EARLY CHILDHOOD HOLOCAUST SURVIVAL

and the influence on well-being in later life

Elisheva van der Hal – van Raalte

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In Memory of

Ruben Jehoedi van Raalte, Amsterdam 1942-Sobibor 1943
Margaret Veronica Alexandra van Gelder, Amsterdam 1943-Auschwitz 1944
Meijer David Fuldauer, Aalten 1935-Auschwitz 1942
Roosje van der Hal, Groningen 1942-Sobibor 1943
Andries Jacob Stad, Enschede 1936-Auschwitz 1943
Henriette van Leeuwen, Sittard 1939-Sobibor 1943
Max Emile Sons, Amsterdam 1938-Sobibor 1943

Preface

It all began one autumn morning in 1999, when I happened to drop in to Danny Brom's office. In those days he was still head of research at the Amcha Foundation. While chatting with him I imparted my thoughts on how to put my two decades of experience in psychotherapeutic work with Holocaust survivors into a research framework. Typically, Danny asked me what *specific* subject I had in mind. Then and there I knew that I would like to invest my energies in a project concerning a group of child survivors with whom I share particular affinity-survivors who were born during the Holocaust. Danny agreed to guide and supervise me. For a start, he suggested that I write down whatever came to mind on this subject. I did, and quickly realized how much I was identifying with the infant I myself had been in those dark days. I also felt tiny and helpless in the face of the sheer size of the task I had taken upon myself

Little did I foresee that, four years later, we would start the project; that one year into the project the research would gain its specific significance, when the Leiden team agreed to join and the opportunity to introduce the cortisol measurement component appeared; and that three years hence I would conclude it with a dissertation. This team became the driving force of the research process. Along the way it supplied help and guidance, such as when analyzing the results and writing them up in a comprehensible way, then *terra incognita* for me. Our communications, for the most part electronic, were both efficient and sensitively responsive. From within the office of the Center for Child and Family Studies our liaison was smoothly supported by Reineke Mom. The final version benefited from a constructive and lucent review of the manuscript.

Along the way I received help and support from many outstanding people who never stopped convincing me to use the whole spectrum of my resources. This is my chance to thank them all.

First, the participants in our study. Not only did they offer their time and energy, but they were prepared to risk the pain of going back to places in their past. Many expressed a keen interest in the project, and enriched it with thoughtful comments, suggestions, and with important information about their Holocaust experiences.

To the research assistants, who showed sensitive consideration in their contacts with participants and engaged involvement in the project: Mina Dasberg, who accompanied the project from the very start, Yamima Gotlieb, Tamar Freed,

Yamima Horowitz, and Bosmath Klein; Osnath Doppelt gave comfort with statistical back-up.

To Cheryl Balshayi, who subjected the manuscript in its various stages to her editorial skills.

To members of the Steering Committee, everyone of them an expert in related fields: Chaya Brasz, Motti Cohen, Nathan Durst; David Hamburger, Sonia Letzter-Pauw, Jona Schellekens and Daniel Weishut. They never ceased to attend our semi-annual meetings on content and budget, and provided effective guidance to the project. Special thanks go to David Hamburger for his assistance in planning the logistics of the cortisol study, for his contribution to the formulation of one of the theses ("stelling" number V), and above all, for being there when needed to discuss seemingly intractable issues.

I am especially indebted to the generous and straightforward support of the Levi Lassen Foundation, and grateful to my husband for handling the contractual obligations associated with the administration of these and additional funds by Elah and the Center for Research on Dutch Jewry.

And then there are the colleagues who inspired and supported me all the way through: Channa Cune, Sonia Letzter-Pauw, Motti Cohen, Natan Kellerman, Mina Dasberg, Johanna Gottesfeld and, above all, Yvonne Tauber, co-therapist, co-writer, co-presentator at conferences and dear friend, always willing to share with me her professional knowledge and writing talent, and teaching me how to take myself seriously. Eva Eshkol helped me identify what I was looking for and to find the courage to get it.

Thanks are also due to my sister, my brothers and their spouses and partner. Besides hosting me with unlimited hospitality during my working visits to The Netherlands, they never failed to encourage me to keep going at difficult moments.

Credit for this undertaking goes foremost to Avraham, my husband and best friend for more than 40 years. Without him I wonder whether this project would have stayed on track or reached the printing phase. He and our sons, Amir and Noam, adapted wonderfully to my after-hours' solitary existence by becoming practically invisible. In that way we were able to maintain the perfect relationship and atmosphere which allowed creative work.

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CHAPTER 1

General Introduction

Introduction

During the 1980s, forty years after the end of the Second World War, the first clinical studies appeared in Israel and in other parts of the world describing the effects of Nazi persecution on later-life coping of Jewish child Holocaust survivors. Many of these studies resulted from interviewing the now adult child survivors in Israel and abroad for testimonies for oral history projects or for reparations purposes (Bergmann & Jucovy, 1982). About the same time, other clinicians carried out follow-up studies on the welfare of war orphans who managed to survive the ordeals of concentration camps and hiding, and received well documented post-Holocaust after-care (Hemmingdinger & Krell, 2000; Keilson, 1992; Moskovitz, 1983; see also Chapter 3). Even so, it took a long while (in fact till today) before the plight of the surviving children was acknowledged by themselves and their immediate environment. They had grown up in the shadow of the aftermath of the Holocaust, with its clinical focus mainly on the suffering of adult concentration camp survivors, and on their impossible task of dealing with the massive grief for those who were murdered.

During the last 20 years, child Holocaust survivors, although often found to have succeeded in adapting well socially (Krell, 1993, Suedfeld, 2002), were also recognized by clinicians and researchers as being affected deeply by their Holocaust experiences (Dasberg, 2001; Kestenberg & Gampel, 1983; Krell, 1985; Mendelsohn, 1996; Tauber, 1996).

Studies on child survivors as a rule include persons born between 1927 and 1945. On Capitulation Day, May 8, 1945, they were aged several months to 18 years. The youngest, born between 1935 and 1944, had often endured persecution, losses, separations, maltreatment, neglect and starvation during their first and most formative years. No specific, systematic research exists focusing exclusively on the effects of their Holocaust experience and its aftermath. As they are now reaching old age, which has proved to be a crucial stage in the experience of older Holocaust survivors before them (Aarts & Op den Velde, 1996), the time has come to study the consequences of Nazi persecution on the present state of health of these youngest survivors. Their peri-Holocaust experiences are different from older child survivors, both from trauma-experiential and child-developmental points of view, since they had no experience or recollections of a world that was more peaceful and benevolent to enhance the development of basic trust (Bowlby, 1988; Erikson, 1950; Sandler, 1960).

Three cohorts

In this set of studies we differentiate among three age cohorts. The oldest cohort consists of survivors born between 1935 and 1937; the second between 1938 and 1940 and the third between 1941 and 1944. This division reflects the background of progressively diminishing safety (Sandler, 1960)) into which they were born. Survivors born during the first years of the Nazi regime were affected by their families' exposure to anti-Semitism and discriminative measures, which increasingly impeded their safety and their physical, social and economic living circumstances. The younger of these child survivors were born during persecution, when families disintegrated under death threat.

Research questions

In this series of studies the following research questions were addressed.

1. The older age-cohorts were, as a rule, exposed longer to the horrors of the Nazi-regime, and keep more traumatic autobiographical memories. Do they, as a result, show more health, psycho-social, and post-traumatic stress-related complaints than a younger cohort?

2. The younger-age cohort missed out on the basic trust-enhancing experience of a relatively protected pre-war family life. They have probably suffered more stress-regulatory problems during critical early life periods, receiving less undivided perinatal maternal attention and attunement. Do they, as a result, show more health, psycho-social and post-traumatic stress-related complaints than an older-age cohort?

We expected the older child survivors, born before the war, to report a higher level of (age-related) physical health complaints and psycho-social problems than the younger ones. On the other hand, we expected the older cohort to report post-traumatic stress complaints to the same extent as the younger cohorts.

3. Are there any environmental or developmental factors which help the child survivors to cope with early childhood deprivations and enable them to adapt relatively well, despite everything they experienced?

Theoretical approaches to late consequences of early deprivations

While at the end of the 19th century research on the development of mental processes led to the insight that stress and traumata can cause disturbances in mental development (see for review of literature: Van der Kolk, Weisaeth, & Van der Hart, 1996), towards the second half of the 20th century mental trauma in early life began to achieve attention and understanding. Bowlby (1969/1982) noted how Freud only in his latest writings referred to the nature of trauma and thought that

children under the age of two were not vulnerable to traumatic experiences. Until the 1940's, most of the ideas about the effects of early childhood stress and trauma had been gained retrospectively. Anna Freud was one of the first to directly observe recently traumatized children (Freud & Burlingham, 1944). She noticed that infants between 12 and 24 months of age reacted strongly to separations from their mother or caregiver. According to her findings, adequate care and attention could effectively and quickly remedy the symptoms. Bowlby (1960) perceived that infants from the age of 6 months onwards are capable of grieving the loss of a caregiver, and that traumatic separations at that age could prove detrimental to future personal development. Stern (1985) concluded that the quality of attunement and the "core-relatedness" between caregiver and infant from birth, next to constitutional and genetically determined variables, influence the infant's mental health.

More recent research shows that the perinatal environment influences the autonomic nervous system and neuro-endocrine functioning of the infant, shaping responsitivity to psychosocial stressors, and affecting resilience or vulnerability to various forms of pathologies (Leckman, Feldman, Swain, Eicher, Thompson & Mayes, 2004). A combination of stress susceptibility and psychosocial stressors is associated with an increased risk for cardiovascular and endocrinal diseases (Carney, Freedland & Veith, 2005). Research in developmental and evolutionary biology found support for the concept of fetal programming (Philips & Jones, 2006). According to this concept, the risk of developing non-communicable chronic diseases in adulthood is not only a result of genetic and lifestyle factors, but may be an adaptation of the fetal organism to an expected postnatal environment (Francis & Meaney, 1999; Gluckman & Hanson, 2004);.

Health and stress research have often considered stress factors as negative life events (McEwen, 2005). Noting an ambiguity in forms of stress, Antonovsky (1979, 1987), "the father of the salutogenic paradigm" (Lindstrom & Eriksson, 2006), found it surprising that organisms were able to survive in spite of persistent exposure to stressors and diseases; he concluded that chaos and stress were natural conditions and part of life. In his opinion, the most important research question after the Holocaust is: what kind of resources cause health (salutogenesis), rather than: what are the reasons for disease (pathogenesis).

In this dissertation our research questions were guided by several theoretical approaches:

Attachment theory

In his trilogy Attachment and Loss, Bowlby (1969/1982, 1973, and 1980) described close, protective relationships in terms of a biological concept. He understood attachment systems as a correlate to the drive for food and sex, and as

a core form of relationship which exists in most mammals. He posited that parental sensitivity, the ability to be emotionally connected and being able to read signals of distress and fear provide, in terms of evolution, the best chance for a child to survive. The more the caregiver is able to reduce emotions of fear, anxiety and distress, the more the infant will feel an internal sense of security. Attachment behavior is elicited when the infant experiences distress, which endangers her "secure base" (Bowlby, 1988). Highly insecure attachment of a disorganized nature is considered one of the risk factors for the development of psychopathology; secure attachment may contribute to the development of emotional resilience (Greenberg, 1999).

Repeated experiences of the manner in which caregivers handle emotional distress are combined into implicit memory, the latter forms expectations in social interactions and leads to specific organizational changes in the behavior of the infant and in its brain function (Ainsworth, Blehar, Waters & Wall, 1978; Main, 1995). In this way the infant creates an "Internal Working Model" (IWM) of attachment relationships, a gradual build-up of mental representations of interactions between self and attachment figures (Bowlby, 1973; Bretherton, 1990). The IWM is thought to form the basis for the child's future approach to social interactions. Attachment researchers have classified the ways in which disruptions and loss of care affect attachment patterns, and how they influence the IWM (e.g. Main & Solomon, 1990).

Concerning insecure attachments, three different categories of attachment behaviors are distinguished: avoidance, ambivalence and disorganization. In avoidant attachment, the child expects rejection by the caregiver when he or she would show negative emotions, and adapts to the relationship by avoiding or minimizing the expression of negative emotions and thus avoiding the anticipated rejection. In ambivalent attachment, attachment behavior is shaped by the uncertainty about the response of the caregiver, who is inconsistently responsive to the child's attachment needs. The child maximizes the expression of negative emotions in order to draw the parent's attention, and is unable to endure even short periods of separation out of a basic insecurity about the return of the parent when he or she is needed. Disorganized attachment reveals itself by the (momentary) absence of an organized attachment strategy because the caregiver is at the same time a source of fear and the only potential haven of safety. Paradoxical behaviors such as freezing and disorientation are displayed in situations of traumatizing, neglectful and frightening care; the infant is placed in a irresolvable conflict when seeking protection from a frightening care provider, as for example in an abusive relationship.

In the context of attachment relationships between caregiver and child during the Holocaust, Bar-On, Eland, Kleber, Krell, Moore, Sagi, et al. (1998) made

the important comment that attachment theory transcends the clinical categories of interpreting favorable and unfavorable child-rearing circumstances and allows for the perception of a continuum in adaptive behavior. In elaboration of Bowlby's ethological perspective that protection of the young promotes survival of the species, Belsky (e.g.1999; 2006) shows how in dangerous rearing conditions parents will adapt their attachment patterns toward their children to a template which prioritizes the children's survival over a secure attachment mode. Indeed, following the Biblical example of Yoheved, the mother of Moses, many Jewish parents during the Holocaust persecution perceived it necessary to cease sensitive, responsive care-giving. They had to sever proximity-seeking behaviors and secure attachment patterns, and to entrust their children to often completely anonymous strangers. In acting this way their children's lives could be saved, but their attachment relationships could become severely compromised.

Attachment theory offers an elucidating model for interpreting and understanding the influence of Holocaust-related separations and losses on relationships in later life. From this perspective a recent study provided new understanding of how unresolved loss or other Holocaust-related trauma continues to influence trauma perceptions and adaptive styles of child survivors in Israel until today (Sagi, Van IJzendoorn, Joels et al., 2002).

Stress regulation

The regulation of stress has become understood as a protective modality against environmental threats, and is mainly mediated by the autonomic nervous system and the neuro-endocrine limbic hypothalamic-pituitary-adrenocortical (LHPA) system. In animal and human species the quality of maternal care at the start of life has been found to have a dramatic impact on later stress reactivity and anxiety (Priebe, Romeo, Francis et al., 2005). Pre-clinical studies found that early life stress induces at later life stages a hyper(re)activity of corticotropin-releasing factor (CRF) systems, which cause alterations in other neurotransmitter systems, and result in increased stress responsiveness (Strand, 1999). In humans, high levels of stress response- regulating maternal hormone (the corticotropin-releasing hormone) at the time of pregnancy are thought to negatively affect fetal development (Glynn, Wadhwa & Sandman, 2000). Persistent sensitization of central nervous system (CNS) circuits resulting from early life stress may represent the underlying biological substrate of increased vulnerability to subsequent stress, as well as to the development of depressions, anxiety and impulse control disorders (Heim & Nemeroff, 2001, Vermetten & Bremner 2002). Severe traumatic experiences are thought to increase the risk of stress-induced impairment of brain growth, and impediment of memory encoding, storage and retrieval from the brain (see for review: De Bellis, 2005; Siegel, 2001). Siegel (2001) postulates that

traumatic memories remain unresolved because of a blockage in the pathway towards a consolidation of these memories into a coherent narrative of the self. Unresolved trauma or grief is thus regarded as a lack of cortical consolidation of a traumatic period in a person's life story; it remains isolated from normal integrative functioning and interferes with the development of a coherent sense of self (see also Sagi, Van IJzendoorn, Joels et al., 2002).

During the transitional phase at the start of old age, which the younger child Holocaust survivors have now reached, they may become more vulnerable to stress-related and LHPA system-regulated health impairments, in particular immunological diseases (Kiecolt-Glaser & Glaser, 2001). They also may become more vulnerable to what Dasberg has described as the "adult child survivor syndrome" (Dasberg, 2001). Stress-related symptoms like excessive crying, feelings of anxiety and panic, nightmares, loss of emotional control and affect regulation, depressions, somatic complaints, and feelings of isolation and loneliness have been found to become more profuse in help-seeking Holocaust survivors (Brom, Durst & Aghassy, 2002) than in other populations of aging survivors of trauma (Port, Engdahl & Frazier, 2001).

How much stress (re)activation in child Holocaust survivors could be attributed to Holocaust survivor experiences? Maybe a reflection of the emotional stress still affecting participants in our study is expressed through their answers to questions concerning three shocking events, which were included in the Shocking Events questionnaire, as part of our study: (1) the death of a close relative, (2) surviving the Holocaust, and (3) the Yom Kippur War, which counts as the most dramatic event in Israel's war history (Schlosberg, 2005). Many of our respondents were involved in this war as (partners of) reservists in active duty. The Shocking Events Scale contains two measurements of emotional impact of each event: The difficulty of the event at the time it happened, and its influence today. The results depicted in Figure 1 show a high similarity between the present influence of the impact of the death of a close relative and the impact of the Holocaust, while it seems that the influence of the Yom Kippur War has been much more resolved. Thus, we must conclude that from the perspective of the child survivors the impact of the Holocaust is still very much existent, even after more than half a century. Note that several of the youngest participants, who did not remember the Holocaust, rated its difficulty at the time as non-existent (0).

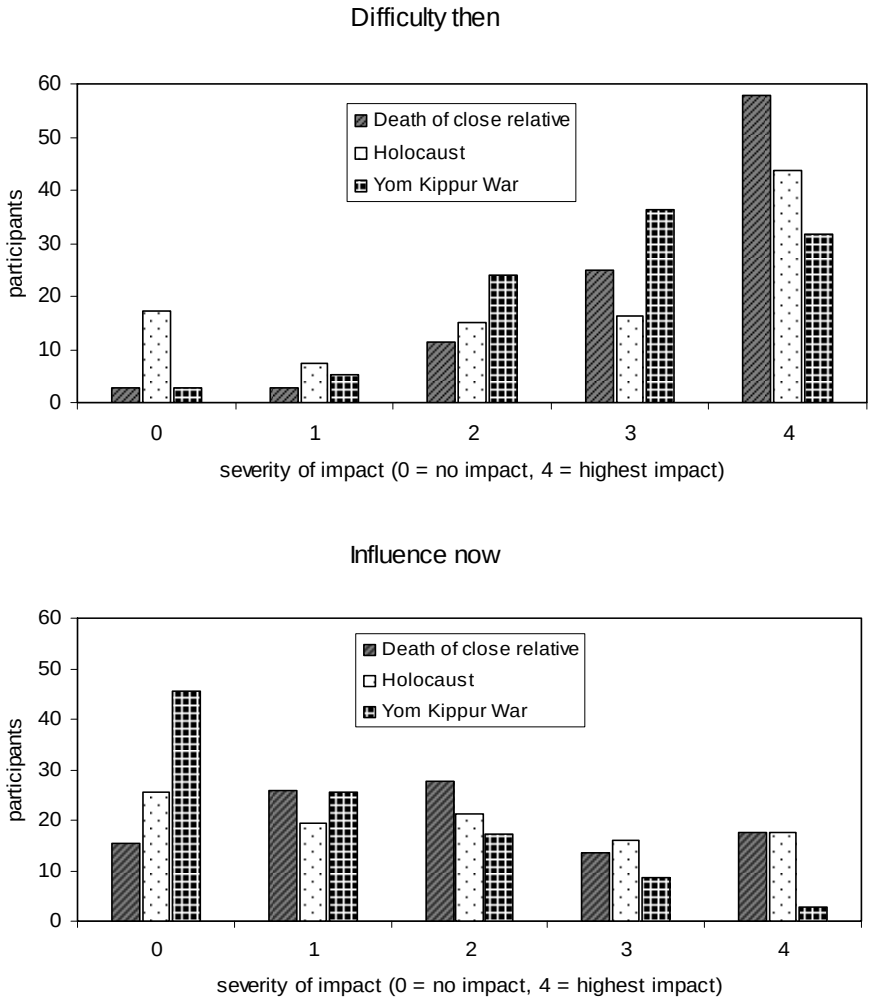

Figure 1: Impact of shocking life events

Sense of Coherence, a salutogenic approach

From a different perspective, the salutogenic theory of Antonovsky (1979, 1987) offers a valuable contribution to further understanding of the differential effects of early childhood deprivation on later life. While conducting an epidemiological study on psycho-somatic problems in the menopause of women in Israel, Antonovsky, an American-born Israeli medical sociologist, found to his surprise that some concentration camp survivors had succeeded in maintaining good health and leading a good life despite all they had gone through (Antonovsky,

Maoz, Dowty et al. 1971). Hence, he raised the question: what is it that creates health, as opposed to: what are the causes of disease. The result, a salutogenic model, describes the process of staying in good health in spite of the exposure to stressors, which are regarded as endemic to the human condition and do not always seem to upset homeostasis. Accordingly, stressors can be considered salutary, neutral, as well as pathogenic.; persons are understood to move on a continuum of ease-disease. Antovovsky's ideas have been confirmed by McEwen (1998, 2005), who emphasizes that apart from damaging effects of chronic stress, the attempts of the different body systems to cope with stressors provide protection by allowing adaptation in the face of acute stress.

The salutogenic model focuses on aspects of problem-solving, and of finding solutions for problems. It identifies generalized resistance resources (GRRs), including, i*nter alia*, material support, cognitive abilities, ego identity, social support, commitment and cohesion to one's cultural roots, religion and philosophy, and genetic and constitutional properties. It also identifies a global and pervasive Sense of Coherence (SOC) in individuals, groups, populations or systems, as a capacity to successfully manage the infinite number of complex stressors encountered in any situation, independent of whatever is happening in life. The SOC is constructed around its key components: comprehensibility – the cognitive component; manageability – the instrumental or behavioral component; and meaningfulness – the motivational component (Lindstrom & Eriksson, 2006). The SOC is perceived as flexible, not constructed around a fixed set of mastering strategies, like the classic coping strategies (Antonovsky, 1993). SOC is supposed to be a learning experience; childhood and adolescence are viewed as crucial points in the development of a person's SOC. By young adulthood, a SOC in its basic form is suggested to have developed and to have become relatively stable throughout adulthood. Empirical research over the last 15 years has provided some evidence for Antonovsky's claim that the SOC can be perceived as a universal mechanism, applicable in various cultures (Eriksson & Lindström, 2005). In the current study, Antonovsky's model and measure were used to trace sources of resilience in child survivors in order to examine pathogenesis as well as salutogenesis.

Research participants

In the present set of studies 203 Israeli child Holocaust survivors living in the greater Jerusalem area participated. Following the regulations of the Israeli Ministry of Health, all participants signed forms of informed consent after they had received an explanation of the purpose of the study. To enable a non-convenience sampling procedure, all participants were recruited by means of a list of names of potential participants provided by the Israel Ministry of Interior's Population

Registry Department. Regulations in Israeli laws concerning invasion of privacy were maintained. This list made it possible to reach Jerusalemites born between 1935 and 1944 in thirteen European countries occupied by Nazi-Germany, who emigrated to Palestine/Israel after 1945 (see Figures 1 and 2 for some background information on the sample). Since a cortisol component was introduced only after the first 70 interviews had been conducted, cortisol samples were taken only from the consecutive 133 participants.

The purpose of the study was to understand later-life influences of early traumatization as a result of Holocaust persecution; it seemed, therefore, important to understand not only under which circumstances the participants succeeded to survive, but also if they were accompanied by a hopefully responsive parent able to buffer exposure to the worst experiences. Table 1 represents the different ways in which the participants were saved. Many participants had survived under more than one of these circumstances.

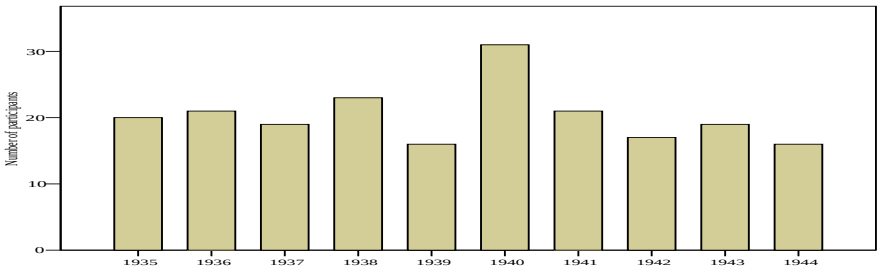

Figure 2: Participants' year of birth

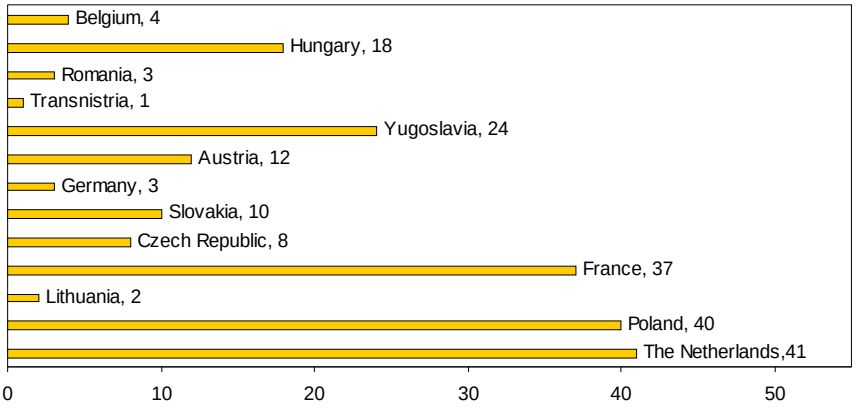

Figure 3: Number of Participants and country of birth

At the time of their involvement in the study, participants were between 60 and 70 years of age; 62.6% were female, compared to 57.6% in the Jewish population of Israel aged 65-74. Of all the participants, 73.9% were married at the time of the study, 11.8% divorced, 8.9% had become widowed and 5.4% decided

Table 1. Survival circumstances of participants

	alone	with 1 parent	with 2 parents
Ghetto	4	17	21
Hiding with Gentile families	54	33	17
Hiding in a monastery	11	2	0
Hiding in other institutions (e.g. hospital)	7	2	1
Concentration camp	3	18	16
Prison	1	1	6
In flight in the open (woods, mountains)	13	46	30
Siberia, Tashkent	0	5	8
Other	12	12	23

not to marry (see Table 2). Children had been born to 95.6% of the participants and 79.8% have grandchildren. The considerable difference in percentage of widowed participants (8.9) and the Israeli peer group closest in age (21.8) is related first to age difference (participants are 5 years younger; mortality rates rise very steeply at this age), and second to the difference in divorce percentages (11.8 for participants, 7.7 for Israeli peers).

The educational level of the participants is considerably higher than that of the average level of Israeli immigrants of their age from European and American countries (see Table 3). One should note that the level of education of the adult population of Jerusalem is higher than that of the rest of the country, as employment is mainly found in the civil service, institutions for higher secular and religious learning, and high-tech industries.

Table 2: Marital status of participants and of same-age group Israeli peers; in percent*

	Married	Divorced	Widowed	Single	Total
Participants of the study	73.9	11.8	8.9	5.4	100.0
Israeli peers aged 65-74	67.7	7.7	21.8	2.8	100.0

* Brodsky *et al.*, 2006

Table 3: Level of education of participants and of immigrants from European and American countries*; in percent

	Grammar school	High school	Higher education	Total
Participants of the study	2.5	24.6	72.4	100.0
Immigrants from Europe and America, aged 65-74	16.0	43.0	41.0	100.0

* Brodsky *et al.*, 2006

Vignette

In order to illustrate some of the Holocaust experiences of child survivors we present here a brief case study of one of our participants. Gisela* was born in 1937 in Lodz, Poland. Her brother was born two years later. The family was sent to the Lodz Ghetto in the spring of 1940. After some time they succeeded to escape to -, and managed to keep alive in the forests of eastern Poland, where they kept hiding in holes. Gisela remembers how her father succeeded to keep the children's spirit by telling stories, and teaching them Hebrew songs and poems. When the brother fell ill, the mother went to a nearby village to look for food and medication. That day, Nazi soldiers searched their hiding area. She, her father and brother were caught, and with others led to a pit, where they were shot. While her father and brother were killed, she fell, but stayed unhurt. After a night and day, she succeeded to crawl out of the pit and reach the nearest village, just like her father had told her to do in case of emergency. She was taken in by a* childless couple that took care of her. Several months after the end of the war her mother found her; she took her to Krakow where she worked in an orphanage. In 1947 they tried to reach

* Gisela gave her permission for using her story in this vignette.

Palestine, but the ship on which they sailed was caught by the British. They were sent to a detention camp for illegal Jewish emigrants in Cyprus. In 1948 they were brought to Israel. Gisela's mother soon remarried. Gisela did not get along with her mother's husband; she was taken in by a kibbutz, where she finished high school. She married at age 19, had 3 children, and now has 7 grandchildren. She recently suffered some major losses of close relatives.

When her second child went to elementary school, Gisela decided to study to become a nursery school teacher, and worked for many years as a kindergarten teacher. Today, although far beyond retirement age, she is still working and developing innovative kindergarten enrichment programs. She also lectures at high schools on her Holocaust past, and accompanies high school student groups at visits to concentration camps in Poland.

Introduction to the three studies

Chapter 2 of this dissertation examines the implications of early childhood exposure to the traumatic stress of Holocaust persecution and its aftermath for the adrenocortical system, with assessment of diurnal cortisol patterns and cortisol reactivity to a stressor.

We expect to find the youngest child survivors, who experienced the Holocaust at the most critical stage in their lives, to show a deviating diurnal cortisol pattern, related to suffering from PTSD, depression and physical illnesses. We also expect the youngest child survivors to show more elevated cortisol responses to a stressful challenge.

In Chapter 3 we investigate how exposure to Holocaust-related deprivation and post-war care arrangements affect the present well-being of the survivors. Our interest particularly concerns differences among the age groups in terms of physical health and various aspects of psycho-social functioning, including attachment styles, social belonging, post-traumatic stress symptomatology and depressive complaints.

Chapter 4 focuses on questions of what were the most severe traumatic experiences in early childhood during the Holocaust, how do they relate to post-traumatic stress at later age and how does sense of coherence affect traumatic experiences and post-traumatic stress. We examined whether the association between Holocaust experiences and post-traumatic stress was mediated by a sense of coherence (with more severe Holocaust experiences leading to a lower sense of coherence, and with a lower sense of coherence associated with more post-traumatic stress symptoms), or whether sense of coherence moderates the impact of Holocaust experiences on post traumatic stress symptoms. The latter possibility would attribute a protective quality/value to the sense of coherence.

It should be noted that the three studies are interrelated as they examine the same group of Holocaust child survivors, but each study also illuminates a specific aspect of their survival and current adaptation, with the first study focusing on neurobiological sequelae, the second study documenting the potentially protective role of post-war care arrangements, and the third study emphasizing the salutogenic coping mechanisms of the survivors.

CHAPTER 2

Diurnal Cortisol Patterns and Stress Reactivity in Child Holocaust Survivors

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Abstract

Late-life implications of early traumatic stress for the adreno-cortical system were examined in a sample of 133 child survivors of the Holocaust,who were subjected to Nazi persecution during infancy. Method: In a non-convenience sample of child survivors, born between 1935-1944, basal circadian cortisol release and cortisol reactivity to a stressor were assessed. Results: Age, parental loss during the Holocaust, current depression, PTSD and physical illness were not associated with differences in basal diurnal cortical levels. Neuro-endocrine effects, however, were found in stress reactivity through elevated cortical levels in male respondents in the youngest age group (born 1941-1945), and in male respondents suffering from PTSD-related functional impairment. Conclusion: The youngest survivors of Nazi persecution show late-life effects of traumatic stress during early childhood, evidenced by the early onset of differential neuro-endocrine pathways to stress-regulating strategies.

Introduction

Over the last twenty years Jewish child survivors of the Nazi Holocaust have become identified as a subgroup of Holocaust survivors with specific needs, differing from those of survivors who were adults during the Holocaust (Kestenberg & Brenner, 1996; Krell, 1985). They have become the focus of an increasing number of studies on the effects of childhood deprivation on coping with later-life challenges (Keilson, 1992; Moskovitz, 1985; Moskovitz & Krell, 1990; Tauber, 1996). Today, there exists an impressive body of descriptive clinical case studies, as well as empirical studies. On this basis, Dasberg (2001) identified an "adult child survivor syndrome", "a price paid through lifelong [post-Holocaust] symptoms in different combinations, intensities, and courses over time".

Several studies have been carried out over the years among various groups of child Holocaust survivors with matched controls who did not suffer Nazi persecution. Samples were recruited in part from treatment–seeking populations, and through affiliates of Holocaust interest groups (Amir & Lev-Wiesel, 2003; Brom, Durst & Aghassy, 2002; Cohen, Dekel, Salomon & Lavie, 2003). Others studies included randomized, non-convenience, non-treatment-seeking samples of Holocaust child survivors (Cohen, Brom & Dasberg, 2001; Sagi, Van IJzendoorn, Joels, & Scharf, 2002). The overall outcomes of these studies show significantly more traumatic stress with child Holocaust survivor samples in general as compared to controls, whereas treatment-seeking Holocaust survivors show significantly more severe post-traumatic stress symptomatology.

As a rule, studies of child survivors of the Holocaust include persons born between 1927 and 1945, which means that on Capitulation Day, May 8th 1945, they were aged from several months to 18 years. Interestingly, only Keilson (1992) designed a study taking into account differences in developmental age at the time of persecution. In clinical descriptive studies, some authors focused on issues related to the effects of developmental age during the time of persecution (Durst, 2003; Gampel, 1988; Kestenberg, 1988; Kestenberg & Gampel, 1983; Van der Hal, 1996). To our knowledge, no specific, systematic research exists focusing exclusively on effects of Holocaust persecution and its aftermath on the life cycle of the youngest children, born between 1935 and 1944. Aged from several months to 10 years at the end of the Second World War in 1945, many had to cope with the stress of deprivation and violence and want during the very first years of life. The oldest of this group of survivors were born during the first years of the Nazi regime, when, although not in direct life danger, their families endured progressively deteriorating physical, social and economic living circumstances. The younger of these child survivors were born during persecution, when their family units had disintegrated under death threat. Some parents succeeded in keeping

these children alive in concentration and work camps, or while fleeing into forest or mountain areas, or to the harsh living conditions in Siberia and Uzbekistan. Other parents separated from their children, intuiting that the chances for surviving changes were slimmer if they stayed together. They handed them to Christian families, monasteries, and other institutional care. Infants were left on doorsteps, hurled out of deportation trains or over ghetto walls, and "smuggled" out of deportation centers in waste bins and laundry baskets. Care provided to them by Gentile strangers varied from excellent to abusive in physical, sexual and emotional ways. Some children stayed during the persecution period with one care provider, others had to cope with and adapt to several, and sometimes many, caretakers. After liberation, many of the children suffered social and relational estrangement. When they survived separated from their families, they were now reunited with surviving parents they remembered only vaguely, if at all. Others had to cope with the loss of their murdered parents.

The current study focused specifically on the present day life of these youngest Holocaust survivors, who are now in their sixties, assessing influences of early childhood exposure to the traumatic stress of the Holocaust. While conceptualizing this study, we were aware of the fact that for the youngest survivors, in particular when born during persecution, the ability of their primary caregivers to stay fully attuned to their needs of proximity and safety could have been compromised (Bar-On, Eland, Kleber, Krell, Moore, Sagi, et al., 1998; Siegel, 1999). As a result, we opted to examine the effects of their early childhood experiences on the level of psycho-physiological functioning, in particular the adreno-cortical system.

Studies in animals and human infants showed that maternal separation and loss during infancy may have long-term effect on social adjustment, cognitive functioning and behavioral responses to stress (Gunnar & Nelson, 1994; Lui et al., 1997; Sanchez, Ladd & Plotsky, 2001; Sapolsky & Meaney, 1986). Variations in maternal care also influence responses to stress in offspring by altering the development of the neural systems that mediate fearfulness (Weaver et al., 2004). As stress responses are physiological coping responses, they involve several body regulation systems: the sympathetic nervous system, the neurotransmitter system, the immune system, and the hypothalamic-pituitary-adrenal (HPA). Cortisol is the primary hormonal product of the HPA axis, the adreno-cortical system. During stress the hypothalamus signals the pituitary gland to stimulate the release of cortisol from the adrenal gland. The function of cortisol is to inactivate other biological reactions that were mobilized to cope with a stressor. In this sense one can conceptualize cortisol as an "anti-stress" hormone (Yehuda, 1997).

The production of cortisol follows a circadian rhythm with the highest level around 30 minutes after morning wake-up. During the day cortisol levels decrease

first sharply, and later on more gradually into the evening. An early morning peak and evening nadir can been observed in children as early as three months of age (Larson, Prudhomme White, Cochran, Donzella & Gunnar, 1998). At the same time, cortisol levels are also sensitive to instant emotional and physical stressors (Kirschbaum & Hellhammer, 1989, 1994) Therefore, superimposed upon the diurnal patterns, cortisol levels are activated by environmental cues relating to threats, unfulfilled expectations, pain, infection or metabolic crises (Glaser, 2000).

The human postnatal HPA axis system is highly responsive to stimulation, even when a diurnal rhythm is still lacking (Goodyer, Park, Netherton & Herbert, 2001). De Weerth, Van Hees & Buitelaar (2003) reported a relation between higher cortisol values during late pregnancy, earlier delivery, and more difficult-to-handle infant behavior, especially during the first seven weeks of life. Gunnar and colleagues studied the developmental changes that occur in the reactivity of the adreno-cortical system during the first years of life. They found shifts in decreasing reactivity of the HPA axis, the first occurring up to three months of life, and a second between 3 and 12 months (Gunnar, Brodersen & Krueger, 1996). Furthermore, they noticed the development of "social buffering", which enables a lower sensitivity of cortisol activity to variations in care quality. They also found evidence that children with negative emotional temperament are most likely to show higher levels of cortisol under less than optimal caring conditions (Gunnar & Donzella, 2002; Nachmias et al., 1996).

In adults, vulnerability induced by adverse experiences in childhood has been associated with altered stress reactivity and altered diurnal cortisol levels, yielding in different studies normal, as well as higher or lower than normal, levels of cortisol (hypo- or hyper-cortisolism). (Heim et al., 2000). Yehuda and colleagues (Yehuda, 1997, 2002; Yehuda, Golier & Kaufman, 2005), however, consistently found lower than normative diurnal cortisol levels in adult Holocaust survivors and their offspring, who also suffered from PTSD.

Gender, as well as age, influences on cortisol reactivity to a stressor were reported in several studies. In 102 healthy subjects between 9 and 76 years, Kudielka, Buske-Kirschbaum, Hellhammer & Kirschbaum, (2004) found that an acute psychological stressor induced significant HPA axis responses in all age groups. While no gender differences appeared in children and younger adults, elderly men showed larger free cortisol responses than elderly women. In another study, cortisol responses to a speech task differed by age (range 43-86 years), with the smallest responses in the oldest age group (Nicolson, Storms, Ponds & Sulon, 1997). In this study, younger men (40-59 years) in particular showed the largest and most prolonged response, while the elderly women (70 years and older) were the least likely to show any response. Wolf, Schommer, Hellhammer, McEwen & Kirschbaum (2001) found that younger women (with a mean age of 24.9 year; SD:

1.2 year) did not show any association of reduced memory performance with strongly induced cortisol increase, but men in the same age range did.

Several studies evaluated the cortisol responses of PTSD-patients with stress induction by means of "traumatic reminders". Veterans with PTSD evidenced elevated cortisol levels compared to veteran controls without PTSD after a challenge exposure to white noise and combat sounds (Liberzon, Abelson, Flagel, Raz & Young, 1999). Elzinga, Schmahl, Vermetten, Van Dyck & Bremner (2003) found PTSD symptoms highly predictive of cortisol levels in abused women with and without PTSD after they were exposed to personalized trauma scripts. Adult women, victims of early childhood abuse and suffering from depression, showed increased cortisol responses to a cognitive challenge (Heim, Newport, Bonsall, Miller & Nemeroff, 2001).

Against the background of these studies, which document somewhat diverging findings on the influences of early traumatic stress on HPA axis functioning, we assessed the influences of earliest childhood exposure to the traumatic stress of the Holocaust on both diurnal cortisol patterns and cortisol reactivity to a stressor. First, we expected to find that the youngest child survivors, who experienced the Holocaust atrocities at the most critical stage of their lives, would show a deviating diurnal cortisol pattern, related to suffering from PTSD, depression and physical illnesses. Second, we expected the youngest Holocaust child survivors, who also lacked the pre-war experience of a relatively protected family life, to show the most elevated cortisol responses to a stressful challenge, with men showing stronger responses than women.

Method

Participants

Participants were 203 child Holocaust survivors, who were born between 1935 and 1944 in countries occupied by the Nazi regime, and who immigrated to Israel after 1945. A non-convenience sample was created by recruiting through demographic information provided by the Israel Ministry of Interior Affairs, including name, year and country of birth, and date of immigration into Israel. Regulations in Israeli laws concerning invasion of privacy were maintained. Invitations to participate in the study were sent by mail to 410 addresses. In a follow-up telephone call 293 survivors who met our criteria could be reached. Forty-nine survivors refused to participate, while 41 candidates were not available for participation during the time frame of the study. Following the regulations of the Israeli Ministry of Health, all participants signed forms of informed consent after they had received an explanation of the purpose of the study.

We decided to introduce saliva collection procedures for cortisol determinations halfway through our study, resulting in a sub-sample of 133 survivors for whom cortisol data were available. These survivors were on average 65 years old, and 61% were female. For the purpose of analysis, the sample was divided in three age groups: born between 1935-1937 (n = 43), between 1938-1940 (n = 43), and between 1941-1944 (n = 47). Fourteen child survivors (11%) had lost both their parents during the Holocaust, 28 had lost one parent (21%), and in the remaining group (68%) both parents survived.

Procedures and measurements

Cortisol. Research assistants instructed participants in their home or at the Amcha Center for Holocaust Survivors, according to the preference of the participants. They provided oral and written explanations for taking three saliva samples for basal cortisol measurements during a normal day, the first upon awakening, the second before lunch, and the third before dinner. Instructions included mouth rinsing before sampling, refraining from eating fruit or drinking fruit juice, refraining from smoking for half an hour before sampling, and refraining from drinking alcohol for at least 12 hours before starting the sampling procedures. Respondents were asked to note the exact time when they collected saliva, and to report stressful activities, their state of health, and medications taken during the sampling day. Saliva samples were frozen immediately after collection.

Several days to two weeks later, respondents participated in a stressful task which consisted of completing self-report questionnaires. A more detailed description of this stressor can be found below. Three saliva samples were collected at 20-minute intervals during the procedure, with the first sample taken 20 minutes after the start. After a resting period of 40 minutes, a fourth sample was taken to assess the post-stress cortisol level. All samples were frozen until assayed for cortisol concentration. Research assistants were present during the whole procedure, and were available for emotional support at the time of the stressor, and by phone at any time afterward.

The saliva samples were stored at -20°C until analysis. The samples were analyzed in the laboratories of Trier University (Germany, Department of Clinical and Theoretical Psychobiology

After thawing, saliva samples were centrifuged at 2000xg for 10 minutes, which resulted in a clear supernatant of low viscosity. Saliva (100 □ l) was used for duplicate analysis. Cortisol levels were determined by employing a competitive solid-phase time-resolved fluorescence immunoassay with fluorometric endpoint detection (DELFIA). Maxisorb microtiter plates (96-well) (Nunc) were coated with rabbit anti-ovine immunoglobulin. After an incubation period of 48 hours at 4°C plates were washed three times with wash buffer (pH=7.4; containing sodium

phosphate and Tween-40). The plates were then coated with an ovine anti-cortisol antibody and incubated for 48 hours at 4°C. Synthetic saliva mixed with cortisol in a range of 0-100 nmol/l served as standards. Duplicate samples of standards, controls (saliva pools) and samples were tested. Biotin-conjugated cortisol (50 µl) was added and the non-binding cortisol/biotin-conjugated cortisol was removed after 30 min of incubation by three rounds of washing. Europium-streptavidin (200 µl) was added to each well and enhancement solution (200 µl) was added after 30 min and six rounds of washing (Pharmacia, Freiburg, Germany). Within 15 min on a shaker the enhancement solution induced fluorescence which was detected with a DELFIA-Fluorometer (Wallac, Turku, Finland). A standard curve was generated using a computer-controlled program and the cortisol concentrations of the samples were calculated. The intra-assay coefficient of variation was between 4.0% and 6.7%, and the corresponding inter-assay coefficients of variation were between 7.1% - 9.0%. Log-transformed cortisol levels were used in the analyses.

Stressor. Through the questionnaire participants were confronted with questions about their Holocaust survival experiences and exposure to other shocking life events: e.g. sexual, physical or emotional abuse, traumatic experiences during the wars and the terrorist attacks in Israel, combat trauma, death of close relatives after the Holocaust, life-threatening illnesses and traffic accidents. In addition, they completed several standard psychological assessment questionnaires. The procedure took ninety minutes on average.

Instruments

Physical health status. Physical health status was assessed by a self-report questionnaire listing eighteen chronic physical illnesses. Respondents were asked to indicate which, if any, illnesses they had suffered during the last month. This questionnaire is widely used in Israeli institutes for socio-demographic research on the aged.

Beck depression inventory for primal care. This seven-item self-report questionnaire is widely used for fast screening for depression in adults. Sensitivity and specificity rates are 82%, slightly lower than the longer version. The seven items pertain to feelings of sadness, discouragement about the future, perceived decrease in self-confidence, a sense of being overly self-critical and a suicidal ideation. Each question is answered on a scale of 0-3 (Beck, Guth, Steer & Ball, 1997). Alpha reliability in the current sample was .75 (n = 198).

Post-traumatic stress diagnostic scale. PTSD functional impairment was assessed by means of the PDS. This 49-item self-report scale assesses DMS-IV symptoms of PTSD. It provides a categorical diagnosis of PTSD, as well as an overall measurement of symptom severity. The instrument showed good internal consistency and test-retest reliability. The test items correspond to DSM-IV

(American Psychiatric Association, 1994) diagnostic criteria for PTSD, indicating satisfactory convergent validity and concurrent validity assessed by self-report measures of depression and anxiety (Foa, Cashman, Jaycox & Perry, 1997). In the current study we used the PTSD F-criterion for functional impairment as a stringent index of PTSD with implications for daily functioning of the participant. The F-criterion, part four of the PDS, ascertains the level of impairment in social, occupational, inter-relational and other important areas of personal functioning. It consists of nine questions requiring a yes-no answer on perceived disturbances in daily functioning during the last month, as a result of a traumatic experience. Internal consistency in the current sample was adequate (alpha .82, $n = 108$).

Holocaust survival experience. In the current study, we interviewed the participants about their age and experiences during persecution, and parental loss as a result of the Holocaust.

Results

Preliminary analyses

Participants in the oldest age group more often lost one or both of their parents during the war, $F\ (2, 131) = 3.59$, $p = .03$. No difference in physical illness among the groups was found (see Table 1). The three age groups did not differ on depression, in the proportion of female survivors, or in the proportion of participants who used medication.

There was no difference in age among survivors who reported no PTSD functional impairments, those who did experience PTSD functional impairments, and the survivors who did not relate to any traumatic experience as currently disturbing them. Survivors with PTSD functional impairments suffered significantly more physical illnesses and they were significantly more depressed than the other two groups (Table 2). The three groups contained similar proportions of females, and did not differ in the use of medication. Since the group of survivors who did not relate to any traumatic experience as disturbing them did not significantly differ from the group without PTSD functional impairments on any of the variables (see Table 3), the two groups were collapsed in the analyses.

Survivors with more physical illnesses were more depressed, $r\ (131) = 0.23$, $p < 0.01$. Depression scores were significantly higher in the group of survivors who lost both parents ($M = 4.29$, $SD = 4.38$, $n = 14$) compared to survivors who lost one parent ($M = 1.82$, $SD = 2.36$, $n = 28$) or who lost no parents ($M = 2.25$, $SD = 2.35$, $n = 91$) during the Holocaust ($F\ (2,130) = 4.44$, $p = 0.01$). Physical health status did not differ for groups with varying parental losses.

Loss of parents, depression, and physical health were not significantly correlated with any of the cortisol measures, i.e. the three diurnal cortisol measurements and the three cortisol stress reactivity measurements. Correlations ranged from r = -0.18 (p = 0.06, n = 109, for the relation between noon cortisol and health) to r = 0.15 (p = 0.10, n = 120, for the relation between noon cortisol and loss of parents).

Diurnal cortisol

For the total group the basal cortisol curve showed a peak in the morning (M = 9.49, SD = 7.05, n = 122), with a decline to the noon (M = 3.63; SD = 2.20, n = 120) and afternoon levels (M = 1.96; SD = 1.48, n = 128). For the oldest age group, born between 1935 and 1937, the cortisol curve was less steep (morning: 0.91; noon: 0.45; afternoon: 0.26) than those of the other two age groups (morning: 0.84 and 0.90; noon: 0.49 and 0.51; afternoon: 0.15 and 0.10, respectively), also when we controlled for loss of parents and health status (see Figure 1). In a repeated measure analysis of covariance with morning, noon, and afternoon cortisol values as within-subject measures, loss of parents, depression, and physical health as covariates and age cohort as between-subject factors, the multivariate interaction between diurnal cortisol and age cohort, however, was not significant, $F(4, 204) = 2.22$, $p = 0.07$. The oldest age group tended to show a less steep decline from noon to afternoon cortisol level in comparison with the other two age groups (quadratic $F(2, 102) = 2.58$, $p = 0.08$). There were no main or interaction effects for gender. No significant differences were found between the values of the diurnal cortisol curve of the survivors with PTSD functional impairment and survivors without PTSD, $F(2, 103) = 0.28$, $p = 0.76$. Nor was there any interaction between PTSD and cortisol assessment, implying that there was no difference between the curves.

Table 1. Age

Year of Birth	**1935-1937**	**1938-1940**	**1941-1944**	**Total**	***F***	***p***
	M (SD) N	*M (SD) N*	*M (SD) N*	*M (SD) N*		
Age	68.0 (0.79) 43	64.8 (0.88) 43	61.3(1.10) 47	64.6 (2.94) 133	583.27	<0.01
Parents alive after war	1.37 (0.76) 43	1.60 (0.69) 43	1.74 (0.53) 47	1.58 (0.68) 133	3.59	0.03
Physical illness	2.72 (2.61) 43	1.95 (1.77) 43	1.96 (1.69) 47	2.20 (2.07) 133	2.01	0.14
Depression	2.40 (2.95) 43	2.42 (2.31) 43	2.32 (2.82) 47	2.38 (2.69) 133	0.02	0.98
Cortisol						
Morning	0.91 (.37) 37	0.84 (.28) 41	0.88 (.29) 44	0.87 (.31) 122	0.50	0.61
Noon	0.48 (.25) 39	0.51 (.28) 39	0.49 (.21) 42	0.49 (.24) 120	0.09	0.91
Afternoon	0.30 (.28) 41	0.18 (.29) 41	0.13 (.26) 46	0.20 (.28) 128	4.03	0.02
Reactivity						
20 min	-0.74 (.97) 34	-0.61 (.99) 34	-0.42 (1.21) 36	-0.59 (1.06) 104	0.79	0.46
40 min	-0.53 (1.08) 36	-0.48 (.97) 36	-0.77 (1.13) 36	-0.59 (1.06) 108	0.77	0.47
60 min	-0.74 (1.18) 33	-0.46 (1.06) 34	-0.64 (.91) 33	-0.61 (1.05) 100	0.60	0.55
Gender (Female)	22 (51%)	25 (58%)	34 (72%)	81 (61%)	X^2 = 4.43	0.11
Medication	35 (81%)	27 (64%)	32 (74%)	94 (73%)	X^2 = 3.22	0.20

Table 2. PTSD

PTSD	No PTSD	PTSD Functional Impairment	PTSD Not Reported	Total	*F*	*p*
	M (SD) N	*M (SD) N*	*M (SD) N*	*M (SD) N*		
Age	65.0 (2.87) 32	65.0 (2.84) 38	64.2 (3.01) 63	64.6 (2.94) 133	1.46	0.24
Parents alive after war	1.63 (0.66) 32	1.37 (0.85) 38	1.68 (0.53) 63	1.58 (0.68) 133	2.72	0.07
Physical illness	2.00 (1.32) 32	3.08 (3.03) 38	1.78 (1.46) 63	2.20 (2.07) 133	5.18	0.007
Depression	1.84 (2.64) 32	3.53 (3.17) 38	1.95 (2.19) 63	2.38 (2.69) 133	5.19	0.007
Gender (Female)	18 (56%)	25 (66%)	38 (16%)	81 (61%)	X^2 = 0.68	0.71
Medication	25 (86%)	28 (74%)	41 (67%)	94 (73%)	X^2 = 3.64	0.16

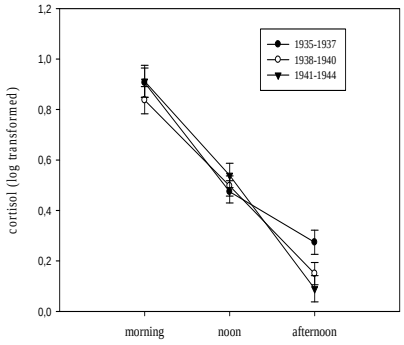
Table 3. PTSD 2-way

PTSD	PTSD Not Reported	PTSD Functional Impairment	Total	*F*	*p*
	M (SD) N	*M (SD) N*	*M (SD) N*		
Age	64.5 (2.97) 95	65.0 (2.84) 38	64.6 (2.94) 133	1.04	0.31
Parents alive after war	1.66 (0.58) 95	1.37 (0.85) 38	1.58 (0.68) 133	5.32	0.02
Physical illness	1.85 (1.41) 95	3.08 (3.03) 38	2.20 (2.07) 133	10.15	<0.01
Depression	1.92 (2.34) 95	3.53 (3.17) 38	2.38 (2.69) 133	10.42	<0.01
Gender Female)	56 (59%)	25 (66%)	81 (61%)	0.53	0.47
Medication	66 (73%)	28 (74%)	94 (73%)	0.00	0.97
Cortisol					
Morning	0.87 (0.30) 86	0.89 (0.34) 36	0.87 (0.31) 122	0.21	0.65
Noon	0.47 (0.26) 84	0.53 (0.19) 36	0.49 (0.24) 120	1.59	0.21
Afternoon	0.18 (0.29) 92	0.25 (0.27) 36	0.20 (0.28) 128	1.78	0.18
Reactivity					
20 min	-0.60 (1.06) 73	-0.56 (1.07) 31	-0.59 (1.06) 104	0.04	0.85
40 min	-0.57 (1.02) 74	-0.65 (1.16) 34	-0.59 (1.06) 108	0.13	0.72
60 min	-0.58 (1.00) 67	-0.69 (1.17) 33	-0.61 (1.05) 100	0.24	0.63

Stress reactivity

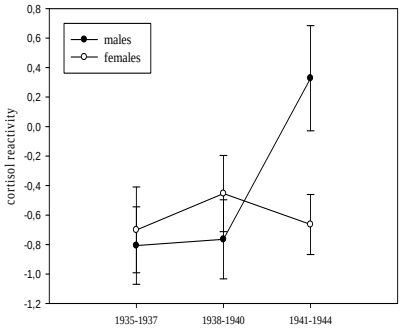
Reactivity at 20 minutes after onset of the test session was established by subtracting the standardized residual of the regression of the basal on the cortisol level from the time equivalent basal cortisol level after 20 min, thereby controlling for differences in baseline cortisol level. We tested for difference in stress reactivity among the three age groups with gender as a second factor and loss of parents, depression and physical health as covariates. The interaction between age group and gender was significant, $F(2, 95) = 3.13$, $p = 0.048$, see Figure 2. The males in the youngest age group showed the strongest reactivity. No significant main or interaction effects were found at 40 and 60 minutes after the test session,began, although differences were in the same direction.

Figure 1. Diurnal cortisol for the three birth cohorts



Note
Diurnal cortisol controlled for physical health, depression, and loss of parents during war.

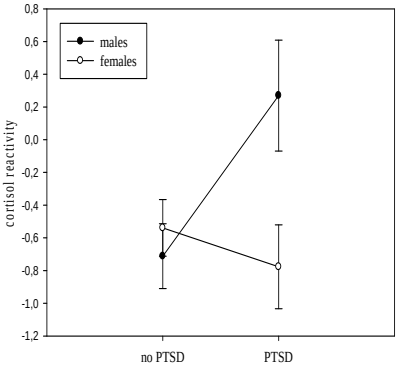
Figure 2. Cortisol reactivity to the Test Session for the various birth cohorts



Note
Reactivity controlled for physical health, depression, and loss of parents during war.

In an analysis of covariance between the two PTSD groups with gender as a second factor and loss of parents, depression and physical health as covariates, the interaction between PTSD functional impairment and gender was significant for reactivity at 20 minutes from the beginning of the session, $F(1, 97) = 3.97$, $p = 0.049$, see Figure 3. Males with functional PTSD impairment showed the strongest reactivity. No significant main or interaction effects were found at 40 and 60 minutes after the test session began, although, again, differences were in the same direction.

Figure 3 Cortisol reactivity for respondents with and without functional PTSD impairment



Note
Reactivity controlled for physical health, depression, and loss of parents during war.

Discussion

The current study provides evidence that the youngest survivors of the Nazi persecution bear late life effects of traumatic stress during early childhood. In our study age, parental loss during the Holocaust, current depression and physical illness were not associated with differences in basal diurnal cortisol levels. However, we noticed neuroendocrine effects in stress reactivity through elevated cortisol levels in the youngest male age group, and in male respondents suffering from PTSD-related functional impairment. Furthermore, we found a prominent association of depression with parental loss during the war. Child survivors who had lost both parents during the Holocaust were significantly more depressed than survivors who lost one parent, or did not suffer parental loss. Finally, survivors affected by PTSD-functional impairment also suffered significantly more often from physical illnesses and depression.

Limitations

One important limitation of our study concerns the absence of a control group of the same age cohort, not persecuted by the Nazis, or in other ways

affected by the consequences of the Second World War. Selecting a matched comparison group was too difficult to accomplish during the time frame available for the current study. We therefore focused on individual differences among child Holocaust survivors, with special emphasis on time of their birth. Another limitation is the incomplete data on cortisol as we started data collection halfway through our study; nevertheless, this rendered a substantially large group of (unselected) participants. We invested great efforts in oral and written instructions for taking saliva samples, and encouraged our subjects to keep contact for questions and prompts. Despite this, subject compliance remained a problem in home collection studies (Yehuda et al., 2003). Failure to adhere to instructions may possibly have affected the reported findings, although there is no reason to suspect a systematic bias. Moreover, the effects of a stressor on cortisol reactivity found in our study were based on saliva samples that were taken in the presence of research assistants during a standardized procedure.

Loss and Depression

We are not sure why the oldest group of survivors in our sample more often suffered the loss of both parents than the two younger groups. One explanation could be that the older children, though still toddlers in many cases, were more often handed over to the care of strangers to keep them hidden from persecution. Parents probably more often intuitively kept their youngest children, when they were still babies, in their own charge, as they tried to escape deportation.

An association between the adversity of early parental loss and depression in later life has been observed already by Keilson (1992). In his longitudinal study on Dutch-born orphaned child survivors he draws attention to the prevalence of depressive mood in these survivors in adult life. On the other hand, Robinson, Rapaport-Bar-Sever & Rapaport (1997), examined different aspects of the psychosocial effects of the Holocaust in 103 child survivors and found no differences in depressive complaints between survivors who lost both parents and those who lost none or one parent. In non-Holocaust-related studies, Agid et al. (1999) found that parental loss during childhood, especially before the age of 9, contributed significantly to developing major depression in adult life, with loss due to permanent separation being even more devastating than loss due to death.

Diurnal Cortisol

Our data show little evidence for associations between diurnal cortisol and coping with the hardships of traumatic early life experiences, such as parental loss as a result of the war. Since to our knowledge no other studies of these measures involving child Holocaust survivors have been published, we compared our findings with non-Holocaust-related studies. Nicolson (2004) found higher basal

cortisol levels in healthy adult men who lost a parent during childhood compared to controls who did not suffer parental loss. Luecken (2000) mentioned subsequent quality of care provided by the remaining parent or other caregiver, or other adversities during childhood as additional risk factors for neuro-endocrine effects related to parental loss. From these findings we infer that appropriate care after parental loss may be a reason for the absence of deviating diurnal cortisol patterns in our sample (Van der Hal-Van Raalte, Van IJzendoorn & Bakermans-Kranenburg - in press).

Elevated levels of basal cortisol have quite consistently been associated with mood disorders (Heim, Plotsky & Nemeroff, 2004; Plotsky, Owens & Nemeroff, 1998). In our study we were unable to find such a connection, nor were there any associations between decreased levels of diurnal cortisol and physical impairment or PTSD. Heim, Ehlert & Hellhammer (2000) reported decreased cortisol levels for healthy individuals living under stressful conditions, and for patients suffering from stress-related disorders, such as CFS, fibromyalgia, rheumatoid arthritis and asthma. In our study we assessed PTSD functional impairment, and the associations we found with physical illness and depression are consistent with findings in non-Holocaust-related studies of military veterans and civilian populations (Deykin, Keane, Kaloupec, Fincke, Siegfried, et al., 2001; Dobie et al., 2004; Ford et al., 2001; Zatzcick et al., 1997). Moreover, our findings are consistent with other studies reflecting on clinical observations of heightened psycho-social vulnerability of child survivors, even when they seem outwardly well-adapted (Cohen, Brom, et al., 2001; Dasberg, Bartura & Amit, 2001).

The tendency in our results for the oldest age group to show a less steep decline of cortisol level over the day confirmed findings of Ferrari et al. (2001). They noticed that with physiological and pathological aging a relative increase of cortisol serum levels in the evening and at night-time is responsible for a flattened cortisol circadian profile. In an earlier study**,** Yehuda et al. (1995) found lower mean 24-hour urinary cortisol excretion in Holocaust survivors with PTSD than in Holocaust survivors without PTSD. In that study, cortisol levels were significantly related to the severity of PTSD, due to a substantial association between cortisol levels and scores on the PTSD avoidance subscale. In the current study, we did not find similar associations with the PTSD functional impairment scale or with the PTSD symptoms scales of the PDS (Foa et al., 1997).

Cortisol Reactivity

Although the literature concerning cortisol reactivity to a stressor is not entirely consistent, many studies report stronger cortisol reactivity with aged male participants (Kudielka et al., 2004; Kudielka et al., 1998; Traustadottir, Bosch & Matt, 2003; Wolf et al., 2001). Our finding of higher cortisol reactivity of the males

in our sample was thus not unexpected. An interaction effect for cortisol reactivity between gender and PTSD was also found in Hawk, Dougall, Ursano & Baum (2000). In their study they found elevated urinary cortisol levels among PTSD-symptomatic men, but not women, one month after a motor vehicle accident. In many areas related to physical and psychological growth, males have been found to be developmentally more vulnerable than females. (Nagy, Loveland, Orvos & Molner, 2001).

A most interesting outcome concerns the significant interaction between age group and gender, by which males in the youngest age group showed the strongest reactivity. Although the age differences between the groups are not large, it bears historical significance: The survivors in the youngest group were all born after the outbreak of the war and after the Nazi persecution had started. We infer from our results that the youngest survivors in our study show neuro-endocrine reactions while under stress that are significantly different from the reactions of survivors born before the onset of persecution.

In view of the important role of sensitive and responsive parenting in buffering reactivity of the HPA system to potentially stressful events (Gunnar, 1998; Gunnar et al., 1996; Larson et al., 1998), it stands to reason that the older child survivors in our sample, born before the onset of the persecution, could more often rely on parental care not yet compromised by the stresses of coping with moment-to-moment survival. They were still able to enjoy their parents' 'good enough' support for regulating and buffering normal infantile internal and environmental stresses and anxieties, at least in the first years of their lives (Siegel, 1999; Stern, 1985). Born after the onset of Nazi persecution, the youngest participants in our study were, due to the circumstances, more often deprived of unconditional care and attention by their parents or substitute parents. Furthermore, the youngest survivors may also have suffered more from pre- and perinatal stresses affecting HPA-axis functioning already before birth (De Weerth et al., 2003). Our findings leave room for prenatal programming of the neuro-endocrine system (Bertram & Hanson, 2002), in infants of mothers who were stressed by the extreme circumstances of the Holocaust. Thus, our findings support the concept of an early onset of differential neuroendocrine pathways to stress-regulating strategies of children born in the midst of war and genocide.

CHAPTER 3

Quality of Care after Early Childhood Trauma and Well-Being in Later Life:

Child Holocaust Survivors reaching Old Age

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Quality of care after early childhood trauma and well-being in later life: child Holocaust survivors reaching old age

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Abstract

The link between deprivation and trauma during earliest childhood and psycho-social functioning and health in later life was investigated in a group of child Holocaust survivors. Method: In a non-convenience sample 203 survivors born between 1935 and 1944 completed questionnaires on Holocaust survival experience and several inventories on current health, depression, post-traumatic stress, loneliness, and attachment style. Results: Quality of post-war care arrangements and current physical health independently predicted lack of well-being in old age. Loss of parents during the persecution, year of birth of the survivors (being born before or during the war), and memories of the Holocaust did not significantly affect present well-being. Conclusion: Lack of adequate care after the end of World War II is associated with lower well-being of the youngest Holocaust child survivors, even after an intervening period of 60 years. Our study validates Keilson's (1992) concept of 'sequential traumatization', and points to the importance of after-trauma care in decreasing the impact of early childhood trauma.

Introduction

The long-term effects of persecution on the child survivors of the Holocaust, now living in Israel, are reported in numerous studies (for a review, see (Dasberg, 2001)). The current study is, however, the first to focus exclusively on the youngest of these child survivors. Born some years before or during the Second World War, they survived the horrors of persecution, losses, separations, neglect and starvation during their first and most formative years (Kestenberg & Brenner, 1996). They were confronted from the earliest age with their parents' struggle to escape annihilation, and had to endure their helplessness in providing basic protection and safety. Many of these children survived only by being separated from their parents, and entrusted to the care of strangers (Flim, 2004; Fogelman, 1994; Meijer, 2001). After the war they faced further separations as they were reclaimed by their estranged parents from the caretakers who had provided them with safety (Evers-Emden & Flim, 1995). Many parents were too weak and mentally exhausted after the war to be able to take proper care of their children. Orphaned child survivors had to deal with numerous separations and adjustments. All were confronted with the havoc wrought by the Holocaust on family, social and cultural structures (Kestenberg & Gampel, 1983). Furthermore, they had to readjust to more separations and ever changing circumstances as they moved from country to country, and immigrated to Israel (Lev-Wiesel & Amir, 2000).

Now in their early sixties to early seventies, many of these youngest Holocaust survivors have shown remarkable ability to live successful lives, building families and doing well beyond expectation in professional careers (Suedfeld, 2002; Suedfeld, Paterson, & Krell, 2005). Yet, some authors have suggested that for those survivors who suffered extreme traumatic stress, apparently normal functioning can be fragile (Tauber, 1996; Van der Hart, Nijenhuis, and Steele, 2006) The younger child survivors are now they reaching the age at which older survivors before them started to become more vulnerable to difficulties in dealing with the stresses of daily life (Aarts & Op den Velde, 1996; Brodaty, Joffe, Luscombe, Ehrlich, 2003; Dasberg, 2001; Harel, Kahana, & Kahana 1993), although they often continued to display great strength in social functioning (Kahana, Harel, & Kahana, 1989).

Obviously there is wide variation in the ways adults as well as children survived the Holocaust persecution, in the severity of their exposure to trauma and deprivation, and in the quality of care they received after the war. The various, often impressive ways in which survivors of all ages after the war rebuilt their lives and adapted to post-war demands have been stressed by several authors (for review see: Suedfeld, Soriana, McMurty, Paterson, et al 2005).

Studies of older child survivors assessed specific Holocaust experiences which could have adversely influenced well-being later in life (Krell, 1985). Some

researchers focused on different settings in which child survivors had endured hardship: concentration camps, ghettos, hiding with Christian families, or hiding in the open in woods and mountains (Lev-Wiesel & Amir, 2000; Robinson, Rapaport-Bar-Sever & Rapaport, 1994b; Yehuda, Schmeidler, Siever, Binder-Brynes & Elkin, 1997). Others studied the influence of the hardship of loss of parents, and ensuing unstable foster care (Keilson, 1994; Robinson et al., 1997). Several studies examined how developmental age at the time of persecution affected later functioning (Durst, 2003; Gampel, 1988; Kestenberg, 1988; Kestenberg & Brenner, 1996; Tauber, 1996). Two studies found older child survivors to be more vulnerable to symptom patterns in later life (Cohen, Dekel, Solomon & Lavie, 2003; Yehuda et al., 1997). A number of Israeli studies compared present psychological functioning of child survivors with that of matched peers who had not endured the Holocaust (Amir & Lev-Wiesel, 2003; Brom, Durst & Aghassy, 2002; Cohen, Dekel et al., 2003; Cohen, Brom & Dasberg, 2001; Cohen Dekel & Salomon, 2002). These studies found a wider prevalence of post-traumatic stress disorders in child Holocaust survivors than in their non-Holocaust-exposed peers, and even higher levels of post-traumatic distress in those child survivors who applied for treatment. In a Canadian study however, which compared 45 survivors with 21 Jewish peers who had not experienced Holocaust persecution, survivors showed a higher posttraumatic stress incidence than the comparison group, but they also scored consistently higher on salutogenic (health-enhancing) assessment measurements (Cassel & Suedfeld, 2006).

In a demographic profile study among 1036 Dutch Jews (born 1904-1981) living in the Netherlands, Dutch child survivors (born 1925-1944) showed exceptionally high scores on a loneliness assessment scale. The scores were found to be significantly related to their reports of how seriously they and their parents had suffered during the Holocaust (Van Solinge & Van Imhoff, 2001). Recently, several controlled studies have been undertaken to assess current attachment representations and styles of child Holocaust survivors. These studies attempt to explain the nature of long-term effects of Holocaust survival experience in terms of Bowlby's theory of secure and insecure attachments, which originate from relationships with primary caregivers, and form the basis for the child's future approach to social interactions (Bowlby, 1973). According to his theory, insecure attachments stemming from an infant's experiences of separation and loss compromise the sense of a "secure base" (Bowlby, 1988). While specific insecure attachment styles have been identified as risk factors for adverse psychological development, secure attachment may contribute to the enhancement of emotional resilience (Greenberg, 1999; Schuengel, Bakermans-Kranenburg & Van IJzendoorn, 1999). In a study which assessed attachment styles by comparing psychotherapeutically treated Holocaust child survivors with non-treated survivors

and a control group of non-Holocaust-exposed peers, Cohen, Dekel et al. (2002) found that subjects with an insecure-avoidant attachment style showed more post-traumatic symptoms than secure and insecure-anxious-ambivalent subjects. Survivors receiving treatment showed fewer characteristics of secure attachment, suggesting that the treatment-seeking survivors suffer not only from emotional distress but from basic personality issues.

Two other studies investigated attachment experiences related to unresolved loss. In one study a non-convenience sample of child survivors (that is, the recruitment of the sample was not based on convenience groups such as mental health clinics, Holocaust related organizations, or advertisements, see Sagi-Schwartz et al., 2003) was compared with matched non-Holocaust-exposed peers (Sagi, Van IJzendoorn, Joels & Scharf, 2002), while in the second study the offspring of both groups were included (Sagi-Schwartz, Van IJzendoorn, Grossmann, Joels, Grossmann et al., 2003). While the results showed no differences in attachment classifications between the groups, more disorganized reasoning indicative of unresolved loss (Main & Hesse, 1990; Main & Goldwyn, 1984/1998) was assessed in the Holocaust survivors group. However, this did not appear to be transmitted to later generations. Disorganized reasoning in the child survivor group, as evident for instance from statements implying a belief that the deceased remained alive in the physical sense (Hesse, 1999), was suggested to constitute a risk factor for elevated stress levels during acute crises.

Child survivors with well-documented post-war personal histories have been subject to follow-up studies after reaching adulthood. One of these studies followed up the later adjustment process of infant Holocaust survivors whose initial adaptation to post-Holocaust life had been laid down by Anna Freud and Sophie Dann (Freud & Dann, 1951). They described how a group of six toddlers, as orphans liberated from the Therezin concentration camp and brought to England, adjusted relatively rapidly and favorably to a group upbringing, while making use of their strong attachments to each other, before they could trust and relate to adult caregivers. They were observed to succeed to some degree in overcoming anxieties and developing coping strategies, despite the fact that at the earliest age they had been "deprived of mother love, oral satisfactions, stability in their relationships and their surroundings" (p. 168). In a follow-up study, Sarah Moskovitz interviewed these survivors, who were then in their mid to late thirties ((Moskovitz, 1983). She was impressed by the way they had been able to cope by holding on to social skills that had apparently served them since their early ordeals. She also noticed "a persistent burden of the loss of parents never known, and of a hunger for some link with the past, for traces of themselves buried in childhoods they dare not to remember" (p. 226).

A second, longitudinal, study concerns a randomly selected survey of 204 out of the 2041 orphaned child survivors, born between 1929 and 1944, who were persecuted in the Netherlands (Keilson, 1992). This study was aimed at assessing the child survivors' psycho-social adjustment 25-30 years after the war; some of them were living and interviewed in the Netherlands (n=151), and some in Israel (n=53). Immediately after the war they had been placed in the care of Jewish or Gentile foster families. Their previous history/life stories and post-war situation had been evaluated by childcare workers. The authors were permitted to make use of the kept records. By means of clinical-descriptive as well as quantitative-statistical methods, the study documented a relation between the child's age at traumatization, the severity of the traumatization, and the nature of personality disorders observed in adult life. Personality problems with impaired interpersonal relationships were found in the younger age groups. For assessing severity of traumatization, Keilson subdivided the period of Nazi persecution into three sequential phases: the pre- and early war phase, the war-persecution phase, and the post-war phase. The impact of the third, post-war, traumatic sequence turned out to be more predictive of psycho-social impairments in child survivors as adults than the second sequence, which included wartime and persecution. It was on the basis of this finding that Keilson (1992) coined the term 'sequential traumatization'.

In the current study we investigated how exposure to deprivation and trauma during earliest childhood affects present well-being of a group of Holocaust survivors reaching old age. Our sample consisted of survivors who were born several years before or during the war. The oldest group, born some years before the war, was developmentally capable of holding on to autobiographic memories of their ordeals, whereas the two younger groups, born just before and during the war, were in general too young to do so (Siegel, 2001). Our interest particularly concerned differences between the groups in terms of physical health and various aspects of psycho-social functioning related to present well-being, for example, social belonging, attachment styles and post-traumatic stress symptomatology, including depressive complaints. Based on our analysis of the literature we expected the older child survivors, born before the war, to show more (age-related) physical health complaints, as well as psycho-social problems. We also tested for differences in present functioning between the survivors who had lost one or both of their parents during the war and those who survived with their parents. Lastly, we investigated whether post-war circumstances, in particular the care arrangement in which the child survivors found themselves immediately after the end of the war, were important in mitigating or exacerbating the traumatic consequences of the Holocaust experiences.

Method

Participants

Participants were 203 Holocaust child survivors, born between 1935 and 1944 in countries occupied by the Nazi regime, and having immigrated to Israel after 1945. A non-convenience sample was created by recruiting through demographic information provided by the Israel Ministry of Interior Affairs, including name, year and country of birth, and date of immigration into Israel. Israeli laws concerning protection of privacy were followed. Invitations to participate in the study were sent by mail to 410 addresses. In a follow-up telephone call 293 survivors who met our criteria could be reached. Forty-nine survivors refused to participate, while 41 candidates were not available for participation during the time frame of the study. Participation consisted of completing self-report questionnaires, with questions about Holocaust survival-related experiences, and several standard psychological assessment questionnaires. The procedure took one and a half hours on average. Following the regulations of the Israeli Ministry of Health, all participants signed forms of informed consent after they had received an explanation of the purpose of the study

The survivors were on average 65 years old, and 63% were female. For the purpose of analysis, the sample was divided in three age groups: born 1935-1937 (n = 60), 1938-1940 (n = 70), and 1941-1944 (n = 73). Twenty-seven child survivors (13%) had lost both their parents during the Holocaust, 46 had lost one parent (23%), and in the remaining group (64%), both parents survived.

Instruments

Holocaust survival exposure questionnaire. In this questionnaire participants answered demographic and specific Holocaust survival-related questions. In the current study we focused on questions pertaining to having recollections of the Holocaust, and to the quality of care arrangements immediately after the war. Both questions yielded scores on a 5-point scale (1: no memories, 5: very clear memories, and 1: very bad care, 5: very good care).

Physical health status. Physical health status was assessed by a self-report questionnaire developed by the Herczeg Institute on Aging (Tel-Aviv University), listing 18 chronic physical illnesses. Respondents were asked to indicate which, if any, illness they had suffered during the last month. This questionnaire is widely used in Israel for socio-demographic research on the aged.

Beck depression inventory for primal care. This instrument (Beck, Guth, Steer & Ball, 1997), a 7-item self-report questionnaire, is widely used for fast screening for depression in adults. The items pertain to feelings of sadness, discouragement

about the future, perceived decreases in self-confidence, a sense of being overly self-critical and suicidal ideation. Each question is answered on a scale of 0-3 (0: least, 3: most). Sensitivity and specificity rates of the seven-item questionnaire are 82%, slightly lower than the longer version. The internal consistency of the short form showed adequate internal consistency (alpha = 0.83), and scores were not related to sex, age, ethnicity, or type of medical diagnosis. In our sample the internal consistency of the BDI was adequate as well (alpha = .75, n = 198).

Post-traumatic stress diagnostic scale. PTSD functional impairment was assessed by means of the PDS (Foa, Riggs, Dancu, & Rothbaum, 1993). The 49-item self-report scale assesses DMS-IV symptoms of PTSD. It provides a categorical diagnosis of PTSD, as well as an overall measurement of symptom severity. The instrument showed good internal consistency and test-retest reliability (.91 and .74, respectively, Foa et al. 1993). The test items correspond to DSM-IV (American Psychiatric Association, 1994) diagnostic criteria for PTSD indicating satisfactory convergent validity and concurrent validity assessed by self-report measures of depression and anxiety (Foa, Cashman, Jaycox & Perry, 1997). Moreover, the PDS correctly classified PTSD positive patients with a sensitivity rate of 89%, a specificity rate of 65% and an overall correct classification rate of 74% (Foa et al., 1993). In the current study we used the PTSD F-criterion for functional impairment as a stringent index of PTSD with implications for daily functioning of the participant. The F-criterion, part 4 of the PDS, ascertains the level of impairment in social, occupational, inter-relational, and other important areas of personal functioning. It consists of nine questions, requiring a yes-no answer, on perceived disturbances in daily functioning during the last month, as a result of a traumatic experience. The questionnaire showed adequate internal consistency in our sample, alpha = .82, (n = 108).

Experiences in close relationships revised (ECR-R). The ECR-R is a 36-item self-report attachment measure with scores on a seven-point Likert type scale developed by Fraley, Waller and Brennan (2000). The instrument is based on Hazan and Shafer's (1987) findings showing parallels between the emotional attachment of human infants to their caregivers and adult romantic and marital attachment relationships. Two major dimensions were distinguished, attachment-related anxiety and attachment-related avoidance of intimacy (Brennan, Clark, & Shaver, 1998). The ECR-R provided highly stable indicators of attachment during a 3-week period (85% shared variance). Moreover, scores explained between 30% to 40% of the between-person variation in attachment-related emotions experienced during interactions with a romantic partner and only 5% to 15% of that in interactions with family and friends (Sibley, Fischer, & Liu, 2005). We used participants' scores on the two dimensions, Avoidance (or discomfort with

closeness and discomfort with depending on others, alpha = .91, *n* = 167) and Anxiety (or fear of rejection and abandonment, alpha = .85, *n* = 145).

The loneliness scale. This scale consists of 11 items; five are formulated positively, six negatively. The questionnaire is based on the cognitive approach to loneliness, with emphasis on the felt discrepancy between what one wants and what one has in terms of interpersonal affection and intimacy. Characteristics of the social network, number and frequency of contacts, and expectations of support are considered important loneliness-provoking factors (De Jong Gierveld, 1987; De Jong Gierveld & Van Tilburg, 1987; De Jong Gierveld & Van Tilburg, 1999 electronic update 2006). Typically, reliabilities in the 0.80 to 0.90 range are observed (König-Zahn, Furer & Tax, 1994). In our sample the internal consistency was alpha = .87 (*n* = 193).

Results

Bivariate Analyses

Participants in the three birth cohorts did not differ in the number of parents they lost during the war, or in quality of care after the war (see Table 1). The older survivors had more clear memories of their Holocaust experiences (see also Table 4). Furthermore, the older participants were less positive about their health condition, although the birth cohorts did not significantly differ on number of physical illnesses, or use of medication. The cohorts did not significantly differ on the avoidance, anxiety, and depression scales. However, younger survivors suffered more from feelings of loneliness (see Table 1). The three groups included similar proportions of females.

From Table 2 it can be derived that the group of survivors who did not relate to any traumatic experience as currently disturbing them and the group of survivors who reported no PTSD functional impairments did not significantly differ on any of the variables. Therefore, the two groups were collapsed in the analyses.
Comparing the Holocaust survivors without PTSD to those with functional PTSD impairment, we found that the latter group reported significantly lower quality of care after the war, suffered more from physical illnesses, and were significantly less positive about their health status. They did not, however, differ in their use of medication. Furthermore, survivors with functional PTSD impairments were significantly more avoidant, more anxious, more depressed, and lonelier compared to the survivors without post-traumatic stress-related functional impairments (see Table 3). The groups of survivors with and without functional PTSD impairments included similar proportions of females.

Better quality of care after the war was associated with fewer physical illnesses, less depression, less loneliness, and lower scores on the avoidance and anxiety scales (see Table 4). Survivors with more clear memories of the Holocaust also reported more physical illnesses. More physical illnesses were related to more feelings of depression, more loneliness, and higher scores on the anxiety scale. More physical illnesses were of course associated with a less positive evaluation of the own health condition (see Table 4).

Perceived health, depression, loneliness, avoidance, and anxiety were all significantly correlated in the expected direction. In a principal components analysis they loaded on one component, explaining 49% of the variance. Therefore, a composite scale for *Lack of well-being* was computed, as the sum of the standardized scale scores for perceived health, depression, loneliness, avoidance, and anxiety (*alpha* = .73, *n* = 167).

Table 1. Descriptives per Age Cohort

Year of Birth	1935-1937	1938-1940	1941-1944	Total	*F*
	M (SD) N	*M (SD) N*	*M (SD) N*	*M (SD) N*	
Age	68.0 (0.81) 60	64.9 (0.88) 70	61.6 (1.13) 73	64.6 (2.8) 203	**744.42
Loss of parents during war	0.58 (0.72) 60	0.54 (0.77) 70	0.38 (0.66) 73	0.50 (0.72) 203	1.49
Quality of care after war	4.1 (1.11) 38	3.9 (1.26) 52	4.1 (1.37) 51	4.0 (1.26) 141	0.28
Memories of Holocaust	30.3 (5.48) 60	26.7 (7.69) 70	16.3 (7.00) 73	24.0 (9.04) 203	***75.94
Physical illnesses	2.7 (2.55) 60	2.2 (1.78) 70	1.8 (1.73) 73	2.2 (2.04) 203	2.99
Self-reported health	3.4 (0.92) 55	3.8 (0.90) 63	3.9 (0.72) 61	3.7 (0.87) 197	**5.05
Avoidance	2.8 (1.16) 57	2.6 (1.08) 67	2.9 (1.29) 68	2.8 (1.19) 192	1.87
Anxiety	3.4 (0.99) 56	3.2 (0.90) 67	3.2 (1.16) 68	3.3 (1.02) 191	0.55
Depression	2.6 (3.03) 60	2.4 (2.61) 69	2.5 (3.50) 73	2.5 (3.07) 202	0.03
Loneliness	16.7 (4.68) 58	15.9 (4.75) 70	18.1 (5.71) 73	16.9 (5.16) 201	*3.34
Gender (Female)	34 (57%)	40 (57%)	53 (73%)	127 (63%)	X^2 =4.91
Medication	51 (85%)	48 (72%)	49 (80%)	148 (79%)	X^2 =3.51

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 2. Means and standard deviations of major predictors for three categories of PTSD (no PTSD symptoms; PTSD functional impairment; no PTSD reported to affect daily life)

PTSD	No PTSD	PTSD Functional Impairment	PTSD Not Reported	Total	*F*
	M (SD) N	*M (SD) N*	*M (SD) N*	*M (SD) N*	
Age	65.1 (2.73) 44	64.7 (2.71) 75	64.3 (2.84) 84	64.6 (2.77) 203	1.21
Loss of parents during war	0.55 (0.76) 44	0.61 (0.80) 75	0.37 (0.60) 84	0.50 (0.72) 203	2.44
Quality of care after war	4.35 (1.16) 26	3.64 (1.32) 59	4.23 (1.14) 56	4.01 (1.26) 141	*4.53
Memories of Holocaust	25.0 (9.09) 44	25.2 (8.35) 75	22.5 (9.47) 84	24.0 (9.04) 203	2.17
Physical illnesses	1.95 (1.33) 44	2.95 (2.63) 75	1.67 (1.50) 84	2.20 (2.04) 203	**8.83
Self-reported health	4.00 (0.70) 38	3.50 (1.03) 66	3.81 (0.75) 75	3.74 (0.87) 179	*4.66
Avoidance	2.38 (1.16) 42	3.12 (1.29) 71	2.68 (1.03) 79	2.78 (1.19) 192	**5.98
Anxiety	3.08 (0.92) 41	3.58 (1.03) 71	3.10 (1.01) 79	3.27 (1.02) 191	**5.21
Depression	1.41 (2.39) 44	3.97 (3.69) 75	1.72 (2.13) 83	2.49 (3.07) 202	**16.24
Loneliness	14.45 (3.59) 44	19.04 (5.57) 74	16.33 (4.79) 83	16.92 (5.16) 201	**13.28
Gender (Female)	26 (59%)	49 (65%)	52 (62%)	127 (63%)	X^2 =0.49
Medication	34 (87%)	59 (82%)	55 (71%)	148 (79%)	X^2 =4.56

* $p < .05$ ** $p < .01$

Table 3. Means and standard deviations of major predictors for two categories of PTSD

PTSD	No reported PTSD	PTSD Functional Impairment	Total	*t*
	M (SD) N	*M (SD) N*	*M (SD) N*	
Age	64.6 (2.81) 128	64.7 (2.71) 75	64.6 (2.77) 203	-0.42
Loss of parents during war	0.43 (0.66) 128	0.61 (0.80) 75	0.50 (0.72) 203	-1.68
Quality of care after war	4.27 (1.44) 82	3.64 (1.32) 59	4.01 (1.26) 141	**2.92
Memories of Holocaust	23.3 (9.38) 128	25.2 (8.35) 75	24.0 (9.04) 203	-1.42
Physical illnesses[1]	1.77 (1.44) 128	2.95 (2.63) 75	2.20 (2.04) 203	**-3.59
Self-reported health[1]	3.88 (0.73) 113	3.50 (1.03) 66	3.74 (0.87) 179	*2.61
Avoidance[1]	2.57 (1.08) 121	3.12 (1.29) 71	2.78 (1.19) 192	**-3.03
Anxiety	3.09 (0.98) 120	3.58 (1.03) 71	3.27 (1.02) 191	**-3.24
Depression[1]	1.61 (2.22) 127	3.97 (3.69) 75	2.49 (3.07) 202	**-5.03
Loneliness[1]	15.68 (4.48) 127	19.04 (5.57) 74	16.92 (5.16) 201	**-4.43
Gender (Female)	78 (61%)	49 (65%)	127 (63%)	X^2 0.39
Medication	89 (77%)	59 (82%)	148 (79%)	X^2 =0.72

[1] unequal variances * $p < .05$ ** $p < .01$

Table 4. Associations among background variables and current well-being.

	Age	Loss of parents during war	Quality of care after war	Memories of Holocaust	Physical illness	Self reported health	Depression	Loneliness	Avoidance	Anxiety
Age	--									
Loss of parents during war	.15*	--								
Quality of care after war	.00	-.12	--							
Memories of Holocaust	.66**	.12	-.08	--						
Physical illnesses	.12	.05	-.20*	.18*	--					
Self-reported health	-.16*	.05	.07	-.18	-.53**	--				
Depression	.00	.12	-.17*	.07	.28**	-.41**	--			
Loneliness	-.13	.06	-.19*	-.06	.18*	-.30**	.46**	--		
Avoidance	-.06	-.03	-.19*	-.05	.11	-.20*	.33**	.58**	--	
Anxiety	.04	.11	-.19*	.06	.16*	-.21**	.34**	.38**	.32**	--

* $p < .05$ ** $p < .01$

Multivariate Analysis

In a hierarchical multiple regression analysis predicting current lack of well-being from age, physical illnesses (first step), loss of parents during the war, and quality of care after the war (second step), only the number of physical illnesses (*beta* = .37, p <.01) and quality of care after the war (*beta* = -.18, p < .05) contributed significantly to the prediction. More physical illnesses and a lower quality of care after the war independently predicted less well-being (see Table 5). Loss of parents during the war and age of the survivors were not significantly associated with lack of well-being.

Table 5. Regression analysis predicting current lack of well-being from age, physical illnesses, loss of parents during war, and quality of care after the war

	Lack of well-being r	***R***	***R²***	***R²Ch***	***F***	***df***	***Beta[1]***	***p***
Step 1		.41	.17	.17	11.03	(2,112)		<.01
Age	.08						.03	.74
Physical illnesses	.41**						.37	<.01
Step 2		.44	.20	.03	6.67	(4,110)		<.01
Loss of parents during war	.06						.02	.83
Quality of care after war	-.25**						-.18	<.05

[1] The betas are derived from the regression model after step 2. ** p < .01

Discussion

Young childhood survivors of Nazi persecution who experienced unsatisfactory quality of care immediately after the Holocaust show a lack of well-being in their sixties and seventies. The correlation between a lack of well-being in old age and perceived failing quality of post-Holocaust care remained robust even after controlling for present health situation, a variable which obviously highly influences the sense of well-being. The association between perceived quality in care and lack of well-being in old age controlling for all other pertinent factors (*bèta* = .18) indicates a small (r = .10) to medium (r = .25) effect size (Cohen, 1988). Loss

of parents as a result of persecution, age of the survivors (being born before or during the war), and having autobiographic memories of the war period did not significantly affect survivors' present sense of well-being.

In our non-convenience sample, 37% of the respondents (75 out of 203) reported PTSD-related functional impairment. As the study was carried out during the last phases of the al-Aqsa Intifada, the rather high percentage could be a reflection of this stressful period of suicide-bombings. Earlier research, during the Gulf War Iraqi Scud missile attacks on Israel, found higher levels of perceived danger and reported more symptoms of acute distress with elderly Holocaust survivors than comparison subjects; in addition, they displayed higher levels of both state and trait anxiety (Robinson, Hemmendinger, Netanel, Rapaport, Zilberman et al., 1994a; Solomon & Prager, 1992). A tendency to a lower threshold for accumulated stress in Holocaust survivors and their offspring has previously been noted by several researchers (see Van IJzendoorn, Bakermans-Kranenburg & Sagi-Schwartz, 2003).

In the current study we did not include a control group, which counts as one of its limitations. Other limitations concern the design, with assessments based on self-report questionnaires. Furthermore, unlike Keilson (1992) and Moskovitz (1985), we could not rely on documented information about our respondents' peri-Holocaust history, and had to rely on their own retrospective or reconstructive reports. It might be argued that participants with more physical illnesses would be inclined to report lower levels of well-being and at the same time tend to view the quality of care they received earlier on as poor, because they have a negative view of both the past and the present. However our multivariate approach shows that controlling for physical health the quality of care contributed significantly to the prediction of current well-being. Nevertheless, our findings need further validation from studies using observed or other-reported indices of mental and physical health.

The importance of the quality of the "post-war embrace" (Tauber & Van der Hal, 1997) the way in which the children were received, contained, understood, and respected by adults, as they re-entered society after Holocaust and war trauma has been recognized as a main factor in successful trauma recovery (Catherall, 1989; Lifton, 1968; Mazor, Gampel, Enright & Orenstein, 1990). Our results are consistent with the results of Keilson's study (1992), which showed the substantial impact of post-war traumatic experiences. While Keilson's findings concerned war orphans rehabilitated in foster homes after the war, the current study shows for the first time that the cumulative effects of an unfavorable post-Holocaust sequence on later well-being also hold true for those child survivors who did not suffer parental loss. Some of them had not been separated from their parent(s) throughout the war, while others had returned to their care after liberation.

Bar-On, Eland, Kleber, Krell, Moore et al. (1998), while acknowledging the post-war traumatic sequence, indicate that both the internal emotional state of the survivors and external social circumstances may attribute to the survivors' distress. They make the important point that only after liberation was the majority of survivors confronted with and shocked by the massive loss of relatives, peers, whole communities. Inevitably, pathological mourning processes as described by Bowlby (1963) afflicted the adult as well as the child survivors, and are well documented in numerous studies (e.g. Dasberg, 2001; Gampel, 1988; Kestenberg & Kestenberg, 1988; Mazor et al., 1990; Valent, 1998)). The internal emotional state converged with the external societal circumstances into a situation in which the survivors were victimized for having survived. The outside world in Israel, as well as all over the world, did not always react empathically to the survivors' needs (Danieli, 1988; Segev, 1994; Tauber, 2003; Yablonka, 1999), which intensified the inhibition to adequately express grief. The ensuing "conspiracy of silence" during the post-Holocaust era ruled many survivor families' relational patterns, activating the sense of loneliness (Danieli, 1985). Moreover, in the prevailing post-war attitude, the impact and consequences of traumatic experiences for child survivors, in particular for the youngest of them, were not always acknowledged (Kestenberg, 1992).

A number of the youngest survivors in our study may have become victims of emotional deprivation during the post–war years, while they had to bear, apart from their own bereavements, the consequences of their parents' grief, which showed up in a complexity of different emotional and sometimes frightening preoccupations (Dasberg, 1992). This study underlines Bowlby's observations that infants are not spared late consequences of traumatic early bereavement (Bowlby, 1960). After liberation from Nazi persecution, some of the children had a second chance at childhood, but others forewent that option and lost their childhood forever (Kellermann, 2001).

Implications

Our study shows that, even after 60 years, lack of well-being of Holocaust child survivors is related to inadequate childcare arrangements after liberation at the end of the World War II. Unfortunately, children and their families continue to suffer from traumatization because of wars, terrorism, and inter-racial conflicts (Fazel & Stein, 2002). Our study underscores the urgency for optimizing after-trauma care of present-day child survivors in order to decrease the impact of early childhood trauma (Papadopoulos, 1999; Whittaker, 2005).

CHAPTER 4

Sense of Coherence Moderates Late Effects of Early Childhood Holocaust Exposure

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The sence of coherence moderates late effects of early childhood Holocaust exposure.

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Abstract

In this study on child Holocaust survivors who are now in their sixties and seventies potential protective factors facilitating participants' adaptation to post-Holocaust life have been emphasized. We examined Antonovsky's (1979, 1987) salutogenic paradigm, testing the mediating and moderating effect of participants' Sense of Coherence (SOC) on the association between early childhood deprivation due to Holocaust persecution and post-traumatic stress later in life. In a non-clinical sample, 203 child Holocaust survivors born between 1935 and 1944 completed questionnaires on Holocaust survival exposure, inventories on current health, post-traumatic stress, and Sense of Coherence. SOC moderates the association between traumatic experiences during the war and post-traumatic stress. SOC acts as a protective factor, buffering the impact of traumatic Holocaust experiences on child survivors in old age. Survivors with a less coherent perspective on the meaning of their life showed greater vulnerability for post-traumatic complaints. The moderating role of the SOC may suggest promising avenues of therapeutic interventions for child Holocaust survivors and other adults with early childhood trauma.

Introduction

In the past few decades the study of trauma survivors has been dominated by a 'pathogenic' approach, emphasizing the cumulation of risk factors leading to symptoms of post-traumatic stress and lack of well-being. In this study on child Holocaust survivors who are now in their sixties and seventies we emphasize potential protective factors facilitating participants' adaptation to post-Holocaust life. We used Antonovsky's (1979, 1987) 'salutogenic' paradigm that addresses the crucial question of how some people succumb under the pressure of their traumatic experiences whereas others appear to cope surprisingly well. In search for the origins of physical and psychological health ('salutogenesis': Antonovsky, 1991), the salutogenic paradigm tries to elucidate the 'salutory' factors that promote health and well-being even when people are faced with inevitable traumatic events. The central concept of the salutogenic paradigm is 'Sense of Coherence' (SOC), a generalized orientation toward the world which perceives it as less or more comprehensible, manageable and meaningful. In the our study we test the mediating and moderating effect of participants' Sense of Coherence (SOC) on the association between early childhood deprivation due to Holocaust persecution and post-traumatic stress later in life.

The current study is concerned with the long-term effects of persecution on the youngest child survivors of the Nazi Holocaust, now living in Israel. Born several years before or during the Second World War, they survived the persecution with losses, separations, mental and physical constraints, neglect and starvation during their first, most formative years (Dasberg, 1992; Kestenberg & Brenner, 1996). From earliest age on, they were confronted with their parents' efforts to prevent annihilation, and were witness to their helplessness in providing basic protection and safety. Many of these children survived by being separated from their parents, and by being put in the care of strangers. Some found safety and stability while staying with one care provider, others were moved around from one place to another (Flim, 2004; Fogelman, 1994; Meijer, 2001).

After the war they faced further separations: Surviving parents who had suddenly disappeared during the war now returned to reclaim the children from caretakers who had led them through the most dangerous moments (Evers-Emden & Flim, 1995). Many parents, physically and mentally exhausted, and forced to start building a new life, were not able to take proper care of their surviving children, and opted for putting them (again) into the care of others (Evers-Emden, 1994). Children who had become orphans were dependent on the mercy of strangers and had often to suffer custody arrangements not always chosen for their best interests (Dasberg, 2001; Keilson, 1992; Verhey, 1991). All were confronted with the havoc the Holocaust had wreaked on family, social and cultural structures (Kestenberg &

Gampel, 1983). Some of them had to adjust to even more separations and changing circumstances when being moved from country to country, before immigrating to Israel (Lev-Wiesel & Amir, 2000).

Now in their sixties to early seventies, these child Holocaust survivors had to deal with the stresses of war and terrorism over the years (Brodsky & DellaPergola, 2005). Nevertheless, many showed remarkable ability to live apparently normal lives (Tauber, 1996; Van der Hart, Nijenhuis, Steele, & Brown, 2004); others, unable to escape the past, were less successful in coping with the demands of daily life (Kellermann, 2001; Kestenberg & Brenner, 1996; Kestenberg & Gampel, 1983; Krell, 1985; Tauber & Van der Hal, 1997). Krell (1985) was the first to suggest a differentiation between late effects of the Holocaust on those who, as children or adolescents (born 1927-1945), had to endure persecution and fear of annihilation during crucial developmental stages, and other survivors. Later-life influences of the Holocaust on child survivors of all ages have been extensively studied in Israel and abroad (see Dasberg, 2001, for a review). In controlled studies, psychological functioning of child survivors, when compared with that of matched peers who had not experienced the Holocaust, has recently been the focus of a number of studies (Amir & Lev-Wiesel, 2003; Brom, Durst, & Aghassy, 2002; Cohen, Dekel, & Solomon, 2002; Cohen, Brom, & Dasberg, 2001; Sagi-Schwartz, Van IJzendoorn, Grossmann, Joels, Grossmann, et al., 2003; Sagi, Van IJzendoorn, Joels, & Scharf, 2002). Results consistently show that child Holocaust survivors suffer significantly more from post-traumatic stress disorders than their non-Holocaust-exposed peers. Even higher levels of post-traumatic distress have been found in studies of child survivors who applied for treatment (Brom et al., 2002; Cohen et al., 2002). In our own study of 203 child survivors, we found 36% of the respondents to be suffering from current post-traumatic functional impairments, while 63% did not report symptoms of post-traumatic stress (Van der Hal-van Raalte, Bakermans-Kranenburg, & Van IJzendoorn, 2007; Van der Hal-van Raalte, Van IJzendoorn, & Bakermans-Kranenburg, in press). During the last decade practitioners and researchers have observed Holocaust survivors become increasingly vulnerable to post-traumatic stress in old age (Aarts & Op den Velde, 1996; Cohen et al., 2001; Dasberg, 1992; Ruskin & Talbott, 1996). Therefore, we were interested in explaining differences in stress vulnerability in old age for the participants of our study, who suffered from the Holocaust during early childhood, and who are increasingly confronted with the uncertainties of old age. We examined why some Holocaust survivors show more vulnerability to post-traumatic stress than others, who show less or none (Krell, 1993; Schnurr, Lunney, & Sengupta, 2004).

Lomranz (2000), touching on Antonovsky's (1979, 1987) concept of salutogenesis, pointedly observed that in Holocaust-related post-traumatic stress

research, "….we know much about posttraumatic illness, but little about posttraumatic health and adjustment ..."(p. 49). Antonovsky was drawn to the concept of salutogenesis, defining health as a continuum from ease to disease, by the results of an epidemiological study on menopausal complaints among women of five different Israeli sub-cultures (Antonovsky, Maoz, Dowty & Wijsenbeek, 1971). In one of the groups, consisting of immigrants from Central Europe, 77 of the 287 participants were Holocaust concentration camp survivors; the other 210 had left Europe before the Holocaust. While data showed that as a group the camp survivors suffered significantly more menopausal distress than pre-war immigrants, at the same time 40 percent of these concentration camp survivors were found to be in good physical health, and 29 percent showed adaptive emotional functioning. Antonovsky tried to answer the question of why some women, subjected to the most destructive experiences conceivable, were able to lead well-adapted lives (Antonovsky, 1991). He proposed that three factors were important: (1) the ability to comprehend what happens around oneself (2) the ability to manage a given situation alone or with the help of others, and (3) the ability to find some meaning for what is happening. It is Antonovsky's opinion that these factors may emerge from genetic, constitutional, psycho-social, and socio-economic resources (Antonovsky, 1987; Lindstrom & Eriksson, 2005-a). The three factors together constitute what he defined as a sense of coherence (SOC), an orientation to life which enables one to draw upon internal and external resources to manage stress in a health-promoting way, and to make effective use of coping mechanisms (Eriksson & Lindstrom, 2006).

The results of a review of 458 salutogenic publications and 13 doctoral theses between the years 1992-2003 (Eriksson & Lindstrom, 2005), support the conclusion that SOC is apparently a health resource that promotes resilience and a positive subjective state of health, particularly mental health. Different from other efficacy and adaptation concepts like 'hardening', 'coping' or 'resilience' (Bonanno, 2004), and 'positive change following trauma' (Linley & Joseph, 2004), SOC is seen as an orientation to life that develops over the years and is consistently geared to adaptation and problem-solving (Lindstrom & Eriksson, 2005-b). The "Orientation to Life" Questionnaire, constructed to assess SOC (Antonovsky, 1993), has been used in numerous studies over the last two decades, and has shown main, moderating and mediating effects of SOC on both physical and mental health (Eriksson & Lindstrom, 2005; Hogh & Mikkelsen, 2005). For example, Jorgensen, Frankowski, & Carey et al. (1999) demonstrated the moderating effect of the SOC in a study of 116 undergraduates. They assessed self-reported health status, and psychological distress on two later occasions with a two-month interval. Assessment of SOC took place at time-one. At time 2 negative life events were assessed that had occurred during the past year. More SOC was associated with less

negative life events and with less reported psychological symptoms at both times of assessment. More negative life events were associated with more physical disorders reported on both occasions but only among students with a weak SOC. This association remained significant after accounting for the relation between psychological and physical symptoms.

In the current study we assessed how early childhood deprivation due to severe traumatic experiences during the Holocaust was related to post-traumatic stress at later age, and we examined how SOC affected this association. Based on the work of Keilson (1992), and on the results of our previous studies (Van der Hal-van Raalte et al., in press; Van der Hal-van Raalte et al., 2007), indicators chosen for severity of Holocaust survival exposure included: (1) time of exposure to persecution, (2) number of transitions during the Holocaust, each of which potentially increased life threat, and the anxiety for, and repetition of, the original separation trauma, and (3) loss of parents as a result of the Holocaust. We tested whether the association between Holocaust experiences and post-traumatic stress was mediated by SOC (with more severe Holocaust experiences leading to a lower SOC, and lower SOC associated with more post-traumatic stress symptoms), or whether SOC moderated the impact of Holocaust experiences on post-traumatic stress symptoms. We hypothesized that in the moderating model high SOC would act as a protective factor (Rutter, 1987), buffering the impact of traumatic Holocaust experiences on child survivors in old age.

Method

Participants

Participants were 203 Holocaust child survivors, born between 1935 and 1944 in countries occupied by the Nazi regime, and having immigrated to Israel after 1945. A non-convenience sample was created by recruiting through demographic information provided by the Israel Ministry of Interior Affairs, including name, year and country of birth, and date of immigration into Israel. The sample is a non-convenience sample in that we did use a Holocaust-independent registry to recruit our sample, in contrast with Holocaust-related sources such as support groups for Holocaust survivors. Israeli laws concerning protection of privacy were followed. Research team members signed guarantees of confidentiality. Invitations to participate in the study were sent to 410 addresses by regular mail. In follow-up telephone calls we were able to reach 293 survivors who met our criteria. Forty-nine survivors refused to participate. Non-participants explained their refusal as a need to let the past rest, or as not having the strength to relate to the past. Forty-one candidates were not available for participation during

the time frame of the study. Participants indicated that their decision to volunteer in the research project had been motivated by their approval of its aims. They signed a form of informed consent after receiving an explanation concerning nature and purpose of the study. Participation consisted of completing self-report questionnaires. The procedure took one and a half hours on average. Research assistants supervised the procedure, which following the participants' preference took place at their home or at the research office..

The survivors were on average 65 years old (mean age 64.64; SD 2.76), and 63% were female. Their socio-economic status as derived from educational level was middle class, and homogeneous. They were generally well-educated, at college level or higher. One-third of the participants (n = 67) indicated that they had received psychotherapy. For the purpose of analysis, the sample was divided in three age groups: born 1935-1937 (n = 60), 1938-1940 (n = 70), and 1941-1944 (n = 73). This division reflects the progressively diminishing safety in which they were born, first before, and later during Nazi persecution. Twenty-seven child survivors (13%) had lost both their parents during the Holocaust, 46 had lost one parent (23%), and in the remaining group (64%) both parents survived.

Instruments

Holocaust survival exposure questionnaire. This questionnaire consists of demographic and specific Holocaust survival-related questions. In the current study we focused on questions pertaining to the severity of Holocaust exposure as expressed in the number of times that participants were exposed to the stress of escaping persecution, the number of geographical and relational transitions they experienced (e.g. in order to evade arrest and deportation), and the loss of parents, which resulted in dependency on alternate caregivers after the war. Since the distribution of number of transitions was skewed, we used the logarithmic transformation of the variable in the analyses (Tabachnik & Fidell, 2001).

Physical health status. Physical health status was assessed with a self-report questionnaire developed by the Herczeg Institute on Aging (Tel-Aviv University), listing 18 chronic physical illnesses. Respondents were asked to indicate which, if any, illness they had suffered during the last month. This questionnaire is widely used in Israel for socio-demographic research on the aged.

Post-traumatic stress. We used the Post-traumatic stress diagnostic scale, devised by Foa (Foa, Riggs, Dancu & Rothbaum, 1993). PTSD was assessed by means of the total score on the PDS. This 49-item self-report scale assesses DMS-IV symptoms of PTSD. It provides a categorical diagnosis of PTSD, as well as an overall measurement of symptom severity. The instrument showed good internal consistency and test-retest reliability (Foa, Riggs, Dancu & Rothbaum, 1993). The test items correspond to DSM-IV (American Psychiatric Association, 1994)

diagnostic criteria for PTSD, indicating satisfactory convergent validity and concurrent validity assessed by self-report measures of depression and anxiety (Foa, Cashman, Jaycox & Perry, 1997). The instrument in its Hebrew translation is widely used in Israel. In the current study we assessed the PTSD criteria B, C, and D: *re-experiencing*, consisting of five items, *avoidance*, 7 items, and *arousal*, 5 items. Each item was answered on a scale of 0 to 3 (0: least; 3: most). The total score of 17 items showed a high consistency (alpha .92, n = 184), and the consistencies of the subscales were adequate as well (re-experiencing, alpha .85, n = 195; avoidance, alpha .84, n = 188; arousal, alpha .85, n = 198).

"Orientation to Life" questionnaire. The "Orientation to Life" questionnaire (OLQ, Antonovsky, 1993) was developed to assess SOC, and has been used widely over the past two decades. The Hebrew version has been used in Israel since its composition. The short version used in this study consists of 13 items (the original version contains 29 items). The items are rated on a 7-point rating scale, with higher scores indicating more SOC. The Cronbach's alpha values in 127 studies using this version range from 0.70 to 0.92 (Erikson & Lindström, 2005). Test-retest correlation shows stability, and ranges from 0.69 to 0.78 (1 year), 0.64 (3 years), 0.42 to 0.45 (4 years), 0.59 to 0.67 (five years) to 0.54 (ten years). The means range from 35.39 (SD 0.10) to 77.60 (SD 13.80). The OLQ showed adequate consistency in our sample (alpha .79, n = 203).

Results

Preliminary analyses

Male participants were somewhat older than female participants, but they reported significantly fewer physical illnesses (see Table 1). There were no differences between males and females on any of the other variables including Holocaust experiences, SOC, and post-traumatic stress indices.

Bivariate associations

Age (taken as an interval scale) was associated with number of transitions. Older participants reported to have experienced a larger number of transitions during the Holocaust, and more often lost one or both of their parents; not unexpectedly, age was also related to the length of the persecution period: older participants reported to have experienced a significantly longer period of persecution. On most post-traumatic stress indices we found no association with age, except for a small but significant association with the PDS subscale for re-experiencing. Older participants reported to somewhat more often re-experience their past traumas. SOC was not related to age (see Table 2). Participants with more physical illnesses also reported more post-traumatic stress and displayed a

lower SOC. Participants who reported more parental losses and more transitions displayed more traumatic stress symptoms. Lastly, participants with a higher SOC reported fewer post-traumatic stress symptoms in all domains of the PDS (see Table 2).

Multivariate analyses

We conducted a hierarchical multiple regression analysis predicting current post-traumatic stress (PDS total) from physical illnesses (first step), loss of parents during the war, number of transitions, and period of persecution (second step). The beta weights for the separate predictors in both steps are based on the final regression equation including all predictors (see Table 3). The number of physical illnesses significantly contributed to the prediction of post-traumatic stress, but controlling for physical illnesses (*beta* .28, p <.01), the number of transitions (*beta* .16, p = .03), and the loss of parents (*beta* .15, p = .03) also significantly predicted post-traumatic stress symptoms. More physical illnesses, more transitions, and higher parental losses predicted more post-traumatic stress, see Table 3. Similar results were found for the PDS domain of arousal. For the PDS domains of re-experience and avoidance only physical illnesses appeared to be a significant predictor (see Table 3).

In order to examine the role of SOC in predicting post-traumatic stress, we repeated the hierarchical multiple repression predicting current post-traumatic stress (PDS total) from physical illnesses (first step), SOC (second step), and loss of parents during the war, number of transitions, and period of persecution (third step). SOC contributed significantly to the regression (*beta* -.36, p < .01). Greater SOC predicted fewer post-traumatic stress symptoms (see Table 4). Similar results were found for the three PDS domains of re-experiencing, avoidance and arousal. Greater SOC independently predicted less post-traumatic stress in each of the three domains.

Table 1. Descriptives

Gender	Females	Males	Total	*t*	Effect size d
	M (SD) N	*M (SD) N*	*M (SD) N*		
Age	64.3 (2.77) 127	65.1 (2.72) 76	64.6 (2.77) 203	-2.08*	0.30
Physical illnesses	2.47 (2.21) 127	1.75 (1.65) 76	2.2 (2.04) 203	2.47*	0.36
Loss of parents during war	0.47 (0.69) 127	0.54 (0.77) 76	0.50 (0.72) 203	-0.64	0.09
No. of transitions during war[1]	2.8 (2.11) 126	2.8 (2.03) 76	2.8 (2.07) 202	0.24	0.03
Period of persecution	2.8 (1.53) 124	2.9 (1.52) 75	2.8 (1.52) 199	-0.35	0.05
PDS total	8.09 (10.08) 126	6.66 (9.06) 76	7.55 (9.71) 202	1.01	0.15
re-experience	2.86 (3.74) 121	2.32 (3.68) 74	2.66 (3.71) 195	0.98	0.14
avoidance	2.46 (3.86) 118	2.49 (4.37) 70	2.47 (4.05) 188	-0.05	0.01
arousal	2.61 (3.89) 124	1.70 (2.72) 74	2.27 (3.52) 198	1.77	0.26
Sense of coherence	61.38 (11.83) 127	64.07 (9.52) 76	62.39 (11.08) 203	-1.68	0.24

[1] untransformed * $p < .05$

Table 2. Associations among background variables, Holocaust experiences, post- traumatic stress indices, and sense of coherence.

	age	physi-cal illness	loss of parents during war	number of transi-tions	period of perse-cution	---------- PDS ----------			
						total	re-expe-rience	avoi-dance	arou-sal
age	--								
physical illnesses	.12	--							
loss of parents during war	.15*	.05	--						
number of transitions during war	.21**	.12	.12	--					
period of persecution	.34**	.06	.18**	.32**	--				
PDS						--			
total	.09	.31**	.20**	.23**	.16*				
re-expe-rience	.15*	.23**	.18*	.18*	.18*	.87**	--		
avoidance	-.00	.20**	.15*	.17*	.14	.90**	.64**	--	
arousal	.06	.35**	.17*	.23**	.13	.87**	.66**	.71**	--
sense of coherence	-.03	-.24**	-.01	-.13	-.05	-.43**	-.29**	-.41**	-.43**

*$p < .05$, **$p < .01$

Table 3. Regression Analysis predicting PDS total and the PDS subscales from age, physical illnesses, and war experiences

	R	R^2	R^2Ch	*F*	*df*	*Beta*[1]	*p*
PDS total							
Step 1	.31	.09	.09	20.15	(1,196)		<.01
Physical illnesses						.27	<.01
Step 2	.41	.17	.08	9.78	(4,193)		<.01
Loss of parents during war						.16	.02
Number of transitions						.18	<.01
Period of persecution						.06	.38
PDS re-experience							
Step 1	.23	.05	.05	10.54	(1,189)		<.01
Physical illnesses						.20	<.01
Step 2	.34	.12	.07	6.22	(4,186)		<.01
Loss of parents during war						.14	.05
Number of transitions						.14	.05
Period of persecution						.10	.19
PDS avoidance							
Step 1	.20	.04	.04	7.85	(1,182)		<.01
Physical illnesses						.17	.02
Step 2	.30	.09	.05	4.53	(4,179)		<.01
Loss of parents during war						.12	.11
Number of transitions						.15	.04
Period of persecution						.06	.44
PDS arousal							
Step 1	.35	.12	.12	26.36	(1,192)		<.01
Physical illnesses						.31	<.01
Step 2	.42	.18	.06	10.37	(4,189)		<.01
Loss of parents during war						.13	.05
Number of transitions						.18	<.01
Period of persecution						.02	.73

[1] The betas are derived from the final block of the regression model

Table 4. Regression Analysis predicting PDS total from age, physical illnesses, war experiences, and sense of coherence

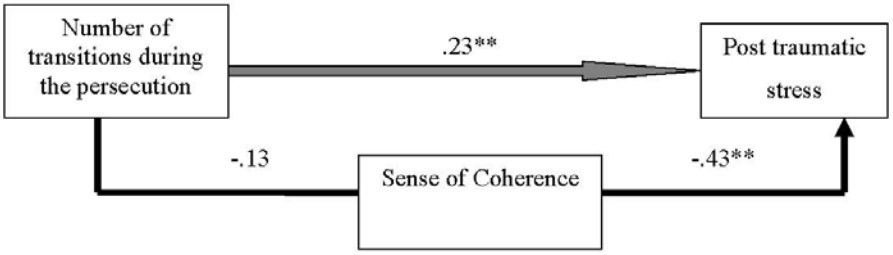
	R	R^2	R^2Ch	*F*	*df*	*Beta*[1]	*p*
PDS total							
Step 1	.31	.09	.09	20.15	(1,196)		<.01
Physical illnesses						.19	<.01
Step 2	.48	.23	.14	28.83	(2,195)		<.01
Sense of Coherence						-.36	<.01
Step 3	.54	.29	.06	15.48	(5,192)		<.01
Loss of parents during war						.16	.01
Number of transitions						.13	.04
Period of persecution						.06	.34

[1] The betas are derived from the final block of the regression model

Does SOC mediate the association between Holocaust experiences and PDS?

We tested whether the association between Holocaust surviving experiences, in particular number of transitions during the persecution, which showed the highest association with PDS (see Table 3), and post traumatic stress was mediated by SOC. Empirical support for mediation requires four steps (Baron & Kenny, 1986): (1) number of transitions is significantly associated with SOC, (2) number of transitions is significantly associated with post-traumatic stress, (3) SOC is significantly associated with post-traumatic stress, and (4) once SOC is added to the equation, the relation between number of transitions and post-traumatic stress is no longer statistically significant. Examining these associations, we found that transitions were significantly related to post-traumatic stress ($r = .23$, $p < .01$), and SOC was also significantly related to post-traumatic stress ($r = -.43$, $p < .01$), but number of transitions was not significantly associated with SOC ($r = -.13$, $p = .06$). One of the requirements for mediation (Step 1) was thus not met. By implication the association between number of transitions during the persecution and post-traumatic stress was not mediated by SOC.

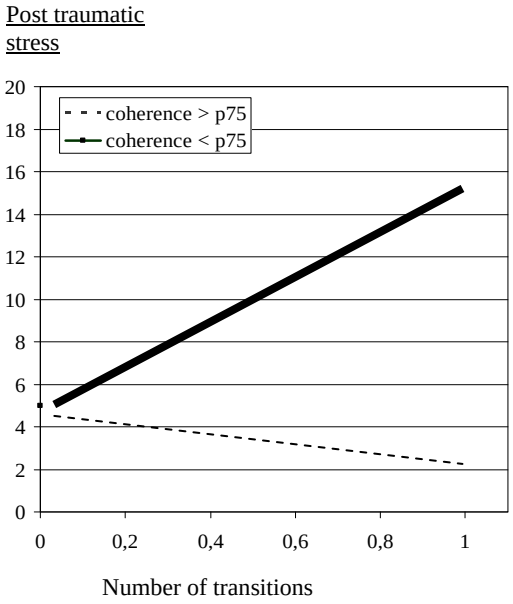
Figure 1. Sense of Coherence does not Mediate the Association between Number of Transitions during the War and Post Traumatic Stress



Does SOC moderate the association between Holocaust experiences and PDS?

Since high scores on SOC might be necessary to affect the association between Holocaust experiences and PDS, participants were divided into two groups, scoring higher (>percentile 75) or lower (<percentile 75) on SOC. The group of participants with high scores on SOC did not differ from the other participants on age (t (201) = 0.90, p = .37), gender (X^2 (1, N = 203) = 0.19, p = .67) and physical illnesses (t (201) = 1.29, p = .20), loss of parents during the Holocaust (t (201) = -0.03, p = .98), number of transitions and period of persecution (t (95.39, unequal variances) = 0.65, p = .52). They had lower scores on the PDS (M = 3.84, SD = 6.32) than the other group (M = 8.77, SD = 10.32), t (138.23, unequal variances) = 4.03, p <.01. We conducted a multivariate hierarchical regression on PDS, with SOC and the number of transitions as predictors in the first step, and the interaction between these variables (centred before their product was computed) in the second step. The overall regression was significant, F (3, 197) = 8.64, p < .01. All three predictors contributed significantly to the regression equation, SOC (*beta* = -.22, p < .01), number of transitions (*beta* = .19, p < .01), and the interaction between SOC and number of transitions (*beta* = -.15, p = .03). Post-hoc analyses for the highly coherent subgroup and the less coherent subgroup were conducted to clarify the interpretation of the significant interaction effect (Aiken & West, 1991; Dearing & Hamilton, 2006). For the highly coherent subgroup, we found a non-significant correlation of r (49) = -.11 (p = .43) between number of transitions and PDS total, whereas for the less coherent subgroup the correlation was significant, r (152) = .28 (p <.01). These correlations differed significantly (Z_{diff} = 2.36, p = .02). SOC reduced the impact of number of transitions during the war on the PDS, confirming the moderating model (see Figure 2).

Figure 2. Sense of Coherence Moderates the Association between Number of Transitions during the War (log-transformed) and Post Traumatic Stress



Discussion

The results of our study show that, even six decades after the end of the war, for child survivors who endured the most severe Holocaust survival exposure their sense of coherence moderates the association between traumatic experiences during the war and post-traumatic stress. Sense of coherence acts as a protective factor (Rutter, 1987), buffering the impact of traumatic Holocaust experiences on child survivors in old age, whereas survivors with a weak SOC are left more vulnerable for present-day post-traumatic complaints.

To the best of our knowledge no other study has so far investigated a moderating or mediating role of the SOC on later psychological well-being after childhood adversity. The results of a Canadian study based on data from the national population health survey of 1994/1995 (N = 14,500, aged 12 and older) showed that childhood trauma was strongly associated with the SOC in the expected direction, but did not expand to find moderating or mediating properties (Stephens, Dulberg, & Joubert, 1999). However in a convenience sample of 193 French adults (average age 54.24 years), the SOC was found to have a mediating

role between adversity and stress (measured by anxiety, worry and stressful experiences scales), and psychological well-being; and also a moderating role, in that adversity and stress had a significant effect on the well-being of respondents with a weaker SOC, while they did not affect those with a stronger SOC (Kamel, 2001).

Antonovsky (1987) considered a (weak or strong) SOC to be an overall behavioral response to stress, acquired over the years. Several findings support this view (Breslin, Hepburn, Ibrahim, & Cole, 2006; Flannery & Flannery, 1990; Schnyder, Büchi, Sensky, & Klaghofer, 2000; Szymona, 2005). The SOC seems to maintain active, developmental qualities while only after years acquiring stable, trait-like characteristics. Considering SOC as a trait (Schnyder et al., 2000), we may interpret its moderating role as a protective mechanism against the negative consequences of the Holocaust experiences in older age. Survivors with a strong sense of coherence may be less preoccupied by the traumatic consequences of their Holocaust experiences. Through their strong SOC they may have made sense of the Holocaust survival and –in retrospection—of their own active role in coping with the Holocaust.

A somewhat different but not incompatible view seems to be implied in the findings of Sagy and Antonovsky (2000). In their study of semi-structured life-history interviews among Israeli retirees they found that "participation in shaping outcomes" was the most relevant childhood experience related to adult level of SOC. If SOC would especially have been shaped during the life-threatening circumstances of the Holocaust, this SOC would be as much a consequence of the Holocaust as it would be a cause for a specific type of coping with the Holocaust experiences. For survivors who actively participated in their own rescue, this might have led to a stronger salutogenic orientation. Even small children had been observed by their caregivers in hiding places and in concentration camps to participate in shaping positive outcomes at critically dangerous moments. For example, adult witnesses reported how persecuted infants and toddlers "knew" not to move or to make any noise when their hiding place was searched by the Nazis, even when they were hidden under the floor, under layers of blankets, or in dark cupboards (Evers-Emden, 1994; Kestenberg & Brenner, 1996). However, child survivors who had to passively endure exposure to ever-changing dangers, may have developed a weak SOC and as a consequence might have become more vulnerable to post-traumatic stress symptoms (Bar-On, Eland, Kleber, Krell, Moore et al., 1998; Van der Hal & Brom, 2007). Lack of options to participate in shaping outcomes has been identified by Keilson (1992) as a cumulative traumatizing experience, when during the post-Holocaust era war orphans became the victims of disputed guardianships and of decisions on their upbringing that were not always in their best interest. On the basis of the current, retrospective and

correlational design it is impossible to decide what developmental origins SOC may have and how it is rooted in the early Holocaust surviving experiences. Our findings, however, document the protective, buffering role of a high SOC in the lives of child Holocaust survivors, and support its moderating role in older age – whatever its developmental roots.

Besides the equivocal causal role of SOC in the current, basically correlational study, another limitation of this study is the possible under-reporting of Holocaust traumatic experiences by survivors who were too young to remember what had happened to them. Many of them had to rely on information given to them by third parties after the fact, and autobiographical memory might have inadvertently re-constructed data and events of more than sixty years ago, and thus impacted the reliability of self reported experiences with transitions and other traumatic events. This study is also limited in not having included the traumatic experiences our respondents could have been exposed to in the years after the Holocaust. Such exposure may have influenced both PDS and SOC outcomes in either positive or negative ways (see Brewin, Andrews, & Valentine, 2000).

The current study suggests a potential protective role of SOC for child Holocaust survivors. Higher levels of SOC seem to buffer the negative impact of the Holocaust experiences on feelings of well-being and of post-traumatic stress. During the last decade aging child Holocaust survivors are seeking psychotherapeutic help in increasing numbers (Dasberg, 2001; Durst, 2003). The moderating role of SOC may generate fruitful hypotheses about promising avenues for therapeutic interventions. This study confirms today's prevailing insights on the necessity of establishing stabilization, and of assessing intrapersonal and inter-relational resources before the implementation of more explorative psychotherapy with survivors of extreme trauma (Herman, 1992; Rothschild, 2000, Van der Kolk, Van der Hart, & Burbridge, 1995). Strengthening the SOC may be given precedence over directly dealing with the Holocaust experience and other severe childhood traumas *per se.* More sense of coherence may contribute to better coping with those experiences.

CHAPTER 5

Discussion

Introduction

The set of studies described in this thesis focuses on the associations between survivors' early childhood experiences with and after the Holocaust and their adaptations at the beginning of old age. What can we learn from the different ways the children managed to survive, and how did they manage to adapt to later-life challenges living in Israel, a country where life threats are often more tangible than in other parts of the world? What consequences of their early childhood experiences could still be seen?

The results presented here show a continuum from mild to severe repercussions of persecution on Jewish survivors who were aged 0-10 years during the Nazi persecutions, and who were in the sixth decade of their life at the time they participated in the studies. The first study provides evidence of neuro-endocrinological consequences resulting from early childhood traumatic stress. Although age, parental loss during the Holocaust, current depression and physical illness were not associated with differences in basal diurnal cortisol levels, we found increased stress reactivity through elevated cortisol levels in the youngest male age cohort, and in male respondents suffering from PTSD-related functional impairment. The results also point to a tendency for the oldest age group in our study to show a less steep decline of diurnal cortisol level over the day, but we did not replicate the findings of Yehuda. (Yehuda, Golier, & Kaufman, 1995; Yehuda., Kahana, Binder-Brynes, et al. 2005), who found flattened diurnal cortisol levels in elderly Holocaust survivors.

The findings of the second study indicate that present lack of well-being correlates with unsatisfactory quality of care immediately after the Holocaust. This correlation remained robust even after controlling for present health situation, a variable which obviously influences the current sense of well-being. Loss of parents as a result of persecution, age of the survivors (being born before or during the war), or having autobiographic memories of the war period did not significantly affect survivors' current sense of well-being. The results are consistent with the outcome of Keilson's (1992) study, which showed the substantial impact of post-war traumatic experiences. However, while Keilson's findings concerned war orphans in foster homes, the current study shows for the first time that the cumulative effects of the Holocaust and unfavorable post-Holocaust sequences on later well-being also hold true for those child survivors who did not suffer parental loss.

In our third study we set out to explore if, even in situations of the most severe Holocaust survival exposure, the salutogenic orientation, in particular a sense of coherence as formulated by Antonovsky (1979, 1987), could mitigate the current experience of traumatic stress. Our findings confirm such a potential

protective role. A stronger sense of coherence appeared to buffer the negative impact of the Holocaust experiences on feelings of well-being and to mitigate symptoms of post-traumatic stress. Survivors with a weaker sense of coherence reported less well-being and are more vulnerable to present-day post-traumatic stress complaints. The results concur with the outcome of the Antonovsky et al. study (1971) of female Holocaust survivors, and with those of Sagy and H. Antonovsky (2000), and suggest that the experience of "participating in shaping outcomes" (Antonovsky, 1987) could have been of particular protective value. In this way, the findings are also in line with Keilson's (1992) observations of the detrimental psychological consequences for war orphans when they were at the mercy of disputed guardianship.

Theoretical perspectives revisited

The enormity of the horror of the Holocaust weighs heavily on survivors as well as bystanders and observers even today. This makes it quite impossible to clearly analyze its effect on those who went through it in an impartial and objective way, and to put the lessons learned into the framework of rational theories. We provided some indication of the indelible imprints of the emotional effect of Holocaust survival earlier in this dissertation (see General Introduction), when the results of one of our measurements pointed to a perceived similarity in present influence of the death of a close relative and of the Holocaust survival experience. At the same time, the Yom Kippur War, at the time a highly shocking event, did not retain much emotional impact thirty years later. Nevertheless, it is necessary to try and frame the Holocaust experiences and their aftermath in terms of scientific theory even if these experiences will never be fully covered by any rational system. We drew on the following theories to understand more of the sequelae of the Holocaust for child survivors.

Attachment Theory

To the best of our knowledge no earlier research has studied the well-being of elderly survivors of peri-natal childhood deprivation from the perspective of attachment theory. The main contribution of this study concerns late consequences of choices parents of child survivors had to make under threat of persecution and life endangerment to maintain or to discontinue the attachment relationship with their children. Our study provides additional insight in an evolutionary and environmental perspective of attachment patterns as formulated by Belsky (1999, 2006; see also General Introduction), and offers support to the idea of separation from maternal care as an evolutionarily related and ecologically understandable

phenomenon. This indicates that insecure attachment as a result of insensitive substitute care could be regarded as a realistic adaptive behavior strategy in sub-optimal child rearing circumstances like those in the Holocaust period. This line of thought received support from a recent study in which female child Holocaust survivors showed more unresolved loss, anxiety and traumatic stress than matched comparisons; but their offspring did not differ in attachment representations from a carefully matched comparison peer group (Sagi-Schwartz, Van IJzendoorn, Grossmann et al. 2003). The results indicate that insecure attachments during war or other hardships may at the same time enhance survival chances of the offspring, and do not impede the emergence of secure relationships and representations in the next generations. Furthermore, we must take into account that sensitive and responsive substitute care was provided even in the most horrific circumstances. Bar-On *et al.* (1998) point out that although child survivors suffered sharply painful disruptions of primary relationships, they may hold memories of benevolent attachments to substitute caregivers from the time they were in hiding or in concentration camps (see also Meijer, 2001).

A post-Holocaust reinforcement of insecure attachment behavior, as we indicated earlier (Chapter 3), can be understood as resulting from a massive failure to provide sensitive and responsive care, by accommodating to the specific needs of the individual children and allowing for gradual adjustment from life in concentration camps and in hiding to new environmental circumstances of the post-war society. In this context Evers-Emden & Flim's (1995) report is informative. In their survey 66% of hidden child survivors (n = 321) who returned to their biological parents after the war evaluated this return as a negative or at least mixed emotional experience. In this same survey 57% of the respondents reported not being able to maintain loving relationships; they had problems with hugging and touching their children. In our set of studies insecure attachment, expressed in avoidant- and anxious intimate relationships, appeared an important factor in the lack of present well-being, which in turn correlated to perceived lack of post-war care.

Stress Regulation

The results of our study on diurnal cortisol and cortisol reactivity of child Holocaust survivors contribute, though modestly, to the neurobiological understanding of early life development under stress, and add to the growing evidence that adverse perinatal conditions in particular produce long-term changes in the limbic hypothalamus-pituitary-adrenocortical (LHPA) system responses (Gunnar & Donzella, 2002). The elevated cortical levels in response to a stressor in the youngest males in our study provide evidence that early experiences can lead to higher vulnerability to stressful stimuli later in life. Born during persecution, these

survivors first of all may have been subjected to an adverse prenatal environment as a result of maternal prenatal anxiety (O'Connor, Ben-Shlomo, Heron et al., 2005). They may further have lacked the sensitive and supportive care that mediates the postnatal perturbations during the first few months of life, before cortisol responses become more buffered during a relatively stress hyporesponsive period (Gunnar, 2003).

Recent neuro-endocrinological research contributes to our understanding of how optimal care by substitute care providers, in hiding or in a concentration camp, could have buffered the severity of Holocaust survival experiences. Gunnar (2006) reported that after forming an attachment relationship, an infant does not lose the capacity to regulate stress physiology though the interaction with other sensitive and responsive caregivers. She found that unfamiliar substitute caregivers, trained to be sensitive and responsive, were able to inhibit cortisol increases in young children during periods of stress. On the other hand, when adult support is insufficient, vulnerability to stressors becomes evident. Two studies involving young children show a relationship between foster care and elevated cortisol values (Dozier *et al.*, 2006), and between negative emotional dispositions and higher cortisol levels (Kagan, Reznick, & Snidman, 1987; Tout, De Haan, Campbell et al., 1998), respectively. They may further our understanding of how the LHPA system of the youngest child survivors may have become overburdened when confronted with so many endangering challenges without adequate support.

Sense of Coherence

While the former two theoretical perspectives provide insight into how social and biophysiological stress regulation processes influence later life outcomes of early childhood deprivation, the sense of coherence (SOC) focuses on the ability to use an internal locus of control for coping effectively with stressful experiences, and exerting salutogenic instead of pathogenic strategies. Our study provided some support for this position: A strong SOC buffered the effects of the most severe Holocaust experiences, whereas a weak SOC was associated with more post-traumatic stress complaints. These findings underscore the possibility that under the most horrific circumstances even small children had the potential for developing coping devices that served them throughout their life. This is a heartening aspect of our studies, and offers important insight into moderation of the association between early childhood Holocaust deprivations and late-life risk for traumatic stress.

Study limitations and implications for future research

An essential limitation of our set of studies involves the absence of a matched comparison group not persecuted by the Nazis, and not otherwise affected by the consequences of the Second World War. We were well aware of how difficult it would be to find appropriate matches in age, gender, and family constellation. Moreover, several recent matched control studies of child Holocaust survivors in Israel (Brom, Durst, & Aghassi, 2002; Cohen, Dekel, & Solomon, 2002, Cohen, Brom, & Dasberg, 2001; Sagi, Van IJzendoorn, Joels et al., 2002) all obtained results similar to our findings (for a summary see Chapter 2). The present study design made it possible to enlarge the sample and to make internal comparisons within a larger group, with special emphasis on birth cohort. We thus gained in smaller confidence intervals. Another limitation concerns the start of the collection of cortisol data one-third of the way through our study. Even so, we succeeded in gathering the samples from a substantially large group of participants. Obviously, for this reason we missed the opportunity to compare the outcomes of the cortisol study with the outcomes of the data sets in the other two studies.

A further limitation relates to possible biased information provided by one informant, and under-reporting of traumatic Holocaust experiences. The participants themselves had to rely on retrospective or reconstructive reports, in particular those participants who were too young at the time of the Holocaust to possess clear memories. Even so, Van der Hart and Brom (2000) report a relatively low prevalence of amnesia among Holocaust survivors, while Hardt and Rutter (2004) found false positive reports on childhood traumas a rare probability.

The long-term effects of early trauma have been influenced by living in Israel where, on the one hand, stressful life circumstances prevail, while on the other hand, the building of the new State of Israel, especially during the first three decades after its declaration, provided the satisfaction of a sense of belonging and a meaningful existence. Therefore, inference of the outcomes of this set of studies to child Holocaust survivors outside Israel is limited. Future research should be directed to infant survivors in the Diaspora. In particular, further studies of the neuro-endocrinological system (e.g. cortisol) could provide greater understanding of the late effects of perinatal stress. Further research is also required to explore the evolutionary/environmental interpretation of adaptive neuro-endocrinological and attachment patterns for understanding the effects of Holocaust-related early childhood deprivation and its intergenerational transmission. It is also worthwhile to further explore whether and how attachment patterns contribute to, or impair, a salutogenic life orientation.

Clinical Implications

The results of this series of studies offer greater understanding of the scope of the early trauma-related problems faced by aging child Holocaust survivors today, and on the range of vulnerabilities in this group of survivors. They provide diagnostic as well as therapeutic directions for clinical work with child Holocaust survivors.

For diagnostic purposes, the studies strengthen confidence in recognizing problem clusters of physical health, post-traumatic and depressive symptoms, unsatisfying close relationships, and a weak SOC as related to early childhood trauma experiences. Conversely, autobiographic data pertaining to severe Holocaust surviving experiences, e.g. loss of parents, multiple transitions, length of exposure to persecution, and perceived lack of care after the war, have value for predicting later life vulnerability.

There are implications as well for clinical work. The findings affirm the need to promote a sense of coherence and stabilizing coping strategies by supportive interventions, affect and emotion regulation, and exploring resources for enabling better adaptation to daily functioning. In this way, work at a later stage on integration of loss and conflict will become more understandable and meaningful (Herman, 1992; Rothschild, 2000; Van der Kolk, Van der Hart, & Burbridge, 1995). The following case study may illustrate such an approach to clinical work.

Case Study

Haim* sought therapy for attacks of uncontrollable crying, outbursts of anger at work, and recurrent nightmares in which Nazi soldiers were pursuing him. While generally healthy, he suffered from skin irritations, and tremors in his hands and legs. He started therapy some time after the outbreak of the El Aksa Intifada. He had been a witness to the aftermath of several suicide bombings but not been personally injured.

Haim was born in 1942 in Slovakia, the fourth child in a religious family. His father was taken to a slave labor camp when Haim was only a few months old. Haim's mother managed to send her two older children to her parents who lived in -at that time still relatively safe- Hungary. To escape deportation, she then fled with her babies, Haim and his eighteen-month-old sister, to hide in the Carpathian Mountains, where they survived the war. Afterwards, he learned of the following incident that took place during this hiding period: One day a Nazi search patrol approached the place where they were hiding with some other Jews. Haim started to cry. His mother knew that if they were found, they would all be killed. She tried

* Haim gave permission for using his story in this case study.

to silence him by putting her hand on his mouth. Haim turned blue and nearly suffocated, but they were not discovered. Haim's mother's brother who was with them managed to resuscitate him.

Haim's father managed to survive the Holocaust, but the older siblings were in the end deported from Hungary to Auschwitz with their grandparents, where they were all killed. Haim's parents had two more children after war. The family moved to Israel in 1949 when the youngest was still a small baby.

Haim's anamnesis showed more or less normative adulthood functioning. After finishing high school, he did his regular army service and as a reservist he fought in several wars. He is married, and has children and grandchildren. He works as a self-employed artisan. He had never sought psychotherapy before.

In therapy he met with acceptance for his outbursts of crying and anger, of which he felt ashamed and guilty to the extent that he stayed away from home for days to be able to keep it a secret for his family. After some time in therapy, he gained more control over his crying and began to understand that it was triggered by the crying of his own children when they were babies, and now by his infant grandchildren. He could then cognitively connect it to being nearly killed for his crying while in hiding and his subsequent incapability to allow himself to cry ever after. As soon as he could attribute meaning to his crying, his feelings of shame and guilt became less urgent, and he was able to communicate with his wife and children about his problem. This act enhanced self-regulation.

Haim was encouraged to keep a record of the content of his night terrors, and to relate to them in the therapy sessions. Content and emotional charge changed gradually, and Haim became more resourceful in identifying day residues, and to associate them with stressful events. In this way the dreams became understandable and therefore less frightening. After some time his tremors ceased. During this process it became clear that after the war Haim's parents had not allowed themselves to attend to their grief. Like many other survivors, they had concentrated on building a new life. Haim had identified himself with parents he perceived as strong and courageous, not showing emotions. During therapy he started to realize how his parents' and his own avoidance of feelings had taken its toll, and had affected his emotional coping behavior.

This case study gives an example of the horrific dilemmas mothers had to face during the Holocaust persecution, when they had to give up a secure attachment mode, and were forced switch to a survival mode (see earlier this Chapter). In Haim's case, this was successful and he survived. In relation to his mother he could later develop a "capacity for concern" (Winnicott, 1965), and evolve into the "depressive position" (Klein, 1975). He seemed to have received good enough parental after-trauma care (see Chapter 3 of this dissertation), which probably enabled him to function quite well. However, at the time he turned to

therapy, he was confronted with too many triggers; and they seemed to have reactivated residues of earlier traumatic events. Physiological suffering and difficulties with the regulation of his emotions, suggest the deprivations of a stressful early childhood environment (see Chapter 2 of this dissertation). In the therapeutic relationship he felt safe enough to connect to his feelings of helplessness and instead of avoiding he learned to contain them. As a result he manages his life more easily, which enables him to gradually strengthen his sense of coherence (see Chapter 4 of this dissertation). At this point in therapy, he started to attend to the multifaceted task of grief work, from which his parents had steered him away just because the loss was too unbearable.

Conclusions

The studies reported here disclose that the late life effects of earliest childhood deprivations on child Holocaust survivors born just before or during persecution are not limited to the severity of their survivor experiences or to their ability to remember these experiences (Yehuda, Schmeidler, & Siever *et al*., 1997). They also seem to be affected by the degree to which protective factors, specified in this dissertation, shielded the youngest survivors during their early years and at later life stages. These protective factors seemed to allow them in various and different ways to find meaning for their life (Cohen et al., 2001, Frankl, 1984/1998), to hold on to their talents and their resources, and to appreciate their good fortune. Our results also reveal that young survivors who unfortunately received less protection immediately after the war became increasingly vulnerable to later life impairment (Dasberg, 2001). In line with Keilson's findings (1992), linking Holocaust traumatization during the first years of life to serious complications in later daily functioning, we expect the need for (therapeutic) care in this group to equal or exceed that of older child survivors. At the same time we suggest directing future research on intergenerational transmission of Holocaust surviving experiences to the consequences of lack of protective after-war care, rather than to transmission of the Holocaust trauma *per se*.

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SAMENVATTING
(SUMMARY IN DUTCH)

Inleiding

Sedert de laatste 20 jaar wordt in klinisch en empirisch onderzoek steeds duidelijker onderkend dat joodse kind-overlevenden van de Nazi-vervolging tijdens de Tweede Wereldoorlog (WOII) op latere leeftijd geconfronteerd worden met de gevolgen van wat zij tijdens de oorlog te verduren hebben gehad (voor een literatuur overzicht zie Dasberg, 2001). Dit ondanks het feit dat het merendeel van hen zich in het maatschappelijk leven boven verwachting wist aan te passen (Cassel & Suedfeld, 2006; Krell, 1993). Onderzoek van kind-overlevenden betreft meestal vervolgden geboren tussen de jaren 1927 en 1944. In dit proefschrift besteedden we aandacht aan de jongsten onder hen. Voor zover ons bekend, is er tot op heden geen systematisch onderzoek verricht dat zich uitsluitend bezighoudt met de Nazi-vervolging gedurende de vroegste kindertijd en de invloed daarvan op het huidig welzijn van deze nu jongbejaarde groep. Voor ons was het belangrijk na te gaan of het doormaken van vervolging tijdens de eerste levensjaren tot gevolgen zou kunnen leiden die zich onderscheiden van die van oudere kind-overlevenden, gezien de verschillen in ontwikkelingsstadium en de aard van traumabeleving tussen beide groepen (Keilson, 1992). In tegenstelling tot oudere kind-vervolgden misten de zeer jonge kinderen de voor-oorlogse ervaring van vertrouwen, van een fundamentele zekerheid in een veilige wereld (Bowlby, 1988; Erikson, 1950; Sandler, 1960.

Voor ons onderzoek interviewden wij oorlogsoverlevenden (n = 203), geboren tussen 1935 en 1944 in landen waar jodenvervolging plaatsvond, en die nu in Jeruzalem of directe omgeving wonen. Hun recrutering geschiedde op een "non-convenience" basis, dwz dat zij niet werden aangezocht uit hoofde van hun identificatie of affiliatie met organisaties voor oorlogsvervolgden, of door middel van advertenties in nieuwsbladen, maar werden aangeschreven op basis van de vermelding van hun geboortejaar, land van herkomst, en emigratiedatum zoals ingeschreven in het bevolkingsregister. In deze "within design" studie onderscheidden we drie leeftijdsgroepen: de oudsten, geboren in de jaren 1935-1937; een tweede groep, geboren tijdens de jaren 1938 en 1940, en de jongsten, geboren tussen 1941 en 1944. Deze verdeling weerspiegelt de gelijdelijk toenemende spanning en het gevaar van de omstandigheden waaronder deze overlevenden geboren werden. Zij die geboren werden in de eerste jaren van het Nazi-bewind werden geconfronteerd met steeds rigoreuzer wordende anti-semitische en discriminerende maatregelen die hun families sociaal en economisch troffen in hun bestaanszekerheid. De jongste overlevenden werden geboren onder acute levensbedreiging gedurende de op volle toeren werkende Nazi-terreur, als gevolg waarvan het gezinsverband meestal al volkomen ontwricht was. De

levensbedreigingende, stressvolle omstandigheden vergrootten het risico de harmonisch afgestemde verzorging in een veilige omgeving, een primaire behoefte, te moeten ontberen (Bowlby, 1969; Leckman, Carten, Hennessy, Hrdy, et al., 2006, Siegel, 1999; Stern, 1985).

Centraal in dit proefsschrift staat de vraag of de kind-overlevenden die *voor* de oorlog werden geboren, de langste tijd het Nazi-regime te verduren hadden, en relatief sterke autobiografische herinneringen hebben aan de periode van vervolging, nu meer medische, psycho-sociale, en post-traumatische klachten vertonen dan degenen die *tijdens* de oorlog zijn geboren. Of is het juist deze jongste leeftijdsgroep die nu meer klachten vertoont? Zij hebben immers de betrekkelijk veilige en beschermende vooroorlogse omgeving gemist; bovendien hebben hun ouders of verzorgers, destijds vaak zelf in levensgevaar verkerend, mogelijk minder kans gezien om gedurende de kritische eerste levensperiode interne spanningen te reguleren door het schenken van harmonieuze, onverdeelde aandacht aan hun baby's. Een daarmee in verband staande vraag was of wij beschermende millieu- en/of ontwikkelings-factoren zouden kunnen identificeren die kind-overlevenden in latere jaren hebben geholpen het hoofd te bieden aan de vroege traumatische ervaringen en hen in staat zouden stellen zich in medische, maatschappelijke en psychologische zin optimaal aan te passen, in weerwil van wat ze hadden meegemaakt *(Hoofdstuk 1).*

We toetsten de onderzoeksvragen met behulp van vragenlijsten, die ons naast informatie over hun huidig maatschappelijk functioneren, een beeld gaven van wat de deelnemers aan ons onderzoek gedurende de oorlog en de eerste na-oorlogse jaren hadden meegemaakt en wat zij zich daarvan herinnerden. Bovendien trachtten we met behulp van de uitkomsten van gestandaardiseerde testen inzicht te verkrijgen in de gezondheid en het psycho-sociale functioneren en het copings- en aanpassingsvermogen van de deelnemers (*Hoofdstukken 2, 3, 4*). Wij besloten de gevolgen van eventuele stressvolle vroege levenservaringen voor het huidige psychisch-fysiologisch functioneren, en met name voor de werking van de LHPA-as (Limbic Hypothalamic Pituitary Adrenal – axis), te onderzoeken door de concentratie van het stresshormoon cortisol in het speeksel te meten (*Hoofdstukken 1 en 2*).

Recente onderzoekingen hebben aangetoond dat de kwaliteit van het milieu voor en na de geboorte van grote invloed is op het latere funktioneren van het autonome zenuwstelsel en het neuro-endocrine stelsel, waarvan de LHPA-as een onderdeel is (Leckman, Feldman, Swain et al., 2004). Hoge en aanhoudende stress gedurende de eerste levensperiode zou kunnen leiden tot een ontregeling van de cortisolproductie en de ontwikkeling van klachten als depressie, angst en impulsief gedrag (Heim & Nemeroff, 2001, Vermetten & Bremner 2002) (*Hoofdstuk 1*).

Resultaten

Wij beschreven het cortisolonderzoek in *Hoofdstuk 2*. Alvorens in te gaan op onze onderzoeksopzet beschreven we hoe de productie van cortisol een dagritme volgt. Na een piek ongeveer een half uur na het ontwaken daalt het niveau gedurende de dag eerst snel en daarna geleidelijk tot een laagste punt, om tijdens de nacht weer te stijgen. Behalve door het dagritme (basale cortisol) wordt de productie ook geactiveerd door emotionele en lichamelijke stressoren, die het cortisolniveau tijdelijk doen stijgen (Kirschbaum & Hellhammer, 1989, 1994). Zo kunnen behalve normale ook hogere of lagere dan normale niveaus ontstaan (hypo- of hyper-cortisolism). Tot dusverre heeft onderzoek niet beslisend uitgewezen of overmatige stress leidt tot lagere, hogere, of normale cortisolniveaus (zie hiervoor Heim, Ehlert, & Hellhammer, 2000; Miller, Chen, Zhou, 2007; Yehuda, Blair, Labinsky, & Bierer, 2007).

Ons cortisolonderzoek had als doel de invloed van blootstelling aan overmatige stress gedurende de vroege kindertijd na te gaan op zowel het basale cortisolniveau als op de cortisolreactie na een stressor. Aan dit onderzoeksgedeelte, dat we pas halverwege de studie konden starten, namen 133 respondenten deel. Voor de bepaling van het basale cortisolniveau verzochten we iedere deelnemer speeksel te verzamelen in plastic buisjes (die na gebruik direct werden ingevroren) op drie verschillende tijden gedurende een normale, rustige dag. Om daarnaast het cortisolniveau tijdens en na een stressor te kunnen bepalen, vroegen we de deelnemers enige dagen later opnieuw speeksel te verzamelen, deze keer 3 maal tijdens en 40 minuten na een stressvolle bezigheid; deze laatste bestond uit het invullen van de bovengenoemde vragenlijsten, wat ongeveer anderhalf uur in beslag nam. Alle buisjes werden na gebruik verzameld en bij zeer lage temperatuur bewaard voor laboratoriumonderzoek.

De resultaten van dit speekselonderzoek lieten zien dat leeftijd, het verliezen van ouders als gevolg van de oorlog, chronische ziekten, depressiviteit, of disfunctioneren als gevolg van post-traumatische stress-stoornissen, geen invloed uitoefenden op de basale cortisolniveaus van onze respondenten, hoewel er bij de oudste deelnemers een tendens bestond van een minder steile daling gedurende de dag. Daarentegen gaven de resultaten tijdens een stressvolle bezigheid een verhoogd cortisolniveau te zien bij de mannelijke respondenten in de jongste leeftijdsgroep, en bij mannen die problemen met functioneren rapporteerden als gevolg van post-traumatische stress-stoornissen. Deze resultaten bevestigen uitkomsten van andere studies die vonden dat het cortisolniveau na een stressvolle bezigheid bij (oudere) mannen in sterkere mate verhoogt dan bij vrouwen (Kudielka, Buske-Kirschbaum, Hellhammer & Kirschbaum, 2004).

De resultaten wijzen op de mogelijkheid dat stressvolle ervaringen gedurende de eerste levensperiode van invloed kunnen zijn op de stresshuishouding tijdens latere levensfasen, en dat deze geregistreerd kunnen worden in de cortisolniveaus van het speeksel.

In het tweede gedeelte van ons onderzoek *(Hoofstuk 3)* besteedden we aandacht aan de vraag in hoeverre de kwaliteit van na-oorlogse zorg, door Keilson (1992) aangemerkt als doorslaggevend voor het later functioneren van de jongste oorlogswezen, invloed zou kunnen hebben op het hedendaagse gevoel van welzijn van de deelnemers aan ons onderzoek. Uit onze resultaten bleek dat een huidig relatief laag niveau van welzijn samenhangt met door de overlevende als tekortschietend beoordeelde zorg na de oorlog, ook als gecontroleerd werd voor de invloed van het lijden aan chronische ziekten, dat uiteraard gevoelens van onbehagen met zich meebrengt. Factoren als het verlies van ouders gedurende de oorlog, leeftijd (geboren voor of tijdens de vervolging), of het hebben van autobiografische herinneringen aan de oorlogsjaren, hadden geen significante invloed op huidig welzijnsniveau. Onze resultaten komen overeen met die van Keilson (1992), doch waar zijn onderzoek uitsluitend oorlogswezen betrof, konden wij voor het eerst laten zien dat ook voor kind-overlevenden die niet hun ouders hadden verloren hun latere welzijn werd beinvloed door de cumulatieve gevolgen van de vervolging en de opvang nadien. De uitkomsten van dit gedeelte van ons onderzoek tonen het grote belang aan van een zo goed mogelijke opvang en verzorging direct na traumatische gebeurtenissen, die ook vandaag helaas nog plaatsvinden. Dit kan preventief zijn tegen de ontwikkeling van post-traumatische stress als gevolg van vroegtijdige traumata.

In navolging van Antonovsky (1979, 1987) hielden we ons in het derde gedeelte *(Hoofdstuk 4)* bezig met de vraag of een gezonde (salutgene) levensoriëntatie bescherming zou kunnen bieden tegen het beleven van traumatische stress, zelfs voor diegenen die het zwaarst onder de vervolging geleden hebben. Antonovsky ontwikkelde een salutogeen model, waarin de vraag "hoe blijft iemand gezond" aan de orde wordt gesteld, dit in tegenstelling tot het pathogene model, waarin de vraag "wat maakt iemand ziek" centraal staat. In zijn salutogeen model legde Antonovsky de nadruk op een levensoriëntatie die door optimaal gebruik van interne en externe hulpbronnen en met behulp van een effectief copingsmechanisme iemand in staat stelt ziekte te vermijden en gezondheid te bevorderen op een continuum van "ease" en "disease". Het model gaat uit van een zogenaamde Sense of Coherence, de SOC (Antonovsky, 1991; Lindstrom, & Eriksson, 2005), die zich manifesteert in een individu, een groep, een bevolking, of in een sociaal systeem, en die in zijn ideale vorm onder iedere

omstandigheid een onmisbare bijdrage levert aan coping met een groot aantal complexe stressoren. In onze studie maakten we gebruik van het door Antonovsky ontwikkeld instrument, dat de sterkte van de SOC van individuele respondenten meet (Antonovsky, 1993). Wij vonden dat ook voor kind-overlevenden een sterkere sense of coherence een beschermende functie kan hebben en als moderator de negatieve impact van zelfs de meest traumatische oorlogservaringen op huidig welzijn en post-traumatische stress symptomen kan verminderen *(hoofdstuk 4)*.

Beperkingen van het onderzoek

De belangrijkste beperking van dit onderzoek is de opzet van onze studie, waarin geen in geslacht, familieomstandigheid en achtergrond vergelijkbare controle groep is opgenomen van leeftijdsgenoten die uit dezelfde landen voor de oorlog naar Israël zijn geëmigreerd, of tijdens de oorlog in Israël geboren zijn (voor matched control onderzoeken van kind-overlenden in Israël zie: Cohen, Brom, Dasberg, 2001; Sagi, Van IJzendoorn, Joels, & Scharf, 2002; Sagi-Schwartz, Van IJzendoorn, Grossmann, Joels, et al., 2003). Een adequate matching is lastig vanwege mogelijke verschillen tussen emigranten van voor en na de Holocaust die hun 'keuze' om al dan niet te emigreren hebben beïnvloed. We leggen daarom hier de nadruk op vergelijkingen tussen de leeftijdscohorten binnen de groep van Holocaust-overlevenden. Een mogelijke beperking is ook dat vertekende informatie kan zijn verkregen omtrent de omstandigheden waarin de onderzochten zich tijdens en na de oorlog bevonden. Immers, de meeste informatie die de respondenten zelf hebben over deze periode in hun leven berust op kennis die zij pas later vergaard hebben. Dit geldt in het bijzonder voor de jongste leeftijdsgroep.

Aangezien de gevolgen van traumatisering gedurende de vroege kinderjaren in de loop der tijd beïnvloed kunnen zijn door de spanningen die het leven in Israël met zich meebrengt, is het niet mogelijk om de resultaten van dit onderzoek zonder meer te extrapoleren naar kind-overlevenden die hun bestaan in de Diaspora hebben opgebouwd.

Conclusie

De studies in dit proefschrift tonen aan dat ontberingen en traumatisering gedurende de vroege kinderjaren als gevolg van de Nazi vervolging tijdens de latere levensjaren invloed kunnen uitoefenen op het welzijn van deze groep

oorlogsslachtoffers. Wij vonden dat deze invloed niet samenhangt met het vermogen zich te herinneren wat er destijds is gebeurd. Daarentegen werd wel een verband gevonden tussen het hedendaags welzijn van de deelnemers aan het onderzoek en de mate waarin er beschermende factoren aanwezig waren die hun leven tijdens en na de oorlog beïnvloedden. Deze beschermende factoren stelden hen in staat aan hun overleven een positieve betekenis te hechten (zie Suedfeld, 2005). Anderen, die minder beschermd waren, vooral in de eerste jaren na de oorlog, werden in toenemende mate kwetsbaar en liepen tijdens het latere leven fysieke en psychische beschadiging op (zie Dasberg, 2001). Wij verwachten dat de laatste groep in toenemende mate medische en psychosociale hulp nodig zal hebben.

CURRICULUM VITAE

Elisheva (Liesbeth) A.M.van der Hal - van Raalte

During most of her adult life, the author has been involved with the treatment of very early childhood trauma; with extensive experience in individual and group psychotherapy and supervision, and, during the last 25 years, with Holocaust survivors and their families.

Ms. Van der Hal–van Raalte was born in 1944 in Amersfoort, The Netherlands, while her parents were in hiding. She completed her secondary education at the Johan van Oldebarneveldt Gymnasium, in the same city. Following a year of law studies at the University of Utrecht, she enrolled in the Academy for Social Work, from which she graduated in 1967. She immigrated to Israel three years later. During a sojourn in Washington, D.C. she graduated with an MA in Counseling Psychology from Bowie State College, Maryland. A decade later she became certified in Psycho-analytic Psychotherapy from Bar Ilan University, Israel. Between her studies and professional employment, she participated in certified courses in Supervision, Crisis Intervention, Family Therapy, Psychodrama, Somatic Experiencing, and EMDR

In addition to her private practice in psychotherapy, she is a senior staff member of AMCHA (The National Israel Center for Psychosocial Support of Holocaust Survivors and their offspring), with which she has been associated for almost two decades, and also provides psychotherapy for "Meuchedet" (Health Management Organization) and for the Defense Ministry (as psychotherapist for bereaved families and wounded soldiers).

During the late 1960s, she was one of the pioneers in dealing with the problems and needs of foreign laborers ("guest workers", as they were called), while working at Verkade in Zaandam. Her career has included stints [in various capacities] as social worker, supervisor, counselor, psycho-social and family therapist, group facilitator at the Montgomery County Community Crisis Center (Maryland, USA), the Municipality of Jerusalem, the Herzog Hospital–Center for Geriatric and Psychiatric Medicine (Jerusalem), the Elah-Center for Psycho-Social Support for Dutch immigrants (Tel Aviv), the Jordan Rift Local Council, and the Shelter for Battered Women (Jerusalem).

Since the early 1990s she has facilitated workshops in Canada, the US, Europe and Israel at annual conferences of the World Federation of Jewish Child Holocaust Survivors. She has made (co-)presentations at the World Conference of Jewish Community Service (Jerusalem), the European Society for Studies on Traumatic Stress (ESSTS) (Paris and Maastricht), the International Society for Studies on Traumatic Stress (ISSTS) (Jerusalem), , and at the World Federation of Jewish Child Holocaust Survivors (Houston and Detroit).

Her (co-)publications have appeared in professional journals, periodicals and books.