

Effects of Displacement in Children Exposed to Disasters

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Abstract The literature on children's responses to disasters is well developed with increasing attention to the confounding experiences of displacement. This paper presents an overview of the emotional and behavioral effects of displacement on children and adolescents and describes their educational adjustment in terms of both academic achievement and school behavior. A summary of family effects elucidates how children's functioning is influenced through the family system in which they are embedded. The psychosocial impact of displacement reflects the myriad social losses that children and their families may face. Information from this review of the current literature on the effects of displacement may inform

the design and delivery of support and intervention services for children and families following disasters.

Keywords Adolescents · Children · Disaster · Displacement · Emotional disturbance · Evacuation · Family · Posttraumatic stress · Psychosocial loss · Relocation · School · Trauma

Introduction

Displacement is one of numerous consequences of disasters that forces people to leave their homes and take up temporary or permanent residence elsewhere. In 2013, 22 million people worldwide were displaced by natural disasters [1]. Displacement may be relatively temporary as was the case with the 2007 California wildfires, which scorched hundreds of thousands of acres of land, destroyed thousands of residences, and forced nearly one million residents to leave their homes [2]. In contrast, the most dramatic recent example of mass displacement within the USA occurred following Hurricane Katrina in 2005, which caused over 1500 deaths [3] and forced the displacement of 1.2 million people [4], including 372,000 school-aged children [5]. Over 80 % of households in New Orleans at the time of the hurricane left their homes for over 2 weeks [6]; many relocated to Texas [7], but evacuees registered in every state in the USA [4]. By 2009, more than 38,000 families reported they still had not returned to their original home [8]. Children evidence unique needs in the context of disasters due to deficiencies in programming for children as well as to their decreased ability to protect themselves from danger and to make decisions and their dependence on adults [9]. This article focuses on the effects of disaster displacement on children within a nation and does not address the mass displacement that occurs across national borders due to political conflicts.

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Emotional and Behavioral Effects

Children may experience a range of reactions and difficulties coping with evacuation, displacement, and relocation. For example, children displaced by Hurricane Katrina were almost five times as likely as a pre-Katrina sample to show signs of serious emotional disturbance in the years following the disaster [10]. Yang and colleagues [11] found a prevalence rate for posttraumatic stress disorder (PTSD) of approximately 25 % in adolescents displaced by a typhoon in Taiwan. Girls and those with PTSD related to prior trauma, greater exposure, injuries, and relatives who sustained physical injury or died in the disaster were more likely to have PTSD 3 months post event. Those with PTSD had more severe depression, psychological distress, and behavior problems than those without [11]. Almost 1 year after the 2011 Fukushima nuclear disaster, displaced children's parent-reported stress levels were double the Japanese average [12]. In a pilot study conducted 21 months after Hurricane Katrina, displaced adolescent survivors had significantly higher PTSD and depressive symptoms relative to an unexposed control group from the community where the survivors relocated [13].

Studies comparing children with different disaster experiences reveal interesting and sometimes conflicting results. For example, in a study of Cyclone Tracy, children who were evacuated and never returned fared the worst in terms of emotional and physical difficulties, the children who never left the affected area displayed the least amount of symptoms, and children who evacuated then returned fell somewhere between these two groups [14]. Similarly, New Orleans students who relocated to a different city after Hurricane Katrina experienced more posttraumatic stress symptoms, depression symptoms, and post-disaster trauma than those who returned to New Orleans and more posttraumatic stress symptoms than those who moved to a different zip code within the parish [15•]. By contrast, another study of children 2 years after exposure to Hurricane Katrina found that those who relocated experienced lower rates of serious emotional disturbance than those who did not relocate [16]. It is unclear whether residing in a damaged community fits with known links between greater exposure to traumatic reminders and increased symptomatology or if remaining in one's home community helps inoculate against avoidance symptoms of PTSD [17]. Presumably, moving people to a location farther from the devastation may enhance safety and shield survivors from exposure to secondary adversities and trauma triggers. In a study of persons displaced from a 1999 earthquake in Turkey, higher levels of posttraumatic stress symptoms in those displaced externally to shelters, however, indicated that moving farther away from the destruction may reinforce avoidance and contribute to traumatic stress reactions [17]. Children's outcomes also may be influenced by myriad other factors including severity of the event (measured, for example, by number of casualties),

the child's proximity to the disaster and perceived life threat, extent of personal loss [18], and the depletion of resources and interruption of social support networks associated with the disaster [16].

Like disaster research in general, studies of children displaced by a tsunami examined a number of variables such as environmental disruption and family economic status linked to emotional and functional outcomes. Once children are removed from the immediate physical dangers of a natural disaster, relocation may present additional challenges. Children who continued to live in barracks 30 months after the 2004 Indian Ocean tsunami had more disaster-related fears than those who were living in villages; among children living in villages, there was no difference in fears between those who had previously lived in barracks and those who had never lived in barracks [19•]. There was no difference in functional impairment, however, in children living in barracks and those living in villages despite greater disaster exposure and lower socioeconomic status in children living in barracks [20•]. Post-migration stressors (including family members at home, displacement distance, living in barracks rather than in the village, and parental employment status) accounted for more variance in impaired functioning than disaster exposure suggesting the importance of addressing these stressors in post-event intervention [20•].

School and Academic Effects

Evidence suggests that displacement affects school performance and behavior. A number of Hurricane Katrina studies have examined the effects of displacement on academic performance. In one study, at approximately 3 years post event, over one third of children from households displaced or greatly affected by the disaster were at least 1 year behind in age for their grade, which represented twice the pre-Katrina average for that region [10]. Students' behavior may be affected as well. For example, in a survey of principals after Hurricane Katrina, the majority noted that attendance and social behavior of displaced students was similar to that of the pre-disaster student body, although a smaller number of principals reported increased discipline difficulties [21]. In a study of Mississippi schools, attendance problems were greater in students who had changed schools due to displacement after Hurricane Katrina relative to non-displaced students though the difference was less pronounced 2 years after the disaster [22]. Displaced students had lower levels of academic achievement and higher rates of non-promotion both before and after the disaster. Suspension and expulsion rates also were higher among displaced students; while these problems predated the disaster, they appeared to be increasing. Drop-out rates also were higher among

displaced students [22]. These findings suggest that disadvantaged low-achieving students with behavior problems continued to struggle after displacement.

In the case of Hurricane Katrina, where some displaced children had to attend school in neighborhoods dramatically different than their home, cultural differences, reflected in, for example, speech and use of language, religious and traditional practices, and food preferences, were sometimes manifested in disrespect and teasing of relocated students and physical fights [23]. For example, children who were displaced by Hurricane Katrina and relocated in Texas described adjusting to differences in community safety, language usage, and school rules [24]. Some students who relocated to Colorado found higher educational requirements and greater expectations for academic performance in their new schools [25]. Schools can serve as a resource to relocated families [25]. For example, in a study of children who settled in Colorado after Hurricane Katrina, participants reported that actions taken by teachers facilitated their recovery [26]. Specifically, teachers introduced relocated students to their new classrooms and explained the relocated students' experiences, assigned peers to assist the relocated students, offered time and academic support to relocated students, demonstrated respect for cultural differences, and encouraged relocated students to express their experiences. Peers also were credited with facilitating the recovery of relocated students directly through activities like tutoring and indirectly through positive reinforcement and encouragement. While most relocated students reported studying less and struggling with grades in the first year post event, attention to school work improved for many students by 2 years and many became more involved in extracurricular activities after relocating [26].

Effects on Families

Parental reactions, parenting styles, and family interactions can influence children's post-disaster functioning [27]. An assessment of displaced children after Hurricane Katrina showed that a little over one third of the total effect of the disaster on children's emotional disturbance was due to direct exposure while the remainder was influenced by parental mental health [10]. Abramson and colleagues [10] considered household and parental influences on children's Hurricane Katrina adjustment which included, among other things, disruptions associated with transiency, economic stress, poor family functioning, and parental mental health problems. These disruptions may limit children's opportunities for social interactions and parental support and stability and increase children's feelings of insecurity and isolation [10].

Prolonged displacement during adolescence that removes young people from familiar surroundings and social support systems has been linked to greater parental and adolescent mental health concerns including PTSD symptoms and depressive symptoms [28]. In the aftermath of the 2004 Indian Ocean tsunami, psychosocial resource loss was as important as exposure for adolescents in predicting mental health problems. These psychosocial losses were reflected in increased family conflict and violence, parental alcohol use and mental health problems, and negative impact on parental jobs [28].

Social Effects

People who are forced from their homes may face problems encountered by other disaster victims as well as additional risks and challenges associated with evacuation, displacement, and relocation. Displaced persons grieve more than just the loss of a dwelling place. They lose jobs [29], schools, places of worship, and access to usual medical care [30], and they may lose all of or part of their social networks [31]. They lose the security, comfort, traditions, and familiarity of a place in which they have lived for part, much, or all of their lives [23]. The extant literature presents a somewhat confusing view of the specific role of displacement in producing negative outcomes. It may be that the myriad social and economic losses associated with displacement are primary contributors to psychological outcome [32]. In a study of survivors of the 2004 Indian Ocean tsunami, post-displacement stressors accounted for more variance in children's global impairment than did pre-tsunami household (e.g., homeownership, parental employment status, parental educational attainment) and exposure factors [20••]. The extent and long-term nature of the displacement following Hurricane Katrina was unparalleled in the USA and led to concerns about the possible effects of the resulting disruption of social support systems [25, 33] including the dissolution of extended-family homes [34] and distrust of unfamiliar available resources [25]. Related to the issue of social support is survivors' broader "sense of place" or feeling of connection to community networks and psychosocial support activities [35].

Displacement may create obstacles for disaster survivors as they try to become secure within a new community, re-establish important cultural activities, and generate an action plan for recovery [35]. Although the literature on physical health effects of relocation is sparse and what is available is contradictory, medical concerns and access to health care services add another level of concern when trying to understand the impact of displacement [30]. Sometimes relocation can result in positive outcomes such as access to better housing and school

systems [36], but these improved resources may come at a cost of living that is too high for the relocated families to sustain [37].

Future Research

The literature highlights the complex nature of displacement, which Fussell and Lowe [38] characterize as a “a multi-dimensional phenomenon” (p. 138). Recent research on Hurricane Katrina shows a growing awareness of the various experiences of displacement [38]. Creating variables to better capture the dynamic nature of displacement will be important to future research on the process in children and families. Studies are needed to tease apart the effects of the factors interwoven within the displacement (e.g., trauma exposure, secondary adversities, changes in economic status and employment) and relocation (e.g., the child’s experiences in a new school, the reception of the host community, the availability of social support) processes. Studies that are more qualitative in nature are attempting to capture some of the nuanced feelings children have about the loss of and continued attachment to their original homes (e.g., [39]). This would be an important aspect of displacement to investigate as some children never return to their pre-disaster communities.

Much more research is needed to understand how displacement might interfere with important milestones at different stages of development. The current information on the effect of displacement on academic functioning is equivocal. More research is needed to determine how much influence pre-disaster performance versus post-disaster factors play in influencing academic achievement. Finally, children are embedded within their families within their new communities. More complex modeling to help capture how parental and family variables influence children’s coping and functioning would be advantageous. As research progresses, these data can help inform the development and provision of services to displaced youth. In disaster situations, resources are often scarce so understanding the best way to provide support is crucial.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no competing interests.

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