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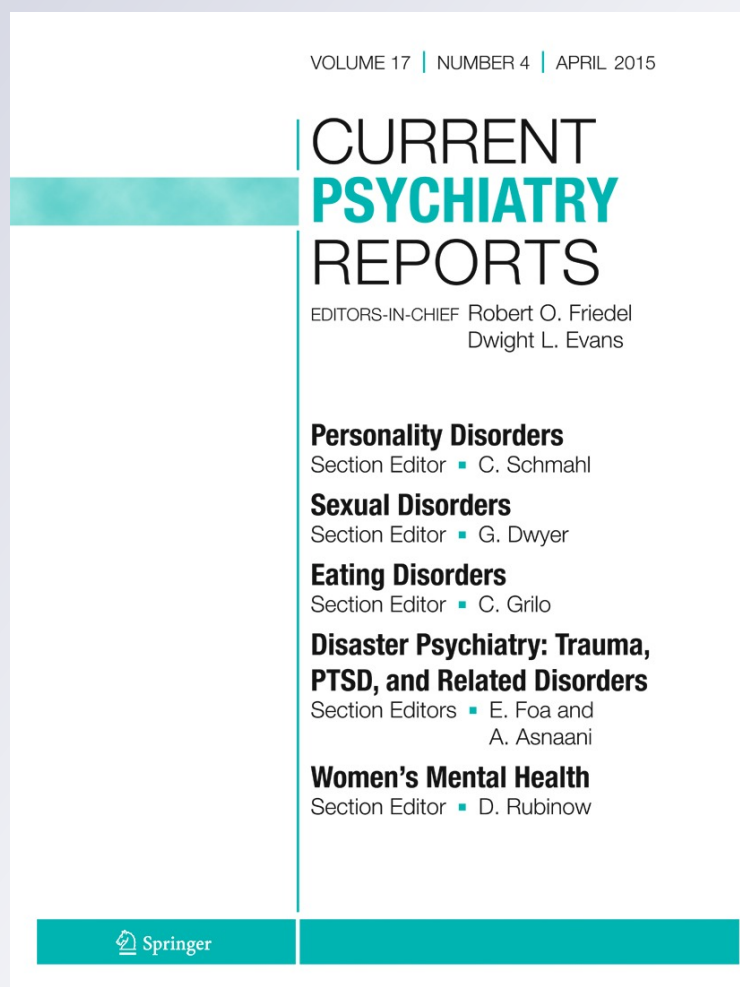
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# Coping and Social Support in Children Exposed to Mass Trauma

Orna Braun-Lewensohn<sup>1</sup>

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**Abstract** The goal of this paper was to critically evaluate the literature on children coping with mass trauma published between the years 2011 and 2014 and to emphasize interesting and important findings with the aim of proposing a new comprehensive model for better understanding the process of coping with these events in this unique developmental stage. Using a variety of databases, 26 research papers were selected. The papers were divided into two main categories, natural and manmade disasters. The findings suggest that several areas in this context still lack foundational knowledge and should be further investigated. Thus, it has been suggested that future research should emphasize the developmental stage of the children, the cultural context and atmosphere in which the investigated children grow up and live, and the type of event (acute vs. chronic; natural vs. manmade). A more comprehensive coping model which addresses these omissions and combines main theories is suggested for use in future research as well.

**Keywords** Coping · Sudden acute stress · Salutogenesis · Sense of coherence · Children · Adolescents

## Introduction

Unfortunately, millions of children and adolescents around the world face disasters, wars, terrorist attacks, and other forms of

potential traumas in their daily lives [1]. Indeed, research around the world with regard to extreme adversity and conditions that simultaneously affect large groups of children or adolescents and their families (i.e., mass trauma) has dealt extensively with exposure to such experiences in terms of mental health and emotional outcomes. To a lesser extent, research has also dealt with the ways children and adolescents cope and the link between social support and coping styles or strategies of adjustment, well-being, and other positive outcomes in the aftermath of these situations. However, there is a need to refine theory when dealing with the special age groups of children and adolescents in the very unique context of sudden and devastating stressors [2, 3]. The present review aims to focus on this omission in the literature.

## Literature Search and Overview of the Studies

The first step of the review included a search in several databases (Google Scholar, Medline, PsycInfo, PubMed, Social work abstracts, SocIndex) with the key words: children, adolescents, mass trauma, coping, social support, and stress. Publications that did not address mass trauma and those that did not report research using quantitative, qualitative, or mixed methods were eliminated from the present review. Manuscripts which describe different interventions following such events were eliminated as well. The search was limited to 2011–2014. Tables 1 and 2 summarize a total of 26 articles that were found in the search. The articles which were included in the final manuscript are linked to sudden, acute collective stress, and present coping and/or social support as key variables to deal with the adverse situation. The final list included 15 articles that dealt with natural disasters (Table 1), including hurricanes, a tsunami, bushfires, floods, earthquakes, and a snowstorm, and 11 articles that dealt with manmade disasters (Table 2) which included wars, terrorism, missile attacks, and other forms of political violence. Out of

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**Table 1** Coping and social support in children exposed to mass trauma—natural disasters (2011–2014)

Author/s and year	Sample size, age	Type of event and location	Coping measure	Social support measure	Outcomes	Results
Bokszczanin 2012 [4]	School children, grades 7–12	Flood, Poland	Proactive coping	Inventory of post-disaster social support, perceived social support, sense of community		Involvement in providing support to others was an important predictor of the sense of community at school. Social support—an important resource for proactive attitude towards the future and greater sense of embeddedness within the community
Braun-Lewensohn 2014 [5••]	12–18 years: Jews 413, Druze 356, Muslims 374	A year after a bush fire, Israel	Sense of coherence (SOC), salutogenesis model	Community sense of coherence	Anxiety, anger, SPD	SOC was a protective factor for all cultural groups; community SOC was a protective factor only for Druze.=
Chen et al. 2012 [6]	156 children, grades 4–8 (M=11 years)	Earthquake, China	Coping strategies scales	Social support as problem solving strategy	Post-traumatic stress symptom (PTSS)	Emotional coping linked to more PTSS. No significant link between problem solving and PTSS
Dawson et al. 2014 [7]	110, 7–13 years, Muslim children	Tsunami, Indonesia	Coping style—religious coping, cognitive avoidance	Social support	Grief, PTSD, depression	The belief that honoring Allah will preclude future harmful things from occurring explained the greatest variance of PTSD
Papadatou et al. 2012 [8]	1468, 12–17 years	6 months following wild fire, Greece	Kidcope adolescents version	Support—parents, siblings, teachers, peers/classmate, church	PTSD, depression	The use of escape-oriented and perceived social support was found to be associated with symptoms; the use of control-oriented strategies was inversely associated with symptoms
Wang & Gan 2011 [9]	200, 15–19 years earthquake group; 241 comparison	3 months after earthquake, China	COPE	Perceived social support	Depressive symptoms	The higher perceived social support, primary and secondary engagement, the fewer symptoms; the higher disengagement linked to higher depression
Wu et al. 2011 [10]	968 Age: (M=18.56, SD=0.85)	Following a snow storm, China	The Chinese Trait Coping Style Questionnaire	Teachers emotional support	Impact of events including PTSD	The higher emotional support from teacher, the higher PTS; negative

**Table 1** (continued)

Author/s and year	Sample size, age	Type of event and location	Coping measure	Social support measure	Outcomes	Results
Zhang et al. 2011 [11]	1976, 12–20 years	Following Wenchuan earthquake, China	Coping Style Scale (CSS)	Social support	PTSD	<p>coping was linked to higher PTS</p> <p>Problem solving and active coping, withdrawing, restoring, social support all correlated lower symptoms of PTSD</p>
Bank & Weems 2014 [12]	Wave 1, 1098, 7–18 years; Wave 2, 8–15 years	Following Hurricane Katrina, USA		Children social support	PTSD, anxiety, depression	<p>Peer social support was linked to fewer symptoms; family social support was significantly linked to depression among girls</p>
Derivois et al. 2014 [13]	540, 2–18 years	Earthquake, Haiti		Social support	PTSD	<p>Higher social support correlates higher PTSD</p>
Ma et al. 2011 [14]	3208 adolescents, aged 12–18 years	Following earthquake, China		Social Support Rating Scale	PTSS, PTSD	<p>Kids with better social support have significantly lower scores on the CRIES and PTSD</p>
Rubens et al. 2013 [15]	905, 11–17 years	Hurricane George, Puerto Rico		Peer social support	Internalizing disorder	<p>Peer social support was not related to internalizing disorder</p>
Self-Brown et al. 2013 [16]	420, 8–16 years	Post-Hurricane Katrina, USA		Social support for children	PTSD	<p>Peer support was found to be a significant and important protective factor</p>
Jensen et al. 2013 [17••]	56, 6–18 years, Norwegian	Post-tsunami, south Asia	Coping and appraisal		PTSD	<p>Youth coping narratives expand understanding of coping responses; coping in a developmental perspective</p>
Weems et al. 2014 [18]	141, New Orleans, grades 4–8	Following hurricanes Katrina and Gustav, USA	4 items from Children's Coping Strategies Checklist		PTSD	<p>The truly resilient (low symptoms and high exposure) reported low levels of avoidant coping strategies</p>

**Table 2** Coping and social support in children exposed to mass trauma—manmade disasters (2011–2014)

Author/s and year	Sample size, age	Type of event and location	Coping measure	Social support measure	Outcomes	Results
Braun-Lewensohn et al. 2011 [19]	138, 12–18 years, Jews	Political violence, Israel	Sense of coherence (SOC); Adolescent Coping Scale	Social support as part of a coping	Anxiety, anger, psychological distress (SPD)	SOC was the strongest protective factor; problem solving had a protective effect; emotional coping had negative effect
Braun-Lewensohn 2012 [20]	145, 12–18 years, Jews	Political violence, Israel	Adolescent Coping Scale	Social support as part of coping	Anxiety SPD	Problem solving had a protective effect; emotional coping had negative effect
Braun-Lewensohn et al. 2014 [21]	465, 13–18 years, Bedouin Arabs	House demolition in unrecognized villages in the Negev, Israel	Adolescent Coping Scale	Social support as part of coping	Anxiety, anger, SPD	Emotional coping had stronger link to distress; problem solving was marginally significant only for those whose house was not destroyed
Moscardino et al. 2014 [22]	60, 14–18 years	Following Beslan terrorist attack, Russia	Brief COPE only self-blame scale	School connectedness	PTSD	Self-blame positively correlated PTSD; school connectedness negatively correlated PTSD and fully mediated self-blame
Scrimin et al. 2011 [23]	58, 9–13 years	Following Beslan terrorist attack, Russia	Active, distraction, avoidant coping	Social support as coping strategy	PTSD	Children used active coping strategies and distraction to feel better; use of distraction was negatively associated with PTSD; support seeking was associated with meeting criteria for PTSD
Thabet et al. 2014 [24]	358, 15–18 years	War, Gaza	A-COPE	Social support	Anxiety, PTSD	Adolescents used mostly social support strategies. Higher social support correlated higher anxiety and PTSD
Betancourt et al. 2012 [25]	183, 10–17 years	Political violence, Chechen, Russia		Social support connectedness—family, peer community	Achenbach YSR	Family connectedness was inversely related to internalizing problems
Brookmeyer et al. 2011 [26•]	179, 7th–12th graders	Political and community violence, Israel		Perceived parent, friend support, and school personnel support	Violent behavior	Support from parents—a protective factor; support from friends increased violent behavior. Support from school had both a protective and risk effect
Comer et al. 2014 [27]	460 parents of 4–19 years closed to the attacked area	Boston Marathon bombing, USA		Peer problems, prosocial behavior	Children PTS UCLA Reaction Index	The better social skills one has, the fewer relations between exposure to the attack and PTSD

**Table 2** (continued)

Author/s and year	Sample size, age	Type of event and location	Coping measure	Social support measure	Outcomes	Results
Braun-Lewensohn et al. 2011 [28]	12–18 years, Jews and Bedouin Arabs	Political violence, Israel	Sense of coherence		Anxiety, anger, SPD	SOC explained stress among Jewish adolescents but not among Bedouin Arabs
Khamis 2012 [29]	16–18 years, 300 Gaza, 300 southern Lebanon	Political violence, Gaza, Lebanon	Ideology, religiosity		Anxiety, depression	Higher levels of religiosity in Gaza linked more symptoms; protective factor among Lebanese; ideology linked to fewer symptoms in Gaza

these studies, 15 included both coping and social support, 4 included only coping, and 7 included only measures of social support.

Examining the way *coping* is presented in these manuscripts reveals that some of the manuscripts lack any well-founded theory, while others used a variety of theories such as Lazarus' Stress, Appraisal, and Coping, the salutogenesis model by Antonovsky, and Hobfoll's conservation theory, to name just a few. As for social support, some authors related to it as a strategy within the coping context; a few authors related to social support in ecological cycles—family, peers, school, community, and others [30]; and others did not use any theory. These findings from research in the past few years emphasize the claim of recent reviews [2, 3] as to the need to enhance our understanding of children and adolescents coping in such stressful situations through the lens of acceptable integrated theory.

### Childhood and Adolescence—Unique Developmental Stages

Developmental psychology proposes that the foundation for well-being is constructed during early stages in life, and children's experiences, including children's relationships with parents, caregivers, relatives, teachers, and peers, are crucial in shaping social, emotional, and cognitive development and therefore also for coping with adverse situations and events. During different developmental stages, at different ages, children understand, manage, think, and talk about their experiences differently [31] and develop abilities to experience and cope with diverse situations [32]. These capabilities develop side by side with a wide range of highly visible skills in mobility, cognition, communication, and other social competencies [33].

Adolescence is a unique period of growth and development which functions as a bridge between childhood and adulthood. A major task of this period is moving towards independence; therefore, peers become a crucial socialization circle for the adolescent [34, 35]. The period of adolescence is a particularly important developmental stage, since social, emotional, and cognitive processes are involved in the attempts to navigate the increasingly complex relationships [36]. Indeed, it is during these years that abstract thinking and cognitive processing develops, along with enhanced moral reasoning and judgment. These positive processes enable adolescents to explore the world, gain competences, and contribute to the world surrounding them [37]. As children grow older, their coping repertoire expands and shifts from primarily external, behavior-oriented methods to more internal, cognitively based strategies [38]. During these years, as young people move from one type of coping experience to another, a broader coping repertoire can be crystallized and reviewed.

In order to understand the dynamically changing experience of coping with mass trauma among children and adolescents of different age groups, it is important to examine how children understand, manage, and find meaning in their world, even when they encounter such overwhelming experiences.

### **Coping and Social Support in Mass Trauma Events: Findings From 2011–2014**

Before moving on to suggest a new comprehensive coping model, the present section tries to draw a clear picture of major findings in this field of research during the past few years and to mark the pitfalls that should be addressed in future research.

Indeed, the importance of coping strategies in the context of children and adolescents who cope with mass trauma has been stressed in research during the past decade. Coping strategies have generally been found to be linked to stress reactions or to mediate the relationship between exposure to an event and stress reaction outcomes, such as PTSD, anxiety, and depression, among different cultural groups around the world and in different types of events [8, 9, 22].

Most research published during these years has related to coping as a factor that could protect individuals from negative outcomes as a result of the event they were exposed to. On the other hand, research has also explored coping strategies or behaviors which could increase negative outcomes. Thus, coping has basically been divided into adaptive and non-adaptive strategies, meaning strategies that have been linked to fewer stress symptoms and strategies that have been related to more negative symptoms. Most prevalent has been the positive association of coping with different symptoms of stress rather than negative association of certain coping strategies with PTSD or other stress-related outcomes [6, 10]. These results could partially stem from the fact that many studies that were published during these years selected only certain coping strategies with no examination of the entire repertoire of coping suggested by the original scale/measure [18, 22]. Thus, future studies should try to identify which coping strategies are assets in different kinds of situations of mass trauma. Since previously, studies showed incongruence with regard to which strategies serve as assets in different situations, research should also fine tune and understand whether strategies considered to be assets indeed serve as protectors across situations of mass trauma, or whether there is a difference, for example, between natural disasters and manmade disasters such as political violence. The literature as a whole addresses the issue of mass trauma mostly as one acute incident. However, in several places around the world, especially when dealing with politically violent events such as acts of terrorism and missile attacks, the incidents occasionally become chronic with acute escalations [20]. Further research which explores this issue should focus on the role of different coping strategies and/or

behaviors that could facilitate adaptation during acute vs. chronic + acute stressful situations.

Reviewing the literature of the past few years shows that studies relate mostly to coping behaviors, although several measures also consider the individual's thoughts as a way of coping, thus addressing the cognitive coping dimension. With regard to outcomes, studies mostly link coping with negative emotional outcomes such as PTSD, anxiety, or depression [19], while little or no attention is given to well-being, life satisfaction, and other similar outcomes. Therefore, these research results may have resulted from the use of instruments that measured pathology (or psychopathology). Studying well-being and life satisfaction apart from negative outcomes may enable researchers to find coping strategies which are assets for children and adolescents during or following mass trauma, thus broadening our understanding of the process children and adolescents experience during or following these situations.

The cultural sensitivity issue should also be highlighted, as researchers have previously pointed out that the definition of stress, its appraisal, resource allocation, and coping behaviors is all embedded in and influenced by culture [39]. However, the measures and tools used in the reviewed studies have mostly originated in Western cultures with no adjustment for special cultural groups, despite the fact that studies have taken place in different parts of the world and different cultural groups have been examined. Hence, it seems that little attention has been given to culturally sensitive tools and/or dimensions [40] that could also affect the results and understanding of coping across cultures. Even when trying to address coping which might be relevant to a certain population, such as religious coping [7], it was not the main focus of the study. The lack of a comprehensive understanding of culture and the absence of culturally sensitive tools to assess coping in the context of mass trauma call for further and more in-depth examination in order to assess coping in the context of mass trauma. Moreover, some areas around the globe which face events of mass trauma seem to have been neglected in research regarding coping and social support for children and adolescents during or following these incidents. Thus, researchers are encouraged to initiate such research in neglected areas.

Social support is a significant social resource which can aid individuals in their coping during or following acute stress situations. As mentioned, it has many definitions, and studies relate to different dimensions (e.g., perceived vs. received; negative vs. positive; social support providers and more) or different circles (e.g., family, teachers, peers) of social support in the context of coping with mass trauma. Overall, earlier research in this context suggests that social support is an important asset which, if used properly, could have significant implications for the way one copes and, thus, for his/her well-being and mental health [40]. During different developmental



stages, it is important to have social support that provides instrumental (e.g., tangible assistance, financial assistance), informational (access to diverse information), and emotional (e.g., social companionship, listening support) support [41]. However, while earlier in childhood, parents and teachers play significant roles; during adolescence peers, namely friends and classmates become more significant [42]. Similar to the wider literature on coping in the context of mass trauma, when investigating the specific resource of social support, results have been mixed. Some studies show that low social support is linked to more symptoms [8, 9, 11] and others show that higher social support is also linked to more symptoms [24]. Therefore, several issues, which are similar to those mentioned in the wider coping context, should be addressed when examining social support in future research. The developmental stage of the children or adolescents who are the target population of the study should be taken into account; culturally sensitive understanding, for example, highlighting community social resources in collectivistic cultures [5••], and fine tuning the social support measures should be taken into consideration. Finally, the type of situation (natural vs. manmade) should also be considered when examining the types of social support used by children and adolescents when facing mass trauma. Additionally, longitudinal studies could highlight which children use different types of social support. What kind of social support do children with strong vs. weak social resources use during mass trauma situations, and what are the outcomes of using these types of social support for a variety of children? This differentiation could facilitate richer understanding about which children benefit from social support during potentially traumatic events.

One of the most important findings that arise from the present review is that, although different theories of coping have been used, all suggestions, clarifications, and elaborations stem from the very basic theory of Lazarus [43] and Lazarus and Folkman [44]. Thus, it is important to continue in this line by suggesting that in the future, studies should refer to this theory as the foundation of research. In spite of some uniformity, it should be noted that research rarely addresses the entire process of coping and the issue of what contributes to the use of one coping strategy/behavior or another by children or youth during or following adverse events. In addition, research seldom focuses on implementation of coping strategies at different developmental stages during childhood and adolescence and their consequences.

### Towards an Integrated Conceptualization of Coping

A few decades ago, Lazarus and Folkman [44] suggested a *coping theory* which has been used by much of the research in the context of natural and manmade disasters [17••, 45]. The “stress appraisal and coping theory” views coping as an

interactional process of an individual with his/her environment which can be defined as the efforts one makes to deal with demands from the environment in order to make them more tolerable and reduce stress. This concept and definition means that the characteristics of an individual and the way one appraises a situation are important elements for the individual's well-being in the aftermath of stressful encounter. Therefore, the meaning an individual gives to each situation, even an acute and devastating one, has important consequences for the way she/he behaves and reacts emotionally during or following the situation. Moreover, when the cognitive process of appraisal takes place, one of the components which the individual assesses is the resources she/he has to deal with the situation [44]. In order to fully understand the process, it seems important to present and integrate another model that could supplement Lazarus and Folkman's interactional theory and provide insights about a cognitive process that facilitates adaptive coping and enables adjustment during or following acute and potentially traumatic events.

### The Salutogenic Model

The salutogenic model, the origin of health [45], suggests that life is full of stressful events, no matter how much we try to prevent people from encountering stressful situations. In other words, stressors are inherent in human lives, and the subjective meaning and the individual's perception of an event have more important consequences than the event itself [46]. Therefore, it would appear to be valuable to understand what resources lead an individual to the subjective meaning and perception of an event, as seen through a salutogenic lens. To answer this question, Antonovsky [46] suggested two main concepts: generalized resistance resources (GRRs) and sense of coherence (SOC). The definition of GRR is “any characteristic of the person, the group or the environment that can facilitate effective tension management” ([29•] p. 99). These resources are both cognitive and emotional and may be psychological, cultural, or social. Thus, GRR can be interpersonal relations such as social supports and social networks. The availability of these resistance resources plays a role in the individual's ability to overcome a stressor and, therefore, also impacts the movement towards the healthy end of the ease-dis-ease continuum. The most fundamental concept of the salutogenic model is SOC. SOC reflects the way individuals perceive the world and the events that happen to them, as well as the extent to which they perceive these events as manageable and meaningful. It is a global orientation, an enduring tendency to see the world as more or less *comprehensible* (the cognitive aspect—the extent to which the world is perceived as ordered and the problems facing us are clear), *manageable* (the instrumental aspect—the sense that, aided by your own or interpersonal resources, you will be able to cope), and *meaningful* (the emotional aspect—the sense that

life makes sense emotionally, that at least some of the problems and demands posed by living are worth investing energy in, are worthy of coping with, of commitment and of engagement). Therefore, SOC has important implications for the ways an individual responds to various kinds of stressful situations [45].

Combining both theories, the stress, appraisal, and coping theory of Lazarus and Folkman [27] and the salutogenesis model of Antonovsky [4, 46] could provide us with a more comprehensive picture about what resources facilitate certain coping strategies and/or behaviors that are more or less adaptive in different situations of mass trauma. The full elaborated coping process is presented in Fig. 1.

The model suggests that there are two types of independent variables; one is personal characteristics such as gender and age, and the other is situational. The personal characteristic of age indicates the developmental stage which operates and contributes differently to the coping process. The situational component is differentiated by two axes: (A) Natural and manmade disasters. (B) Situations which have occurred only once in one place as opposed to repeated situations such as terrorist attacks or missile attacks in specific areas. This axis can differentiate between acute and chronic + acute situations. The type and occurrence of the situations could have different consequences for the coping process.

Apart from the suggestion to differentiate types of situations, adding *resources* variables (see Fig. 1) to the coping

model is the main suggestion for elaboration of the entire coping process. The resources variables seem to play a significant role in the model. The GRRs are resources which complement some of the missing elements in previous research. They include cognitive (e.g., education, wisdom) and emotional (e.g., ego identity—a sense of integrated and stable yet dynamic and flexible inner self which is related to social and cultural reality but still independent) components which enable the individual to remain stable but also dynamic and flexible. The GRRs include also social and cultural modules that incorporate social ties and interpersonal relations including social support. The individual's culture is also considered as a resource and plays a significant role. It is the culture which defines the way one uses his/her resources as well as the way one appraises a situation and chooses his/her coping behaviors. The sense of coherence, a core construct in the salutogenic model and in the present proposed model, is a resource which exemplifies the ability of the individual to make sense, manage, and give meanings to each situation she/he encounters. Lastly, this model distinguishes between coping strategies and coping behaviors. The coping strategies are additional resources and are considered to be those plans one makes in order to take actions when she/he encounters stressors. The strategies include parameters of rationality, flexibility, and vision to anticipate responses. Coping behaviors, on the other hand, are the actual behaviors one chooses to act with when facing a stressor.

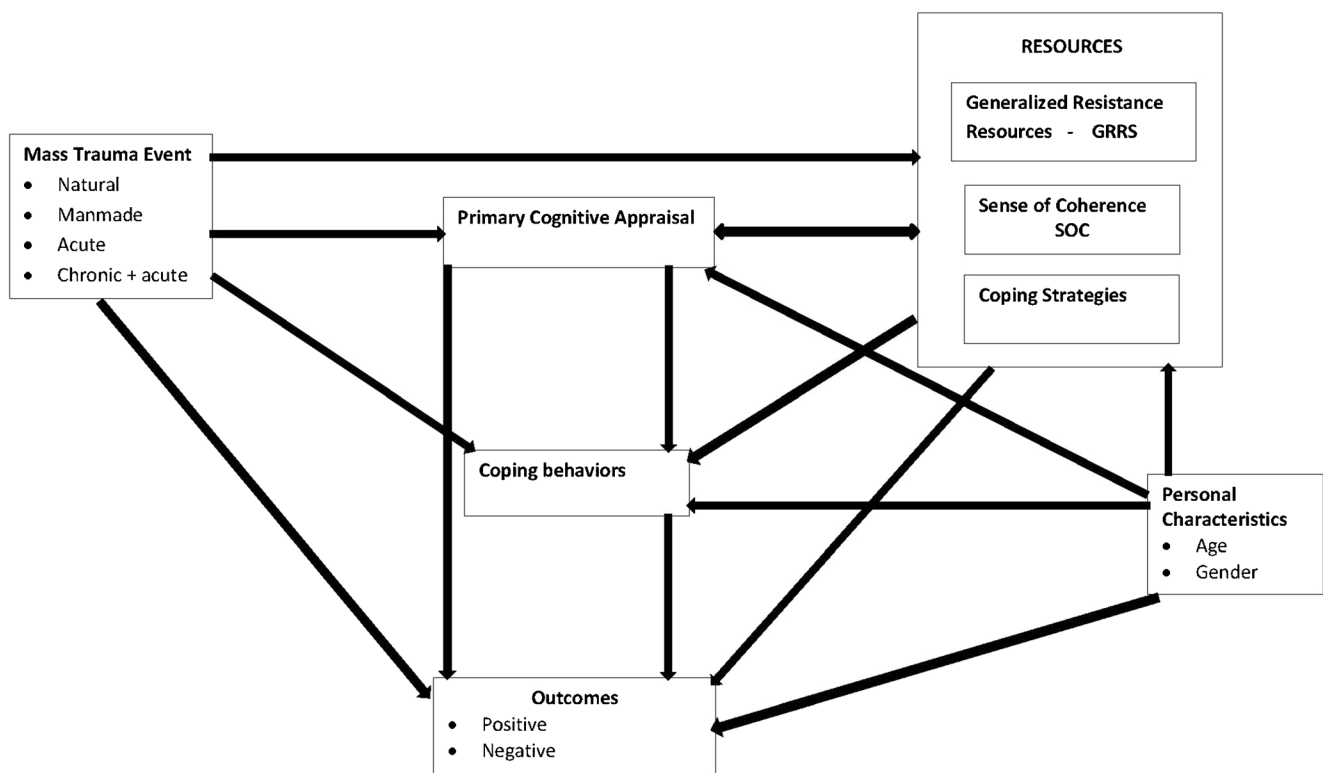


Fig. 1 Elaborated model: the coping process

All resources are linked to cognitive appraisal. The bi-directional relationships result from the fact that the meaning a person gives to the stressor leads him/her to find and use resources which she/he deems to be applicable to the situation. In the other direction, the resources one has to deal with the situation will determine the way she/he appraises it. Both resources and appraisal will have some impact on the behaviors one selects to cope with the event, and all will have an effect on the outcomes. As noted above, the outcomes which have been studied up to now were, for the most part, *negative* and pathological reactions to the event/s. The present model proposes also using positive measures such as well-being and life satisfaction. Examining both positive and negative outcomes will enable a clearer and broader understanding of aspects of individuals' mental health.

## Conclusion

In sum, the purpose of this paper was to review findings from recent years regarding children and adolescents coping with mass trauma and to offer new directions for future research. The present review suggests that although a variety of research has been done, and knowledge has increased, there are still areas that need elaboration and there are areas in this field that lack well-founded knowledge. Thus, a more comprehensive model to understand the process experienced by an individual when facing events of mass trauma has been offered. Through the lens of this model, several issues have been highlighted. First, the developmental stage of the child is a major factor when examining the process of individual coping with an event of mass trauma; second, the different types of events should be examined to find out if different resources, coping, and responses are exhibited; third, the cultural context of the individual should be taken into consideration to understand the cognitive, behavioral, and emotional processes of individuals in these events; fourth, different areas around the world (e.g., Iraq, Syria) which suffer from mass trauma but are not researched should become a field for researchers to examine. Finally, a more comprehensive set of outcomes should be considered to include positive (and not only pathological) outcomes.

## Compliance with Ethics Guidelines

**Conflict of Interest** Orna Braun-Lewensohn declares no conflict of interest.

**Human and Animal Rights and Informed Consent** This article does not contain any studies with human or animal subjects performed by any of the authors.

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