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ABSTRACT

A survey was undertaken at Te Anau Primary School seven months after the M_w 7.2 Fiordland earthquake of August 2003. The questionnaire was designed to assess children's level of awareness, risk perceptions, factual knowledge, and physical preparedness for hazards and mass emergencies (i.e. floods, earthquakes, snow and wind storms, and fires). It also assessed children's prior exposure to specific hazards, and to education programmes about hazards. Their responses were compared with those of children in other regions taking part in similar studies.

Almost all the children had felt the August 2003 earthquake or its aftershocks, with many also reporting seeing a house on fire or a wind-storm. The actions they took during the earthquake show that two thirds know the recommended safety actions for this situation. Most also know the correct actions to take if floods, house fires and wind-storms occur. Most of the children have participated in hazard education at school and have discussed it with parents, and many have practiced for an emergency at home.

Recommended preparedness measures were variably reported by children, with most saying their households have items such as torches, fire extinguishers, smoke alarms and first aid kits but fewer reporting strapping of water cylinders, correct storage of breakable items and stored food/water for three days. Te Anau children have reported similar to higher numbers of earthquake preparedness plans and practices compared with children from other regions (New Zealand and USA). However, given low levels of preparedness on a number of indices, one recommended focus is to increase the link between school education and home-based preparedness. For example, having simple homework exercises to promote guided interaction at home can help initiate discussions as well as focus basic preparedness activities (e.g., a family emergency plan).

KEYWORDS

Te Anau, Fiordland, earthquake, school, survey, questionnaire, hazard, emergency, risk, perception, flood, storm, fire, tornado, snow, wind, safety, response, education, preparedness.

1.0 INTRODUCTION

On the 21st August 2003 an M_w 7.2 earthquake struck Fiordland, centred ~ 10km northwest of Secretary Island at a depth of ~20km (Reyners et al. 2003). It was New Zealand's largest shallow earthquake in 35 years and was felt strongly over much of Otago and Southland. In Te Anau damage was relatively minor although spectacular, with items thrown from shelves and the cracking of many concrete structures (Hancox et al. 2003).

In March 2004 two of the authors (Johnston and Finnis) visited Te Anau to run focus groups with the community and scope out a residential survey. Results of the residential survey are reported by Leonard et al. (2004). During the visit a survey, reported in this paper, was undertaken at Te Anau Primary School, and was followed by a presentation to the students on the earthquake event.

The role of schools following hazard events has received some recent attention in the literature and has clearly identified the need for proactive interventions to help children and adults deal with disasters (Chemtob, 2002a; Chemtob, 2002b; Shen, 2002). For example, as was done following this earthquake, re-opening a school following a hazardous event appears to have more potential in helping recovery than a prolonged school closure. While clearly more research is needed to increase confidence, some suggestive evidence supports the idea that helping schoolchildren get back into routines is useful, and can potentially aid in normal recovery (Ronan & Johnston, 2005). More generally, getting back into routines within a community is currently considered to be part of "best practice" following a hazardous event (Ronan et al., 2005). In addition to helping normal response and recovery actions, response- and early recovery-based programmes can also engage in outreach, and screen for those in greater need (Ronan et al., 2005). For those in greater need (e.g., they have experienced more distress related to the hazardous event), Ronan & Johnston (1999) demonstrated in their quasi-experimental study that hazard-relevant education programmes such as those which followed the 1995 Ruapehu eruptions, can assist children to reduce hazard-related fears and increase their coping ability. During non-crisis times, having an understanding of children's perceptions of natural hazards and perceived preparedness is useful for designing and monitoring hazard education programmes in schools and the community (Ronan & Johnston, 2005). Thus, the current study was designed to survey schoolchildren's perceptions and preparedness, including current hazard-related fears as well as preparation for future hazards.

1.1 Method

1.1.1 Participants and setting

The 71 participating students were from Te Anau Primary School (29 boys, 40 girls, and two did not report gender). The ages of the children ranged from 8 to 11 years (Mean age = 9.2; SD = 0.7). A majority (55%) of the children had lived in Te Anau more than 5 years; 24% between one and four years and 16% less than one year. Four students (5%) did not respond.

1.1.2 Survey

The questionnaire, based on one developed for an Auckland study (Ronan and Johnston, 2001), was designed to assess children's level of awareness, risk perceptions, factual knowledge, and physical preparedness for hazards and mass emergencies (i.e. floods, storms, fires, earthquakes, snow storms, house fires and tsunami). It also assessed children's prior exposure to (a) specific hazards and (b) education programmes designed to increase awareness, knowledge and preparedness that were provided either by Emergency Management organisations or by school teachers.

1.1.3 Procedure

The survey was administered to three classes in one session by the researchers on the 8th March 2004. Children were encouraged to ask questions if they did not understand a particular item. Questionnaires were returned to the teachers and forwarded to the researchers.

1.2 Results

1.2.1 Hazard awareness and risk perceptions

The children were asked to identify the two most likely hazards that could affect them in Te Anau (at both home and school). Table 1 shows that the hazards children felt most likely to affect them were earthquakes and building fires; these were followed in order of decreasing likelihood by tornado, storms and flood. Perceived as least likely were snow storms by less than 10% of respondents.

Table 1 Rank order of the two hazards perceived to be the most likely at home and school in Te Anau

Hazard	Home % (n = 71)	School % (n = 71)
Earthquake	56.4	60.5
Fire (building)	43.6	57.6
Tornado	32.4	21.1
Storm with high winds	23.9	22.5
Flood	23.9	16.9
Snow storm	8.5	7.0

According to GNS's knowledge of hazards in Te Anau, earthquake and fire are in fact likely hazards, although earthquakes are infrequent (5 events of magnitude 6 or greater in the last 16 years; Reyners et al. 2003). Windstorms, snow storms and floods are also probable hazards in this area, but tornadoes are unknown. It is possible that "tornado" figured so significantly in the children's perceptions because of TV or movie coverage before the survey. A programme entitled "Tornado" screened on Sky Discovery channel on February 5, 2004. However at around the same time "Volcano" (a movie) screened twice on Sky Movies; so possibly no weight can be attached to these findings. Further possibilities for awareness of tornado hazard include news coverage, or a school module on tornadoes, close to the time.

Children ranked the likelihood of future hazard occurrence and perceived physical risk in the event of each hazard on a 3-point scale (likely = 1, a chance = 2, unlikely = 3). The ranked order of hazards most likely to occur in the future reflected that of the hazards most likely to affect Te Anau, with the exceptions of (a) storms being ahead of fires, and (b) snow storms ahead of flood and tornado. Over half the children perceived the hazards most likely to cause injury were fires and tornado, followed by earthquakes. All of the hazards were perceived as having better than 'a chance' (mean < 2.0) of causing injury. Children were then asked what hazards they had discussed with their parents and teachers (Table 3), and who initiated these discussions (Table 4).

Table 2 Hazards perceived as likely to occur and likely to cause injury (likely = 1, a chance = 2, unlikely = 3)

(n = 71)	% endorsing likely to occur in future	Mean	SD	% endorsing likely to cause injury	Mean	SD
Earthquake	63.4	1.4	0.6	45.1	1.6	0.6
Storm with high winds	46.5	1.6	0.7	32.4	1.8	0.7
Fire (building)	28.2	1.9	0.6	76.1	1.3	0.5
Snow storm	12.7	2.3	0.7	26.8	1.9	0.7
Flood	8.5	2.2	0.6	25.4	1.9	0.6
Tornado	4.2	2.7	0.5	67.6	1.4	0.6

Table 3 Discussed hazards with your parents and/or teachers

(n = 71)	Parents	Teacher
Hazard	% endorsing "Yes"	% endorsing "Yes"
Flood	29.6	8.5
Storm with high winds	29.6	7.0
Fire (building)	64.8	76.1
Earthquake	83.1	93.0
Snow storm	5.6	4.5
Tornado	23.9	11.3

Table 4 Who initiated the discussions

	n=71 % endorsing "Yes"
Parent discussion initiated by:	
Student	26.8
Parent	25.4
Both	38.0
Teacher discussion initiated by:	
Student	5.6
Teacher	69.0
Both	14.1

1.2.2 Emotional issues and perceived ability to cope

Tables 5 and 6 present data related to psychological issues around children's level of fear, children's perceptions of parental upset, and perceived ability of others to help them become less upset following the August 2003 earthquake. About one half of the children reported some level of fear when talking or thinking about earthquakes (Table 5), and around 30% believed it would upset their parents (Table 6). Most were not sure and less than 10% of children reported that talking about hazards did not upset their parents at all.

Table 5 Fear and upset by earthquakes (personal)

	n	% endorsing "Not at all"	% endorsing "Sometimes"	% endorsing "Often"
Does thinking or talking about earthquakes scare or upset you?	71	49.3	39.4	11.3

Table 6 Fear and upset by earthquakes (parents)

	n	% endorsing "Not at all"	% endorsing "not sure"	% endorsing "Often"
Does talking about earthquakes upset your parents?	71	8.5	62.0	29.6

Children who got upset following the August 2003 earthquake rated the ability of others to help them feel less upset on a 7-point scale (1 = not at all; 4 = somewhat; 7 = completely) (Table 7). The mean scores for parents was 4.6, teachers 4.4 and friends and/or relatives 4.2 out of a total of 7, meaning that children on average reported that all three groups were a little better than "somewhat" able to help them feel less upset.

Table 7 The ability of others to help children feel less upset. Scale: (1=not at all; 4 = somewhat; 7 = completely)

n=32	Mean	SD
Parents	4.6	2.3
Teacher	4.4	2.2
Friends and/or relatives	4.2	2.1

1.2.4 Hazard exposure and factual knowledge of risk mitigation and safety behaviours

Earthquakes are the hazard reported to have been experienced by the most children (Table 8), with over 75% of children reporting that they felt the main August 2003 earthquake and 90% reported feeling the aftershocks. Table 9 shows the various actions reported by children who felt the event. Many of the children reported more than one response, such as taking protective actions (took cover under a bed or table, curled into a turtle shape, went under a door frame or stayed where you were and waited for it to be over) rather than going to find their parents. Of the 59% who reported being woken by the earthquake, 66.6% reported some form of protective response. Only 21% reported going to find their parents without first taking some form of protective action.

A majority also report having been in a storm with high winds, or seeing a house or building on fire. Fortunately, only a minority (<20%) have had first hand experience with a fire in their home have or had their house flooded.

Table 8 Hazard exposure

Have you ever...	% endorsing "Yes" (n=71)
Had your house flooded	15.5
Had a fire in your home	18.3
Seen a house or building on fire	77.5
Been in a storm with high winds	54.9
Felt the 2003 Fiordland Earthquake	77.5
Been woken by the 2003 earthquake	59.2
Felt aftershocks to the 2003 earthquake	90.1

Table 9 Actions taken following the main August 2003 earthquake.

Earthquake	% endorsed (n=55)
Took cover under a bed or table	25.5
Went back to sleep	16.4
Went to find your parents	45.5
Curled into a turtle shape	16.4
Went under a door frame	7.3
Ran out side	1.8
Shook and cried and did not know what to do	1.8
Stayed where you were and waited for it to be over	34.5

Tables 10 through 12 present the children's reported knowledge of risk mitigation and safety behaviours for floods, storms and house fires. The items highlighted in dark grey are the safety-related responses encouraged by Civil Defence and the items highlighted in light grey are the other responses considered correct. For all hazards asked, over three-quarters of the children knew at least one safety-related response encouraged by Civil Defence for each hazard.

Table 10 Knowledge of correct actions for floods (dark grey are the safety-related responses encouraged by Civil Defence, light grey are the other responses considered correct)

Floods	% endorsed (n=71)
Move to area higher than flood level	87.3
Listen to the radio	43.7
Stay inside and wait to be told what to do	57.7
Go outside and look at the rising water	2.8

Table 11 Knowledge of correct actions for house fires

House fire	% endorsed (n=71)
Leave by the shortest route	84.5
Close any doors that you pass through	46.5
Open all doors and windows	35.2
Stay inside and wait to be told what to do	12.7

Table 12 Knowledge of correct actions for storms with high winds

Storm with high winds	% endorsed (n=71)
Stay inside	71.8
Close all windows	80.3
Do nothing, just wait for it to be over	36.6
Run outside and take cover	14.1

1.2.5 Hazard education

Table 13 presents information on the proportions of children who participated in education programmes aimed at hazard awareness and preparedness, and follow-up behaviours of these programmes. Almost 90% of the children reported participating in a hazard education programme. These programmes were generally carried out in school by Civil Defence personnel or a teacher. Around one half of children reported having been encouraged to discuss hazards/emergencies with their parents, whereas around 87% described having discussed what they learned in the programme with their parents. Following these discussions just over one half of the parents wanted to discuss further how to be prepared.

Table 13 Information on hazard education programme participation

(n=71)	% endorsed
Participated in hazard education	88.7
In School ¹	85.7
Outside School ¹	28.5
Education by teacher ¹	42.9
Education by civil defence ¹	23.8
Education by other ¹	36.5
Encouraged to discuss hazards with parents	49.3
Discussed education programme with parents ²	86.8
Parents want to discuss how to be prepared ²	55.3

¹ those involved in education programmes (n=63); ² those encouraged to talk to parents (n=33)

1.2.6 Preparedness

Unsurprisingly, most of the children have participated in emergency practices at school (Table 14), as fire drills are compulsory in schools. Almost half of the children have participated in emergency practices at home, and know of emergency plans. Table 15 lists preparedness measures and hazard adjustment adoptions recommended by Civil Defence and the Fire Service. A majority of the children reported having key items such as torches, first aid kits, fire extinguisher, smoke detectors, a store of emergency equipment, radio and spare batteries, and knew an emergency contact outside the area, someone who has learned how to put out fires and someone who knows how to provide first aid. Key earthquake hazard adjustments such as strapping water heaters, latching cabinet doors, adding lips to shelves etc. are reported by the children to be less adopted (35% or less). This may be a reflection of the children's age and knowledge/awareness of such items in the home, but does reflect a trend found in surveys of older children and adults (e.g. *Johnston et al., 2001; Mileti and Darlington, 1995; Russell et al., 1995*).

Table 14 Information on preparedness plans and practices

Preparedness plans and practices	% yes responses (n=71)
Family emergency plan	38.0
Practice for an emergency at home	47.9
Practice for an emergency at school	90.1
Practice together as a family	42.3
Plan showing exits, assembly areas, utility switches	21.1
Plan where to meet or leave a message in an emergency	33.8
Plan for collection from school in an emergency	43.7

Table 15 Preparedness measures and hazard adjustment adoptions

Preparedness measures	% endorsed (n=71)
Have a torch	88.7
Rearrange breakable household items	39.4
Put strong latches on cabinet doors	35.2
Store hazardous materials safely	56.3
Add lips to shelves to keep things from sliding off	23.9
Strap water heater	29.6
Stockpile water and food for three days	33.8
Have a transistor radio and spare batteries	56.3
Have a fire extinguisher	50.7
Have a smoke detector	84.5
Have a first aid kit	87.3
Store emergency equipment (for example, torches, fire extinguisher, first-aid kit)	50.7
Pick an emergency contact person outside your area	59.2
Someone in family has learned how to put out fires	56.3
Someone in family has learned to provide first aid	80.3

1.3 Schools Comparison

Schools in Auckland, Christchurch and Washington State, USA have participated in similar studies regarding hazard understanding and preparedness (Finnis et al. 2004; Johnston et al., 2001; Ronan and Johnston, 2001). Below is a comparison of the results of the four regions (Tables 16 through 18) to see how Te Anau children's awareness, preparedness and education compare to the other regions' children. Only correlated questions have been included as the survey questions varied due to the regions' different hazard environments. As the Te Anau survey was undertaken following a specific event some caution must be taken in any analysis. Clearly, comparison of earthquake awareness in this study is not possible, as a slightly different set of earthquake questions was asked in the Te Anau questionnaire.

1.3.1 Hazard exposure and factual knowledge of risk mitigation and safety behaviours

The Te Anau children generally have similar knowledge of vital safety behaviours (dark grey) to the children from the other regions, with high awareness of correct actions for floods, house fires and storms.

Table 16 Knowledge of correct actions for floods (dark grey are the safety-related responses encouraged by Civil Defence, light grey are the other responses considered correct)

Floods	Te Anau % (n=71)	Christchurch % (n=102)	Auckland % (n=409)	Washington % (n=327)
Move to area higher than flood level	87	85	75	83
Listen to the radio	44	53	61	41
Stay inside and wait to be told what to do	57	26	39	18
Go outside and look at the rising water	3	0	10	21

Table 17 Knowledge of correct actions for house fires

House fire	Te Anau % (n=71)	Christchurch % (n=102)	Auckland % (n=409)	Washington % (n=327)
Leave by the shortest route	85	95	79	93
Close any doors that you pass through	47	41	50	32
Open all doors and windows	35	8	29	14
Stay inside and wait to be told what to do	13	3	12	4

Table 18 Knowledge of correct actions for storms with high winds

Storm with high winds	Te Anau % (n=71)	Christchurch % (n=102)	Auckland % (n=409)	Washington % (n=327)
Stay inside	72	79	78	78
Close all windows	80	71	58	50
Do nothing, just wait for it to be over	37	11	21	30
Run outside and take cover	14	6	7	2

1.3.2 Hazard education

A higher percentage of Te Anau children have participated in hazard education programmes than have children from the other regions (Table 19). Te Anau children also had the highest reported discussion with their parents about what they had learnt in hazard education and also reported a greater number of discussions.

Table 19 Information on hazard education programme participation across the four regions

	Te Anau % (n=71)	Christchurch % (n=102)	Auckland % (n=409)	Washington % (n=327)
Participated in hazard education	89	75	70	65
In School	86	95	n/a	97
Outside School	29	22	n/a	21
Education by teacher	43	53	49	93
Education by civil defence	24	71	47	9
Education by other	37	20	17	17
Encouraged to discuss hazards with parents	50	59	43	77
Discussed education programme with parents	88	58	29	61
Parents want to discuss how to be prepared	55	63	n/a	82

1.3.3 Preparedness

Te Anau children have reported similar to higher numbers of plans and practices when compared with other children (Table 20). Levels of household preparedness (Table 21) also varied with certain actions at high levels (having a torch, have a first aid kit, have a smoke detector) compared with other actions (stockpiling water and food for three days, strapping water heater). The pattern is fairly consistent across the three locations.

Table 20 Information on preparedness plans and practices across the three regions

Preparedness plans and practices	Te Anau %(n=71)	Christchurch % (n=102)	Auckland % (n=409)	Washington % (n=327)
Family emergency plan	38	37	29	33
Practice for an emergency at home	48	30	26	32
Practice for an emergency at school	90	86	80	93
Plan showing exits, assembly areas, utility switches	21	16	24	19
Plan where to meet or leave a message in an emergency	39	23	34	36
Plan for collection from school in an emergency	44	32	52	55

Table 21 Comparison of preparedness measures and hazard adjustment adoptions. Note: Auckland not included in this question.

Preparedness measures	Te Anau % (n=71)	Christchurch % (n=102)	Washington % (n=327)
Have a torch	89	85	94
Have a first aid kit	88	80	88
Have a smoke detector	85	78	95
Someone in family has learned to provide first aid	80	68	75
Have a transistor radio and spare batteries	56	55	73
Someone in family has learned how to put out fires	56	50	62
Store hazardous materials safely	56	44	48
Stockpile water and food for three days	34	36	48
Strap water heater	30	35	36
Put strong latches on cabinet doors	35	31	19
Pick an emergency contact person outside your area	60	31	38
Have a fire extinguisher	50	27	80
Rearrange breakable household items	40	20	25
Add lips to shelves to keep things from sliding off	24	12	13

2.0 DISCUSSION

A survey of residents in the same community at the same time (Leonard et al. 2004) provides a comparison with this survey of school children. The questionnaires were different, with the residential survey focussing mainly on the August 2003 earthquake and the school survey dealing with children's awareness of other hazards as well. Nevertheless, some questions are comparable, chiefly questions about personal and family earthquake/disaster preparedness. The figures given below for residents' responses are all taken from Appendix 1 of Leonard et al. 2004.

Ninety two percent of residents reported feeling the August 2003 Fiordland earthquake (main event or aftershocks not specified), while 77% of children reported feeling the main quake (which occurred just after midnight local time), and 90% reported feeling aftershocks.

Eight five percent of the children reported participating in a hazard education programme at school, although much of the hazard education would have been about fire (fire drills are compulsory). Among the residents, only 24% reported that they or a family member had been involved in meetings on earthquake preparedness at school (and 70% did not know). This might suggest that there is little cross-over between home and school disaster education, but around a half of children reported having been encouraged to discuss hazards/emergencies with their parents and around 87% described discussing what they learned in the programme with their parents. It is likely that "meetings on earthquake preparedness at school" was interpreted by residents to mean special meetings outside school hours rather than normal school training and family discussions. 20% of residents, and 28% of children, reported participating in a hazard or earthquake education programme in the local community, outside school.

When asked how prepared they were for a major earthquake, 56% of residents placed themselves in the middle between "not at all" and "very". 39% of residents, and 38% of children, report having a family or household emergency plan, and 48% of children have practiced for an emergency at home.

Of actual preparedness measures reported in these surveys:

- 67% of residents and 89% of children have a torch
- 62% of residents and 87% of children have a first aid kit at home
- 62% of residents and 51% of children have a fire extinguisher at home
- 81% of residents know how to operate a fire extinguisher and 56% of children report that a family member has learned how to put out fires
- 48% of residents and 51% of children have an emergency kit at home
- 42% of residents and 56% of children have a transistor radio and batteries
- 31% and 54% of residents have stockpiled water and food, respectively, for emergencies, compared with 34% of children who report this emergency measure in their home.

Children are possibly less aware than adults of the physical measures that can be taken to reduce household damage: while 43% of residents report strapping the water cylinder, only 30% of children report this. However the fitting of strong latches to cupboards is reported by

38% of residents and 35% of children (possibly, child-proof latches figure largely in children's lives whether or not they are intended as an earthquake-proofing measure).

Questions designed to find out about fear of earthquakes (following the August 2003 event) reveal that 51% of children were upset by thinking or talking about earthquakes, while 34% of residents were nervous about them and avoided thinking about them. Children gauged their parents' level of nervousness accurately with 30% of children thinking that their parents were upset by talking about earthquakes. A total of 37% of residents stated that they would never move to a more earthquake-prone town.

Finally, 66% of residents thought that a serious earthquake was likely to occur in their lifetime, and that a future earthquake could pose a threat to personal safety (64%), daily life (68%) and property (80%). This agrees fairly well with 56% of children identifying earthquakes as the most likely hazard that could affect them in Te Anau. Given that both surveys took place after a moderately serious earthquake, awareness is expected to be high, and it would be interesting to follow up these findings after several years to check how long awareness lasts.

3.0 CONCLUSIONS

Te Anau primary school children surveyed felt that the hazards most likely to affect them were earthquakes and building fires. The hazards perceived as most likely to cause injury were fires and tornadoes (over half the children), followed by earthquakes. It is likely that children were influenced by the fact that the latest earthquake (seven months previously) had not caused any injuries.

Earthquakes are the hazard that the most children report experiencing, with over three quarters of children reporting that they felt the main August earthquake and 90% feeling the aftershocks. A majority also report having been in a storm with high winds or seen a house or building on fire (although some "experiences" may be through TV or other media). Only a minority (<20%) have had first hand experience with a fire or a flood.

About a half of the children reported some level of fear when talking or thinking about earthquakes, and around 30% believed it would upset their parents.

When questioned on their awareness of the correct actions to take in the face of disasters and emergencies, 78% reported that they had done the right thing(s) (carried out actions deemed appropriate by Civil Defence) during the August 2003 earthquake. Other hazards covered were floods, house fires and wind storms. For all hazards asked, over three-quarters of the children knew at least one safety-related response encouraged by Civil Defence for each hazard. When compared to school children in other regions (Auckland, Christchurch and Washington State, USA), Te Anau children generally have similar knowledge of vital safety behaviours.

Most of the Te Anau children have taken part in emergency practices at school, and almost half have had emergency practices at home and know of household emergency plans. As for a series of preparedness measures recommended by Civil Defence and the Fire Service, a

majority of the children reported having key items such as torches, fire extinguishers and first aid kits, and had a family member with knowledge of how to use safety items. Physical household adjustments such as strapping water heaters are reported by fewer children. Te Anau children reported similar to higher numbers of earthquake preparedness plans and practices when compared to children from other regions. However, given low levels of preparedness on a number of indices, one recommended focus is to increase the link between school education and home-based preparedness. For example, having simple homework exercises to promote guided interaction at home can help initiate discussions as well as focus basic preparedness activities (e.g., a family emergency plan). One potential outcome of such increased linkage and activity is that not only has such activity been found to increase preparedness at home and in youths themselves, but also, and importantly, it has been found to reduce hazard-related fears in children, including those at middle school age (the sample in the current study with the highest fear levels). One of the possible reasons for such findings may have to do with a sense of increased control that comes from discussing hazards directly combined with taking actions aimed at increasing readiness and reducing risk.

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