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Child-Centred Risk Reduction Research-into-Action Brief:

Children's Impacts on Household Safety

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Statement of purpose

The Research-into-Action Brief series provides concise summaries of academic and grey literature on a range of topics for practitioners working in the fields of child-centred risk reduction (CCRR), climate change adaptation, and school safety. This purpose of this brief is to provide a concise review of research findings for practitioners on children's impacts on household impacts.

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Abstract

Numerous child-centred risk reduction (CCRR) initiatives have been effective in decreasing the risk of children and their families to disasters by empowering them with knowledge and safety-related skills (Amri et al. 2016; Haynes et al. 2010, 2016; UNESCO/UNICEF 2013, 2015). Some point to promising program approaches and activities to promote learning between children and their caregivers. Nonetheless, recent studies (Mitchell et al. 2008 and 2009; Ronan et al. 2015; Johnson 2011; Johnson et al. 2014) have shown that there is minimal information available on:

- what types of CCRR approaches are most effective
- which activities and household interventions may have sustained impacts
- CCRR and the processes of learning
- the direct impact of learning initiatives on household preparedness
- actionable risk communication between teachers and children and between children and their families
- how children's empowerment and influence may change over time

This brief outlines what is known about CCRR education approaches that have proven effective in improving household risk and resilience levels. The need for improved program design and practice-based research is highlighted.

Introduction

The importance of including children as partners and agents of change for disaster risk reduction (DRR) has been globally acknowledged in the Hyogo Framework for Action 2005-2015, the seminal publication of *Let Our Children Teach Us* (Wisner, 2005), and again in the Sendai Framework for Disaster Risk Reduction 2015-2030. The creativity, enthusiasm and daily responsibilities of – and the connections between – children and youth present a unique setting for influencing and shaping household risk reduction (Seballos & Tanner 2011).

In developed countries, opportunities for strengthening and learning from the inclusion of DRR education in schools have been highlighted, as has the failure to demonstrate a clear relationship between education and preparedness (Special Edition on Children, Youth and Education, *Australian Journal of Emergency Management*, 2014; see esp. Towers et al.). These gaps "…are not due to a lack of research, but a lack of conceptually framed program theories and meaningful outcome

indicators that explicitly seek to validate if and how programs result in the intended outcomes and desired long-term impacts" (Johnson et al. 2016, p.2). Similarly, "…analytical research on the capacity of children and youth to reduce the impact of disasters is largely missing" (Mitchell et al. 2008, p.255). In developing countries, despite the increase in research on school-based risk reduction initiatives, strong measurements of outcomes in household safety do not yet exist (Amri et al. 2016; Johnson et al. 2014).

Measures of changes in awareness and understanding of hazards are not well linked to changes in behaviour, and behavioural changes are often based on self-reporting. Similarly, there are few findings on child-parent interactions and how they influence household risk reduction (Johnson et al. 2014; Ronan et al. 2015, 2016). What drives and what blocks effective risk communication involving children is also not well understood (Mudavanhu et al. 2015; Haynes and Tanner 2015).

The literature on the measurement of behavioural change provides us with contextually appropriate and strong evidence-based information. This can be used for social and behaviour-change programming, and for measuring improvements in household safety in communities that have participated in CCRR education. For example, the recently published report *Public Awareness and Public Education for Disaster Risk Reduction: Action-Oriented Key Messages for Households and Schools* (International Federation of the Red Cross & Red Crescent Societies and Save the Children, 2018) provides an evidence-based source for changes in household safety that can be measured.

Literature Review

The broad literature on both household safety and children's impacts on risk reduction and resilience provide a number of valuable insights. These include:

Importance and benefits: Children and youth who have seen or experienced hazard and disaster impacts can identify the relevance and importance of household safety. There is consistent evidence that they *want* to be involved in positively influencing household and community risk reduction and resilience (Amri et al. 2016). Many are eager to learn and to share what they have learned with family members, friends and neighbours. The value of youth participation, and the general capacity of children to enhance the effectiveness of DRR efforts, has also been well documented (Back et al. 2009; Lawler and Patel 2012; Peek 2008; Fernandez and Shaw 2013; Head 2011; Mudavanhu et al. 2015; Mitchell et al. 2009), and is on the rise (Amri et al. 2017; Walden et al. 2009). The positive outcomes for children and youth who are involved in risk reduction are also documented (Checkoway et al. 2005, Timmerman 2009 and Checkoway 2011), as are the perils of them not participating (Anderson 2005).

Knowledge versus action: Research has established that children have more knowledge (increased hazard awareness), a better grasp of the types of risks, and greater resilience after they have been involved in CCRR programs (Ronan et al. 2010; Ronan and Johnston 2003; Amri et al. 2016). However, for the most part, these programs have been evaluated solely "…on their propensity to judge program effectiveness

based on changes in children's knowledge" (Johnson et al. 2016, p.1). Action has rarely been measured, and there are few tools that effectively measure the actions taken after participating in CCRR programs.

Child and household interactions: Children can, and do, share knowledge that influences the decisions of their parents, and parents share knowledge that influences their children's decisions. This is called bi-directional influence (Ambert 1992; Kuczynski et al. 1999; Knafo and Galansky 2008). The evidence that "[c]hildren are learning about their environment and are passing this information on to their parents, influencing household behaviours" (Damerell et al. 2013:6) is echoed by a variety of program evaluations from child-centred organisations (Save the Children Bangladesh, 2016). Some studies in environmental education programs have found high levels of information transfer from children to parents (Vaughan et al. 2003 and Ballantyne et al. 1998, 2001) while some have found less (Duvall and Zint 2007, in Johnson 2014).

What makes child and household interactions about risk reduction and safety work effective is difficult to determine (Fernandez, 2012; Fernandez and Shaw, 2013). Children's influence on siblings and peers, while similarly important, is not covered in this review. We do know that youth participation can motivate other children (Molloy et al. 2002); and that motivation is also related to how much support parents and adult figures give, and can be influenced by cultural, language and ethnic factors (Checkoway and Richards-Schuster 2003).

Children can, and do, share knowledge that influences the decisions of their parents

How children bring information home: If ideas are presented in a structured or recognised way, they may be given more credibility by caregivers. Efforts that demand parent interaction – like filling out a questionnaire, for example – also increase the potential for children's voices to influence household levels of risk and resilience (Ronan and Johnston 2003). Children and youth engaged in voluntary youth groups working on DRR-related projects might receive more attention from adults than those involved in regular classroom activities (Plan 2010; Hossain 2017). Youth involved with participatory video projects about hazards, risks, and risk reduction felt the use of that media gave particular weight to their views (Haynes and Tanner 2015; Plan 2010). Consistent information with clear instructions, and which comes from trusted sources, is more likely to lead to behaviour change. Observing the behaviour of other community members can also contribute to behaviour change (Solberg 2010). If children receive information that is based on science and research, parents and the community might consider it more valid than other types of knowledge, such as local anecdotes (FEMA 2014).

Children's participation in risk reduction needs to also be in considered in the light of both cultural and political contexts (Lopez et al. 2012). Similarly, their potential levels of influence and participation may vary according to factors such as gender, age, social and economic standing and participation in and responsibilities for household activities, care-taking and decision-making (Mitchell et al. 2008 and 2009; Webb and Ronan 2004).

Active ingredients for household impact: Risk reduction and resilience education programs start to have an impact at home when children discuss what they have learned in schools with adults. Parents

helping children with relevant homework may also lead to greater influence (Izadkhah and Hosseini 2005; Ronan et al. 2015).

Children's reports of increased household preparedness is associated with these "active" ingredients:

- guided encouragement to talk with parents about what was learned in the program;
- taking household preparedness materials home;
- the child's knowledge of response-related protective behaviours;
- involvement in a greater number of programs or activities;
- more recent program involvement;
- increased perception of what injuries can be caused by hazards

(FEMA 2014; Ronan & Johnston 2001, 2003; Ronan, Crellin & Johnston 2010; Webb and Ronan 2014).

A study in the USA found that: "[h]ouseholds with school children who brought home preparedness materials were significantly more likely to report preparing than those who did not receive materials: they were 75 per cent more likely to have a household plan they had discussed as a family, and twice as likely to have participated in a home drill" (FEMA 2014: p.33). Action-oriented messages with up-to-date scientific evidence, appear to be the most effective way to empower children to share knowledge. Positive impacts at home include: knowing what to do in case of several types of threats; greater familiarity with early warning systems, evacuation and shelter plans; information about local hazards; and community disaster plans (FEMA 2014: p.33-35).

When children participate in interactive activities, they are more likely to share knowledge with their parents than when they only undertake written tasks (Damerell 2013:6). Some of the most effective initiatives (though these may be labour intensive) have included participating in risk reduction, advocacy and mobilisation, taking part in project design, and communicating about risks and hazards to caregivers and other community members and stakeholders. The use of both video and technology were key factors, too (Tanner 2010; Haynes and Tanner 2015:2). How the material is presented, and in what context, as well as the skills, interests and creativity of teachers, all have an impact (Johnson et al. 2014; Amri et al. 2016).

Measuring household hazard impacts: It is also important to consider the wider literature on designing and evaluating social and behavioural change**.** Key findings since the 1990s (e.g., Lindell & Perry 2000) include:

- Household hazard adjustments are greatest when they become a topic of discussion among peers; when people seek further information; and when the messages people are exposed to are consistent and come from multiple trusted sources.
- People are more likely to act if they believe that the measures being promoted are effective, and if they feel they have the ability to undertake the tasks.

These factors become very important when it comes to the actual content of the risk reduction and resilience messages students take home (Petal 2009a).

Specific household risk reduction and resilience behaviours have been demonstrated to group around three key areas: risk assessment and

planning; physical or social protection (or risk mitigation) measures; and the acquisition of response skills and provisions (Kirschenbaum 2002).

Overviews of the short history of DRR education initiatives recommend:

- moving away from traditional discussions on natural hazards, laundry lists of “dos and don’ts”, and “having a plan”
- moving towards a focus on empowering children to take actionable risk reduction
- linking risk reduction strategies and education at the household level (micro), at school and work (meso) and in government (macro) (Lindell & Perry 2011; Petal 2008:2, 2015)

Designing for behaviour change: It is important in the design of risk reduction and resilience education to focus on what can be done in advance to change the impacts of hazards rather than solely on response-preparedness (Paton & Johnson 2001, 2003; Petal 2008, 2014). Best practices include an all hazards approach (rather than focusing on a specific hazard; e.g., floods or earthquakes). The research-based evidence found in IFRC and Save the Children’s *Public Awareness and Public Education for Disaster Risk Reduction: Action-Oriented Key Messages for Households and Schools* (2018) provides a foundation for *all-hazards* as well as specific hazards messages. This template has been used in several countries to generate a nationally adapted and adopted set of messages as the foundation for educational materials development. Thus, a broad core set of target actions and behaviours can be created to provide a simple family disaster plan checklist adapted to the range of specific hazards unique to a region (Risk RED, 2012). This, in turn, becomes a core measure for monitoring and evaluation, and responds to the strong trend towards program design that measures social and behavioural change.

The “transtheoretical model” of stages of behavior change allows measurement of progress towards change, rather than simply the presence or absence of the behavior (Prochaska & DiClemente, 1992 & 2005). The model comes from public health, and has also been found useful for measuring household behaviour safety as well (Paton & Johnson, 2003, Crocetti et. al., 2018). The stages are:

- pre-contemplation (not ready or intending to change)
- contemplation (getting ready, considering change)
- preparation (ready to change)
- action (changes made)
- maintenance (continuing new behaviour)

Program choices and quality: There are a many possible variables when it comes to program design and evaluation. One set of variables concerns how education is delivered: via a formal curriculum (e.g., stand-alone courses or modules vs integrated into other subjects); informal education (school-based vs extra-curricular activities such as clubs); and/or engagement in community-based advocacy and leadership development?

Another set of variables concerns quality. These include: interactive activities (with clear learning objectives); learning resources for students (and families); teacher/facilitator knowledge and skill development and support, and experiential learning (esp. through active risk assessment, risk reduction and response-preparedness activities, and advocacy)

(Petal 2009b). This includes measures of how well they are delivered as far as adhering to the program model (also known as 'fidelity'). The capacities of teachers, the accessibility of resources, and time constraints are also factors that can impact how well a program is delivered to students.

Johnson et al. (2014) investigated the use of DRR education material for a national program in New Zealand. Their findings revealed what activities teachers felt children were more interested in, and when parental involvement was needed. The effectiveness of the program was measured using:

- knowledge that children learn from the program
- the accuracy and depth of what children share with their parents or caregivers
- the quality of the attention that parents and caregivers give to receiving knowledge from their children
- whether – and how – parents and caregivers use this knowledge to reduce risk at the household level

Practical Applications

Starting risk reduction in homes is a strong foundation for building community resilience activities. The wider literature shows that children, and adults, are more likely to share information and take action to reduce risks when they are confident that their actions will make a positive impact, and when they feel personally capable of tackling these actions. They are most confident as agents of change in their own homes. When empowered, they can then be encouraged to reach out to peers, and to participate in further action in school, the community and at work.

Programs that ask children to share information with their families are more likely to result in improved household preparedness

Assessing program impacts requires research *before* and *after* the CCRR program. To properly monitor changes, risk reduction projects need to gather baseline data on both children's and adults' knowledge and understanding, and on household safety measures, before a program begins. This should be gathered again once a program has been completed so that changes can be identified. Involving children as partners in this research can empower and engage them in the goals of increased safety and resilience.

Using evidence- and consensus-based action-oriented messages supports increases in safety behaviour at the household level: IFRC and Save the Children's *Public Awareness and Public Education for Disaster Risk Reduction: Action-Oriented Key Messages for Households and Schools* (2018) provides a valuable starting place for national level adaptation and adoption of this information. This means that information provided to schools, children, and caregivers can be consistent and carry the logos of both organisations for stronger impact.

Dialogue between family members should be encouraged. Best practices should be consistently applied. Programs that explicitly ask children to share information with their families are more likely to result in households undertaking preparedness measures. The programs should:

- provide quality education materials for children to take home
- encourage children and youth to share their knowledge and information with family and friends

- incorporate experiential and interactive learning
- seek family input and feedback (e.g. complete a family safety and resilience plan)

Remember that circumstances and contexts affect children's capacities and degree of influence.

Practice-based research is vital to improve program effectiveness. Measuring and understanding household risk reduction and the potential influence of children requires both quantitative data (e.g., questionnaires) and qualitative methods (e.g., interviews and group discussions). Program staff and beneficiaries can all be involved in research design and implementation. Staff should also be encouraged to experiment with program design to test the effectiveness of different interventions.

Previous research has raised these questions:

- Can a focus on everyday hazards and risks help to establish understanding of risk identification, risk reduction and response preparedness, and increase interest in preparedness for less frequent, high-impact hazards such as earthquakes and volcanoes?
- What types of program activities, facilitated and non-structured interactions between children and families, and social and behavioural change education materials are more effective to empower children to create change at home?
- Do children's roles and responsibilities that are related to social and economic context, gender or geography (e.g., translation and interpretation, chores, caretaking activities, household and external labour market work) impact their ability to be agents of change (Lopez et al. 2012; Mitchell et al. 2009)?

Related fields should also be examined to understand children's influence on household safety. Public health campaigns, games and apps, use of social media and voluntarism may have implications on how children impact household safety, and deserve further exploration.

Follow-up Questions

1. Research shows that children can be strong actors and influencers in risk reduction, and their participation can empower them as individuals and within communities. True or false?

2. Which of these factors can help to maximise children's impact on household risk reduction:

   (a) If classroom teachers send homework to be shared with families

   (b) If children and youth already have roles and responsibilities where they influence risk and risk reduction

   (c) If children believe a recommended risk reduction action will have a positive impact and feel capable of influencing their family's behaviour

   (d) all of the above

3. To test for impacts on household risk reduction and resilience in your area, what specific measures of household assessment and planning, risk reduction and response preparedness could you look for? How could you measure these?

4. Children's age is one factor that may partially define their capacity to influence risk at home. What other factors about a child's background or context should we investigate to understand how they can apply their knowledge and understanding?

5. We do not know what specific educational approaches, materials and activities most significantly impact household risk reduction. What are some of the questions that your CCRR program could try to answer to improve this impact?

Bibliography

All the references in this Research into Practice Brief, and many more, can be found in the CCRR and CSS Bibliography at:

https://www.zotero.org/groups/1857446/ccdrr__css

Find all the references on this topic by searching for "Household Impacts."

Readings

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