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The Danieli Inventory of Multigenerational Legacies of Trauma, Part I: Survivors' posttrauma adaptational styles in their children's eyes



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ABSTRACT

A comprehensive valid behavioral measure for assessing multidimensional multigenerational impacts of massive trauma has been missing thus far. We describe the development of the Posttrauma Adaptational Styles questionnaire (Part I of the three-part Danieli Inventory of Multigenerational Legacies of Trauma), a self-report questionnaire of Holocaust survivors' children's perceptions of each parent and their own upbringing (60 items per parent). The items were based on literature and cognitive interviewing of 18 survivors' offspring. A web-based convenience sample survey was designed in English and Hebrew and completed by 482 adult children (M age = 59; 67% women) of Holocaust survivors. Exploratory factor analyses were conducted by using maximum likelihood extraction with Geomin rotation to examine the factor structure of the original 70 items for each parent. Conducted hierarchically, the analysis yielded three higher-order factors reflecting intensities of victim, numb, and fighter styles. The 30-item Victim Style Scale ($\alpha = .92-.93$) and 18-item Numb Style Scale ($\alpha = .89$) had excellent internal consistency; the consistency of the 12-item Fighter Style Scale ($\alpha = .69-.70$) was more modest. English-Hebrew analyses suggested good-to-excellent congruence in factor structure ($\phi = .87-.99$). Further research is needed to evaluate the validity of the measure in other samples and populations.

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Multigenerational multidimensional impacts of massive trauma such as the Holocaust and genocide result in significant individual, family and community public health problems (Barel et al., 2010; Danieli, 1998; Dasberg, 1987; Sigal and Rakoff, 1971). Reviews reported varied effects in clinical (Shmotkin and Barilan, 2002) and non-clinical populations (Barel et al., 2010). Some clinical studies of Holocaust survivors' families have reported a wide range of intrapersonal and interpersonal difficulties with subsequent transmission to succeeding generations. Intrapersonal impacts included helplessness, difficulty concentrating and sleeping, bodily tensions, guilt, shame, anger, and profound grief. Impacts on relationships

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http://dx.doi.org/10.1016/j.jpsychires.2015.06.011 0022-3956/© 2015 Elsevier Ltd. All rights reserved. and parenting behaviors included overprotectiveness, rejection, loneliness, failed inter-subjectivity, irritability, anger, and parentification (Dekel and Goldblatt, 2008; Felsen and Erlich, 1990; Kogan, 2002; Leen-Feldner et al., 2013; Levine, 1982; Wiseman, 2008).

Community-based studies typically suggest limited impact except when offspring themselves were exposed to life threatening situations (Bachar et al., 1994; Fridman et al., 2011; Kellermann, 2013; Lambert et al., 2014; Last and Klein, 1984; Levav et al., 1998, 2007; Major, 1996; Solomon et al., 1988; Van Ijzendoorn et al., 2003). Some meta-analyses suggest coexistence of good adaptation and stress-related symptoms among survivors (Barel et al., 2010). In a recent epidemiological study, elderly Holocaust survivors did not differ from comparisons in resilience level, but their mental distress was more intense (Ohana et al., 2014).



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The variability of results is partly due to substantive differences, such as (1) differences in exposure and survival circumstance (lower resilience was found in concentration camp survivors' compared to escapees' children, Baron et al., 1996; surviving alone put the offspring at risk for more anxiety and depression symptoms than surviving in the company of relatives, Aviad-Wilchek et al., 2013). (2) individual differences in the survivors (age. education). (3) passage of time (as the Holocaust's impacts on behavior and health may become apparent only later in life, Danieli, 1997; Krell, 1985; Scharf, 2007; Schwartz et al., 1994), (4) The dimension/s studied (relationships, Baron et al., 1996; Sagi et al., 2002; nature of multigenerational communication about survivors' Holocaust experiences, e.g., Wiseman, 2008; symptomatology and neurobiology, notably Yehuda and Bierer, 2008; Yehuda et al., 2014), and (5) the diverse methods and measures used (parental PTSD can be validly assessed by children of survivors using the Parental PTSD Questionnaire, Yehuda et al., 2006).

For the present study, foremost among the methodological limitations in this research are the extant practices of (a) using available unidimensional measures (b) intended for the population-at-large (c) that might not meaningfully apply to (massively) traumatized cohorts. Recent developments in the field of public mental health (Cuthbert, 2014; Cutberth and Insel, 2013) indeed suggest the necessity of multidimensional approaches (including multidimensional measures) to assess mental health and adaptation to traumatic events. The absence of a theory-informed instrument for assessing such multigenerational multidimensional impacts provided the impetus for this study.

Grounded in clinical and community experience, Danieli (1981b. 1985, 1998) developed a framework describing the complex, multidimensional nature of surviving massive trauma and of adapting to life's challenges in its aftermath. Emphases include (1) the Holocaust and post-Holocaust (trauma) context-derived meanings of survivors' psychosocial, family and parenting behaviors that appear to shape their children's ways of being in the world (see also, Auerhahn and Laub, 1998; Bergman and Jucovy, 1982) and (2) the heterogeneity of adaptation and guality of adjustment (e.g., vulnerability as well as resilience) among survivors. Danieli (1985) conceptualized a typology of at least four differing posttrauma adaptational styles in families of Holocaust survivors: victim, fighter, numb and "those who made it." These styles encompass those intrafamilial and interpersonal psychological, social and behavioral coping, mastery and defense mechanisms the victim/ survivor adopted as survival strategies during and after the Holocaust. These styles generalize to a way of life and become an integral part of her/his personality, repertoire of defence or character armour, view of oneself, of others, and of the world. They become a style of being in the world. They often also influence parenting and affect the children's psychosocial development and adaptation, thereby becoming intergenerational (Danieli, 1981a, 1981b, 1985, 1998, 2007). Briefly, victim style includes sadness, worry, mistrust, fear of the outside world and symbiotic clinging within the family; fighter style consists of intense drive to build and achieve, compulsive activity and prohibition of weakness or self-pity; numb style is characterized by pervasive silence and depletion of all emotions, minimal tolerance to stimuli, their children expected to grow up on their own; and "those who made it" style includes denial of the survivor's Holocaust experiences, assimilation and single-minded pursuit of high education, social and political status, fame and/or wealth. This typology is the theoretical framework and one of the sources for developing the comprehensive Danieli Inventory of Multigenerational Legacies of Trauma, Part I of which survivors' Posttrauma Adaptational Styles as perceived by their children – is the subject of this study.

Danieli's typology has guided previous research. In an unpublished dissertation, Rich (1982) developed a guestionnaire to test it and compared adult children of Holocaust survivors participating in support groups in San Francisco with their unaffiliated counterparts. Sigal and Weinfeld (1989) and Hantman and colleagues (Hantman and Solomon, 2007: Hantman et al., 2003) extracted and revised items from Rich's measure to study Canadian offspring of survivors and elderly Israeli survivors with cancer, respectively. Independently, Chaitin (2003) suggested two additional styles, lifegoes-on and split-family. Notwithstanding overlap in the aims of Rich's pioneering study and our own, important differences include the distinction in our comprehensive questionnaire between children's ratings of their parents, texture of life in/of the family, and upbringing (Part I – the current study) and ratings of themselves (Part II, Danieli et al., 2015); our separate assessment of mother and father in Part I; the inclusion of a four-generation family history and sociodemographic description (Part III); and the recruitment of a large, international sample, in two languages, to yield results of greater generalizability.

We aimed to develop a contextually meaningful measure for use in community samples, applicable, with proper modifications, to offspring of Holocaust survivors worldwide and victim/survivors of other crimes against humanity, including genocide. To yield insights into the experience of adult children of Holocaust survivors, we explored the factor structure of Part I of the Danieli Inventory, which assesses children's perceptions of their parents and upbringing. While Danieli's typology was one of the sources that guided the development of the questionnaire, we were open to finding additional styles based, for example, on Sigal and Weinfeld (1989) and Chaitin (2003). Our goal was thus to see what factors and themes emerge from the data themselves rather than to test an *a priori* model.

1. Methods

1.1. Overview and participants

Participants were adult children and grandchildren of Holocaust survivors who volunteered to participate in a web survey. Inclusion criteria were that at least one parent or grandparent had lived in or had to leave one of the countries occupied by or under direct influence of the Nazi regime, for any period of time during 1933–1945 (Bogyeski, 2013). This wide definition increased the potential for natural variability in the severity of the ancestors' exposure and the intensity of their adaptational styles. This variability, in turn, enhanced the study's ability to develop measures that capture the full range of impacts.

The survey consisted of three consecutive parts: questions about the child's perceptions of his/her mother and father and upbringing (Part I, 140 questions total); the child's perceptions of him/herself (Part II, 58 questions); and four-generation family history and sociodemographics (Part III). The first two questions in Part III asked whether the respondent was a (1) child and/or (2) grandchild of survivors.

The welcome page of the website was visited by 7222 individuals, including the merely curious as well as those intending to participate. Of those, 2809 viewed and 789 completed Part I and, of those, 535 (68%) completed all three parts of the survey. The attrition of participants between Part I and Part III is likely attributable to the overall length of the survey. For studying Part I psychometrics, we limited the analysis to the 482 children of survivors. The remaining participants were grandchildren only (n = 42) or did not complete Part III, including the questions about whether they were children and/or grandchildren of survivors (n = 265).

1.2. Procedures

Through the web, the principal investigator invited Holocaust survivors' children and grandchildren to participate in a study on family adaptation to trauma. Information about the survey was disseminated to and by general Jewish, survivors', and survivors' offspring organizations and by word of mouth; these organizations had no knowledge about who participated. The web survey was programmed using Gravity Forms (http://www.gravityforms.com). Visitors viewed a welcome page and an informed consent page, in English and Hebrew where they affirmed their willingness to participate before viewing the survey instrument. Anonymous data were collected from this convenience sample between June 16, 2012 and December 24, 2012.

1.3. Measures

In this article we report on developing Part I: Posttrauma Adaptational Styles, of the Danieli Inventory of Multigenerational Legacies of Trauma. Part I questions were generated based on the literature and nearly verbatim statements made by children of survivors in both clinical and community settings. Items were reviewed for clarity, specificity, and potential application to Holocaust/genocide or other massively affected populations; all items were opinion statements scored on a 5-point Likert scale (strongly disagree = 1, disagree = 2, neither way = 3, agree = 4, strongly agree = 5). To pilot the first part of the questionnaire the principal investigator conducted cognitive interviews (Beatty and Willis, 2007; Collins, 2003) with 18 volunteer adult children or grandchildren of survivors, recruited from the principal investigator's network of contacts with children of survivors. Beatty and Willis (2007, p. 287) define cognitive interviewing as "the administration of draft survey questions while collecting additional verbal information about the survey responses, which is used to evaluate the quality of the response or to help determine whether the question is generating the information that its author intends." In our procedure, after completing the questionnaire, interviewees were asked about their understanding of each question and if they had concerns or suggestions about the wording. For example, in one question (#14) the word "depressed" was modified to "down" because it was felt to be less pathologizing. Interviewees were then asked to reflect on the whole questionnaire and report on whether it captured all actual or potential experiences they or other children of survivors might have had. An example of a question that emerged at the specific suggestion of an interviewee was, "I never knew which of my questions/comments would upset my mother/ father so I chose to not speak my mind." Any additions or changes were reconfirmed by the 18 participants. The final questionnaire was thus a collaborative effort between the researchers and the cognitive interviewees.

The survey items were translated from the original English into Hebrew and back-translated into English. Differences between the versions were reconciled by raters who are fluent in both languages and both cultures.

The resulting version of the Part I questionnaire used for this study had 70 items. To make the instrument suitable for single-survivor families, each item was asked separately for each parent – first about the mother and then about the father – for a total of 140 items. The instructions read,

The statements below describe ways of life in some families. You will be asked to state how much you agree or disagree with the statements as they apply to your family of origin. To indicate your level of agreement, please click the button next to your chosen response. First answer the question as it applies to your mother, then as it applies to your father.

Following this introduction, the questions for mothers [e.g., "1(a). My mother seemed frozen in time," "3(a). Family members were overly protective of each other (mother)"] were listed on one side of the page and the corresponding questions for fathers [e.g., "1(b). My father seemed frozen in time," "3(b) Family members were overly protective of each other (father)"] were listed on the other side of the page, with response options directly below each question.

1.4. Data analysis

Data were analyzed using exploratory factor analysis (EFA). We chose EFA because we were examining a newly developed instrument for which there were no previous psychometric data. In contrast to research that aims to test or confirm an *a priori* model, our goal was to explore the structure of the data, as it promised to yield new insights into the experience and perceptions of survivors' offspring, and to use these data to develop new scales for assessing adult children's perceptions of their mothers or fathers or both in families with one or more Holocaust survivors. Our goal was to identify the items that were most useful in capturing the emerging concepts and to organize those items into interpretable, relatively independent scales.

We analyzed the data of mothers and fathers separately. Thus, each EFA began with 70 observed variables. Because overextraction of factors is a common problem when the number of observed variables is large (O'Connor, 2000; Schmitt, 2011), we conducted a "parallel analysis" to determine the number of factors to obtain. Parallel analysis is a Monte Carlo simulation technique in which observed eigenvalues are compared to expected eigenvalues obtained in a matrix of uncorrelated variables. We specifically used syntax published by O'Connor (2000) for this simulation. The critical value (number of factors to retain) is the point at which observed eigenvalues cease to be larger than the 95th percentile of the distribution of simulated eigenvalues.

We used Mplus, Version 7 (Muthén and Muthén, 1998–2012) to analyze the item-level data. We declared the input data to be ordinal and specified a maximum likelihood extraction with Geomin rotation, as recommended by the developers of the software for observed variables that are likely to load on more than one factor. We used Mplus because it computes standard errors and significance tests for factor loadings. Following recent methodological writings (Cudeck and O'Dell, 1994; Schmitt, 2011; Zhang, 2014), we used these tests of statistical significance to determine which items to retain. We assigned items to subscales on the basis of their primary (largest) factor loading.

We explored the potential for a hierarchical solution by creating subscales on the basis of the initial factor analysis and using those measures as the input data in a second, higher-order analysis. Hierarchical factor solutions, in which first-order factors are grouped together under more general, higher-order factors, can provide a conceptually stronger description of the data (Floyd and Widaman, 1995). We used common factor analysis (principal axis factoring) for this analysis and specified orthogonal rotation because we aimed for the resulting scales to be as independent as possible.

The results guided decisions regarding which items to retain for the final scales and how to organize them. We considered two approaches to deriving the final versions of our scales: one that would emphasize the uniqueness of mothers and fathers and one that would emphasize the common elements (including items that performed equivalently for mothers and fathers). We believed that basing the scale on common elements had two strong advantages. First, it would enable direct comparison of scores between mothers and fathers, potentially valuable for gender studies and for detailed analyses of the implications of different family configurations. Second, it would ease the administrative burden on future investigators.

To test the robustness of the instrument across language, we derived Tucker's congruence coefficient (Lorenzo-Seva and ten Berge, 2006). Tucker's congruence coefficient is an index of the similarity of factors that have been extracted in analyses of two groups. Values of .85-.94 correspond to fair to good congruence, and a value of .95 + suggests that factors are virtually identical.

2. Results

2.1. Sample description

The web survey method provided a demographically and geographically diverse convenience sample. The majority of participants were women (67%). All participants spoke English (78%) or Hebrew (22%). Participants averaged 59.8 years of age (SD = 6.9), with most born immediately postwar (1945–1950, 27%) or later (47%), most frequently in North America (39%), followed by Europe (18% Western, 15% Eastern) and Palestine/Israel (16%). While many were raised in lower middle or lower class homes (49%), most were highly educated (51% with graduate education). Most participants were married or partnered at the time of the survey (70%). More detail is presented in Supplemental Table 1.

All participants had at least one survivor parent, but we assessed and included the data of both parents, regardless of the individual parent's survivor status. Twenty percent of mothers and 22% of fathers were not survivors. More survivor mothers and fathers had been adults during the war (34% and 46%, respectively) than had been adolescents (18%, 12%), children (18%, 9%), or of unknown/ unreported age (11%, 11%). The majority of mothers and fathers were born in Eastern Europe (59%, 59%) More detail is presented in Supplemental Table 1.

2.2. Perception of mothers' behaviors

Means on mother items ranged from 1.9 (SD = 1.3), indicating highest disagreement with the statement, "My mother single-mindedly sought status or fame" to 4.1 (SD = 1.2), indicating highest agreement with "I was taught to honor and remember the history of our people (mother)."

The analysis was conducted on 463 mothers with complete data on all items. Most mothers (80%) were themselves Holocaust survivors; the remainder (20%) were non-survivors married to survivors. Initial analysis of the 70 mother items yielded 16 factors with eigenvalues >1.0. Parallel analysis suggested that an 8-factor solution was most appropriate for the mother data. All 70 items loaded significantly (p < .05) on at least one factor. Supplemental Table 2 shows the content of the 8 factors with items organized and ranked according to the strength of their primary loadings. For inclusion in the higher-order factor analysis, the 8 lower-order factors (e.g., Emotional Barrenness [Isolation, Detachment]) were scored as the mean of all items with primary loadings on that factor. This gave each measure a potential range of 1-5.

Three factors, explaining 25.6%, 18.0%, and 8.6% of the variance, respectively, emerged in the higher-order analysis of mother data. As shown in Table 1, the three measures with the highest loadings on Factor 1 were Stuck in the Loss and Trauma Rupture, Overprotectiveness, and Emotional Volatility and Control, all of which have been described in the literature as core features of a victim adaptational style. Valuing and Maintaining Jewish (Group) Identity also had its strongest loading on this factor. Two measures with primary loadings on Factor 2 — Emotional Barrenness (Isolation, Detachment) and Conspiracy of Silence in the Family — tapped key characteristics of a numb adaptational style. Intolerance of Weakness (including expression of emotions) also had its strongest loading on this factor. The one measure that had a primary loading on Factor 3 — Valuing Mastery and Justice — tapped characteristics reflecting a fighter adaptational style. We therefore labeled the factors as (intensity of) Victim, Numb, and Fighter Styles, respectively.

2.3. Perception of father's behaviors

Means on father items ranged from 1.9 (SD = 1.3), indicating highest disagreement with the statement, "My father might erupt in violent outbursts, then weep with regret" to 4.1 (SD = 1.4), indicating highest agreement with "My father would rarely, if ever, seek psychological help."

The analysis was conducted on 457 fathers with complete data on all items. Most fathers (78%) were themselves Holocaust survivors; the remainder (22%) were non-survivors married to survivors. The initial analysis of the 70 father items yielded 15 factors with eigenvalues >1.0. Parallel analysis indicated that a 7-factor model was most appropriate. All 70 items loaded significantly (p < .05) on at least one factor. Supplemental Table 3 shows the content of the 7 factors with items organized and ranked according to the strength of their primary loadings. The constructs that emerged for fathers were similar to those for mothers except for the absence of the Intolerance of Weakness factor. These items split across several other factors, such as Emotional Barrenness (Isolation, Detachment) and Emotional Volatility and Control. Measures of the 7 father factors were created in the same way as described for mothers.

The higher-order factor analysis of the father data suggested that either a 2- or 3-factor model might be applicable, as the third initial eigenvalue was below 1.0 (0.92) but explained 13% of the variance. The 3-factor model (Table 2) was more readily interpretable than the 2-factor model and was also more comparable to the mother's model. The three factors, respectively, explained 23.5%, 17.0%, and 11.8% of the variance and were again labeled as (intensity of) Victim, Numb, and Fighter Styles.

Three measures had primary loadings on Factor 1 in the father's model – Emotional Volatility and Control, Stuck in the Loss and Trauma Rupture, and Overprotectiveness – as they had in the mother's model. Similarly, two measures had primary loadings on Factor 2 – Emotional Barrenness (Isolation, Detachment) and Conspiracy of Silence in the Family – as they had in the mother's model. However, two measures had primary loadings on Factor 3 in the father's model: Valuing Mastery and Justice, which had been on Factor 3 in the mother's model, and Valuing and Maintaining Jewish (Group) Identity, which had its primary loading on Factor 1 in the mother's model. Valuing and Maintaining Jewish (Group) Identity was unrelated to Factor 1 in the father's model (.09) but had a secondary loading on Factor 3 in the mother's model (.23).

2.4. Final scale derivation, tests of internal consistency, and correlations

The above results guided decisions regarding which items to retain for the final scales and how to organize them. As noted earlier, our strategy emphasized common elements in the mother and father results. Table 3 shows items organized by scale, but in administration the order would be randomized.

Twenty-nine items had their primary loadings on Victim Style lower-order factors for both parents. We retained one additional item (new item #22) because it had a primary loading on a victim

Table 1

Higher-order exploratory factor analysis of first order factors - mother: Primary loadings.

Input variables	М	SD	Higher-order fa	Higher-order factors		
			Victim	Numb	Fighter	
Stuck in the loss and trauma rupture	2.8	0.8	.73			
Overprotectiveness	3.2	0.9	.71			
Emotional volatility and control	2.6	1.1	.65			
Valuing and maintaining Jewish (group) identity	3.5	0.7	.63			
Emotional barrenness (isolation, detachment)	2.7	1.2		.81		
Intolerance of weakness	2.9	0.8		.62		
Conspiracy of silence in the family	2.8	1.2		.33		
Valuing mastery and justice	3.5	0.8			.73	

Table 2

Higher-order exploratory factor analysis of first order factors - father: Primary loadings.

Input variables	М	SD	Higher-order fa	Higher-order factors		
			Victim	Numb	Fighter	
Emotional volatility and control	2.7	0.8	.83			
Stuck in the loss and trauma rupture	2.7	0.8	.69			
Overprotectiveness	3.0	0.7	.58			
Emotional barrenness (isolation, detachment)	2.8	1.1		.91		
Conspiracy of silence in the family	3.0	1.1		.24		
Valuing and maintaining Jewish (group) identity	3.5	0.7			.68	
Valuing mastery and justice	3.5	0.8			.33	

style factor (Stuck in the Loss and Trauma Rupture) for mothers and a statistically significant secondary loading (.36) on the same factor for fathers. All items contributed to the scale alpha and were retained. The final 30-item Victim Style Scale showed strong internal consistency for both mothers and fathers (Table 4).

Fifteen items showed primary associations with Numb Style lower-order factors in both parents (Table 3). Three additional items (new item #s 41, 42, 47) were also retained because they had primary loadings on one of these factors for mothers and statistically significant secondary loadings (.36, .30, .30, respectively) on one of these factors for fathers. Once again, all items contributed to the scale alpha and were retained. The final 18-item Numb Style Scale also showed strong internal consistency for both mothers and fathers (Table 4).

Fourteen items showed primary associations with either Valuing Mastery and Justice or Valuing and Maintaining Jewish (Group) Identity in both parents. One additional item (original #13) showed a primary loading for mothers and a significant secondary loading for fathers on one of these factors. Following our general strategy, this item was first added, but subsequently deleted because it lowered the internal consistency of the scale. Alphas were also improved by deleting two items (original #s 69, 45) with low item–total correlations. The final 12-item Fighter Style Scale had modest but acceptable internal consistency (Table 4). Despite the differences in the factor structure of the mother and father data, the patterns of item–total correlations and alpha coefficients were quite comparable.

Each scale was scored as the mean of component items, so they all had the same potential range of 1–5, regardless of the number of items. This approach yields a score that is easy to interpret, is close to the original meaning of scale items (e.g., 3 is the midpoint meaning "neither way") and has roughly the same meaning for a 12-item scale as for a 30-item scale. Descriptive statistics are shown in Table 4. On average, Fighter Style scores were significantly higher than Victim Style or Numb Style scores for both mothers and fathers, $t (459) \ge 14.70$, p < .001. Numb Style scores were significantly higher than Victim Style scores for fathers, t (453) = 5.25, p < .001, but not for mothers, t (459) = -1.57, *ns*.

Mother and father scales for each style were highly correlated (Table 4). For both mothers and fathers, Victim Style correlated positively with Fighter Style (rs = .33, .30, p < .001, respectively) and Numb Style (rs = .51, .46, p < .001). Fighter Style and Numb Style were inversely correlated, significantly for fathers (r = -.10, p < .05) but not for mothers (r = -.04, ns).

2.5. English and Hebrew cross-language analyses

Table 4 shows alphas separately for English-speaking and Hebrew-speaking respondents and Tucker's congruence coefficients for the comparisons between factor loadings. The 30-item Victim Style Scale showed excellent (.91–.93) internal consistency in both English and Hebrew subsamples and excellent congruence between their factor structures (.98–.99). Similarly, the 18-item Numb Style Scale showed good-to-excellent (.88–.90) internal consistency in both English and Hebrew subsamples and good-to-excellent congruence (.87–.96). The 12-item Fighter Style Scale did not perform as well. Although congruence was good (.89–.91), the alpha coefficients of internal consistency were lower in the Hebrew subsample (.61–.63) than in the English subsample (.65-.68) and total sample (.69–.70). Nonetheless, the alphas are acceptable for a relatively short and multidimensional scale.

Table 4 also presents the means and standard deviations for the final measures by language. Scale variances did not differ significantly in the comparisons, but between-group differences emerged for Victim and Fighter Style Scales, with scores higher in the English-speaking subsample than in the Hebrew-speaking subsample in all cases.

3. Discussion

This study reports on Part I of a larger initiative aimed at developing a heretofore missing measure of the multidimensional impacts of the Holocaust on survivors and their children based on an international sample of adult children of Holocaust survivors. The results informed the creation of a 60-item set of scales for assessing adult children's perceptions of their parents' victim,

Table 3

DanieliInventory of Mult	igenerational Legacies	of Trauma. Part I	l: Posttrauma Ada	ptational Styl	e. final	scales
	1 1 1 1 1 1 1 1 1 1	· · · · · · · · · · · · · · · · · · ·				

New#	w# Text				
		Mother	Father		
Victim	Style (30 items)				
1	Our home was full of sadness (mother/father)	.73	.72		
2	My mother/father reacted in a catastrophic way to even minor changes	.71	.52		
3	My mother/father seemed strange when compared to other mothers/fathers	.68	.64		
4	Privacy was not allowed (mother/lather)	.61	.60		
5	My mother/father used shalle to control my benavior	.60	.50		
7	My mother/father used guilt to control my behavior	.59	.60		
8	Compared to other mothers/fathers, my mother/father seemed older than she/he actually was	.59	.53		
9	My mother/father often screamed in order to feel heard	.58	.56		
10	At times, my mother/father would suddenly look as if she/he were far away	.58	.59		
11	My mother/father might erupt in violent outbursts, then weep with regret	.58	.39		
12	My mother's/father's behavior sometimes terrified me	.58	.52		
13	My mother/lather seemed trozen in time	.56	.59		
14	My motner/latner feit down on ethnic/religious" holidays	.55	.54		
15	raming interdets were overly involved in each other's lives (motifier/latter)	.55	.20		
10	It was very difficult of my mother/father to provide reasonable limits	52	41		
18	Wy mother/father always ate very quickly as though the food would disappear	.52	.49		
19	The Holocaust/genocide/war ^a was always present in the house (mother/father)	.51	.42		
20	My parents often seemed disappointed in each other (mother/father)	.50	.53		
21	My mother/father was uncomfortable when interacting with others outside the family	.48	.54		
22	My parents' marriage was primarily based on factors other than love (mother/father)	.48	.47		
23	My parents did not feel that justice for their suffering was really done (mother/father)	.46	.49		
24	Listening to our traditional music made my mother/father sad	.43	.43		
25	I was taught to mistrust authority (mother/father)	.43	.40		
26	Our social life included only immediate family (mother/father) Mu methew/father of fam wolk up organizing from productions in the middle of the night	.41	.48		
27	My mother/father often work up screaming non inginitates in the initiate of the night	.40 37	.40 36		
20	Independence was highly valued in our household (mother/father) REVERSED	36	29		
30	Family members were overly protective of one another (mother/father)	.33	.26		
Numb	Style (18 items)		.20		
31	Closeness was rare (mother/father)	.77	.71		
32	Affection and open expression of love were rare in our home (mother/father)	.75	.72		
33	While we were praised for achievements, there was little sense of intimacy in the family (mother/father)	.68	.69		
34	Open communication seemed not to exist in our home (mother/father)	.66	.71		
35	It felt dangerous to express emotions at home (mother/father)	.64	.64		
36	Our home was devoid of emotions (mother/father)	.63	.65		
3/	My mother/father offen told me she/he loved me KEVEKSED	.60	.55		
30	In our failing, reenings or unsuess were not to be admitted (notice/fatuer)	.56	.00 54		
40	My mother/ather of hot give me how innortant I was to her/him/them REVERSED	.57 54	52		
41	I never how which of my questions/comments would upset my mother/father so I chose to not speak my mind	.52	.52		
42	Weakness was not tolerated in our home (mother/father)	.44	.39		
43	My mother/father never discussed her/his Holocaust/genocide/war ^a experiences	.43	.38		
44	Humor was present even when things were difficult (mother/father) REVERSED	.42	.43		
45	In our family, the Holocaust/genocide/war ^a was never mentioned (mother/father)	.38	.39		
46	My mother/father avoided watching/reading/listening to ^a anything related her/his traumatic experience	.29	.25		
47	Self-pity was considered a weakness (mother/father)	.22	.26		
48 5 l. t.	My mother/lather repeated her/his Holocaust/genocide/war ^a stories over and over again REVERSED	.18	.18		
Fighter	Style (12 items) The continued estatus of learned/ireland/(rmaniat is a major concern in our family (mather/father)	E 4	45		
49 50	The continued safety of istact/netaint/America is a higor concern in our fating (induct/nation)	.54	.45		
51	I was taught that people should never forget crimes committed against humanity (mother/father)	45	44		
52	My mother/father viewed marrying outside the faith/group/race/ethnic/social group ^a as a betraval	.44	.50		
53	My mother/father taught me to be ready for anything that might happen in life	.35	.36		
54	My parents' house was always stocked with food (mother/father)	.32	.31		
55	My mother/father wouldn't buy German/British/Turkish ^a goods REVERSED	.27	.34		
56	Other than with family members, we socialized almost entirely with other survivors from my parent's/s' original community (mother/father)	.25	.28		
57	I was taught to fight against injustice (mother/father)	.25	.28		
58	I was expected to achieve career and financial success (mother/father)	.23	.19		
59	I was taught to stand up to authority (mother/lather)	.23	.21		
60	iviv momer/iamer did not delleve in G-d° after the Holocaust/genocide/war° KEVEKSED	.19	.22		

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^a This wording is modifiable upon request from Yael Danieli, yaeld@aol.com. ^a This wording is modifiable for specific contexts.

^b We have used the wording "G-d" in respect for cultures that believe that this convention avoids the risk of erasing or defacing the Name.

numb and fighter posttrauma adaptational styles. While we did not set out specifically to test Danieli's (1985) typology, the results matched her descriptions quite well. For example, higher-order

Factor 1 for fathers was composed of three lower-order factors, Emotional Volatility and Control, Stuck in the Loss and Trauma Rupture, and Overprotectiveness, that were key features of a victim

	Al. 1		-		Derector						
	Alphas, correlati	Alphas, correlations, and congruence (ϕ)				Descriptive statistics					
					Total sample $(n = 482)$		English $(n = 374)$		Hebrew $(n = 108)$		
Measure (# of items)	Total sample	English	Hebrew	φ	М	SD	М	SD	М	SD	t
Victim Style											
Mother (30)	.93	.93	.92	.99	2.84	0.81	2.92	0.80	2.55	0.79	4.20***
Father (30)	.92	.92	.91	.98	2.65	0.79	2.74	0.78	2.37	0.77	4.34***
Mother—Father r	.77	.76	.77								
Numb Style											
Mother (18)	.89	.88	.89	.96	2.79	0.89	2.80	0.88	2.74	0.93	<1
Father (18)	.89	.89	.90	.87	2.89	0.88	2.90	0.86	2.86	0.93	<1
Mother—Father r	.73	.71	.78								
Fighter Style											
Mother (12)	.69	.65	.63	.89	3.57	0.67	3.71	0.60	3.06	0.65	9.54***
Father (12)	.70	.68	.61	.91	3.55	0.68	3.67	0.65	3.11	0.61	7.74***
Mother-Father r	.84	.80	.88								

 Table 4

 Cross-language results: Alphas, mother—father correlations, and descriptive statistics.

posttrauma adaptational style in Danieli's framework. Similarly, higher-order Factor 2 for fathers was composed of Emotional Barrenness (Isolation, Detachment) and Conspiracy of Silence in the Family, two concepts at the heart of her description of a numb adaptational style. Yet the correspondence between Danieli's typology and our results was not an exact match. For example, Factor 2 for mothers was composed not only of Emotional Barrenness (Isolation, Detachment) and Conspiracy of Silence in the Family but also Intolerance of Weakness, a characteristic Danieli discussed as one aspect of a fighter adaptational style. This result caused us to reexamine the meaning of "intolerance of weakness." Numb parents might inhibit their children's expressions of distress more so because of their own general dread of emotions rather than to make them strong. Such new insights were exactly what we hoped for by using exploratory factor analysis.

A useful next step would be to test the replicability of this factor structure by conducting confirmatory factor analysis with an independent sample. To the best of our knowledge, our sample (n = 482) is the largest single sample of children of Holocaust survivors to date, suitable for conducting these exploratory analyses. However, it was not large enough to allow for both exploratory and confirmatory analyses, which typically require splitting a sample into two random halves.

Given the complexity of the concept of adaptational styles (Danieli, 1985, 1998), it seemed likely that the factor structure of the data would be hierarchical. The lower-order structure encompasses the various coping, mastery, and defense mechanisms that the parent adopted as survival strategies during and after the trauma. For example, emotional volatility and control, emotional barrenness (isolation, detachment), and valuing mastery and justice emerged as lower-order factors (strategies) in these data. These strategies generalize to adaptational styles, which were manifest in higher-order factors that appeared to reflect victim, numb, and fighter styles. Victim style was positively related to both numb and fighter styles, indicating that it may co-occur with other styles. However, numb and fighter styles were inversely related, indicating that these two styles are unlikely to occur together.

Further work is necessary to refine the measure. While the Victim and Numb Style Scales demonstrated good-to-excellent psychometric properties, the 12-item Fighter Style Scale did not perform as well. Although English-Hebrew congruence of the factor structure was good, internal consistency was modest, especially in the Hebrew-speaking subsample. This might be due to the inclusion in the Fighter Style Scale of seemingly disparate items, such as "I was expected to achieve career and financial success" and "I was taught to fight against injustice" that belonged to different styles in

Danieli's original formulation. This seeming difference might be reconciled by considering the contextual meaning of these items. Some children of survivors may adopt their parents' emphasis on achievement as a means to "defeating Hitler; " others fulfill their parents' expectations by choosing careers that focus on health, humanitarian, human rights or justice issues or philanthropy. The latter group might well be motivated by the reparative need to make the world a better place and/or to prevent another Holocaust and/or genocide from ever happening again. Speculations aside, further work should expand the measurement of behaviors and attitudes indicative of "those who made it" and fighter styles and retest their associations.

Moreover, it is unclear why Hebrew-speaking respondents had lower average scores on Victim and Fighter Style Scales than English-speaking respondents. Perhaps it is because both the legacies of the Holocaust and the cumulative impact of living with ongoing wars and terrorist threats are more integral to Israel's experience. It is also possible that parents' victim and fighter style characteristics are more salient to English-speaking respondents who are more likely to belong to a minority culture. It could as well be due to differences in the survivor populations who immigrated to Israel and to North America. In our study, for example, parents of Hebrew-speaking participants were more likely to be child survivors and less likely to be adolescent survivors than parents of English-speaking participants. While beyond the purpose of the present paper that described the development of the Part I measures, identifying the multivariate influences of family configuration (e.g., one versus two survivor families) and parents' family histories and Holocaust experiences on the intensities of the various posttrauma adaptational styles is an important task in future research.

These English/North American-Hebrew/Israeli differences highlight the larger question of cross-cultural differences in adaptational styles and how they might be expressed. We posit that one advantage of our comprehensive, multidimensional approach is the potential to capture different multidimensional profiles of victim, numb, and fighter style intensity across populations and cultures.

Regarding the study's methods, the use of convenience sampling might have biased the results. The sample was highly educated so we cannot be sure that the questionnaire would be understood as well by less educated persons. It is also possible that our sample underrepresents certain segments of the survivors' offspring population. Some research shows that more severely affected persons tend to participate less in surveys (Adler and Ostrove, 1999; Galea and Tracy, 2007; Lindert et al., 2011), suggesting that our sample might be less affected than the general population of children of survivors. However, children of survivors who seek to document the impact of the Holocaust on their lives (e.g., Epstein, 1979; Fogelman and Savran, 1979) might have been more likely to participate. Additionally, survivors' offspring who consider themselves unaffected or who are not aware of their family's Holocaust history (e.g., children of those-who-made-it families) might have been less likely to participate. Nevertheless, it is advantageous that this was a community rather than a clinical sample.

Another methodological issue was attrition between Parts I and III of the survey. The questionnaire was long, and almost a third of those who completed Part 1 did not complete all three parts. This was problematic because the two questions about whether the respondent was a child and/or grandchild of survivors were placed at the beginning of Part III. Because we did not know their status as children and/or grandchildren of survivors, we had to exclude 265 persons from Part I psychometric analyses. In future administrations, such key demographic data should be gathered at the beginning of the survey, even though the more detailed family history of Holocaust (trauma) experience would still come last.

The study has other methodological limitations. Since we did not have a control group, we do not know whether the adaptational styles we discovered are specific to Holocaust survivors. Our new measure will facilitate comparative studies. Also, our study did not systematically explore exposure to post-Holocaust trauma throughout these families' life course. In the web survey, the mother version of each question always came first; counterbalancing mother and father questions would have been better. While we report on our scales' internal consistency, the measure's test-retest stability needs to be assessed. Additionally, the study's reliance on retrospective perceptions of respondents potentially weakened its objectivity. While Yehuda et al. (2006) showed that adult children of survivors can be reliable informers about their parent's posttraumatic stress disorder (PTSD), the more significant issue is that children's perspectives on their parents and upbringing may be tempered by time and experience (e.g., Danieli, 1998; Keller, 1988; Scharf, 2007; Schwartz et al., 1994). Future research should address these important issues.

This measure fits well with recent developments in the field of public mental health, such as the United States National Institutes of Health's Research Domain Criteria (RDoC) approach (Cutberth, 2014; Cutberth and Insel, 2013). RDoC promotes investigating not only psychopathology but multiple dimensions of behavior, symptoms and adaptation, from psychosocial, genetic, neurobiological and other perspectives. Our study has similarly focused on identifying specific but multidimensional adaptational styles that (a) vary in intensity, (b) capture functional dimensions of thoughts, feelings and behaviors, (c) are theorized to serve as pathways for other important outcomes, such as the reparative adaptational impacts experienced by children of survivors (Danieli et al., 2015) and (d) are expected to have effects that cross diagnostic categories, such as PTSD, depression, and generalized anxiety. For example, knowing the genotype and the endophenotype (DNA methylation status), one would then expect systematic relationships among these variables and phenotypes identified by the Danieli Inventory.

In summary, we have presented psychometric analyses for newly developed, multidimensional scales of posttrauma adaptation that should facilitate empirical research on multigenerational transmission of trauma. In future work we will explore the differential effects and causes of mothers' and fathers' victim, numb, and fighter styles (Part I) by examining them together with sons' and daughters' perceptions of their own reparative adaptational impacts (Part II) and reports of the four-generations family pre-war, Holocaust, and post-war experiences (Part III) in families of twoand one-survivor parents. The resulting Danieli Inventory of Multigenerational Legacies of Trauma should be applicable, with proper modifications (e.g., other languages), to the entire population of Holocaust survivors' offspring. Moreover, future research should explore its utility for assessing adaptational styles by investigators, clinicians and others working with the myriad massively traumatized populations and families worldwide, past and future. Tragically, we are speaking of millions of people.

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Conflict of interest statement

The authors have no conflicts of interest.

Contributors

All named authors have read and approved the manuscript and agree to the order of authorship.

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Appendix A. Supplementary data

Supplementary data related to this article can be found at http://dx.doi.org/10.1016/j.jpsychires.2015.06.011.

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