Resilience: health and literature review page essay

Resilience Theory: A Literature Review with special chapters on deployment resilience in military families & resilience theory in social work by Adrian DuPlessis VanBreda October 2001 RESILIENCE THEORY: A LITERATURE REVIEW Author: Title: Date: Report No: Institution: Adrian DuPlessis VanBreda Resilience Theory: A Literature Review October 2001 MPI/R/104/12/1/4, dd October 2001 South African Military Health Service, Military Psychological Institute, Social Work Research & Development City: E-mail: Address: Pretoria, South Africa org Major A. D. Van Breda Military Psychological Institute Private Bag X02 Gezina 0031 South Africa

Resilience Theory: A Literature Review Page i 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. Resilience Theory: A Literature Review Page 5 Situational Pattern.

The situational pattern addresses those aspects involving a This can include an linking between an individual and a stressful situation. and the capacity to take action in response to a situation. individual’s problem solving ability, the ability to evaluate situations and responses, 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 selfdevelopment is important, the belief that life is purposeful. Barnard

(1994, pp. 39-140) 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. Page 6 Resilience Theory: A Literature Review People must first recognize the situation which is causing the stress; something which is not always possible. directly. 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 Resilience Theory: A Literature Review Page 7 People may not know how to change the situation Some situations are not amenable to change Acting on a situation to change it may result in even further stressors, which in turn inhibits further action. 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 This means that basic principles of greatest weight to resilience as a state of mind. perceive their world. " helping begin with a primary focus on – or better, a commitment to – how clients 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. addressed in the following sections. These themes will be 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 By age 32, two thirds of the remaining Page 8 were assessed at birth to be ‘ at risk,’ had developed into “ competent and confident young adults” (Saleebey, 1996, p. 299). Resilience Theory: A Literature Review 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 A follow-up of these more factors that are associated with later mental illness were included in the study (Dahlin, Cederblad, Antonovsky, & Hagnell, 1990, p. 229). 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 rrangements 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 welladjusted 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. 22), 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). Resilience Theory: A Literature Review Page 9

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. 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. Their Resilience

Theory: A Literature Review Page 10 They had a high self-esteem. They had strict parental supervision. They had good positive coping skills. hazardous experiences. They had an active, evocative approach owards solving life's problems, enabling them to negotiate successfully emotionally 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 Resilience Theory: A Literature Review Page 11 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). (Strumpfer, 1990, p. 263). Salutogenesis “ emphasizes the origins of health, or Literally translated salutogenesis means the ‘ origins of wellness, [and comes from the Latin]: salus = health, Greek: genesis = origins” 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 (Strumpfer, 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” (Strumpfer, 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.). Resilience Theory: A Literature Review Page 12 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, The classifying them as either healthy or diseased” (Antonovsky, 1984, p. 115). 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. 8). 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. 15). 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 Page 13 diseases can and have been conquered. This results in a false belief that disease and Resilience Theory: A Literature Review its biological causes can be eradicated. minimal funding. unhealth remains. The behavioural components involved in isease prevention and health promotion are of little consideration and receive Nevertheless, despite enormous efforts to eradicate disease, 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. 5). 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;

Strumpfer, 1990, p. 267) Resilience Theory: A Literature Review Page 14 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. 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 In contrast with the emphasis on how specific diseases are caused, salutogenesis focuses on the causes or origins of wellness (Antonovsky, 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) Resilience Theory: A Literature Review Page 15 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. ” Strumpfer (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. (ibid.): Resilience Theory: A Literature Review Page 16 In response to this,

Strumpfer proposes the term ‘ fortigenesis’ 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 he 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 Strumpfer’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). continuum. This model illustrates how various components work together leading to a prediction of an individual’s position along the ease-dis-ease 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 underloadResilience Theory: A Literature Review Page 17

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. verload 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 xperiences 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 One's experiences that are located within a sociocultural and historical context. 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. continuum directly. Arrow G indicates that traumatic physical or biochemical stressors (such as poison, a bullet or a car) affect one's position on the health 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. Resilience Theory: A Literature Review Page 19 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 Unsuccessful management of tension contributes to a state of stress, Arrow Q indicates that the pathogens that This suggests that, coherence (Arrow N) and also maintains one's position along the health continuum (Arrow O). hich, together with the indirect work of stressors and the activation of potential pathogens, leads to illness (Arrow P). ' cause' illness do so only in interaction

with a state of stress. are usefully understood as psychosomatic. 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 Resilience Theory: A Literature Review Page 20 " other than the massive traumata that leave none unscathed (Arrow G), all diseases In other words, almost all breakdown involves stress. Stress, however, does not determine the particular expression of the 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). ubstantially 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 provided ample evidence to support the notion that people’s SOC contributed Resilience Theory: A Literature Review Page 21 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. 9). (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. 18). 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) Resilience Theory: A Literature Review Page 22 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. Strumpfer (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 (Strumpfer, 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:

Resilience Theory: A Literature Review Page 23 2. 4. 2. 1 SOC is a Paradigm Inasmuch as salutogenesis is a paradigm, a " set of SOC is a personal paradigm. fundamental beliefs inaccessible to empirical validation" (Strumpfer, 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 " By and large … the enhancing life experiences will fundamentally alter their SOC. person with a weak SOC in adulthood will manifest a cyclical pattern of eteriorating 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.

Resilience Theory: A Literature Review Page 24 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. 19). 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 By stimuli meaningful, comprehensible, and manageable [ie the circle of influence]? 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 (Strumpfer, 1990): focusing on issues within the circle of influence, one is assured of life experiences that Resilience Theory: A Literature Review Page 25

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 worldview 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.

Strumpfer (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 Resilience Theory: A Literature Review Page 26 o 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. (Antonovsky, 1979, p. 155) to illustrate this difference. many other cultures.

He draws a distinction between the phrases " I am in control" and " Things are under control" " I am in control" is the dominant Western paradigm, while " Things are under control" is a dominant paradigm in 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 Antonovsky Page 27 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. 19). continues elsewhere (1979): Resilience Theory: A Literature Review 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 Test-retest reliability (Cronbach's Alpha) range from . 82 to . 5, in 26 studies using different languages and cultures (although all Western) (Antonovsky, 1998b, p. 25). 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. 7). 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. 120). Theoretically, an individual can be high on one component and low on others, but this is inherently unstable" (Antonovsky, 1984, p. For this reason, Antonovsky argues that factor analysis of the SOC scale is No factor analytic studies of the SOC scale have Page 28 inappropriate (Antonovsky, 1998b).

Resilience Theory: A Literature Review 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 More recent thinking has also led to the variables measuring strength or health more holistically defined, and have even moved out of the medical/health field completely. 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. 8). 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 The Time I profile of the 199 men who were various measures of health status (at Time II), indicating the predictive validity of SOC regarding health (ibid. , p. 270). in the interim. interviewed at Time II was compared with the Time I profile of the 90 men who had died 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 Resilience Theory: A Literature Review Page 29 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). 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) The researcher concluded that " even though SOC did not directly influence disease state, a strong SOC 2. 4. 3. 2 Health More Broadly Defined

Mental Health. In the longitudinal Lundby study, 148 participants completed the 29item 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 The SOC correlations indicate that the three constructs are related but not identical. scale did, however, correlate

highly with a number of other measures: A correlation of . 6 was found with the Quality of Life (QOL) Scale which measures satisfaction