



# PROMOTING CHILD RESILIENCE TO DISASTERS: POLICY, PRACTICE, RESEARCH

Proceedings of the Research Forum at the Bushfire and Natural  
Hazards CRC & AFAC conference  
Wellington, 2 September 2014

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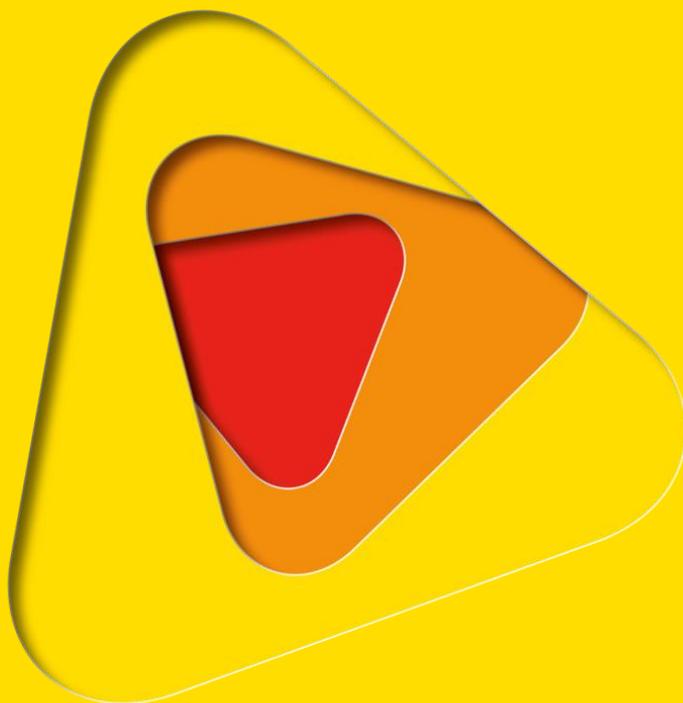
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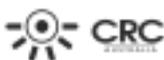
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**Publisher:**

Bushfire and Natural Hazards CRC

February 2015



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## ABSTRACT

The recently published Synthesis Report on the Post-2015 Framework on Disaster Risk Reduction (UNISDR, 2013) places children at the centre of successful adaptation to disasters: “In particular children and youth have been singled out as having specific needs in terms of school safety, child-centred risk assessments and risk communication. But, more importantly, if appropriately educated and motivated on disaster risk reduction, they will lead and become the drivers of change.” Equally, here in Australia, the role of disaster education in managing disaster risk has been recognised as a major priority in the National Strategy for Disaster Resilience (Australian Government, 2011). While Child-Centred Disaster Risk Reduction (CC-DRR) is increasingly popular across agencies and organisations around the world, rigorous empirical research on the efficacy of the approach is limited. This three-year program of research is planning a range of projects, unified through various means, and an integrated narrative, to increase the reach and impact of CC-DRR education within communities in Australia and New Zealand. Year 1 (of 3) of this Project is focused on planning and pilot work, a scoping and review exercise to identify what the evidence to date suggests in terms of best practices to date and challenges requiring research. Initial efforts have included pilot work on stakeholder views. Based on scoping and review, it has also included multiple team submissions to the UNISDR Global Assessment Report on Disaster Risk Reduction, 2015 (GAR 15), and refereed publications, with a focus on CC-DRR. These early outputs, along with other collaborative efforts within the team, are directed towards investigating the extent to which CC-DRR influences disaster resilience at individual, household and community levels. It will also investigate how CC-DRR influences children’s (1) pre-hazard resilience and readiness and (2) post-disaster response and recovery. In doing so, it will provide disaster resilience researchers, policy-makers, and practitioners with an evidence-base for development of effective CC-DRR programming, in Australia and internationally. The Conference presentation will provide an update on progress of our systematic review and scoping efforts in Year 1 and pilot data collected to date. A main thrust will be to update Conference attendees on current research issues and gaps linked to the policy-practice-research nexus. Main themes here are that research to date has seen an increase in evaluation of CC-DRR education programs, particularly in the past 15 years. Most of the studies published to date support education program effectiveness on indicators linked to risk reduction and resilience (e.g., knowledge of DRR key messages, risk perceptions, reduced fears; child- and home-based preparedness). Challenges identified, and which are to be the focus of attention in this project, include (1) methodological issues (e.g., more rigour needed), (2) no research to date examining whether these programs reduce risk when most needed (i.e., during a hazard event) or if they are cost effective, (3) research suggests that some education programs may not reduce risk in the way envisaged and, finally, (4) education programs developed will benefit from more explicit evaluation, including whether they include theory-supported elements, whether they include effective teacher training, whether they produce bona fide DRR outcomes including over time, and the effectiveness of mechanisms designed to support sustainable, scaled implementation of education programs.

## INTRODUCTION

Children are the most vulnerable demographic group in disasters, representing 30-50% of deaths according to World Health Organisation estimates. They also represent one of the most vulnerable groups for psychosocial effects according to a large scale systematic review of disaster victims (Norris et al., 2002). At the same time, preliminary research (Johnson, Ronan, Johnston, & Peace, 2014; Ronan, 2014; Ronan & Towers, 2014; Towers, 2014; Webb & Ronan, 2014) points to the active role children can play in communities assuming “shared responsibility” with government (National Strategy for Disaster Resilience, NEMC, 2011) for preparing for and responding to natural, and other, hazard events. In addition, in anticipating the post-2015 Hyogo Framework for Action, not only will children be instrumental in community efforts to reduce current risks, they are also the adults of tomorrow who will be dealing directly with the future risks associated with climate change. This is significant for the future of DRR for two



reasons. First, helping today's children, and their families, learn disaster risk reduction and resiliency skills can contribute to reducing current risk including personal, household, school and community risks in relation to natural hazards. Second, CC-DRR has the potential to equip children and youth with the skills and knowledge required to develop the capacity to solve future risks. For example, learning through DRR and resilience education programs may provide today's children, and tomorrow's adults, with DRR-related problem-solving tools that may assist in helping to address some of the complex policy issues in Australia and many other countries. These problems include those that follow from policies that have been shown not to solve problems but, instead, exacerbate natural disaster risks (Ronan & Davies, 2014).

Over the last decade, the role of child- and youth-focused hazards and disasters education has gained increasing emphasis in the international disaster resilience literature, in relation to both policy and practice (e.g., UNISDR, 2005, Ronan, 2014) and empirical research (Johnson, Ronan, Johnston, & Peace, 2014). The UN International Strategy for Disaster Reduction (UNISDR) and the UNISDR's Hyogo Framework for Action (HFA; UNISDR, 2005) identify disaster education as one of five key priorities for action.<sup>1</sup> In planning for the post-2015 HFA framework (HFA2), education programs will again be made a major priority and there is expected to be an increased focus on children and youth (Ronan, 2014; UNISDR, 2013; UNISDR, 2014). In Australia, the National Strategy for Disaster Resilience (NSDR; NEMC, 2011) advocates for an increase in "shared responsibility" between government and communities for disaster risk reduction (DRR). In reflecting HFA-inspired principles, the NSDR also emphasises education as part of the overall strategy to promote collective responsibility in DRR. Taking the idea of education one step further, in its final report, the 2009 Bushfires Royal Commission explicitly stated that bushfire education for children is important, has been recommended but neglected since the 1930's, and needs more attention:

"Inquiries into bushfires in Australia have repeatedly found that teaching school children about fire is fundamental to improving community bushfire safety. Each new generation must be properly prepared for living in an environment that is hazardous. The Commission is of the view that educating children about the history of fire in Australia and about safety in the event of a bushfire will probably influence not only the children but also their parents, siblings and extended family and community. Despite this, fire education remains an optional inclusion in most Australian school curricula...A concerted education program—the need for which has been noted since as early as 1939— remains the most effective approach to instilling the necessary knowledge in Australian families" (Teague et al., 2010, p.55).

More generally, across a range of hazardous events, a recent Background Chapter (Ronan, 2014) commissioned by UNESCO and UNICEF for the HFA2 planning process and its Global Assessment Report on Disaster Risk Reduction 2015 focuses on one of the "core indicators" for HFA's Priority for Action 3: School curricula, education material and relevant training including disaster risk reduction and recovery concepts and practices (PFA3/Core Indicator 2). In addition to summarising policy developments internationally, including in Australia, it also summarised many DRR education programs being carried out. However, both in Australia and elsewhere internationally, DRR education programs tend to be time-limited or one-off projects carried out through schools or emergency management agencies. Moreover, these programs are rarely subjected to formal evaluation or review. Thus, there is a dearth of evidence-based knowledge about the role of disaster risk reduction and resilience education (DRRRE) programs in producing increased risk reduction and resiliency indicators across the disaster cycle, from prevention and preparedness to response and recovery.

In terms of research conducted to date, a recent systematic review of research in disaster risk reduction and resilience education (DRRRE) (Johnson et al., 2014) shows that the area has grown significantly over

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<sup>1</sup> HFA, Priority for Action 3: Use knowledge, innovation and education to build a culture of safety and resilience at all levels.



the past 15 years, with 34 studies on DRRRE programs for children and youth being published in the grey or academic literatures.<sup>2</sup> This indicates that these programs clearly have promise, with several quasi-experimental, pre-post studies reporting significant enhancements in risk reduction and resiliency indicators (Johnson et al., 2014). These indicators include increased knowledge of risk and preparedness, reduced fears of hazards and increased levels of child- and home-based preparedness. Thus, preliminary data do support an affirmative response to the question “do DRRE programs improve risk reduction and resiliency indicators during the Prevention and Preparedness phases of the disaster cycle?” However, as pointed out in the review (Johnson et al., 2014), improved design and methodology across studies are crucial in making stronger causal statements and provide a more in-depth understanding of which program elements produce which gains. There is also a need to extend the types of indicators assessed (i.e., most studies rely on knowledge-based indicators) and broaden the range of sources from whom data is obtained (i.e., most studies rely on children as sole sources of information, with only a handful using parents, e.g., Ronan & Johnston, 2003; Webb & Ronan, 2014). In addition, it is critical that future asks the question: do DRRE programs translate into effective Response and Recovery for children and their families? Currently, no study worldwide has examined this question.<sup>3</sup> Pending answers to that question, another problem in this area is the problem of scale (Ronan, 2014). Typically, as indicated earlier, DRRE programs are limited in size, scope and duration. Teacher survey and focus group research (Johnson & Ronan, 2014; see also Johnson, 2014) appears to indicate a number of obstacles preventing large scale uptake of disaster resilience education (see next section for more detail). Large scale review and scoping in this area for the post-2015 Hyogo Framework for Action on Disaster Risk Reduction indicates additional policy-related obstacles: what appears to be goodwill towards DRRRE in Australia and internationally, hasn’t resulted in on-the-ground policy development and large scale implementation practices (Ronan, 2014). Thus, implementation tends towards small scale project-based approaches that are delivered either by teachers or emergency management personnel and are not systematically evaluated, either the curricula itself (i.e., is curricula supported by theory and research?) or outcomes (i.e., is the program producing documented DRR outcomes?). Training of teachers in DRR curricula delivery has also been identified as an issue needing attention (e.g., Johnson & Ronan, 2014; Johnston, Ronan et al., 2014b).

Given this multitude of issues, the problem in this research is “can previous research findings provide clues about next steps necessary in research? As introduced above, one major problem is that bulk of existing research has come from one-off education programs that may or may not have theory-supported elements and that have limited before and after assessment, tending to focus on knowledge-based and immediate outcomes (Johnson, Ronan, Johnston, & Peace, 2014a). Thus, an aim of this study is to focus on an increased array of outcome indicators over extended timeframes for following cohorts to see whether any knowledge and skills gained are sustained over time. This would include, where applicable, in areas where a natural hazard event occurs. Another aim, currently underway, is to systematically evaluate existing programs to see whether elements included are supported by theory and research.

To help define the problem, and the narrative that puts different problems into a coherent context, our programmatic research for Year 1 has commenced with a large scale scoping and review in policy-practice-research areas and pilot research. That is, through scoping and review, we are able to discern the normative context across policy-practice-research in relation to children’s role in disaster risk reduction (DRR) efforts. However, as part of piloting in Year 1, we are also getting the unique views of a wide variety of stakeholder groups (end users, teachers/school personnel, EM/DRR professionals, parents, children and

<sup>2</sup> With only one study published prior to 2000 – thus, since 2000, there has been a 34-fold increase in studies published in the grey or academic literatures (Johnson et al., 2014).

<sup>3</sup> It might be added that there has been no study done internationally that has looked at a Prevention and Preparedness phase education/intervention program and systematically followed that same cohort into the Response and Recovery phase of a natural disaster.



youth), through Delphi and survey work.<sup>4</sup> Based on this normative and stakeholder input, Year 2-3 are then aimed at a suite of studies that reflect questions related to an overall “research narrative”, linked to moving knowledge and application forward while also trying to solve problems that have been identified. Each study is intended to contribute to the narrative. Main study projects have not yet been finalised, but main research questions to date are summarised below, following a presentation of the research narrative.

Based on scoping and review, the research narrative thus far is as follows:

The narrative for the program of research continues to be in development in various forms: (1) through compiling various theories related to DRRE, (2) through a flowchart approach and (3) through a written narrative. While the theory- and flowchart-based models are yet completed, the written narrative as currently developed is as follows.

We currently do not have evidence-driven DRR education programs, or activities, that are known to save lives, property, reduce injuries and reduce psychosocial consequences. Related, the current best expert- and consensus-advice (e.g., “key messages”; IFRC, 2013; from important stakeholders<sup>5</sup>) has not been systematically accounted for or infused directly in DRRE programs, starting with basic messages for younger children that emphasise child protection and safety. With basic messages, there is a foundation that can then be added to and built over time to more advanced topics in later years. Further, getting the balance right in terms of child protection and child participation is an area of contention in the field (Ronan, 2014). Internationally, the pendulum has swung in the direction of child-participation/child-led direction when in fact research also strongly supports the role of adults in child-protection-based activities: One that includes in educational setting basic guidance in relation to key Prevention and Preparedness messages. The current view of this team is that there needs to be a balance of both child protection and child participation in DRRE programs.

A basic problem is that development and delivery of school-based DRRE programs tend to be one-off or time-limited and are not systematically infused within the curriculum. Thus, developing evidence-based, expert-endorsed curriculum materials that can be implemented on larger scale and help children learn and practice important key messages through participatory learning, messages that translate directly into effective Response and Recovery behaviours, including those that protect children, families and schools, all represent necessary next steps.

At the same time, analysis suggests that there are significant obstacles preventing the development and systematic uptake of evidence-informed education programs, at both practice and policy levels. At the practice level, New Zealand focus group and survey research with teachers and EM professionals (Johnson & Ronan, 2014; see also Johnson, 2014), indicates some significant obstacles including a lack of teacher training in DRRE curriculum development, resource and time limitations (e.g., overcrowded curriculum in schools), a lack of school/agency support for program implementation and a perception that DRRE programs might scare children reasons (Johnson, 2014; Johnson & Ronan, 2014). However, no research on what Australian teachers and EM Professionals see as obstacles and facilitators has yet been conducted.

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<sup>4</sup> With possible follow-on focus group research during Year 2-3 if deemed useful.

<sup>5</sup> These include emergency management (EM) professionals, parents/households, teachers/schools and children themselves. In the case of EM professionals, they are aware of local conditions which may impact on key messaging developed by international/national experts. In the case of other stakeholder groups, it is important to see what these groups see as key messages. This would include creating DRR messaging that accounts for widely held myths as well as to amplify widely held messages that are more likely to lead to effective responding.



There is also a lack of policy frameworks or guidance for DRRE curriculum being directly, and systematically, infused in schools. At a more basic level, while anecdotal evidence suggests practitioners and policy-makers support the idea of DRRE in the curriculum, there is a lack of research that documents support. That is, with widespread support for the “aspiration” of DRRE, that can promote next steps in policy development, towards more systematic implementation of DRR curriculum practices. In addition, pending wider support from stakeholder groups, if DRRE program development can also be done with an eye to helping policy-makers and practitioners solve identified problems (e.g., teacher training, curriculum guidance and support), that may also assist in promoting increased implementation.

Moving from aspirational policy to actual implementation would also involve working with important government departments and agencies (e.g., education, emergency management) and help them advance sector-wide mapping, including ‘scoping and sequence’ policy and planning activities that can then be used to produce a K-12 curriculum that (1) meets children’s developmental needs, (2) inculcates key, evidence- or at least consensus-driven DRR activities, (3) produces “ultimate” outcomes (saving lives, property, reducing injuries and psychosocial consequences, and (4) are innovative, including solving various documented problems discussed above (e.g., crowded curriculum).

In addition, more evaluation is necessary. In particular, rigorous evaluation of the following is necessary: (1) program content and delivery (e.g., content analysis; fidelity assessment), (2) program effectiveness in producing important outcomes (including immediate, ultimate and cost effectiveness outcomes) and, finally and critically, (3) teacher/EM professional training and other national capacity building efforts.

In terms of this overall narrative, it is the opinion of this team of researchers that the large scale implementation of programs that are taught by well trained teachers and EM professionals and are effective in promoting risk reduction and resilience requires a different mindset. Moving from more of a one-off/project approach to a longer-term, strategic mentality is necessary - one that starts with and is “fuelled” through the development of key relationships between actors across across policy-practice-research sectors. As the main focus of this project, that longer-term view will benefit substantially from data that speaks to the role of DRRE in producing immediate and longer-term risk reduction benefits for children, families, communities and government.

Summary: Status of project to date and main research questions

Pilot research has begun with Delphi, survey, and focus group research with major stakeholder groups (children, parents, EM professionals and policy-makers, teachers/school personnel) on a variety of issues that are important to know for policy-makers, practitioners and researchers. For example, do children, parents, teachers, EM professionals think DRRE for children and youth (and their families) is a good idea or not? If so, what do the educators think should be the focus of such programs? What do they see as facilitators and obstacles to increased delivery of these programs? What would children and their parents like to see addressed in these programs? What do stakeholder groups currently think are the “key DRR messages” that ensure effective Response and Recovery? These questions have never been systematically asked, and we are asking them and others through surveys that are going out in the second half of 2014 and early 2015.

Starting in 2015, the main study will begin to examine core aspects of the narrative, do DRR education programs produce both immediate and longer-term benefits that promote increased knowledge, behavioural, emotional and household resiliency and risk reduction before, during and after hazard events? If so, are they delivered in a way that has potential for delivery on a larger scale? Do they have address an already crowded curriculum, teacher training problems and other practice- and policy-related obstacles? At the same time, are they packaged in a way that supports theory and that both those who deliver the programs (teachers, EM professionals) and those who participate (i.e., children and youth) find them useful



and engaging? If they produce immediate and longer-term DRR benefits, are they cost effective and, thus, more attractive to policy-makers within a whole-of-community DRR approach? Currently, there are multiple studies being planned that address aspects related to these core questions, including evaluating already developed programs as well as a program that is under development. These include at least two PhD studies and 2-3 other projects. These will be presented in more detail as each study finds its place within the overall research narrative and associated research question. As part of this planning, consultations have been underway with end users soliciting input, ideas and interest in being directly involved in the main study.<sup>6</sup> The team is also active in contributing to current knowledge as it reviews and scopes the most timely research questions in this area. In terms of publications, the team is active in publishing scholarly and other pieces in the academic and UN-related international literatures. This publication list is as follows:

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<sup>6</sup> End users are also involved in pilot research, both a Delphi study on “key DRR messages” and a larger survey for EM professionals. We are also actively soliciting input around “products” related to this research that would benefit their work. Finally, in addition to consultations done thus far face-to-face, by teleconference and email, we are also consulting with end users about a capacity-building workshop, with input from end users about preferred focus (i.e., what focus might assist them in their work currently or in the future?) and format (e.g., live versus webinar-style).



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