationships (ibid.).

Carver continues to unpack the notion of resilience and thriving by exploring three processes by which people recover from or thrive from adversity, as illustrated in Figures 2.3 to 2.5 (adapted from Carver, 1998, p. 249).
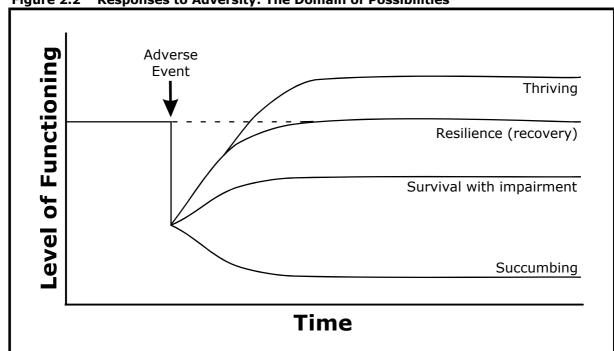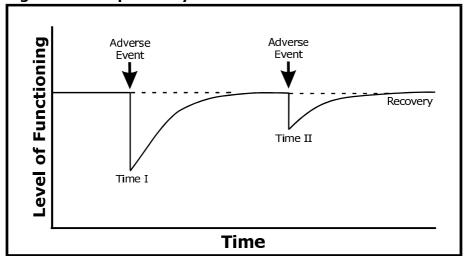
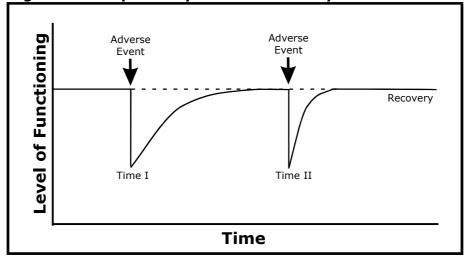**Figure 2.2   Responses to Adversity: The Domain of Possibilities**

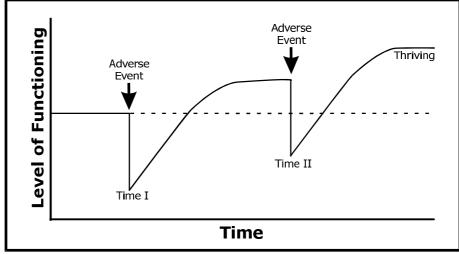(Carver, 1998, p. 246)

Figure 2.3   Adaptation by Desensitisation

(Adapted from Carver, 1998, p. 249)

Figure 2.4   Adaptation by Enhanced Recovery Potential

(Adapted from Carver, 1998, p. 249)

Figure 2.5   Adaptation by Thriving

(Adapted from Carver, 1998, p. 249)

In the first process (Figure 2.3), the individual becomes desensitised to the adverse event through the exposure to it. The downturn experienced at Time II is less than at Time I, because the individual has been 'inoculated' against that stress to some degree. The 'inoculation' does not enhance the individual's functioning, but reduces the severity of the downturn next time the adversity is encountered. Eventually it is possible that the individual is so desensitised that the adversity has no noticeable impact at all. The overall level of functioning has still not improved above baseline, however, making this an example of resilience and not thriving.

In the second process (Figure 2.4), the downturn experienced at each exposure to the adverse event is equally disruptive, but the recovery or 'bounce-back' time is reduced. The person learns to recover more efficiently from the adversity – "they're hit as hard, but they bounce back faster" (Carver, 1998, p. 249). As with the previous process, the baseline functioning does not improve making this also an example of resilience and not of thriving.

In the third process (Figure 2.5), which is extrapolated from Figure 2.2, the individual's functioning after the exposure to the adverse event at Time I is raised above initial baseline. When the adverse even is experienced again at Time II, even if the downturn is equally disruptive, the baseline has already been raised and the event can be used again to enhance the individual's functioning even more. In this process the functioning or well-being of the individual is enhanced by the adversity, meeting the criteria for thriving.

Thriving thus conceptualised is a transformation, involving a "fundamental cognitive shift in response to a challenge" (O'Leary, 1998, p. 430). Transformation requires an event of great adversity (ibid.):

> For such a transformation to occur, the challenge must be profound, an event such as facing a fatal illness, a severe traumatic accident or victimization, a great loss, or an existential crisis – events that shake the foundation of one's life, calling into questions one's sense of purpose, meaning or identity. These events are at the extreme because they are the ones that provide the greatest opportunity for a heroic response. (p. 430)

Thriving and transformation require not only a profound challenge or adverse event; they also require an individual with certain qualities who will be able to utilize the challenge for thriving. The question then becomes, what are the qualities of people who, when faced with adversity which should result in nothing more than recovery, thrive? The answer to this question is similar to the question of what makes children resilient (as discussed previously), viz individual resources such as hardiness, coping and a sense of

coherence; cognitive resources such as accurate threat appraisal, self-efficacy and perceived personal risk; the ability to attribute and mould the meaning attached to life events; social support systems; and social processes or rituals which facilitate transitions in life (O'Leary, 1998).

2.6 HARDINESS

2.6.1 THE HARDY PERSONALITY

A great deal of research conducted during the 1960s and 1970s demonstrated that "stressful life events precipitate somatic and psychological disease" (Kobasa, 1979, p. 1). Important research in this regard was done by Rahe, who found that "Navy personnel who begin a cruise with high stress scores suffer more illness episodes during the months at sea than do sailors who start out with low stress scores" (ibid.). The Schedule of Recent Life Events, which measures the build up of recent stressful life events, was published by Holmes and Rahe in 1967 and is one of the most frequently cited scales used to measure stress in the papers surveyed in this document.

Much of the research that emerged as a result of the Schedule of Recent Life Events (and other similar scales) demonstrated a consistently significant but moderate relationship between stress and illness. "Although correlations range from .20 to .78, the majority fall below .30, and in Rahe's naval data, the correlations are consistently around .12" (Kobasa, 1979, p. 2). This research demonstrated the link between psychosocial phenomena and physical well-being (Kobasa, 1982):

> By demonstrating that the occurrence of life events that cause change and readjustment (eg job transfer, death of parent, marriage) increases the likelihood of one's falling sick, Holmes, Rahe, and their colleagues forced our conceptualization of disease beyond physiological and biochemical processes to psychological and sociological processes. (p. 3)

In light of these findings, some researchers began questioning the variability of stress and illness scores, and the relatively moderate correlation between them. "One likely explanation for these data is the presence of subjects with high stress scores who are not getting sick" (Kobasa, 1979, p. 2). As was noted during the discussion on salutogenesis, researchers who had adopted the pathogenic paradigm neglected to investigate the reasons for these findings. Those who were more salutogenically oriented did, however, question such findings. Kobasa was one such researcher.

In order to investigate this, Kobasa surveyed 670 middle and upper executives, and found a correlation of .24 (p<.025) between total stress and total illness scores (Kobasa, 1979, p. 6). Using test scores and random sampling, Kobasa sampled two groups of respondents: 86 high stress/high illness respondents and 75 high stress/low illness respondents. Kobasa's (1979) analysis of the data revealed the following:

> Discriminant function analysis, run on half of the subjects in each group and cross-validated on the remaining cases, supported the prediction that high stress/low illness executives show, by comparison with high stress/high illness executives, more hardiness, that is, have a stronger commitment to self, an attitude of vigorousness toward the environment, a sense of meaningfulness, and an internal locus of control. (p. 1)

Kobasa's construct of *hardiness* is posited as mediating stress and illness, potentially reducing the negative effects of stress. Hardiness itself comprises three subconstructs, viz commitment, control and challenge:

❖ **Commitment** as opposed to alienation (Kobasa, Maddi, & Courington, 1981, p. 369). "Among persons under stress, those who feel committed to the various areas of their lives will remain healthier than those who are alienated" (Kobasa, 1979, p. 4). Commitment is firstly the valuing of one's life, one's self, one's relationships, and secondly the investment of oneself in these valued dimensions of life (Kobasa, 1982). Commitment results in a sense of purpose that can carry a person through difficult turbulent times. Commitment "is based in a sense of community – what existentialists call being-with-others" (ibid., p. 7).

❖ **Control** as opposed to powerlessness (Kobasa et al., 1981, p. 369). "Among persons under stress, those who have a greater sense of control over what occurs in their lives will remain healthier than those who feel powerless in the face of external forces" (Kobasa, 1979, p. 3). Control involves acting 'as if' one has control over what is happening around one. It entails the belief (and consequent actions) that life events are in part a result of one's own actions and attitudes, and thus amenable to change. People with control "can interpret and incorporate various sorts of events into an ongoing life plan and transform these events into something consistent and not so jarring to the organism" (Kobasa, 1982, p. 7).

❖ **Challenge** as opposed to threat (Kobasa et al., 1981, p. 369). "Among persons under stress, those who view change as a challenge will remain healthier than those who view it as a threat" (Kobasa, 1979, p. 5). "Challenge is based on the belief that change, rather than stability, is the normative mode of life" (Kobasa, 1982, p. 7). With this outlook on life, stressful life events are viewed neither with surprise (since

they are anticipated) nor with dismay (since they are seen as exciting opportunities for growth and development).

Kobasa describes the hardy person as follows (Kobasa et al., 1981):

> Hardy persons have considerable curiosity and tend to find their experiences interesting and meaningful. Further, they believe they can be influential through what they imagine, say, and do. At the same time, they expect change to be the norm, and regard it as an important stimulus to development. These various beliefs and tendencies are very useful in coping with stressful events. Optimistic cognitive appraisals are made; changes are perceived as natural enough, meaningful, and even interesting despite their stressfulness, and in that sense are kept in perspective. Also, decisive actions are taken to find out more about the changes, to incorporate them into an ongoing life plan, and to learn from their occurrence whatever may be of value for the future. In these ways, hardy persons transform stressful events into less stressful forms. (pp. 368-369)

People who are low in hardiness are, by contrast, described as follows (Kobasa et al., 1981):

> Persons low in hardiness tend to find themselves and the environment boring, meaningless, and threatening. They feel powerless in the face of overwhelming forces, believing that life is best when it involves no changes. As such, they have no real conviction that development is either possible or important, and are passive in their interactions with the environment. When stressful events occur, such persons have little basis for optimistic cognitive appraisal or decisive actions. Because their personalities provide little or no buffer, the stressful events are allowed to have a debilitating effect on health. (p. 369)

Kobasa and most other researchers in the field measure hardiness with a set of five scales (Kobasa, 1982):

> Those scales that had proven [in the 1979 study] to be the most effective in discriminating between high stress/low illness and high stress/high illness subjects and that were, in interaction with stressful life events scores, the best predictors of illness across the whole executive group were included in the composite. Alienation from Self and Alienation from Work from the Alienation Test (Maddi et al., 1979) were selected as negative indicators of commitment. The dimension of control was also measured negatively through the Internal External Locus of Control scale (Rotter et al., 1962) and the Powerlessness scale of the Alienation Test (Maddi et al., 1979). Finally, challenge was measured negatively by the Security scale of the California Life Goals Evaluation Schedule (Hahn, 1966). The intercorrelations among the five chosen scales were found to be significant in the expected direction. In a principal components factor analysis, a first factor (accounting for 46.5% of the variance) emerges that is interpretable as hardiness. To provide a single personality hardiness score for each executive, z scores were computed for the five measures. As the challenge dimension was indexed by only one scale (Security), its scores were doubled. This weighted security score was added to the other four scores. (p. 14)

It is this composite hardiness score that is used in most of the studies cited and is the scale typically referred to as the Hardiness Scale.

2.6.2   HARDINESS AND HEALTH

One study (Kobasa et al., 1981, p. 376) found that "stressful life events and constitutional predisposition [measured by evaluating the respondents' parents' illness history] increase illness, whereas personality-based hardiness decreases illness". The researchers conclude that hardiness is a resistance resource, protecting vulnerable people from illness.

A study of 137 white male managers investigated the relationships between hardiness, exercise, stress and illness (Kobasa, Maddi, & Puccetti, 1982b). Hardiness and exercise were found to be unrelated, as expected, and each was found independently to contribute to health. The researchers conclude (ibid.):

> Subjects high in both hardiness and exercise remain more healthy than those high in one or the other only. These additive effects are consistent with the view that hardiness buffers by transforming the events themselves so as to decrease their stressfulness, whereas exercise buffers by decreasing the organismic strain resulting from experiencing stressful events. (p. 391)

Since the stress-hardiness-illness interaction has often been studied retrospectively, it is possible that the state of health under stressful conditions creates hardiness, rather than the other way round (Kobasa, 1982). As a result, a number of studies have been conducted prospectively to investigate the direction of causation (eg. Kobasa, Maddi, & Kahn, 1982a). This study examined the stress, illness and hardiness of a group of 259 white male middle and upper level managers over a two-year period (plus three years retrospective data). By controlling for illness at Time I, the researchers were able to investigate the effect of hardiness and stress at Time I on the development of illness between Times I and III. The researchers concluded (Kobasa, 1982):

> Even when prior illness is controlled for, stressful life events are linked with an increase and hardiness with a decrease in illness reports. The significant stress and hardiness interaction demonstrates that it is especially crucial for one's health to be hardy when one is undergoing an intensely stressful time. (p. 15)

Another prospective study involved 217 white male middle and upper level managers who were assessed on two occasions, separated by two years (Howard, Cunningham, & Rechnitzer, 1986). These researchers used the dependence/independence dimension of Cattell's Sixteen Personality Factor Questionnaire as a measure of hardiness. The "results indicate that for individuals classified as Type A1, changes in job stress (role ambiguity) were significantly related to changes in blood pressure and triglyceride levels and that this effect appears to be significantly moderated by the personality dimension dependence/independence" (ibid., p. 241).

A similar study was conducted with 140 white male middle and upper level managers (Kobasa, Maddi, & Zola, 1983). The measures of hardiness and Type A were found to not correlate, indicating their independence. Data analysis demonstrated that while stressful life events lead to illness and hardiness protects health, Type A had no direct influence on health status (ibid., p. 47). The authors concluded (ibid.):

> Persons who are not only high in Type A behavior, but simultaneously low in hardiness, show the greatest deterioration of general health in the face of mounting stressful life events. If health is to be preserved in the encounter with stressful events, it would appear important that one's driven concern for reaching extrinsic goals (high Type A behavior) be mitigated by an ability to experience the intrinsic interest and value of the activities and tasks encountered along the way (high hardiness). (p. 49)

2.6.3   CRITIQUES OF HARDINESS

Despite the apparent unequivocality of the above studies, several studies have found conflicting or inconsistent results. Others have levied various criticisms against the construct hardiness and its measurement.

A study by Schmied and Lawler (1986) of 82 female, mostly white, university secretaries found no mediating effects from Type A and hardiness on the stress-illness relationship. Type A and hardiness did correlate in the expected directions with stress, and stress did correlate in the expected direction with illness, but neither Type A nor hardiness correlated with illness (ibid., p. 1221).

Another study (Ganellen & Blaney, 1984) of 83 female undergraduate students found that hardiness and social support were so closely interrelated as to be not independent and that hardiness contributed little buffering effect to life stress.

Although an exhaustive review of research into hardiness has not been conducted, it is interesting to note that all of the studies cited here which find support for the hardiness theories were conducted with white, male, protestant, middle and upper level managers in the USA. In contrast, the two studies that failed to support the hardiness theory were conducted with female non-managers. Perhaps the hardiness construct is culturally loaded in favour of White Anglo-Saxon Protestant males.

In a critique of the hardiness concept and in particular the measurement of hardiness, Hull, Van Treuren and Virnelli (1987) highlight the inconsistent measurement procedures used, despite the description of the Hardiness Scale provided above. For instance, in a

1982 study Kobasa "measured commitment with the scales of Powerlessness (previously identified [in the 1979 study] as a measure of control) and Vegetativeness (previously identified [in 1979] as a measure of challenge)" (ibid., p. 521). As a second instance, the use of *z* scores significantly complicates secondary data analysis, since each study generates a mean hardiness score of zero (ibid.). The reviewers then state:

> We draw the following conclusions: (a) Hardiness is not a unitary phenomenon, but should be treated as involving three separate phenomena; (b) of the three subcomponents of hardiness, only commitment and control have adequate psychometric properties and are systematically related to health outcomes; (c) lack of control and lack of commitment have direct effects on health because they are psychologically stressful; and (d) if there are buffering effects of commitment and control, they are in addition to these direct effects and are situation specific. (p. 518)

A final critique (Strümpfer, 1990) highlights the pathogenic approach to measuring what is intended to be a salutogenic construct. The concept of hardiness was intended to explain why certain people who are exposed to high stress do *not* become ill as expected, in line with the salutogenic paradigm. The cluster of scales used by Kobasa and others to measure the three hardiness constructs are all negative indicators, viz alienation from self and from work for commitment, need for security for challenge, and powerlessness and external locus of control for control. Strümpfer (1990) concludes:

> To express high levels of a characteristic in terms of low scores on another seems dubious on both theoretical and psychometric grounds. Funk and Houston (1987) pointed out that a low score on, for instance, alienation may represent neutral feelings, and not the presence of feelings opposite to alienation. … The view that the Hardiness Scale measures pathogenic variables could be supported by Funk and Houston's suggestion that, on the basis of item contents, the Hardiness Scale may be "better construed as tapping something similar to general maladjustment or psychopathology" (1987, p. 573). Indeed, these authors found that when emotional maladjustment was controlled statistically, significant correlations between hardiness and health reports dropped below significance; Rhodewalt and Zone (1989) confirmed this finding. In view of these conceptual, measurement and validity problems, I am inclined to consider the hardiness construct as part of the salutogenic paradigm but both its operationalization and the supporting evidence is still very much in the pathogenic framework. (pp. 271-272)

2.7 LEARNED RESOURCEFULNESS

'Learned resourcefulness' (Rosenbaum & Ben-Ari, 1985) emerged in the field of behaviour modification and presented a contrast to 'learned helplessness'. Learned helplessness studies were conducted to demonstrate that when people's efforts to change an uncontrollable event are futile, they tend to generalise this expectancy to

situations which are, in fact, controllable (ibid.). Learned helplessness thus accounts for people's responses to controllable events after exposure to uncontrollable events. During such a process, people learn to believe that they are helpless to influence or control external events.

Self-control studies, by contrast, focus on what happens when a person's habitual and effective behaviour in dealing with a controllable situation, becomes ineffective in an uncontrollable situation. "The self-regulatory process is activated … only when the smooth flow of ongoing behavior is disrupted" (Rosenbaum & Ben-Ari, 1985, p. 199). Self-regulation thus enables a person to continue with goal-directed and self-sustaining activities, even in the absence of external reinforcement (success). Training in self-regulation or self-management assists "people to change their behaviour notwithstanding ongoing stimulation that favours the undesirable habits, so that they become less dependent on the environment" (Strümpfer, 1990, p. 273). It is within the context of self-control studies that the construct learned resourcefulness emerged.

Rosenbaum noted that people differ in their capacity for self-regulation or self-control or self-management, and introduced "the term *learned resourcefulness* to describe an acquired repertoire of behaviors and skills (mostly cognitive) by which a person self-regulates internal responses (such as emotions, cognitions, or pain) that interfere with the smooth execution of a desired behavior" (Rosenbaum & Ben-Ari, 1985, p. 200).

Rosenbaum (1988, in Strümpfer, 1990, p. 273) explained the process of self-regulation as comprising three phases:

❖ "*Representation*, during which the individual experiences, without any conscious effort, a cognitive and/or emotional reaction to changes within him-/herself or the environment;

❖ "*Evaluation* of the changes, first, as desirable or threatening, then, if threat is appraised, evaluation whether anything can be done about it;

❖ "*Action* (or coping in most other terminology) to minimize negative effects of the internal or external changes."

An example may serve to clarify this process. Assume a social worker has been working with couples with communication difficulties for a number of years and has come to learn that certain clinical interventions and processes are habitually successful. One day a couple arrives for counselling, but the usual therapy no longer works. The social worker notes the lack of success and begins to feel frustrated, angry, anxious and helpless

(*representation*). The resourceful social worker will, at this point begin to evaluate what is going wrong and whether there is anything she can do about it. She tells herself that she is a resourceful, flexible and creative therapist, who is not locked into only one model of intervention. She begins thinking of other approaches that may be effective with this couple (*evaluation*). She shifts to adopt another model and begins implementing it (*action*). By contrast, the less resourceful social worker succumbs to the sense of failure, believes she is useless and that her repertoire of skills is insufficient. She then moves into self-protection and blames the clients, arguing that they are resistant (*evaluation*). She confronts them aggressively with their lack of co-operation and terminates the counselling (*action*).

People who succeed in regulating their internal processes during difficult situations, such as the resourceful social worker above, acquire the skill of self-regulation. Next time a difficult situation arises, they are more adept at regulating their internal processes and are thus better able to respond effectively to the situation. In this way, resourcefulness is learned, hence, learned resourcefulness. Rosenbaum and Ben-Ari's 1985 research demonstrated that (Strümpfer, 1990):

> Low resourceful persons judge themselves inefficacious in coping with emotional strains and difficult tasks; as a consequence, they tend to dwell more on their deficiencies than on the task. High resourceful persons, on the other hand, judge themselves more efficacious in dealing with emotional and task demands and are, as a consequence, more likely to continue with self-regulation. (p. 273)

Learned resourcefulness is not a personality trait, but rather a cluster of cognitive skills. "Learned resourcefulness is a basic behavioral repertoire (Staats, 1975) that is learned from the moment of birth and serves as a basis for coping with stressful situations" (Rosenbaum & Palmon, 1984, p. 245).

Rosenbaum developed the Self-Control Schedule (SCS), a 36-item instrument using a 6-point scale, to measure learned resourcefulness. The scale (Rosenbaum & Palmon, 1984):

> Covers the following content areas: (a) use of cognitions and self-instructions to cope with emotional and physiological responses, (b) application of problem-solving strategies (eg planning, problem definition, evaluating alternatives, and anticipation of consequences); (c) ability to delay immediate gratification, and (d) a general belief in one's ability to self-regulate internal events. (p. 246)

The SCS demonstrates good psychometric properties, with alpha coefficients ranging from .78 to .86 in various studies, and test-retest reliability over four weeks of .96 (Rosenbaum & Palmon, 1984, p. 246).

Research comparing high resourceful people with low resourceful ones has yielded consistently positive results (summarised by Strümpfer, 1990, pp. 273-274). High resourceful people, compared with low resourceful people:

❖ "Tolerated laboratory-induced pain longer and used self-control methods more frequently and more effectively in doing so (Rosenbaum, 1980b);

❖ "As migraine sufferers, reported lower pain intensity, focused less on the sensory aspects of their pain, and used prophylactic medication more (Courey, Feuerstein & Bush, 1982);

❖ "As epileptics experiencing low and medium frequencies of seizures (but not for high frequencies), maintained a stronger belief in their control over their seizures and their health, were less depressed, coped better with their disability, and used self-control methods as part of coping with the psychological consequences of seizures (Rosenbaum & Palmon, 1984);

❖ "As hemodialysis patients, complied more with their fluid-intake restrictions, measured in terms of weight gain between dialysis sessions (Rosenbaum & Ben-Ari Smira, 1986);

❖ "As diabetics, were more successful in controlling sugar intake (Amir, cited by Rosenbaum, 1988);

❖ "After natural childbirth, reported that they had engaged more often in breathing-relaxation exercises, used more self-encouraging statements during delivery, and felt more control over the process (Groves, cited by Rosenbaum, 1988);

❖ "As smokers, were more successful in giving up cigarette smoking on their own (Katz & Singh, 1986);

❖ "Used self-control methods more effectively to cope with seasickness on missile boats in stormy sea and showed fewer performance deficits, notwithstanding seasickness (Rosenbaum & Rolnick, 1983);

❖ "As novice parachutists, performed better during jumps and used more coping self-statements that indicated emotional self-control and task orientation (Gal-Or & Tennebaum, cited by Rosenbaum, 1988);

❖ "In experimentally induced experiences of uncontrollability or failure, reported more positive self-evaluation, fewer negative self-evaluations and more task-oriented

thoughts (Rosenbaum & Ben-Ari, 1985)." (summarised by Strümpfer, 1990, pp. 273-274)

Another study (Simons, Lustman, Wetzel & Murphy (in press), cited in Rosenbaum & Ben-Ari, 1985, p. 200) found that "SCS scores were the single best predictor of success in cognitive therapy of depression," irrespective of the degree of depression at presentation. "Cognitive therapy probably helped the highly resourceful depressed subjects in developing and applying skills already in their repertoire."

2.8 SELF-EFFICACY

Like learned resourcefulness, self-efficacy (Bandura, 1982) also emerged within the field of behaviour modification. Bandura argues that many of the constructs covered in this section on individual resilience centre on "people's sense of personal efficacy to produce and to regulate events in their lives" (ibid., p. 122). Perceived self-efficacy thus entails "judgements of how well one can execute courses of action required to deal with prospective situations" (ibid.).

According to Bandura (1982), people are constantly busy with judgements of self-efficacy. Every action taken is preceded by an unconscious judgement of one's ability to execute the action effectively. Accurate appraisal of one's efficacy is important so as to avoid taking on tasks that are, in fact, outside of one's ability. Perceived self-efficacy also influences effort (Bandura, 1982):

> Judgements of self-efficacy also determine how much effort people will expend and how long they will persist in the face of obstacles or aversive experiences. When beset with difficulties people who entertain serious doubts about their capabilities slacken their efforts or give up altogether, whereas those who have a strong sense of efficacy exert greater effort to master the challenges. … High perseverance usually produces high performance attainments. (p. 123)

As with learned resourcefulness, people with a strong sense of efficacy focus their attention on handling the task and are energised by difficulties, while people who doubt their efficacy tend to be consumed by their inadequacies and have little energy to deal with the task at hand (Bandura, 1982). Behavioural research involving the artificial elevation of perceived self-efficacy demonstrates that "people successfully execute tasks that fall within their enhanced range of perceived self-efficacy, but shun or fail those that exceed their perceived coping capabilities" (ibid., p. 126). Even when they know what to

do, people who lack self-efficacy tend to perform ineffectively in accordance with their perceived efficacy (ibid.).

Bandura argues that judgements of self-efficacy are based on information derived from four sources (1982, pp. 126-127):

- ❖ **Enactive Attainments.** The most influential source of information is previous success, since success breeds success. Likewise, previous failure decreases perceived self-efficacy and increases the likelihood of future failure.

- ❖ **Vicarious Experiences.** Seeing other people, who are judged to be similar in competence to oneself, succeed in tasks, increases one's own self-efficacy. Likewise, seeing similar others fail in tasks decreases one's own self-efficacy, through vicarious learning.

- ❖ **Verbal Persuasion.** Attempts by others to verbally persuade a person to believe in themselves have limited effect. Nevertheless, such persuasion may result in the person trying harder in the next attempt at a task, increasing the chances of success. This success then provides the enactive attainment that enhances self-efficacy, increasing the chances of future success.

- ❖ **Physiological State.** People judge their capability in part on the physiological state of arousal. Excess or aversive arousal informs the individual that failure is imminent and consequently self-efficacy decreases and the chances of failure do in fact increase.

Empirical studies confirm that self-efficacy can be influenced through these four sources of information, and that this has a direct and significant impact on performance (Bandura, 1982, p. 128). This is a large part of the value of the construct self-efficacy – its capacity to be influenced through intervention and the direct effect of this on performance.

Zunz (1998) reports a study examining resilience factors which protect human service providers (n=101) from burnout. Respondents were largely female (69%) and social workers (62%). Each of the seven protective factors used in the study (including self-efficacy) were correlated with at least one of the three measures of burnout (viz emotional exhaustion, depersonalisation and personal accomplishment). Self-efficacy was the only resilience factor to emerge in three regression analyses (using the burnout measures as criterion variables), accounting for "21% of the variance in emotional exhaustion, and along with sense of mission, predicting 32% of the variance in

depersonalization and 39% in personal accomplishment" (Zunz, 1998, p. 50). The researcher concludes that human service agencies should clearly define mastery of and effectiveness in management tasks, thereby increasing the development of manager's work-related self-efficacy.

2.9 LOCUS OF CONTROL

Locus of control, a construct that has much in common with self-efficacy, emerged in the field of social learning theory (Rotter, 1966). Rotter argues that behaviour is reinforced to the degree that the individual perceives the consequences of the behaviour to be contingent on (or controlled by) his/her own behaviour rather than under control of other external forces. These external forces could include "luck, chance, fate, … powerful others, or … unpredictable" (ibid., p. 1). When a "person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics, we have termed this a belief in *internal control*" (ibid.). Conversely, when a person perceives an event to be contingent on other forces, this person is said to have a belief in *external control*.

Research indicates that (Rotter, 1966):

> The individual who has a strong belief that he can control his own destiny is likely to (*a*) be more alert to those aspects of the environment which provide useful information for his future behavior; (*b*) take steps to improve his environmental condition; (*c*) place greater value on skill or achievement reinforcements and be generally more concerned with his ability, particularly his failures; and (*d*) be resistive to subtle attempts to influence him. (p. 25)

Rotter developed the Internal-External (I-E) scale to measure locus of control (Rotter, 1966). The scale is negatively scored, so that a high score indicates a high external locus of control. "The items deal exclusively with the subjects' *belief* about the nature of the world. That is, they are concerned with the subjects' expectations about how reinforcement is controlled. Consequently, the test is considered to be a measure of a generalized expectancy" (ibid., p. 10). Rotter reports internal consistency scores from .52 to .79 and test-retest reliability scores (over 1-2 months) from .49 to .83 (ibid., p. 13).

Kobasa, who used the I-E scale as a measure of her 'control' construct (1981), found that high stress/high illness executives had a greater external locus of control than high stress/low illness executives ($t = 2.03$, $p < .05$) (1979, p. 7). Another study by Johnson

and Sarason (1978, cited in Kobasa, 1982, p. 13) found that college "students believing in an internal locus of control showed a lower correlation between stressful life events and illness than did subjects who reported an external orientation".

A study of 50 epileptic patients found a link between locus of control and learned resourcefulness (Rosenbaum & Palmon, 1984). Results indicate that highly resourceful patients had a greater internal locus of control and a greater degree of perceived control over their seizures than low resourceful patients, regardless of the severity of the seizures (ibid., p. 250).

The distinction between Rotter's Locus of Control and Antonovsky's Sense of Coherence was detailed previously. Antonovsky criticises Rotter's Locus of Control construct as being culturally biased in favour of Western, Protestant ethics, and asks "What would someone with a belief that God has already determined his destiny score on Rotter's scale?" (Antonovsky, 1979, p. 155). Notwithstanding Antonovsky's concern, the locus of control concept has enjoyed great popularity, and has resulted in the generation of many scales (Fischer & Corcoran, 1994b, printed 17 scales measuring various aspects of locus of control) and much research on the subject.

2.10 OTHER RESILIENCE FACTORS

In addition to these major contributions to the field of resilience theory, a number of other writers have generated resilience factors that are of value, viz potency, stamina and personal causation.

2.10.1 POTENCY

The construct 'potency' was developed by an Israeli social worker, Ben-Sira, and is defined as "a person's enduring confidence in his own capacities as well as confidence in and commitment to his/her social environment, which is perceived as being characterized by a basically meaningful and predictable order and by a reliable and just distribution of rewards" (Ben-Sira, 1985, in Strümpfer, 1990, p. 272). Strümpfer continues:

> Ben-Sira viewed potency as a mechanism that prevents the tension which follows occasional inadequate coping, from turning into a lasting stress. It is the outcome of

successful past experiences of coping and hence comprises mastery and self-appreciation; weak potency, on the other hand, results from a history of unsuccessful coping experiences. These same alternatives of experience contribute to either a view of society as meaningful and ordered, or an orientation of anomie, which in turn, are related to either commitment to society or alienation. Similarities to Antonovsky's SOC seem quite clear; in fact, Ben-Sira and Antonovsky have had close academic and personal associations. (p. 272)

2.10.2   STAMINA

Strümpfer (1990) reports two researchers who have used the term 'stamina' to refer to the concept of resilience. Thomas (1981, in Strümpfer, 1990, p. 272), who conducted longitudinal research on medical students, defined stamina as "The physical and moral strength to resist or withstand disease, fatigue, or hardship; endurance." She compared psychological, social and family factors that influenced the life course of adults, and concluded, "Human beings are born with different potentialities and susceptibilities which life experiences may then mold into a protective shield undergirding future health" (ibid.).

Colerick also used the term stamina in her study of patterns of aging. She asked, "What qualities distinguish older persons who demonstrate emotional resilience despite age-related losses and life change?" (Colerick, 1985, in Strümpfer, 1990, p. 272). She referred to stamina as a "capacity for growth, personal insight, life perspective, likelihood of functional breakdown and general competence" (ibid.).

2.10.3   PERSONAL CAUSATION

De Charms (1968, p. 269) states, "Man's primary motivational propensity is to be effective in producing changes in his environment. Man strives to be a causal agent, to be the primary locus of causation for, or the origin of, his behavior; he strives for personal causation." Personal causation is thus concerned with "being the master of one's fate" or "being an agent of change in the environment" (ibid., pp. 270-271).

De Charms argues that achieving one's goals and the satisfaction that results from that is not sufficient to explain human behaviour. The *process* of achieving one's goals is paramount. "Attaining a goal through luck, chance, or through the benevolent agency of

a helper is not the same as doing it myself" (De Charms, 1968, p. 271). The essence of personal causation is stated as follows (ibid.):

> A man is not a stone, for he is a direct source of energy; nor is he a machine, for the direction of the behavior resulting from his energy comes entirely from within him. Rather, *man is the origin of his behavior*. (p. 271)

De Charms extrapolates from the idea that people are the origin of their behaviour to state that people are constantly struggling against being constrained by external forces, that is, against being moved as a pawn. This distinction between 'Origin' and 'Pawn' parallels the distinction between 'free' and 'forced'. "An Origin is a person who perceives his behavior as determined by his own choosing; a Pawn is a person who perceives his behavior as determined by external forces beyond his control" (De Charms, 1968, pp. 273-274). An individual's sense of him or herself as Pawn or Origin directly influences that individual's behaviour, regardless of any objective external evidence. The most fundamental motivational force is an individual's own sense of whether s/he is more Pawn or more Origin (ibid., p. 319).

Although De Charms recognises the close similarity between Rotter's Internal Locus of Control and his own Personal Causation, he argues that locus of control is a more restricted construct than personal causation (De Charms, 1968, p. 321). Locus of control, being located within social learning theory, focuses its attention on the consequences of behaviour, rather than on the behaviour itself, thereby restricting its utility.

De Charms addresses the notion of personal causation at a philosophical, existential level, and does not pull it through to empirical, practical or clinical utility. Nor does he address how a sense of personal causation comes to develop. As such, its practice value is limited.

2.11   CONCLUSION

Two principle aspects of individual resilience are described in the literature and have been reflected in this chapter:

❖ Firstly, the dominant pathogenic paradigm has been challenged. Some researchers, theorists and clinicians are questioning the value and reality base of a worldview that emphasises the development of pathology as its central concern. They propose an

alternative paradigm, which is most frequently termed salutogenesis, which addresses the origin of health.

❖ At the centre of this paradigm is a generic question, viz "How is it, when several people are exposed to the same stressor, that some of them break down while others remain healthy or even thrive?"

❖ The inevitable next question leads to the second aspect of individual resilience described in this chapter, viz the factors that make certain individuals resilient. Numerous factors have been explored in this chapter, including sense of coherence, hardiness, learned resourcefulness, self-efficacy, locus of control, potency, stamina and personal causation. In addition, various factors that protect children from the adverse effects of childhood risk were also outlined.

Unfortunately, the literature on individual resilience has two main shortcomings:

❖ Firstly, this literature, which dominates (or has dominated) the field of resilience theory, addresses only or predominantly intrapsychic factors in resilience. Many of the key constructs, such as Sense of Coherence, are defined as part of the structure of personality. Little attention is paid to factors within the environment or social system that promote the resilience of the individual.

❖ Second, this focus on intrapsychic resilience leads to the second shortcoming, viz many of the resilience constructs reviewed in this chapter do not translate easily into clinical practice. Sense of Coherence, for instance, which is a widely cited and researched resilience construct, has no clear clinical implication outside of assessment. A client referred for psychotherapy can be assessed for Sense of Coherence. Once a low SOC score has been attained, the clinician can do nothing with this result other than conclude that the client may struggle to make positive use of a therapeutic relationship.

❖ Other resilience factors, such as learned resourcefulness and locus of control, seem to lead more easily to clinical intervention, but even, this is not clear in the literature

This shortcoming is particularly disappointing given the basic salutogenic question, "What enables people to overcome adversity?" The answer to this question should surely provide people who lack resilience with some hope, some kind of answer as to how to become more resilient. A person lacking resilience will not, however, make much use of the advice to develop a sense of coherence or to build their sense of personal causation.

These shortcomings are not to say that the individual resilience constructs do not have clinical implications. Rather, these implications have not been explored and researched. Early in this chapter it was noted that researchers have tended to focus on pathogenesis, while clinicians attended to salutogenesis (Pearlin & Schooler, 1982). It appears, however, now that extensive research has been done on salutogenic factors, that clinicians need to begin exploring how to develop these factors through clinical and other interventions. In particular, preventive issues need to be explored so that resilience factors can be developed as a matter of course in the general public and not only among the small percentage of individuals who have some form of pathology.