
Schools and Natural Disaster Recovery: The Unique and Vital Role That Teachers and Education Professionals Play in Ensuring the Mental Health of Students Following Natural Disasters

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There is growing evidence that children are vulnerable to poor psychological outcomes following exposure to a range of potentially traumatic events. Teachers are in a unique and well-placed position to provide vital support to children following potentially traumatic events and to also provide a vital role in helping to identify children who may be experiencing ongoing psychosocial difficulties. We present a review of mental health trauma resources available for use in educational settings within Australia and New Zealand, with a primary focus on post-disaster resources. We describe the design, development, and dissemination of our resources and training package, Childhood Trauma Reactions: A Guide for Educators from Preschool to Year 12, and present data on how these resources were received. Trauma-informed practices within the school and classroom will enable better outcomes in the immediate post-trauma environment and beyond for all children. Our model focuses on: (1) increasing awareness and understanding of children's post-trauma reactions, (2) exploring effective strategies for teachers within the classroom, and (3) developing policy and procedures for the identification and referral of children who may be at risk. More funding is required to help distribute training and resources and to make mental health following trauma a higher priority.

■ **Keywords:** child, psychological recovery, school

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■ 1

Australia is a country susceptible to natural disasters (Leivesley, 2007). In 2009, the devastating Victorian Bushfires killed 173 people and had an estimated economic cost of \$4 billion (Victorian Bushfires Royal Commission, 2009). The 2010–2011 Queensland floods resulted in the deaths of 33 people (Queensland Floods Commission of Inquiry & Holmes, 2012) and affected 2.5 million others. Two thirds of the state were declared a disaster zone (Whiting, 2012). The floods led to partial or complete inundation of 29,000 businesses and homes, with an estimated recovery cost of \$5 billion (Queensland Floods Commission of Inquiry & Holmes, 2012).

To magnify the impact of the floods, cyclone Yasi hit the already flood-affected regions of northern Queensland before the flood recovery effort could even begin (Queensland Government, 2011). Natural disasters have a major economic toll each year, causing more than \$1.14 billion damage in Australia (Department of Transport and Regional Services, 2002) and placing strain on various relief funds and government resources in the rebuilding of towns and cities (Queensland Government, 2013). These major and well-publicised natural disasters, as well as local events, affect a large number of Australians annually.

The less publicised but very salient, adverse psychological impacts of trauma that can often remain long after the physical recovery effort is completed are also important to consider (Kargillis, Kako, & Gilham, 2014). The psychological impacts can be especially prevalent in children and may result in long-term mental health, behavioural and academic difficulties. Children are vulnerable to a number of mental health difficulties following traumatic events, including the development of post-traumatic stress disorder (PTSD) symptoms (Bokszczanin, 2007; Thienkrua et al., 2006). Children may also develop depressive reactions (La Greca, Silverman, & Wasserstein, 1998), separation anxiety, generalised anxiety, and externalising behaviour problems (De Young, Kenardy, & Cobham, 2011; Shaw, Espinel, & Shultz, 2007).

Natural disasters are not the only potentially traumatic event a child may be exposed to. Other potentially traumatic events include: domestic violence, physical or sexual abuse; neglect; exposure to community violence; involvement in, or the witnessing of, motor vehicle accidents; and injury of the self or others (Wethington et al., 2008). By the age of 16, approximately two thirds of children will have experienced at least one potentially traumatic event (Phoenix Australia — Centre for Posttraumatic Mental Health, 2015).

Children may have increased susceptibility to poor outcomes when compared to adults; their young age may influence how they interpret the event, and they may be affected by a different or wider range of stressors (National Commission on Children and Disasters, 2010; Norris, Byrne, Diaz, & Kaniasty, 2001). Young children, in particular, may find traumatic events especially distressing due to the challenge of rapid emotional and psychological development, fewer coping resources, and high dependence on caregivers for protection (De Young et al., 2011).

There are numerous risk factors for poor outcomes in children following trauma, including pre-existing behavioural problems, prior trauma exposure, separation from family members, and perception of threat to one's own or a caregiver's life (Chemtob, Nomura, & Abramovitz, 2008; Scheeringa, Wright, Hunt, & Zeanah, 2006). Parents and caregivers may be unable to give their child adequate support,

as they face their own challenges in dealing with the effects of potentially traumatic events (Klingman, 1993).

It is with such issues in mind that schools, and in particular teachers and other educational staff, have been identified as playing a critical role in ensuring the psychological health of children following trauma exposure (Wolmer, Hamiel, Barchas, Slone, & Laor, 2011). We present a review of mental health trauma resources currently available for use in educational settings within Australia and New Zealand, with a primary focus on resources designed to be used post-disaster. We describe the design, development, and dissemination of our resources and training package, *Childhood Trauma Reactions: A Guide for Educators from Preschool to Year 12*, and present data on how these resources were received.

Teacher Training: The Critical Link

Teachers are in a unique and well-placed position to provide vital support to children following natural disasters and other potentially traumatic events (Alisic, Bus, Dulack, Pennings, & Splinter, 2012; Pfefferbaum & Shaw, 2013). Following disasters, schools are part of a broad community infrastructure and are often at the forefront of recovery efforts focusing on swift reconstruction and return to routine (Mutch, 2014). After potentially traumatic events, schools therefore are a key factor in helping students regain a sense of constancy and security in a typically turbulent and tumultuous time (Rolfesnes & Idsoe, 2011).

Teachers are regarded as trusted figures in a child's life and can play an important role in providing a sense of normalcy and security (Vernberg, La Greca, Silverman, & Prinstein, 1996). Teachers can also play an important role in monitoring and supporting their students' recovery (Rolfesnes & Idsoe, 2011) and may be vital in helping to identify trauma survivors who may be suffering with trauma symptoms yet are reluctant to seek help (Klingman, 1993; Wolmer et al., 2011; Wolmer, Laor, & Yazgan, 2003).

Although teachers can play a vital role in promoting children's mental health, teachers often still have a high degree of uncertainty about their role in assisting students in dealing with trauma (Alisic, 2011; Alisic et al., 2012), or they may feel that it is simply beyond their role and expertise (Graham, 2007). A study by Alisic et al. (2012), conducted in the Netherlands, found that only 9% of teachers had training on how to support students who had been subject to trauma. Over half of teachers were unaware of how to identify traumatic stress in children or the procedures for referral, or to obtain additional support for at-risk children. Consequently, traumatised children may be receiving less than optimal support.

It has been recognised that children's mental health may be enhanced by conducting pre-disaster planning and preparedness, as well as giving teachers basic skills in supporting children who may be traumatised (National Commission on Children and Disasters, 2010). An important priority is the need for knowledge and information to be disseminated to teachers to assist them in supporting students exposed to traumatic events (Alisic et al., 2012). Research suggests that the majority of children affected by trauma will be resilient or will recover fairly quickly (Hong et al., 2014; La Greca et al., 2013; Le Brocque, Hendrikz, & Kenardy, 2010); however, teachers can play a vital role in supporting or referring children who may

be experiencing chronic symptoms or delayed onset of psychological impairment to the appropriate mental health professionals (De Young, Kenardy, Cobham, & Kimble, 2012; Le Brocque et al., 2010). Teachers need the skills to identify children who may need additional support and, in particular, to identify students with subthreshold symptoms who require treatment yet would otherwise receive little or no help. Findings from Farmer, Burns, Phillips, Angold, and Costello (2003) support this, revealing that the education sector serves as the first point of contact with mental health services for the majority of youths experiencing problems.

However, some potentially traumatic events have an impact on whole communities, either directly or indirectly, consequently affecting the ability of schools to provide assistance to their students. These events can include unexpected deaths, natural disasters, world events such as war or terrorism, and community or school violence. Exposure to such events may result in widespread post-trauma reactions (Keller, 2011).

Due to the community-level impact of these and many other potentially traumatic events, teachers are not immune to the impact of trauma in their own lives. Teachers may find it difficult to effectively support children if they are not coping with the traumatic event themselves. As highlighted by Wolmer et al. (2003), in the case of natural disasters, teachers are likely to live in the same affected areas as their students and therefore may be struggling with their own severe post-traumatic symptoms and personal losses. This may result in teachers feeling unable or unwilling to take part in post-event intervention with their students. Teacher self-care is one of the most important factors in equipping teachers to aid their student's psychological health following these types of events.

Online Resources and Programs to Assist Teachers and Education Professionals

Government agencies and mental health organisations have recognised the need for children's mental health care following natural disasters, and traumatic events more broadly. As a result, numerous resources and programs have recently been developed in order to meet this need. Some of these have been implemented as public health policy by non-profit mental health support groups as well as academic research teams. Some excellent resources are now available for schools focusing on preparation and recovery from natural disaster (see, e.g., Australian Emergency Management Institute — Disaster Resilience Education for Schools). Recently, the Disaster Resilient Australia and New Zealand School Education Network (DRANZEN) has also been established to help promote awareness and resilience in schools following disasters in Australia and New Zealand.

We conducted an online search of trauma databases, government and other websites, and library searches in January 2015 in order to identify trauma resources currently available for use in educational settings within Australia and New Zealand. This search focused on identifying *mental health resources* that could be utilised by education professionals working with children exposed to trauma.

In addition to our own resources, we identified seven programs currently available to education professionals and parents. Resources that deal with trauma in a general context, as well as trauma specifically related to natural disasters, were

identified. All the resources identified were available free of charge, with the majority providing online PDF documents available for download. Alternatively, the resources were written up in book form or were face-to-face interventions that could be organised through the relevant organisation.

The majority of programs were funded by government or non-government organisations and were well written and researched. They targeted school-aged children and covered topics such as: identifying trauma symptoms, dealing with trauma in the classroom, and providing support for traumatised children. Although all the resources provided excellent content, they appeared to be largely reactive in nature; for example, educating school staff and parents in identifying trauma reactions in the wake of a disaster. There is little information about the uptake of most resources and a lack of evaluative research regarding their effectiveness. [Table 1](#) provides a detailed summary of the resources identified to date.

Childhood Trauma Reactions: A Guide for Teachers from Preschool to Year 12

The ‘Childhood Trauma Reactions: A Guide for Teachers from Preschool to Year 12’ (Kenardy, De Young, Le Brocque, & March, 2011) trauma resources were originally developed in response to the 2009 Victorian Bushfires. At the time of this disaster, few resources for teachers, schools, and mental health professionals were available. Funding was acquired from the Australian Child and Adolescent, Trauma, Loss and Grief Network (ACATLGN) to help with the final publication of the resources.

The resources were made available online in May 2010, just over a year after the bushfires occurred. Following the 2011 Queensland floods, it was recognised that the resources could be adapted to have a wider impact and be utilised following a variety of natural disasters. Therefore, they were adapted to be more generic and relevant to a range of traumatic events. The resources are aimed specifically at equipping teachers and school personnel with the skills to identify and support children in early childhood through to Year 12 who may be experiencing post-trauma reactions. The program combines two distinct resources, which include teacher resources and a training program.

The teacher resources consist of three modules. Module 1 identifies trauma reactions in childhood and explores the definition of traumatic event and perception of threat in children. Children’s trauma reactions over time are described using a developmental approach, one of the main strengths of the program, which examines the presentations of post-trauma distress that are likely to be exhibited by children of different age groups, including very young children.

Module 2 highlights the role of teachers and schools following traumatic events and explores what teachers can do in the classroom following an event. Teachers are in a unique position to monitor the reactions of children in their care and restore routines. Routines are important in regaining a sense of normalcy and control post trauma. The module explores ways of talking to children about the events, setting limits for behaviour and expectations within the classroom and playground, highlights ways to increase social support, and establishes ways to facilitate the development of positive coping strategies in children and adolescents. This module

TABLE 1

Overview of Current Trauma Resources to Assist Teachers and Educational Professionals

Calmer Classrooms: A Guide to Working With Traumatized Children

Written by Laurel Downey and commissioned and funded by the State of Victoria Child Safety Commissioner (2007)

http://www.cryp.vic.gov.au/childsafetycommissioner/downloads/calmer_classrooms.pdf

Target or Focus	Aims or Content	Form	Strengths	Weaknesses	Availability	Evaluation
Kindergarten, primary and secondary school personnel in order to help them deal with all forms of trauma including abuse and neglect, past tragedies, illness, medical intervention and accidents	Provides a theoretical impact on the negative effects of trauma and then promotes relationship-based practices in which teachers can become part of a wider support system for traumatised children	Educational booklet	Theory based, comprehensive and informative	Not developmentally sensitive	Available free of charge online at http://www.cryp.vic.gov.au/	None published

Australian Childhood Foundation's SMART Program

Developed by the Australian Childhood Foundation and funded by the Department of Education and Children's Services in South Australia. (2007)

<http://www.childhood.org.au/for-professionals/smart-online-training>

Target or Focus	Aims or Content	Form	Strengths	Weaknesses	Availability	Evaluation
Early childhood and school personnel.	To provide a better understanding of childhood trauma, including assessment to generate practical interventions for the school setting	Workshop, online training modules, discussion papers	Comprehensive and well developed	The number of teachers actually accessing and taking part is unknown. Similarly, once a disaster has occurred, it is unlikely that teachers will have the time or capacity to complete and implement the strategies	Available online free of charge at http://www.childhood.org.au/ training/smart-online-training	None published. 35 schools are part of the SMART-ER group and attend workshops.

TABLE 1

Continued

A Road Less Travelled: A Guide to Children, Emotions and Disasters

Written by Brett McDermott and Vanessa Cobham (2012).

<http://education.qld.gov.au/projects/educationviews/news-views/2013/apr/free-disaster-book-100413.html>

Target or Focus	Aims and/or Content	Form	Strengths	Weaknesses	Availability	Evaluation
Education professionals and front-line practitioners	Provide information on assessment and specific interventions, as well as the importance of collaboration between parents, teachers and friends in order to ensure the psychological health of children.	Book	(a) It is largely specific to natural disasters, and (b) the theories and interventions put forward are well grounded in the literature on the topic.	In-depth understanding of trauma reactions for professionals. May go into excessive detail and cover some topics that may be important for other audiences such as those generating public policy, but may be largely unnecessary for teachers.	Distributed free of charge through emailing childrenanddisasters@hotmail.com	None published

TABLE 1
Continued

Australian Child and Adolescent Trauma, Loss and Grief Network (ACATLGN)

Australian National University

<http://earlytraumagrief.anu.edu.au/>

Target or Focus	Aims and/or Content	Form	Strengths	Weaknesses	Availability	Evaluation
Teachers, other education professionals and parents.	Specific natural disaster resources, in particular bushfires. Covers topics such as classroom activities for helping students recover after trauma, resilience and self-care for principals and teachers, and other information regarding how to plan and prepare for anniversaries of tragic events.	PDF documents	The resources take a developmental approach, covering different manifestations of symptoms and treatments at different ages. Includes an excellent publication by Dr Vicki Trethowan <i>Continuing the Healing Journey</i>	The resources have a major focus on bushfires and neglect a variety of other natural disasters that occur in Australia	Available free of charge online at http://earlytraumagrief.anu.edu.au/resource-centre/disasters	None published

TABLE 1

Continued

New Zealand Ministry of Education Earthquake Response Resources

Funded by the New Zealand Ministry of Education and developed in 2011.

<http://www.minedu.govt.nz/theMinistry/EmergencyManagement/Responding.aspx>

Target or Focus	Aims and/or Content	Form	Strengths	Weaknesses	Availability	Evaluation
Teachers, other education professionals and parents.	Parent and educator self-care, tips for school management in supporting teachers, ways to build resilience, and lastly, ways to support children.	PDF documents	The resources are research driven. They have a developmental approach that covers the different needs of children in varying age ranges, therefore as they tailor the necessary responses to children of different age groups.	It is believed that a greater impact and reach could be achieved if the resource was not specific just to earthquakes, but rather to all types of natural disasters.	Available free of charge online at http://www.minedu.govt.nz/theMinistry/EmergencyManagement/Responding/TipsAndTools.aspx	None published

TABLE 1

Continued

Storm Birds Program

Originally developed by Anna Graham and delivered by not-for-profit Australian organisation Good Grief.

<https://www.goodgrief.org.au/stormbirds>

Target or Focus	Aims and/or Content	Form	Strengths	Weaknesses	Availability	Evaluation
Targeted to children of all ages who have been affected by natural disaster.	A derivative of the Seasons for Growth Program, Storm Birds enables children to develop coping, decision-making and problem-solving skills in a group setting.	A direct intervention administered in schools by mental health professionals. The intervention entails four sessions and is tailored to two age groups: older and younger children.	Enables direct intervention in schools by trained mental health professionals.	Such an intervention requires large amounts of funding and resources.	Training and resources are made available to schools free of charge following a national disaster. This is funded by GoodGrief.	Yes, Evaluation of Seasons for Growth (Frydenberg, Muller and Ivens, 2006). To date, nearly 2000 children have participated in the program

TABLE 1

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UNICEF Australian Natural Disaster Resource Kit
 Developed by UNICEF, published in 2013.

<https://www.unicef.org.au/Discover/Teaching-and-Learning-Resources.aspx>

Target/Focus	Aims and/or Content	Form	Strengths	Weaknesses	Availability	Evaluation
Targeted at parents and teachers.	How to talk to children about natural disasters, a guide to mobilising a whole-school response, fact sheet about UNICEF in natural disasters and classroom activities.	PDF Documents	Based on research and prior experience with the organisation. Provides information for both parents and teachers regarding how to talk to and deal with traumatised children.	The information lacks depth, discussing issues briefly. It is not developmentally sensitive, failing to consider the different reactions of different age groups.	Available free of charge online at http://www.unicef.org.au/Discover/News/November-2013/Natural-disaster-toolkit-for-parents-and-teachers.aspx	None published.

emphasises the importance of teacher self-care and presents ways that teachers can monitor their own coping and look after their own mental health following traumatic events.

Module 3 provides information to equip teachers with the skills and tools to recognise when children may need further assistance. It provides details of how to access resources and mental health support. This module is able to be adapted to provide local information and details of relevant agencies in countries where the resources have been used.

The resources are presented in a teacher manual and are accompanied by a series of six tip sheets covering: (a) how teachers can provide help in the classroom; (b) trauma reactions in preschool-aged children, primary school-aged children, and teenagers; (c) how and when to seek help; and (d) teacher self-care. Additional tip sheets are being developed for use in at-risk populations such as children with disabilities and children from Indigenous backgrounds. Along with the handbook and tip sheets, there is also free access to webinars. The program has also been translated into Japanese following the devastating tsunami that occurred in Japan in 2011.

The Child Trauma Screening Questionnaire (CTSQ; Kenardy, Spence, & Macleod, 2006) is used to screen and identify children who may be at risk. The CTSQ has good reliability and validity in identifying children who later develop PTSD. The screening instrument has also been translated into Japanese, Spanish, Chinese, Isi-Xhosa, and Arabic, and is freely available on the internet. All of the resources are available online at www.som.uq.edu.au/childtrauma/post-disaster-resources/for-teachers.aspx and at the Education Queensland natural disaster resources page, <http://education.qld.gov.au/student-services/natural-disasters/index.html>.

Training Program

To complement the development of the resources, a training package was also developed. The training package is in the form of a 2- to 3-hour workshop engaging teachers and school personnel as well as community child mental health specialists. Bringing professionals from each of these sectors together helps to develop local networks, aids in the communication between the two sectors, and helps to establish a stronger foundation for future disaster preparedness, planning, and post-disaster recovery.

Our training programs follow a simple, yet comprehensive approach. As outlined by March, Kenardy, De Young, and Le Brocque (2011), the training package aims to achieve three key outcomes: (a) to make the post-disaster experience in the classroom more attuned to recovery and better social, academic, and behavioural outcomes for children; (b) to improve awareness of the appropriate channels for referrals that will improve the confidence of teachers to manage such potentially difficult situations and lead to better outcomes; and (c) to increase teachers' awareness of their own needs and how to manage their own responses in the potentially demanding and unusual conditions that follow a natural disaster.

To go one step further, we recognised that simply generating a teacher training program may have little reach due to the vast amounts of funding, personnel,



FIGURE 1

Childhood Trauma Reactions: A guide for Educators from Preschool to Year 12.

and commitment required for implementation. With this in mind, we established a train-the-trainer model, whereby school or mental health professionals can receive comprehensive training and as a result be equipped with the skills and resources to provide direct training to teachers, school staff, and child mental health professionals within their own settings and surrounding communities. Such a method provides a way to exponentially increase the reach and impact of the resources, with minimal resources required. All participants who attend the train-the-trainer course are then provided with access to the resources that are needed to conduct direct teacher training sessions.

To date, since the resources were developed in 2011, they have been delivered in a number of disaster-affected schools and communities across Australia. Most of the train-the-trainer sessions have been organised through, and run in conjunction with, the Queensland Health and Mater Health Services in Brisbane.

Delivery of the Program

Following the 2011 Queensland floods, an initial pilot was delivered with a combination of train-the-trainer sessions and direct training, conducted in the towns of Grantham and Withcott in South East Queensland. Following cyclone Yasi in early 2011, train-the-trainer sessions were conducted as part of the Queensland Govern-

ment response to the disasters and involved recovery and resiliency teams across the state. Sessions were delivered in Cairns, Innisfail, Townsville, Rockhampton, Emerald, North Lakes, Toowoomba, Brisbane South, Goodna, and Brisbane North and reached a total of 239 people in these areas across 2011.

In 2012, direct training was delivered in the western Queensland town of St George (33 attendees) in response to the severe flooding that occurred in February of that year. This involved recovery and resiliency teams in the area and training was specifically requested. The next roll-out of a number of train-the-trainer programs was conducted in the Bundaberg region in response to the major flooding that inundated the region in January 2013. This training formed part of a localised state government response and was funded by Mater Health Services. Sessions were delivered at the Central Queensland University Bundaberg campus, as well as at both primary and high schools in the region. A total of 173 people attended sessions across these locations.

The program was also delivered in response to the Tasmanian Bushfires in January and February of 2013, with direct training at three Tasmanian schools in Dunally, Tasman, and Dodges Ferry conducted as part of a program funded by beyondblue and the Tasmanian Government. The program was delivered to a total of 60 people across the three destinations in Tasmania. Overall, the program reached a minimum of 488 people across the 3-year period from 2011 to 2013. Since this time, the resources have been used to support teachers, schools, and school or community-based paediatric mental health specialists following a variety of disasters and traumatic events.

The program and resources have also been utilised in an international context. They have been used to inform disaster responses in New Zealand and have been adapted for use in South Africa with disadvantaged schools. In 2014, extensive training was conducted in Japan to almost 500 teachers, school psychologists, other mental health professionals, and students. Training and dissemination of the resources is ongoing.

Evaluation of Resources and Training

Methodology

Following delivery of the teacher training and train-the-trainer program, an evaluation form was completed by participants in Australia. The evaluation form gathered basic demographic information about the participant's occupation and school. This was followed by five evaluation questions about the participant's perceived usefulness and effectiveness of the training. Responses were recorded on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Questions varied between train-the-trainer sessions and direct training sessions. A further six questions were then asked so that participants could make general comments and give feedback about the strengths and weaknesses of the training course, as well as any suggestions for improvement.

To help with determining the success of the train-the-trainer program, trainers were asked to provide information regarding follow-up trainings. Unfortunately, little feedback was provided. To address this issue, an online survey was emailed to participants in Australia in 2012 in order to identify the success of the program.

Trainers were asked to provide information regarding the number of training sessions they had conducted, how they were organised, and how they were received overall.

Participant Evaluations

Participant evaluation data from sessions run between 2011 and 2013 were collated. Of the approximately 488 participants, 364 provided feedback via the evaluation form, including 309 education professionals and 55 mental health professionals. The majority of the education professionals were guidance officers or school counsellors. Almost all participants in the workshops reported that the training was useful (89.5%) and felt they would be able to use the information presented (92.5%). There were mixed responses regarding improved understanding of trauma reactions in childhood, particularly among the mental health professionals. Many stated that they already had this knowledge due to a background in psychology. However, among the education professionals, most indicated that the training had improved their understanding of childhood trauma reactions (84.5%). With regard to the delivery of the presentation, almost all participants indicated that the information was presented in a logical and easily understood format (95%).

Along with this quantitative feedback, we also obtained general feedback about the strengths and weaknesses of the program, as well as suggestions for improvement. Overall, the program was said to be presented effectively and in an engaging manner. Increased audience interaction and discussion was the main suggestion for improvement. Participants found the provided resources useful and easy to use, and that the information presented was valuable. Some feedback focused on the time allocated for the training and suggested that it was not long enough to cover the material while still allowing for detailed discussion. In line with this concern, there were also concerns about limited time available in schools to deliver the program.

Regarding improvements that could be made to the program, it was suggested that consideration be taken for minority populations such as refugees, students from cultural and linguistically diverse backgrounds, children in care, students with disabilities, and students from Aboriginal and Torres Strait Islander backgrounds. Participants believed that an understanding of the traumatic events experienced by these populations and the ways in which they may react differently to trauma would be valuable in the education setting.

A further suggestion for improvement was for trauma to be discussed more broadly rather than focusing solely on trauma related to natural disasters. Various sources of trauma could be considered, such as accidents, suicide, abuse, and neglect. We have addressed these in a recent edition of the manual. Participants frequently requested more information for parents regarding coping strategies, information about referral procedures and resources, along with information on parental reactions to trauma. Finally, it was suggested that school-wide approaches and programs be discussed to increase effectiveness in dealing with natural disasters that affect a large proportion of the student population.

In addition, those attending the train-the-trainer sessions were asked an additional three questions: whether they now planned to deliver the program to schools, whether the training covered what they would need to know to present to teachers, and whether they felt they were now sufficiently prepared to deliver the training.

TABLE 2
Participants' Responses on Evaluation Questions

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Best descriptions of how you honestly feel to these statements	1	2	3	4	5
I found the training seminar useful	0%	2%	8%	50%	40%
The training has improved my understanding of trauma reactions in childhood	1%	6%	16%	42%	35%
I will be able to use the information presented	0%	2%	5%	53%	40%
The information was presented in a logical and easily understood format	1%	1%	3%	43%	52%

Note: N = 364.

Feedback was collected from 152 participants. The majority of participants indicated that they planned to deliver the program (79%) and almost all reported that the training covered the information required to present to teachers (95%) and that they were sufficiently prepared to deliver the training (90%).

Online Survey of Train-the-Trainer Participants

The data from the 2012 online survey emailed to participants provided feedback on training they had undertaken within their own school communities. The survey was completed by 66 trainers. Only 23 of the 66 trainers who responded had delivered the training to more than 10 teachers. Of those who had conducted sessions, the majority had co-facilitated with another professional from the education or health sector who was also a trainer. The majority of these trainers felt that the sessions had been well received by both the schools and the teachers. Trainers stated that the ease of delivery, supporting material, and content were the main positives of the program. However, only half of participants completed the evaluation form, resulting in a lack of participant feedback from these sessions.

The majority of trainers stated they had not conducted any training sessions and were unsure whether they would in the future, and they also reported that they had attended the train-the-trainer session in order to improve their own knowledge in the area of childhood trauma. Approximately half of respondents stated that they had attended for professional development and to be able to deliver a program on childhood trauma.

Numerous barriers to implementation of the program were reported by train-the-trainer participants, including time constraints on behalf of both the trainers and the schools, lack of interest within schools, due mainly to competing interests such as curriculum concerns or time elapsed since the disaster, and workload. Trainers who provided feedback suggested that better collaboration between health and education sectors, greater access to resources, and provision of support to run the training would be beneficial.

Comparisons in quality between follow-up train-the-trainer sessions and direct training revealed that mental health professionals who delivered the program received higher participant ratings than education professionals delivering subsequent trainings. Despite providing all training materials and manuals, the train-the-trainer format relies on relatively inexperienced trainers undertaking training. There is no guarantee that the content is presented or that the training package is delivered as intended. Having experienced trainers conducting direct training and accreditation requires a large amount of resources to implement and support.

Evaluation of the overall effectiveness of the program is difficult to quantify with limited knowledge of the reach of the program. A number of training workshops may have taken place without us being informed and without feedback being provided. Teachers and education professionals have little incentive to initiate this training and, due to the demanding requirements of the teaching profession, they may have had inadequate time and motivation to deliver the program in their own school communities. A number of our train-the-trainer sessions were carried out some time after the natural disasters occurred. Participants and their local school staff may have felt that the impact on their community was not severe enough to have any major psychological impacts. Alternatively, they may have felt that a large portion of time had elapsed since the event and their school community was coping sufficiently not to require training. The ability and willingness to undertake training in their schools and region is largely the result of competing academic and education interests, high staff workload, concern about taking on additional responsibility for the mental health of children in their care, and lack of understanding of the psychological, emotional, academic, and behavioural impact of trauma on children.

The difficulties encountered with the implementation of the train-the-trainer program are consistent with the literature highlighting the need for change management practices. Goncalves (2007) outlined various strategies necessary for successful implementation of change, such as continual management of the process, support for those involved, and motivation to change. According to Goncalves (2007), successful implementation requires clear expectations, the provision of ample information, and the opportunity for any questions to be answered throughout the process. Our workshops were delivered and funded as part of disaster response. Due to funding limitations, we were unable to provide ongoing implementation support directly to our participants and relied on the school/health system to provide the support and environment to promote the skills training.

Evaluation of Online Resources

In addition to the face-to-face training sessions, the teacher resources were made available online to the public in the form of PDF documents, and video and webinar training. To determine the uptake of the online resources, data were collected through Google Analytics regarding the number of visits to the website, page views, average view times, and bounce rates. Page views refer to the total number of pages viewed, including repeated views of a single page. Average view times is the average length of time people spent on the website, and a bounce rate refers to the percentage of visits to the page in which the viewer left the site at the entrance page without interacting with the site.

The website had been accessed by a total of 5,023 unique visitors since development in 2011 and 21 April 2015, with 12,580 total page views. The average amount of time people spent on the webpage was 1.35 minutes, with a bounce rate of 69%. This bounce rate is high-average and shows that approximately 32% of those visiting the website actually visited other pages within the website. The webpage with the most views was that describing and providing the Child Trauma Screening Questionnaire. This page had a total of 3,416 views, with an average view time of 2 minutes and 49 seconds. The Disaster Resources for Teachers page was viewed 1,967 times, with an average view time of 4 minutes and 13 seconds. Finally, the Disaster Resources for Children page was viewed a total of 365 times, with an average view time of 1 minute and 13 seconds. These page views and view times suggest the resources are being accessed and utilised through the website.

These extra modes of implementation that we provided have their own limitations. Both lack interactivity and the specialised information that can be provided in face-to-face training. Uptake and delivery cannot be guaranteed, as education professionals are required to search for and use the resources of their own accord. As was evidenced by the webpage data obtained through Google Analytics, the reach and uptake of these resources is limited. This could be overcome by directly distributing the resources to schools to encourage their use in professional development sessions, which also requires considerable financial and time investment.

Summary

The key aims of this article were to examine current available disaster resources, describe the development of our resource, *Childhood Trauma Reactions: A Guide for Educators from Preschool to Year 12*, and provide preliminary feedback from a sample of teachers and mental health professionals receiving training in this program. In reviewing the available online trauma resources and programs, a number of common themes become apparent. First, there are now a number of well-researched, well-written and available resources for teachers, parents, and schools for responding to trauma reactions in children within the school context. Recent events and the recognition of the vital role of teachers and schools have led to the development of many of these new resources.

Second, the resources are designed to train teachers and education professionals about the possible effects of trauma once the trauma has happened. In a country such as Australia where exposure to potentially traumatic events is a common occurrence, the question must be raised as to why mandatory mental health training for teachers is not conducted. Finally, it is important to point out that few of the resources cater specifically for early childhood centres, or look to address trauma in preschool-aged children or infants. Overarching the above themes is the apparent lack of reported data or studies available on the uptake, implementation, and evaluation of the available resources. It cannot be ascertained as to whether the resources actually lead to improvements in child mental health, academic, or other functional outcomes in children post trauma. There are considerable methodological challenges to evaluate these interventions.

Evaluation of preventative mental health programs is challenging at the best of times, and this is especially so for preventative psychological interventions for children in a post-disaster environment. Very little is known about the presentation of post-traumatic distress in children over time, especially given that development occurs in a rapid rate during childhood. The presentation of distress changes over time with resilient functioning and natural recovery the dominant trajectories (Le Brocque et al., 2010). In addition, there are significant methodological challenges to researching in a post-disaster environment, such as child and family dislocation, competing priorities, and personal safety issues following disasters.

Despite the challenges of providing and evaluating preventative psychological interventions, it is important to have resources available that are grounded in research and are available both in preparation for, and immediately following, potentially traumatic events, that are able to be implemented effectively and efficiently. Our resources were developed to fill this gap. They were designed to be accessible both before and after traumatic events and are aimed at education professionals and paediatric mental health specialists working with children who have experienced a range of traumatic events including natural disaster.

In terms of feedback for our resources and the training program itself, the results were overwhelmingly positive. Feedback from training participants showed that the program was perceived as relevant and useful by education and child mental health professionals. Unfortunately, we were unable to gather data on the training's impact on trainees' understanding and management strategies. Despite the train-the-trainer programs reaching a large number of people, the translation to ongoing delivery of training was not evident. Low numbers of subsequent teacher trainings resulted, or at least very few were recorded, hence making the effectiveness of such trainings hard to determine. It is with these barriers to the roll-out that we must look to discuss the specific limitations and benefits that we have identified in such a model, as well as possible improvements to our approach.

One of the major impediments to our model of rolling out the train-the-trainer program and subsequent teacher trainings is their general implementation in response to a natural disaster. Some training was delivered in the immediate aftermath of the disaster while others were presented months after the event. This remains beneficial due to the fact that psychological manifestations of trauma can continue to occur for months or years following the event (Yule et al., 2000). However, immediate response and support is crucial, and education professionals therefore need to have a strong grounding in how to respond effectively to children who experience trauma in order to maximise their impact and effectiveness.

Teachers and education professionals are generally inadequately equipped to deal with post-trauma reactions of their students. As identified, some excellent resources relating to post-trauma mental health in children are readily available in easy to access formats online. However, the majority of Australian teachers report that they are not highly confident in dealing with mental health issues, especially within the classroom (Graham, 2007). This suggests a lack of emphasis on child post-trauma mental health in teacher training. Widespread implementation of such training will require increased awareness of its importance, sustained support from the education sector and sufficient funding. A survey of Australian teachers revealed

that the majority would participate in extra-curricular mental health programs if given more time and resources to do so (Graham, 2007), indicating existing beliefs regarding the importance of mental health training and a positive platform for implementation. Therefore, we propose that a program such as ours be implemented as part of mandatory training and professional development.

Future Directions

Implementation of trauma resources into teacher education in the university curriculum will promote teacher expertise and confidence to work with students following exposure to traumatic events, to create trauma-informed classrooms and to facilitate the early identification and referral of students requiring additional support. Such a strategy will ensure that teachers who are entering the profession are well equipped to ensure the mental health of their students following traumatic events. Having received the training prior to the event, teachers will be able to apply their knowledge and strategies immediately following the event, which may lead to an improvement in student outcomes and teacher wellbeing. Additionally, the delivery of training in preparation for these events will eliminate the issues discussed regarding the lack of motivation within school communities to receive and deliver the training, as well as the time constraints experienced by working education professionals.

While our resources effectively engage education professionals, it is important that parents play a role in supporting their children's mental health. Without support and understanding from parents, education staff are unlikely to be able to provide a struggling child with adequate support. Therefore, similar resources directed at parents must be utilised (such as those available from Phoenix Australia, ACATLGN, and the Red Cross) to ensure children exposed to traumatic events are provided with support at both school and home and can be referred to mental health professionals when required.

There is growing evidence that children are vulnerable to poor psychological outcomes following exposure to a range of potentially traumatic events. Teachers and schools play a critical role in the recovery of children following these events. At the very least, teachers are able to monitor and compare the behaviour of children in their classrooms. With the training and resources, teachers are able to identify children who may be at risk and are able to refer these children to appropriate support. Trauma-informed practices within the school and classroom will enable better outcomes in the immediate post-trauma environment and beyond for all children. Our model focuses on: (1) increasing awareness and understanding of children's post-trauma reactions, (2) exploring effective strategies for teachers within the classroom, and (3) developing policy and procedures for the identification and referral of children who may be at risk. More funding is required to help distribute training and resources and to make mental health following trauma a higher priority.

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