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Everyday uncertainties: reframing perceptions of risk in outdoor free play

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This paper reports the results of risk reframing, an intervention to offer parents and educators a context for building new and complex perceptions of risk in children's outdoor free play. Our objective was to alter these adults' perceptions of risk to increase the sustainability of an innovative child-centred playground intervention. Qualitative data in the form of audio-recordings of risk-reframing sessions, brief participant evaluations and field notes kept by project staff were collected and either transcribed in their entirety or summarised in brief written reports. These data were subjected to constant comparative analysis to identify emergent themes. Results suggest that educators and parents benefit from opportunities to share risk perceptions and discuss the costs and benefits for offering outdoor free play to children to achieve their common goals for children: health, happiness and resilience.

Keywords: *Play; Risk; Reframing; Children; Parents*

Introduction

Notions of risk and danger are shaped by experiences that develop out of participation in various daily contexts and cultures (Douglas, 1992). Risk, once a neutral term indicative only of the likelihood of an occurrence, has been more recently associated with danger. Within the 'risk society' (Beck, 1992; Giddens, 1990) of westernised countries, such as Australia, risk is increasingly synonymous with danger, the term evoking fear that narrows thoughts and actions to protective responses (Fredrickson, 1998, 2001).

Risk can be framed positively, however. Research from many disciplines suggests risk plays a necessary role in children's development. In short, children benefit

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from experiences that involve uncertainty and challenge in order to master the environment and develop feelings of autonomy, competence and relatedness (Dweck, 2006; Grolnick, 2009; Grolnick & Seal, 2008; Sandseter & Kennair, 2011), all essential to health and well-being (Deci & Ryan, 2008; Ryan & Deci, 2000). Whether children fail or succeed at a particular challenge, they learn to manage uncertainty and build resources to become happy, resilient people.

Adults *do* want children to be happy, productive and successful; they also want them to demonstrate resilience and to flourish. When Diener and Lucas (2004) surveyed young adults about the emotions they most desired for their children, they chose both happiness and fearlessness. Ironically, whilst adults desire fearlessness for children, their own *fearfulness* of potential danger and negative outcomes may interfere with children engaging in healthy challenges that build courage and resilience, both closely linked to fearlessness (Marano, 2008; Murus, 2009; Skenazy, 2009). A key question is generated: how do children learn the limits of their abilities if they are offered only activities where there is no risk of failure? Furthermore, if they are never allowed to experience discomfort, how do children develop physical skills, learn to regulate their emotions, extend themselves in social relationships or persevere in the face of cognitive challenges?

Fredrickson (1998, 2001, 2004), in her broaden-and-build theory of positive emotions, suggested that when children approach and explore (rather than flee or freeze) they experience momentary positive emotions that expand their thoughts and actions, thus opening an array of possible responses to uncertainty. As these responses accumulate, children build resources for resilience and, in turn, flourish (Cohn, Fredrickson, Brown, Mikels, & Conway, 2009).

Children's response to play

Children are naturally drawn to play and many children particularly seek 'risky play', the kind that most often occurs outdoors and beyond the purview of adults (Brown, 2009; Sandseter, 2007; Tovey, 2007). Within risky play, children experience 'scary-funny' feelings, the ambiguous emotional shifting back and forth between negative and positive emotions, pushing their limits and thereby strengthening physical and emotional skills (Sandseter, 2009).

Sandseter (2010) framed children's experiences of risky play in Apter's Reversal Theory, a motivational theory comprised, in part, by telic and paratelic states (Apter, 2001, 2007a, 2007b). While children are in a telic state, they tend towards serious-minded, goal-oriented, sensible, cautious and arousal-avoiding activity. In contrast, when they experience a paratelic state, they choose playful, activity-oriented, adventurous, thrill-seeking and arousal-seeking activity. In a paratelic state, children feel 'protected'. They are so engaged in the process of reaching their goals that the idea of danger is irrelevant. Children's quality of life is enhanced by play that engenders a paratelic state.

Without access to unpredictable play, children miss out on the 'scary-funny' feelings and self-determined challenges that promote self-management and well-being

(Deci & Ryan, 2008; Ryan & Deci, 2000; Sandseter, 2009; Siegel, 2007; Stephenson, 2003). Further, when children feel secure enough in themselves to act on their curiosity (Tovey, 2007) and meet challenges they choose, they gain confidence and what Ungar (2007, 2009) described as the 'risk-taker's advantage'.

Adults' responses to risky play

While children benefit from shifting rapidly between states and experiencing the sensations and emotions risky play offers, adults tend to 'get stuck' in a telic state or risk-protective mode, and constrain children to controlled, predictable and 'safe' play. However, to say that all adults act from a strong negative bias with regard to risk is an oversimplification. People bring their individual perceptions and temperaments with them when they make judgements, and positive perceptions of risk do exist (Lupton, 2006). In fact, the young Australian adults that Tulloch and Lupton (2003) studied said that they sought risk in order to experience control in their lives, to strive for self-improvement and to experience the heightened emotional experiences that accompany risk. In short, they said that adventurous, risky and goal-directed activity made everyday life pleasurable and meaningful.

If they are aware of the pleasures and benefits, why do parents and teachers so often prevent children from experiencing scary-funny, 'risky' play? Do they forget the benefits of risk-taking when they become responsible for children's well-being? As society's expectations for them continue to grow, parents and teachers may simply choose to manage their worries and concerns about negative consequences by avoiding potentially risky situations (Grolnick, 2009; Grolnick & Seal, 2008; Gurland & Grolnick, 2005; Hoffman, 2012).

Parents and teachers have many constraints on their time; they are confronted with countless decisions related to children. Often decisions are made quickly to meet a need in the present moment. Kahneman (2011) contrasted 'fast thinking', which relies on heuristics (i.e. rules of thumb that develop out of participation in daily cultures) and often yields protective responses (Gardner, 2008), with 'slow thinking'. Slow thinking, which involves weighing up possible outcomes before making a choice and considering whether the potential gain is worth the risk of possible loss (Kahneman & Tversky, 1984), requires effort and, therefore, is reserved for complex decision-making (Kahneman, 2011). Nonetheless, slow thinking about risk-taking and children may be just what parents and teachers need in order to neutralise their own fears and negativity. Parents and teachers, just as children, benefit from slowing down their thinking and taking time to explore new information through discussion with people they trust. People often make sense of new perceptions by actively applying them to their own lives in the context of storytelling (Statler & Roos, 2007).

We began with the belief that engaging parents and teachers in a process that uses stories and reflection to link children's development to healthy risk-taking might offer them the opportunity to construct new, more complex frames of risk and uncertainty. The purpose of this paper is to report the results of an intervention created for parents and educators of children participating in the Sydney Playground Project (SPP) and

to use these results to illustrate a process by which parents and educators began to re-construct healthy risk-taking for their children.

The SPP was designed to examine the effectiveness of this risk-reframing intervention conducted in tandem with a simple playground-based intervention. The playground intervention encouraged children to be active and develop social skills by taking age-appropriate physical, social, emotional and cognitive risks within the safety of the school playground and to experience the natural consequences of their actions. Children were offered loose parts and recycled materials (e.g. cardboard boxes, milk and bread crates, tyres) to use as they chose during recess on primary school playgrounds (Figure 1). All materials met Australian safety guidelines for playground equipment; however, the innovative nature of this child-centred intervention raised questions of risk: What if someone got hurt? Who would be to blame if a child accidentally injured herself? How would parents respond to a child's injury? How would a child's accidental injury impact the adults supervising the playground?

The likelihood of children experiencing even minor injuries on the playground was small, but the fears of a few adults could create enough uncertainty and discomfort within the participants to threaten the longevity of the new playground experiences (Bundy et al., 2008, 2009). Thus, plans for managing the materials and integrating



Figure 1. Children engaging with playground materials

them into the routine of school recess were dependent on adults' agreement that some risk or uncertainty in the moment was acceptable in exchange for potential benefits to children's present and future well-being. Adults involved in the study needed to view risk as a positive experience for children and manageable within trusting relationships amongst educators, parents and children, and researchers. Our objective was to alter parents' and teachers' perceptions of risk to increase the sustainability of the playground activities and extend beyond the playground intervention to the promotion of play in out-of-school environments.

In the adult-centred risk-reframing intervention described here, educators and parents engaged in experiential learning tasks intended to expand their views of risk to include danger and opportunity, costs as well as benefits, and the value of decisions and actions with uncertain outcomes (Andrew, 2003; Hillson & Murray-Webster, 2007). Activities were created to engage adults playfully using a paratelic orientation towards healthy risk-taking within children's outdoor play. Participants had opportunities to experience some cognitive dissonance, to challenge their automatic perceptions of risk, and to reflect on and tell stories about their own family's experiences as means for re-framing their perceptions of risk as a multi-faceted construct that could include uncertainty, opportunity and adventure, as well as danger and hazard.

Methods

Ethics approval for this study was granted by the University of Sydney Human Research Ethics Committee (approval number 02-2006/8700) and by the Catholic Education Office of the Archdiocese of Sydney. Risk reframing was conducted in nine Catholic primary schools and one community recycling agency that sourced and 'kid-proofed' many of the playground materials. All schools were within a 10 km radius of the University of Sydney's Health Sciences campus in Lidcombe, New South Wales, Australia. The geographical area and the Catholic Education Office were chosen for convenience but it was known *a priori* that both the area and the schools vary widely in terms of important factors that impact parents' beliefs about children's play (e.g. socio-economic status, culture, mothers' education). The schools' Socio-Economic Indexes for Areas (Australian Bureau of Statistics, 2006) ratings were between 883.40 and 1094.16. Only one school was in the lowest 15% (Socio-Economic Indexes for Areas scores less than 900), and no schools were in the upper 15% (scores above 1100). Four schools were in areas where Australian Early Development Index scores indicated more than 10% of children are developmentally vulnerable in two or more areas (Royal Melbourne Children's Hospital, 2006).

Participants

A total of nearly 150 participants took part in risk-reframing sessions. This included three times as many parents as educators from nine schools, along with four staff and

eight volunteers from the community agency. Participating parents shared the following characteristics: they chose to send their children to Catholic primary schools; they were available during school hours; they were primarily mothers between 28 and 44 years of age; and they were parents of children whose activity levels and social behaviours were being monitored as part of the SPP. Nothing is known about their professional roles. Educators invited to attend risk reframing included teachers of participating children, principals, assistant principals and teaching or non-teaching staff assigned to supervise playgrounds during recess or to manage the SPP at their schools. Educators were primarily women, with teaching experience from less than two years to more than 10 years; most were also parents. Teachers were released from other duties for the two-hour session, which occurred during school hours; the schools were compensated for the teachers' time. Participants from the community agency who engaged in a risk-reframing session included men and women, both staff and people participating in a corporate volunteer programme. All had regular contact with children similar in age to the SPP participants; some were parents.

Procedures

Risk reframing, named 'Opportunities for Adventure', consisted of one two-hour session conducted in a space that allowed for both small ($n = 6-8$) and large ($n = 12-24$) whole group discussions (i.e. school learning centre, recreation hall, conference room). In order to ensure that both parents and educators heard the concerns of the other group, small groups deliberately comprised both educators and parents. The groups engaged in the series of tasks that are described in Table 1. Following each task, the small groups reported on one aspect of their discussion, specified at the beginning of the task. Following each short (5-10 minute) small group task, project staff facilitated large group discussion by eliciting the requested information and probing to gather additional experiences and opinions about risk.

Each risk-reframing session began with an opportunity for participants to complete a short survey of their beliefs about risky play, an introduction to the SPP and to the concept of risk as uncertainty or opportunity. Each small group then created a list of strengths, qualities or experiences they desired for the children they parented or taught. Through reflection and discussion, participants determined what was most important to them individually and collectively. They identified their three top priorities and shared them with the large group. This task set the stage for each of the remaining six learning tasks.

Data analysis

Data in the form of audio recordings of risk-reframing sessions, brief written participant evaluations, and field notes kept by project staff were collected and either transcribed in their entirety or summarised in brief written reports depending on the nature of the data. These data were analysed by the first author in collaboration

Table 1. Opportunities for adventure learning tasks.

Task	Synopsis	Purpose
Starting the journey	Adults' desires for children	To ascertain adults' priorities for the children they are raising
Picture it!	Visualising adults' favourite places to play as children, the qualities of those places and the nature of the activities	To draw out positive memories of childhood play
Back to the future!	Visualising what their children most love to do, where and with whom they play	To compare participants' childhood play with that of children today
Safety first?	Video of young boy trying to test his skills on the slippery dip (slide)	To become aware of the impact of adults' negative actions on children's age-appropriate risk-taking
Empathising with Nemo's dad	Short video clip from <i>Finding Nemo</i> . Nemo responds to his dad's over-protectiveness with disastrous consequences	To discuss the effects of adults' negative actions on children's choices
Put yourself in <i>this</i> Mum's shoes	Story of young girl climbing at the park, changing from confident to fearful in response to mother's panicked voice	To become aware of the impact of adults' fears on children's age-appropriate risk-taking
Put yourself in <i>this</i> Mum's shoes	Picture of young girl who has climbed a very tall tree and description of her Mum's nonchalant response	To become aware of the impact of adults' positive actions on children's age-appropriate risk-taking

with the second author, the principal investigator of the SPP. Research project team members also contributed to the analysis through regular project process meetings. An adaptation of Charmaz's (Broom, 2009; Charmaz, 1990) approach to social analysis was used to identify initial emergent themes, patterns and complexity regarding participants' experiences and beliefs about risk, assumptions regarding risk and possible implications of these perceptions for children, families, educators, schools and communities.

Results and discussion

Participants engaged readily in all tasks; their demeanour at times serious, at other times playful. Shifting between small and large group discussion, in either direction, was often difficult because participants seemed to want to spend more time reliving memories from childhood and experiences with their children, and grappling with the everyday uncertainties they experienced with children at home, in class or on the playground.

Participants valued having a context in which to explore the costs and benefits of age-appropriate risk-taking in children's outdoor free play. Data analysis revealed the following themes: parents' and educators' desires for children are very similar and both fear negative evaluation; parents and educators experienced surprise at the paradox of simultaneously wanting and preventing particular outcomes for their children; and risk presents ambiguities and decisions that require time and effort to understand. We discuss these below in a format designed to capture the development of the themes over time within the sessions.

What do parents and educators want for children?

Adults in all risk-reframing sessions chose happiness, good health, confidence and resilience as the highest priorities for their children. Some also chose having good values, being able to learn from mistakes, recognising the good in all, being respectful and kind, being able to make one's way in the world, having friends and belonging, something to feel passionate about and contributing to the 'world' (e.g. family, friends, community).

The first 'Aha!' moments

As participants considered the reactions of children to unnecessary controls of an adult, they generally seemed to experience a moment when they recognised *themselves* in the behaviour of these adults, an 'Aha!' moment. These were characterised by laughter and comments such as 'Oh my God, that's me! I am so totally like that!' or 'We're always so anxious all the time. I just need to take a chill pill or drink a pina colada and relax! *Let* them take some risks!' Participants recognised that sometimes, with the best intentions, they became barriers to children's age-appropriate, healthy risk-taking opportunities.

In response to the 'Aha!' moments, participants began to share their thoughts about the source of their own negative reactions to risk-taking in their children. These parents and teachers take their responsibility for children's well-being seriously. They noted the number of people offering advice about raising children and agencies monitoring health and welfare. Rather than being helpful, they expressed that the amount of available information often led to uncertainty and could be overwhelming. One mother of two school-aged children said: 'Kids, they don't come with a manual!'

Fears of negative evaluation

Parents and educators expressed a desire to appear competent and capable of making decisions that others would view as appropriate and in the best interests of the children in their care. One young teacher said it felt risky just sitting down and working together with parents as equals during the risk-reframing session. Teachers cited 'duty of care' and worried about the consequences of parents disagreeing with

their decisions or actions. Teachers worried they might lose their jobs if a parent complained.

Educators shared feelings of uncertainty. One assistant principal, a parent of two young adults, shared an experience she had on the playground. As she observed some boys building with the materials, she felt they were pushing the limits of acceptable risk. She was torn, wanting to intervene, but she intentionally tolerated her discomfort; she decided to give them time to experience some real consequences and try some new strategies themselves. Eventually, with effort and some miss-steps, the boys achieved their goal with celebration, as this adult supported both their resourcefulness and her own ability to tolerate uncertainty.

Ambiguities of risk

Ambivalent feelings also were common. One new teacher who was not yet a parent said: ‘Children are precious cargo! We don’t let them take any risks!’ Another veteran teacher with three grown children felt just the opposite:

Parents seem to be a lot more anxious about what can happen to their children. Parents have this fear that, you know that [children] are always at risk. Children need to be taught to take risks; children need to learn to *take* risks.

A third teacher and parent of two young children said: ‘If it was my child, of course I’d let her do it [go down a slippery dip head first]. But would I let someone else’s child? No! The risk goes up about 300%!’

A context for responding to risk and uncertainty in new ways

As the activities progressed, participants often experienced a second ‘Aha!’ moment, when it struck them that they have the power to do things differently. They began weighing up their responsibilities to keep children safe with their desires for children to make good choices and manage risks for themselves. Both educators and parents spoke of the need for new strategies and reducing their fears of uncertainty in order to allow children to reap the benefits of taking healthy, age-appropriate risks. At the conclusion of the risk-reframing sessions, many parents and educators asked to have more sessions like the one they had just completed.

Parents, educators and adults volunteering to provide materials for the SPP benefited from the risk-reframing process designed to incorporate theories of flourishing, positivity and self-determination theory (Deci & Ryan, 2008; Fredrickson, 1998; Fredrickson & Losada, 2005; Grolnick, 2009; Ryan & Deci, 2000; Seligman, 2011; Seligman, Ernst, Gillham, Reivich, & Linkins, 2009). Participants recalled positive emotions and benefits of risky play from childhood and agreed that risk and uncertainty are part of life. They verbalised the expectation that children need to experience some scrapes and failures if they are to become happy, healthy and resilient people. Parents heard teachers’ concerns about the potential impact of being blamed for minor injuries. They also seemed to realise the consequences of expecting teachers

to limit children's actions so much that they became bored. Teachers heard that their supervisors accepted that children sometimes incurred minor injuries and believed the lessons learned were worth the cost of a scrape or bruise. Most participants experienced some cognitive dissonance during the session. Within the context of a playful, positive approach, parents and educators explored their perceptions of risk. They connected their own memories of childhood play and its benefits with their desires for their children and were forced to confront the differences, the reasons why they were different and the validity of the differences.

Parents, teachers and their supervisors discovered how easily automatic protective responses can throw up unintentional barriers. They were surprised by how their own responses to risk had changed now that they were responsible for children. 'Aha!' moments occurred when they discovered that some of their responses had as much to do with a perceived need to protect themselves from negative consequences as with protecting children from potential harm.

As these adults intentionally replaced the notion of 'risk' with 'uncertainty', 'opportunity' and 'challenge', they realised that the ways in which they respond to children's risk-taking are their own choice. They also considered how to manage their own discomfort that would inevitably occur when offering children different play experiences.

Risk reframing succeeded in many ways. The intervention disrupted participants' automatic protective responses to uncertainty and offered them time to consider other possibilities for responding to risk. Parents and educators began to realise that automatic protective responses can actually get in the way of what they want for their children and that skills for managing uncertainty have to be built. The 'Aha!' moments that participants experienced powerfully emphasised that risk and uncertainty will ultimately result in what they most desire for children: health, happiness and resilience. Participants actively constructed more complex frames for viewing risk and uncertainty in children's lives as well as their own. They did this by engaging in an experiential learning process, discussing their own perceptions of risk and those of others, and by making sense of differing perceptions by sharing stories of their own experiences as children and with the children they parent and teach today.

In some schools, these new frames and the positive outcomes participants saw for their children probably contributed to the success of the materials aspect of the playground project and to sustaining it even after the study ended. However, risk reframing involving parents and teachers of a subset of children was not enough to enable all schools to engage fully with the project. Those schools cited a variety of reasons for their lack of engagement (e.g. ongoing demand for new materials, the view that the materials looked messy on the playground, and the belief that there were already a variety of options to offer children the physical activity they needed at school). Risk aversion may or may not have contributed, especially considering that only teachers of participating children, not all school staff that had playground duty, participated in risk reframing.

Risk aversion can result in adults making simple choices to protect children and keep them safe in the present. Sometimes these choices are understandable. A more

complex framing of risk and uncertainty, however, offers a forward glance in time to when children feel not only safe, but also secure in making decisions and taking actions themselves to manage their own health and well-being competently (Brussoni, Olsen, Pike, & Sleet, 2012). Finding the appropriate tension between negativity and positivity, fear and courage, telic and paratelic motivation, fast and slow thinking or the costs and benefits of risk in children's lives is difficult, both for adults responsible for children and for children themselves. The adults who participated in these risk-reframing interventions seemed to re-construct risk as complex, and many started to challenge themselves to view the benefits of risky play as worth some uncertainty. Amidst everyday uncertainties, both adults and children benefit from autonomy support provided by people they trust as they learn to make choices, take healthy, age-appropriate risks and learn to tolerate, as well as benefit from, risk and uncertainty.

The SPP risk-reframing intervention modelled a process that offered participants opportunities to explore risk and uncertainty in a 'safe' and playful environment. They engaged in tasks and discussions that allowed them to critique and reframe automatic responses to everyday uncertainties and supported them in making decisions that offered new options or solutions to challenging situations for their children and themselves. This process resulted in surprising, 'Aha! moments' that disrupted automatic risk perceptions and offered time for participants to consider more complex perceptions of risk in everyday life. We believe that future research should involve all school staff.

Further, we expect that a similar process could be used successfully in contexts beyond schools when people are engaged in developing strategies for approaching novelty, risk and uncertainty in new ways. This might include, for example, parents, daycare or afterschool care providers and their administrators; community and local council members along with providers of community services such as parks, adventure playgrounds or cycling paths; or children and youth living with disabilities, their families and service providers planning new educational, assisted living or employment opportunities for themselves or those for whom they care.

There are several areas of future inquiry that stem from risk reframing. Data were obtained from parents during several initial sessions that contributed to the development of the Test of Risk in Play Scale (TRiPS; Hill & Bundy, 2012), an assessment designed to be used before and after the sessions to determine whether the intervention had influenced participants' risk attitudes towards children's play. Along with further use of the TRiPS, fidelity to intervention measures needs to be developed to ensure that the content of risk reframing is delivered consistently across all groups of participants, particularly in the portions of the session where facilitators probe for additional information in the context of the large group discussions. Manualising would ensure that the intervention process accurately reflects the theoretical principles on which it is based (Dumas, Lynch, Laughlin, Phillips Smith, & Prinz, 2001; Faulkner, 2012).

Semi-structured interviews with parents about the long-term benefits of the intervention (e.g. in what ways did they offer their children greater access to free play since

participating or what strategies have they used to manage their discomfort) could provide information about whether parents have used their new frames of risk to offer children more opportunities for outdoor free play. Finally, parents' and educators' perceptions of risk and uncertainty and the ways they model management of risk for their children probably have considerable impact on the ways children construct risk for themselves. Exploring children's understanding of risk and uncertainty in the context of outdoor play could be another fruitful area of investigation, using methodology similar to Fattore, Mason, and Watson (2012) and Thoilliez (2011) who have examined children's perceptions of well-being and happiness.

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Author biographies

Anita Nelson Niehues is a PhD candidate in the Discipline of Occupational Therapy, Faculty of Health Sciences at the University of Sydney, Australia. Ms. Niehues has a post-professional Masters of Science in occupational therapy and extensive clinical experience working with families and children in a variety of settings.

Anita Bundy is Chair, Discipline of Occupational Therapy in the Faculty of Health Sciences at the University of Sydney, Australia. She has just completed an externally-funded cluster randomised controlled trial in primary schools demonstrating that placing recycled materials on the playground increases physical activity and social play. She is particularly interested in (1) the provision of occupational therapy interventions to children and families, and (2) developing and testing assessments for use in all areas of occupational therapy and in related fields. She has a particular passion for the study of play as the primary occupation of all children and is very interested in the benefits associated with healthy risk taking.

Alex Broom is an Associate Professor of Sociology and an Australian Research Council Future Fellow at the University of Queensland. His research interests include sociology of health and illness, qualitative methodologies, organisational and inter-professional dynamics, health in developing countries, and social theory as applied to health.

Paul Tranter is an Associate Professor in the Department of Physical, Environmental and Mathematical Sciences, University of New South Wales, Australian Defence Force Academy. His research has made a pioneering contribution to the academic literature in areas of child-friendly environments, active transport, holistic approaches to road safety, and healthy and sustainable cities. An important theme in his research is how child-friendly environments can make cities more resilient in the face of challenges such as energy stress.

Jo Ragen has a background in Leisure Studies, a Masters of Business Management and is currently completing her PhD. She is a postgraduate fellow in the discipline of occupational therapy, teaches and supervises students who assist the Sydney Playground Project as part of their practical studies.

Lina Engelen is a research fellow and research project manager in the Faculty of Health Sciences, University of Sydney, Australia. She has a background in physiology and sensory science.

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