

## **The Worry Bug and Wishes and Worries – Evidence behind the resource**

Starting school is a difficult time for most children, but this is proving to be the case more and more often for children in Christchurch, New Zealand. New entrants are exhibiting separation anxiety, concentration issues, learning difficulties and social difficulties to a much greater degree than new entrants did before the quakes. (Liberty, 2014) The question is: why?

Following the Christchurch earthquakes, a significant increase in anxiety for children and parents alike was seen around the affected areas. (Dorahy & Kannis-Dymand, 2012; Hogg, Kingham, Wilson, Griffin, & Ardagh, 2014)

Associate Professor of Health Sciences, Dr Kathleen Liberty, reported that before the quake, “the number of children demonstrating signs of PTSD due to "normal life" was already a concern, touching an average of 5 per cent. But in the 2013 intake, it ranged in the four schools [we studied] from 14 to 21 per cent” (as cited in McCrone, 2014)

Not only that, but the nature of earthquakes is such that even once a large earthquake has passed, the multitude of subsequent aftershocks led to constant concern for residents that another big one is to come, leading to a further increase in clinically significant anxiety. (Dorahy & Kannis-Dymand, 2012)

The purpose of the resources *Maia and the Worry Bug* (Burgess-Manning, 2015), *Wishes and Worries* (Dickson, 2015) and their corresponding Te Reo translations, is to help Christchurch parents, children, teachers and classes to develop healthy coping mechanisms to manage unhelpful worries and to allow families to find their “new normal” (Kōtuku Creative, 2015). Both resources are based upon a combination of Cognitive Behavioural Therapy (CBT) and Narrative Therapy (NT) techniques, two methods of anxiety treatment with

proven results from extensive Psychological research. (Chen et al., 2014; Öst, Karlstedt, & Widén, 2012; Rahmani & Moheb, 2010; Reynolds, Wilson, Austin, & Hooper, 2012)

Cognitive Behaviour Therapy is perhaps one of the most popular types of Psychological therapy available in the world today. There are many studies that have found CBT to be a successful form of treatment for not only anxiety, but numerous other psychiatric disorders (Hofmann, 2012; O'Donohue, Fisher, & Hayes, 2004). The basic premise of the treatment is that when thoughts (cognitions) get out of control and irrational, these negatively influence your emotions and behaviour. CBT aims to correct those maladaptive thoughts and to help patients to have more realistic and helpful thoughts, which in turn leads to more healthy emotions and behaviours (Beck, 2011).

Chen and his colleagues (2014) effectively utilised CBT post-disaster to assist with the stress youth were facing after the Sichuan earthquake. They found that the short-term CBT intervention had a significantly larger impact on the youth's levels of PTSD and depression as compared to the general supportive intervention and the no-treatment group, and it also improved psychological resilience.

In *Maia and the Worry Bug* (Burgess-Manning, 2015), the entire story is an illustration of CBT theory. Sections where Maia's parents get into a vicious cycle of the worry bug telling them to do things like 'fasten everything down, check everyone is okay, and that a truck going past is another earthquake', show how insidious worries can shape our behaviour, and that the ensuing exhaustion is caused by these worries. At the end, when Maia's neighbour tells her that the worry bug may not be a good friend after all, Maia and her family fight the bug with fun, talking about their feelings, and a plan of how they're going to keep safe. Then the worry bug shrinks down so small that Maia can stomp on it. In this way, we see Maia's family finding ways to combat the incorrect thoughts and get back to living their lives in the way they want to.

The clinical exercises included with the resource encourage the families to identify the thoughts that are bothering them, determine whether they turn into “catastrophic” thoughts, and analyse how those thoughts affect the emotions and actions of the family. In the section titled “Shrinking the worry bug”, the family is encouraged to think about the positive coping mechanisms that they already use to manage their worries. Three positive strategies to ‘shrink the worry bug’ are also provided at this point. Burgess-Manning encourages the family to ‘be detectives’ and think logically about any catastrophic thoughts, making the process child-friendly and fun. In this way, CBT techniques are repurposed in a format that is easily distributable to children and their families around Christchurch to make evidence-based therapy accessible to all.

In *Wishes and Worries*, we see another side of anxiety, and another part of CBT. Dan’s anxiety presents as a feeling of being overwhelmed by sights, sounds and feelings. The sight of the cracks, the sound of the bike wheels, a sparrow, gate, motorbike and more, all trigger worrying thoughts, making him feel very stressed and hesitant to go to school. His mum and teacher don’t understand why he’s not listening. In reality he is listening, but to everything at once. This effect is a classic indicator of anxiety (American Psychiatric Association, 2013). When Dan reads the note from the tree, he is encouraged to turn his worry “inside out” by thinking of a worry, and giving it to the tree “for recycling”, then the worry is magically turned into a wish for another child. The idea of writing down worries is a technique that is part of good clinical practice, and is often used in a program of CBT.

The notes at the back of *Wishes and Worries* integrate current key learning competencies from New Zealand’s education curriculum to help teach about the impact anxiety has on a child’s feelings, body and learning, again utilising a holistic CBT-like approach. Children are encouraged to discuss their feelings with others and also to understand that everyone experiences anxiety at some point in their life. They learn about

identifying and locating physical feelings of anxiety in their bodies, thereby decreasing the impact of physical symptoms. They are then encouraged to brainstorm ways to deal with these feelings of anxiety. Again, all common techniques used within CBT programs. Research indicates that group work utilising CBT techniques like these are comparably effective to individualised programs (Bernstein, Layne, Egan, & Tennison, 2005).

As for Narrative therapy, it was developed in Australasia by registered Psychologists and Family Therapists, Michael White and David Epston. What began as a theory encapsulated in one book, revolutionised the field of family therapy in the way that it encouraged social constructionist ideas of subjective or multiple realities (Burr, 2015) as well as offering the technique of externalising problems. This form of therapy encourages participants to explore different ways of interpreting past life-defining situations in order to encourage alternative, more positive narratives of their lives, and alternative more positive outlooks on the future. (White & Epston, 1990, p. 15) By externalising the problem, the person is able to step back and look in on their own life as an outside observer, and also to turn abstract problems into concrete ones which can be conquered (White & Epston, 1990, p. 16). There is evidence from a range of different studies that narrative therapy is an effective treatment for anxiety. (Aman, 2007; Rahmani & Moheb, 2010; Young, 2008)

This is a tool *Maia and the Worry Bug* and *Wishes and Worries* uses to great advantage. The narrative therapy aspect is present throughout both texts. In *Maia*, the family's anxiety is externalised in the form of the Worry Bug. This allows the family to talk about their worrying thoughts as one common enemy which is separate from any individual. In doing so, no one is blamed or feels ashamed for being the "worrier" of the family.

Clinical exercises in the back of *Maia and the Worry Bug* beginning with the question "What does your Worry Bug look like?" encourage the family to further externalise their worrying feelings into something concrete and tangible. They are then told to brainstorm the

intrusive thoughts that it whispers to them, giving more depth and breadth to their problem, and targeting the worry bug as instigator of the thoughts rather than themselves. This further allows the family to come together to fight against the common enemy, rather than fighting each other in the battle of anxiety.

Likewise, in *Wishes and Worries*, the main character, Dan, externalises his anxiety, but in a different way. In this text, he does so by writing his worries on a piece of paper and putting them in the tree. Being able to name what you're worrying about is a very powerful act, and allows you to work towards responding to the worry in a constructive adaptive way. This is one of the key purposes of these resources: to encourage such behaviour.

We also see externalising techniques in the teacher's notes at the back of *Wishes and Worries*, with questions like "Can you think of a time when your thoughts caused you to feel very worried?" Here the emphasis is on the thoughts being the cause of the worry, not the child themselves. Also, using questions about the story to lead into this sensitive discussion acts in a similar way, allowing them to think about how Dan feels first before trying to unravel their own feelings and identify if there are any similarities. In this way, narrative therapy is used to allow children to better understand their own feelings, and the feelings of their classmates and teachers.

CBT and NT combined brings together the advantages of each of them to one treatment. The logical process of CBT combined with the creative process of Narrative Therapy makes a powerful combination which is easily translated into the child-friendly format of a picture book. In Friedburg and Wilt's study (2010), they use evidence from their own clinical experience to emphasise the value of combining metaphors (a large component of NT) with CBT:

"drawing or cartooning allows children to objectively name the problems and create individually significant coping images. This practice is genuinely collaborative and

encourages children to adopt an active role in confronting their challenges ... a good metaphor reaches a child where they live and fits both in their internal and external reality.” (pg 107)

In the above quote, a classic externalising technique is detailed and its positive impacts demonstrated. When added to CBT, externalising can be used as a tool to correct unhelpful thoughts and therefore correct distressing feelings and behaviours.

A worry that many parents, critics and researchers have upon first encountering these resources, is whether they will be effective when delivered by parents and teachers rather than a trained therapist. Evidence suggests that yes, they will. A study conducted at Macquarie University (Rapee, Abbott, & Lyneham, 2006) aimed to find whether parent-delivered bibliotherapy would help children to reduce their anxiety levels. Bibliotherapy has a number of definitions, but here we define it as materials written by a therapist or psychologist which act as a form of self-help (Rapee, Abbott, & Lyneham, 2006). 267 clinically anxious children took part in the study with their parents. Results showed that the children had a statistically significant reduction in their anxiety following the delivery of bibliotherapy by their parent(s) (a method quite similar to these resources), compared to no treatment. However, the standard group treatment was more effective than the bibliotherapy treatment. Cobham and her team of researchers found similar results (Cobham, 2012), as did a team of researchers who did an extensive review of bibliotherapy literature (Montgomery & Maunder, 2015). The researchers concluded that Bibliotherapy is a moderately effective tool to help treat mild to moderate cases of anxiety, or as an effective stop-gap until professional help is available, but traditional therapeutic treatment is most effective, particularly for more serious cases. This point was reiterated by Pola and Nelson (2014).

*The Worry Bug* and *Wishes and Worries* play a similar role. Families with mild to moderate cases of anxiety may find that these resources are sufficient to achieve significant

reduction in their anxiety, but those with more serious cases may require further treatment.

The advantage of having these resources though, is widespread, less resource-intensive treatment for the children of Christchurch compared to standard therapist treatment.

It also, perhaps more significantly, encourages self-efficacy in families and teachers, giving them the tools to manage the anxiety themselves, and allowing them to utilise the tools in the way that works best for them and their children. This is what lies at the heart of Burgess-Manning and Dickson's (2015) concept of Home and School Scaffolding: Using structures (families and schools) that are already in place together to deliver therapy. Parents and teachers see children much more than an average therapist would see a child, and are therefore uniquely equipped with knowledge of how that child thinks and functions. With this knowledge, families and teachers are able to nurture anxious children through relationships that already exist, in a sustainable and personalised manner, which not only helps the child, but also helps the families and schools work together to promote a culture of care and compassion, as well as to strengthen supportive relationships to protect the child from further mental health problems down the track. Research shows that having strong social support is a huge protective factor against mental illness for children after natural disasters (Pina et al., 2008).

*Maia and the Worry Bug* and *Wishes and Worries* form a promising set of resources to help combat anxiety in Christchurch young people. By utilising techniques with a strong evidence base and encouraging self-efficacy in Christchurch schools and families, these books have the potential to form an integral part of a sustainable solution for post-disaster mild-moderate anxiety.

### **What other low impact tools are available for mild to moderate anxiety?**

*Maia and the Worry Bug* and *Wishes and Worries* are not alone in using cognitive behavioural therapy and narrative therapy techniques in a creative fashion to produce widespread change.

Following Hurricane Katrina, a group of researchers designed a grief and trauma therapy program utilising techniques from both CBT and NT to be delivered to children in schools affected by the disaster (Salloum, Garside, Irwin, Anderson, & Francois, 2009). The aim of the study was to see if the program reduced symptoms of post-traumatic stress, but also to raise awareness of grief and trauma reactions and allow them to express their thoughts and feelings on the disaster in a constructive way. The program spanned 10 sessions over 10 weeks and involved each child constructing their own narrative about the disaster, enabling them to externalise their worries. It was carefully designed to be developmentally appropriate and culturally relevant, much like *Maia and the Worry Bug* and *Wishes and Worries* were. As 89% of the children in New Orleans public schools are African American, storytelling and spiritual traditions were readily incorporated. Upon finishing the program, children were presented with their narrative (“My Story”) and encouraged to share it with a parent(s) or caregiver – a similar systemic approach that was utilised by Kotuku Creative (2015). A follow-up article showed that the treatment resulted in significant reduction in the children’s stress, with no significant difference between a group intervention and a similar individual intervention (Salloum & Overstreet, 2008). This indicates that both *Wishes and Worries* and the *Worry Bug* will be equally effective, as *Wishes and Worries* is delivered to the class as a group and the *Worry Bug* may be delivered to a child as an individual.

Another promising intervention is Sparx, an online video game that uses computerised CBT to target mild-moderate depression in teenagers. Statistics have shown that 20% of the first participants were from Canterbury, as measured four months after its launch in April



2014 – three years after the last big quake. (O’Callaghan, 2014). A research project has already been carried out on the effectiveness of the site. Results suggest that it is an effective possible treatment (Merry et al., 2012).

An additional example of a similar concept is the Worrybusters Program (Campbell, 2006). This was designed by Psychologist, lecturer and teacher, Dr Marilyn Campbell. The program includes a set of seven picture books, each about a different form of anxiety disorder, based on CBT techniques (eg: *Carla the Terrified Koala* for PTSD and *Cilla the Worried Gorilla* for separation anxiety disorder). Like *Maia*, the resources use animals, but in the case of Campbell’s resources, the animals are the main characters suffering from the disorder, so the anxious feelings are not externalised to the same extent. The books are designed to be read in the classroom and at home, and accompanying resources and notes for teachers and parents are also provided, much like the *Worry Bug* resources. They also have some storylines that specifically reference aboriginal culture, which is very appropriate given that they are designed for an Australian audience. Although the resources have been critiqued for not being consistently developmentally appropriate for the recommended age bracket of 5-12 years as in places the text is too complicated and illustrations too frightening, it has also been praised for encouraging children to openly talk about their feelings of anxiety with their parents and teachers (Hain & Clyne-Kingshott, 2009). Follow-up was undertaken by Campbell, and she found that when the books were administered by older students, to anxious younger students, the older students obtained a reduction in anxiety, but there was no significant difference in the self-reports of the younger children (Campbell, 2007). This indicates that perhaps having older children deliver the resource isn’t the most effective option if reducing the anxiety in the younger children is the aim, however it also suggests that whoever is delivering the resource benefits too. In the case of the *Worry Bug* resources, this indicates that programs are best administered by teachers and parents, as they are more likely

to have established trusting relationships with the children which adds greater depth and effectiveness to the resources. Campbell advocates for a systemic approach, involving the school and the parents, much like Kotuku Creative does with their Home and School Scaffolding Approach. The Worrybusters program is perhaps the most similar resource to the *Worry Bug* resources available today, but there are no independent studies as to the impact of the resource when presented by a teacher or parent. Such evidence would be very valuable.

Other sources that employ similar techniques include a study that used CBT-based bibliotherapy as primary prevention for anxiety disorders in schools which resulted in significant lowering in anxiety levels (Bouchard, Gervais, Gagnier, & Loranger, 2013), a healthy reading scheme employed nation-wide in Ireland to combat a range of mental health issues (Neville, 2010), and a bibliotherapy program used in America, also in response to Hurricane Katrina which had a special focus on using books that were supportive of the children's cultures, and contained themes they could relate to and use to express their feelings (Stewart & Ames, 2014). All of these sources exhibited positive results.

The combination of this evidence suggests that there is a reasonable likelihood that *The Worry Bug* and *Wishes and Worries* will reduce mild-moderate anxiety levels in Christchurch. To track the efficacy of these resources, research is already being undertaken by Massey University, Palmerston North. If you'd like to provide feedback on *Maia and the Worry Bug* or *Wishes and Worries*, we would welcome your participation in the following survey: <http://www.massey.ac.nz/worrybug>

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