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Can child injury prevention include healthy risk promotion?

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ABSTRACT

To reflect on the role of risk-taking and risky play in child development and consider recommendations for the injury prevention field, a symposium was held prior to the November 2013 Canadian Injury Prevention and Safety Promotion Conference. Delegates heard from Canadian and international researchers, practitioners and play safety experts on child development, play space design and playground safety, provision of recreation, and legal and societal perceptions of risk and hazard. The presenters provided multidisciplinary evidence and perspectives indicating the potential negative effect on children's development of approaches to injury prevention that prioritise safety and limit children's opportunities for risky play. Delegates considered the state of the field of injury prevention and whether alternative approaches were warranted. Each presenter prepared a discussion paper to provide the opportunity for dialogue beyond attendees at the symposium. The resulting discussion papers provide a unique opportunity to consider and learn from multiple perspectives in order to develop a path forward.

RISKY PLAY SYMPOSIUM

A symposium was held prior to the November 2013 Canadian Injury Prevention and Safety Promotion Conference in Montreal, Canada, in order to reflect on the role of risk-taking and risky play in child development and consider recommendations for the injury prevention field. Canadian and international presenters included researchers, practitioners and play safety experts, who discussed child development, play space design and playground safety, provision of recreation, and legal and societal perceptions of risk and hazard. Herein we provide a summary of the discussion occurring at the symposium, providing an overview of the arguments made by each presenter and reflection on the state of the research evidence and implications for injury prevention practice. Links are provided to presenters' full submission to provide readers the opportunity to view complete arguments. Most presenters were Canadian and reflected on the Canadian landscape. However, the issues discussed are common to many developed nations, such as the USA, the UK and Australia.¹⁻³ Nations such as Norway and Finland lead the way in child-centric approaches to child development and injury prevention that can act as models for other jurisdictions.^{4 5}

INTRODUCTION

In the middle of the twentieth century, injury prevention became increasingly recognised as a

profession within the mandate of public health.⁶ This resulted in important gains in reducing injury morbidity and mortality rates. A key contributor to these successes was epidemiological research that identified social, individual and environmental risk factors for injuries.⁶ With identification of patterns came the development of prevention strategies to diminish risk factors.⁷

Over the years, the injury prevention field has become increasingly multidisciplinary, expanding from its roots in epidemiology to incorporate behavioural science perspectives.⁸ This has proven particularly fruitful for child injury prevention as it has promoted understanding of the developing child and children's particular vulnerabilities. To encourage continued advancement of the field and to ensure that injury prevention efforts are grounded in broader, more holistic understandings of health and well-being, particularly for children, it is important to encourage inclusion of a larger list of disciplines.

The need for injury prevention to expand its disciplinary base becomes readily apparent when considering children's risk-taking through risky play. Risky play is thrilling and exciting forms of play that may include the possibility of physical injury. Sandseter and Kennair⁹ have further categorised it into play at height, speed, near dangerous elements (eg, water, fire), with dangerous tools, and where there is the potential for disappearing or getting lost.

DEVELOPMENTAL BENEFITS OF RISKY PLAY

Ellen Sandseter, a Norwegian early childhood education researcher, discusses the developmental benefits of risky play and cites evidence suggesting that there are good reasons for encouraging, rather than limiting, children's opportunities for risk-taking and risky play (see online supplement 1). These include promoting physical activity, independence, cognitive and social development, and reducing mental illness and learning difficulties.¹⁰⁻¹² Notably, risky play also helps children learn risk perception and management skills, which are important in developing understanding of how to navigate risks and avoid injuries.^{9 11} Sandseter describes children's naturally progressive thrill-seeking, which promotes gradual mastery of challenges and realistic risk perception. She also highlights the potential antiphobic effects of risky play, helping children to become accustomed to and cope with stimuli that could otherwise elicit anxiety (eg, heights).

Despite the developmental benefits of risky play, many well-intentioned injury prevention efforts are focused on limiting precisely these kinds of



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exposures for children, which are treated as safety hazards. Thus far, there has been little recognition of the distinction between hazard and risk in the injury prevention field. Risks (situations in which a child can recognise and evaluate the challenge and decide on a course of action) have been equated with hazards (a source of harm that is not obvious to the child, such that the potential for injury is hidden).^{1 13} For example, climbing a tall slide is a risk, whereas a hazard would be that the slide is not properly anchored and could topple with the child's weight. Confusing risk with hazard has made it more challenging to recognise the benefits of risk. Indeed, through various safety standards, playground designs, rules and supervision practices, we have restricted children's access to risky play opportunities to such an extent that we might be harming their development.^{1 9 14}

PARENTING AND SOCIETAL PERCEPTIONS OF RISK

Psychological and public health research has largely been based on the assumption that people seek to avoid risks and voluntary risk-taking results from faulty cognitive appraisals, lack of understanding or a personality flaw.¹⁵ Yet, a large body of literature documenting voluntary risk-taking, including among children, suggests that it is normal, pervasive and developmentally necessary.^{16–20}

The basic childhood need for risky play appears to be at odds with several shifts in social attitudes that have intersected to heighten awareness of and concerns regarding risks, not just of public health professionals, but at a broader societal level.^{2 21} These shifts are evident in approaches to parenting that are prominent in Western society today. Sociologists have illustrated how perceptions of childhood have transitioned over time such that children in modern society are positioned as precious and needing the highest possible degree of parents' attention and caregiving.^{22 23} These trends coincide with a move towards neoliberal political structures that shift a greater portion of the burden of responsibility for ensuring personal well-being from the state onto individuals.²⁴ The result is a push towards 'intensive parenting' where parents (primarily mothers) are encouraged to become experts on optimal parenting strategies, and child health and development so as to ensure that their children achieve their full potential.^{23 25 26} These beliefs regarding acceptable parenting are coupled with a pervasive societal push to control and manage risks, particularly for children, who are perceived as highly vulnerable and threatened by numerous perils, of which injury is a prominent one.^{21 27}

With injuries representing the leading cause of death for children in developed nations,²⁸ concerns about safety are understandable. However, how parents' safety concerns manifest in preventive action are not necessarily productive for healthy child development or for injury prevention. Many parents' primary safety concerns relate to abduction and exposure to traffic.^{29–31} Prominent preventive strategies (that are also consistent with 'intensive parenting') include limiting children's unsupervised outdoor play and chauffeuring children to and from a series of organised activities.^{31–33} Attempts to deviate from this parenting model can be met with sanctioning from other parents or even the police.^{25 34} Ironically, these strategies increase the injury problem by reducing 'eyes on the street' and by increasing traffic.^{35 36} The current 'backseat generation' has markedly fewer outdoor risky play opportunities and access to natural play spaces compared with previous generations.^{30 32 37–39}

Parents' observed behaviours are in stark contrast to their expressed wishes for their children's play opportunities and experiences.⁴⁰ Brussoni and colleagues have interviewed many

parents about their approach to children's risk engagement and injury prevention.^{41–43} When asked to recall their childhood playscape, many parents graphically describe unsupervised adventures in woods, ditches, fields, and so on, where they did not return home until meal times. Frequently, their next observation is a lament that their children do not have the opportunity to experience such unfettered play, often because of limitations they place in the interest of safety.

PLAYGROUND SAFETY STANDARDS AND CHILDREN'S PLAY SPACE DESIGN

Societal concerns about risk minimisation and the vulnerability of children^{2 44} are physically manifest in safety standards for children's play spaces and equipment, and the resulting playground structures (eg, Canadian Standards Association's (CSA) standards CAN/CSA-Z614-14).⁴⁵ Standards advocate stringent injury control measures that help ensure playgrounds are hazard free. However, some standards have been adopted without consideration of the cost. Ball⁴⁶ highlights that the push for impact-absorbing surfaces has come at great economic cost, resulted in a poverty of play opportunities and effectively prohibited exploration of risk, with no noticeable benefit to reducing deaths and serious injuries—already very rare events. Susan Herrington, a landscape architect and children's play space design researcher in Canada, notes in her paper (see online supplement 2) that these standards are created by organisations primarily concerned with engineering and manufacturing, resulting in technical standards that do not consider the developmental benefits of risk-taking. She points to misinformation to playground designers regarding the safety levels of design elements, such as surfacing, narrowing design opportunities to a checklist of do's and don'ts and resulting in the ubiquitous KFC (kit, fence, carpet) playgrounds. Herrington cites her research in childcare centres showing how the KFC playgrounds have very limited play value and could developmentally disadvantage children. Instead of being an ideal forum to encourage and support developmentally beneficial risky play for children, playgrounds have become less than suitable places for these opportunities.

Scott Belair, certified playground inspector and member of the CSA Z614 technical committee for play equipment, raises concerns regarding playground design and standards as a practitioner and a father (see online supplement 4). He comments on the expansion of CSA standards in the last 25 years, tripling in length, despite the rarity of serious injuries and deaths. Changes include recommendations leading to lowering the height of structures, standardising the width of stair treads and railings, prohibiting use of natural (grass and earth) surfacing and increasing non-encroachment zones.^{47 48} Belair highlights the lack of excitement of play opportunities and makes several recommendations for playground design that incorporate Sandseter's definition of risky play.

BUBBLE-WRAPPED RECREATION

Heather Turner, the director of recreation and arts in North Vancouver, British Columbia, reflects on 35 years of municipal parks and recreation experience in her paper (see online supplement 3). She provides the history of the provision of municipal recreation services, illustrating how shifting priorities and cultural norms have influenced resources and approaches to recreation services. Turner points to a change from providing arenas for free play to what she terms 'bubble-wrapped recreation', followed by more recent efforts to provide challenging and adventurous activities that support child development—efforts that

she perceives need to continue in order to find a reasonable and balanced approach that builds healthy communities.

PUBLIC POLICY PERSPECTIVE

Louise Logan, president and chief executive officer of Parachute Canada, and Pamela Fuselli, Parachute's vice president of government and stakeholder relations, provide an overview of Canadian policy and legal statutes relevant to playground safety (see online supplement 5). They point to the patchwork of statutes, standards, regulations and duties governing playground safety in Canada, such as the duty of care to ensure reasonable safety on a property. Logan and Fuselli note that CSA standards are voluntary, but in practice many jurisdictions insist on their adherence in the interest of minimising injury and litigation.⁴⁸ Interestingly, they found few examples of case law resulting from playground injuries. This seems incommensurate with the fear of litigation that is a dominant force for limiting risky play opportunities. Overall, Logan and Fuselli find the Canadian approach to public policy one that 'supports a strong focus on child safety, and legal risk mitigation', and does not consider negative impacts on child development. They encourage debate to identify guiding principles that promote stimulating and safe lives.

RISK-BENEFIT ASSESSMENT

David Ball, a risk management researcher and advisor to the UK's Play Safety Forum, describes playgrounds as 'oases of safety' in his paper (see online supplement 6). He describes attempts in the UK to shift policy and the Play Safety Forum's *Managing Risk in Play Provision* position statement⁴⁹ and implementation guide⁵⁰ that promote a risk-benefit assessment model that considers not only hazards but the developmental benefits of risk taking. Recognising the multidisciplinary aspect of children's play and play space design, Ball provides numerous recommendations tailored to different practitioners.

THE STATE OF THE EVIDENCE

Lacking in the research literature on child development and risky play are studies using gold standard research methods, such as randomised controlled trials. The bulk of the evidence comes from qualitative and quantitative research with methodological concerns common to research undertaken in community settings. For example, Hüttenmoser¹² compared developmental outcomes for children living in surroundings where they were permitted to play freely outdoors without adult supervision with socio-economically similar children in neighbourhoods where parents did not allow unsupervised outdoor play due to perceived traffic safety concerns. His findings indicated significantly better motor skills, social behaviour, independence and conflict resolution in children with ready access to opportunities for outdoor unsupervised play opportunities. However, his research design was not able to control for pre-existing differences between the families that might have influenced the results.

Expansion of the evidence base to systematically investigate linkages and key hypotheses is necessary. The existing multidisciplinary evidence and years of practitioner experience strongly suggest that children need risky play opportunities to promote development and to develop the risk management skills needed to keep themselves safe. Necessary next steps include systematic reviews to appraise and synthesise the current state of the evidence, improved play-related injury surveillance that includes data on exposure (number of children playing and amount of time spent at play), and highly controlled and rigorous research that can systematically investigate this hypothesis, while remaining relevant to real-world settings. Recent research provides an

example of innovative research exploring this issue. One study examined whether children's reaction times in detecting risks changed after a multiweek intervention promoting risky play activities.⁵¹ Results indicated that compared with a control group, the intervention group showed significant reduction in reaction time on a risk perception test, and their teachers rated an increase in self-esteem and a decrease in conflict sensitivity.

TOWARDS A CULTURE OF REASONABLENESS

Despite the variety of presenters at the symposium and the vastly different disciplines and backgrounds they represented, all came to the same conclusion: the injury prevention status quo, which prioritises safety above all else, is not reasonable or acceptable. The challenge is to broaden the focus and commit to a child-centric approach—one that includes not only the mitigation of injury but also optimal child development, which necessitates exposure to competence-appropriate risky play in a hazard-free play space. The injury prevention field is at an important juncture, with an opportunity for critical analysis of commonly held assumptions that can promote a cultural shift and epistemological growth. Fruitful discussion has already occurred debating the need to prevent all injuries or whether some injuries are acceptable.^{52–55} There is a pressing need to expand these discussions to consider the difference between risk and hazard and the importance of risk for healthy child development. The alternative is to drift into the dangerous realm of unreasonableness. Instead, we have the opportunity to act as a catalyst for societal change and promote a culture of reasonableness with the health and well-being of children at its centre.

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Contributors MB and IP planned the symposium that the papers stem from. MB wrote the introductory paper with assistance in drafting and revising from IP and SB. EBHS is the sole author of 'Developmental benefits of children's risky play'. SH is the sole author of 'Rewriting the ground rules for outdoor play spaces'. HT is the sole author of 'Bubble-wrapped recreation—have fun but don't get hurt'. SB is the sole author of 'Children risk to risk'. LL and PF are the authors of 'Risky play, injury prevention and child development—public policy perspective'. DJB is the sole author of 'Risk management and risk-benefit assessment'. All authors approved the final version that was submitted for review. Each author is a guarantor for their own paper, and MB is responsible for the overall content as a guarantor.

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Dangerous trampolines

Large inflatable toys may qualify as a newish hazard, but trampolines have long been known to be dangerous for children. The number of such injuries is steadily increasing despite new safety measures. Part of the problem may be due to the sense of false security provided by netted enclosures resulting in less parental supervision. It is also likely that the rise is due to increased exposure as a result of the growing popularity of trampolines. (Noted by IBP)

SUPPLEMENT 1

Developmental benefits of children's risky play

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Injury Prevention

Quite a few researchers have documented how children are active explorers, often both seeking and preferring risky play that may involve physical risk-taking activities and play where the ability to fight and physical strength are tested. [1–6] In one of the classic works on animal and human play, Aldis [7] points out that much of children's play is related to fear, and that young children actively seek out the thrills of fearful situations such as swinging and jumping from high places. Both observations of children's expressions in play [8] and interviews with children about their motives for engaging in risky play, [9] indicate that the ambiguity of experiences in risky play is the central point in children's motivation for engaging in this kind of play. Sandseter's [3,9] study showed that the primary motivation for the children to engage in risky play was the pleasant emotions it would give them as they gained a higher level of arousal and mastered risks they did not think they would dare. To achieve these experiences, they had several arousal-increasing strategies they incorporated in their play, such as intentionally increasing the height and speed of their play, acting more rashly, choosing more risky strategies of action and seeking to balance on the border of fear. Risk-taking in play includes both fear and excitement and this ambiguous feeling is what children seek in their play. [3,5,7,10–12]

WHAT DO CHILDREN LEARN THROUGH RISKY PLAY?

One of the benefits of children's engagement in risky play is the "lessons for life" that they unconsciously learn while practicing handling risks. Risky play, as several researchers argue, is a way for children to enhance their risk mastery skills. Children approach the world around them through play; they are driven by curiosity and a need for excitement; they rehearse handling real-life risky situations through risky play; and they discover what is safe and not. [4,13–16] From a risk-theory perspective, this means that children gain a realistic notion of the objective risk in the situation. [13]

Boyesen [17] states that in order for a child to "learn" how to master a risky situation, s/he will need to somehow approach the situation, and thereby increase the risk. This is similar to the argument proposed by Ball [1] and Stutz, [18] who emphasize the importance of letting children develop a sound sense of risk through taking risks in play. In a similar vein, a study investigating play providers' views of children's

risky play in the UK reported that enabling children to test their abilities, develop skills for use in the wider world and learn about the real consequences of risk-taking were the most important benefits of risks and challenge in play. [19] Aldis [7] exemplifies how children progressively encounter risky play and seek out thrills in a gradual manner, which allows them to master the challenges involved. In this way, their subjective perception of the risk becomes more realistic. Through risky play, children prepare for handling real risks and dangers – it is a serious risk-management exercise. [13]

The benefits of risky play involving activities related to height and speed, such as sliding, swinging, climbing and bike riding, may be relevant to learning about one's ecology, exploring the environment [20] and practicing and enhancing different motor/physical skills for developing muscle strength, endurance and skeletal quality. [21–25] All physical practice and training might be relevant for the developing child. These kinds of play also involve training related to perceptual competencies, such as depth-, form-, shape-, size-, and movement perception, [26] and general spatial-orientation abilities. [20]

Children venturing out on their own away from the surveillance of caretakers is a way of exploring one's world and becoming at home in it. [4] Bjorklund and Pellegrini [20] similarly argue that children come to know their environment through continuously exploring new areas and objects. It seems that children attain enhanced familiarity and competence about their environment, its potentials and its dangers through exploring its features. [20]

Rough-and-tumble play also involves great physical and motor stimulation. [21–25] Another possible function of rough-and-tumble play is to enhance social competence through affiliation with peers, social signaling, as well as good managing and dominance skills within the peer group. [23,24] It also provides for practice of complex social skills, such as bargaining, manipulating and redefining situations. [27,28]

ANTI-PHOBIC EFFECTS OF RISKY PLAY

Another recently described evolutionary function of children's risky play refers to the anti-phobic effect such play may have. [29] This suggested function of children's risky play

is based on research suggesting that several human fears and phobias, such as fear of heights, fear of water and separation anxiety, appear naturally at a developmentally relevant age as a part of the child's maturation due to interplay between genes and the environment, yet vanish again due to a natural interaction with the relevant environment and the anxious stimulus as part of normal development.[30,31] Research on fear of heights has shown that sustaining injury due to falls both before age five and between ages five and nine is associated with the absence of fear of heights at age eighteen.[32] Thus, risky play with great heights may provide a desensitizing or habituating experience, resulting in less fear of heights later in life.[29] Similarly, research on separation anxiety shows that the number of separation experiences before age nine correlates negatively with separation anxiety symptoms at age eighteen,[33] and research on fear of water has concluded that there is no relationship between experiencing water trauma before age nine and the symptoms of water fear at age eighteen.[34] These findings suggest that risky play, where children separate from their caretakers by exploring new and unknown areas and play near and in water, may also have habituating effects on the innate fears of separation and water.[29] As such, Sandseter and Kennair[29] suggest that one important aspect of risky play is the anti-phobic effect of exposure to typical anxiety-eliciting stimuli and contexts, in combination with positive emotions (thrills, excitement and fearful joy) and relatively safe situations. The children learn to cope with and no longer to fear potentially dangerous situations.

WHERE WE OUGHT TO GO/CALL FOR ACTION

Understanding of why and when children engage in risky behavior is important, particularly if such behavior in the long run is beneficial to their normal development. It seems that risky behavior is maintained despite adults' attempts to make children's environments relatively risk free. From both a safety perspective, as well as from a normal psychological developmental perspective, understanding the function of risky play and the different psychological mechanisms and motivational systems involved is important.

In practice we should outline the balance between safety requirements and children's needs and opportunities to play freely in challenging, stimulating and developing environments. The balancing act of letting children explore and take risks while still keeping them safe from fatal and serious injuries is not easy. The safety legislation on children's play environments and the recent growing safety concerns among parents and caretakers should not result in restricting children from engaging in risky and challenging play activities. Rather, caregivers and supervisors should let children encounter risks and challenges within a relatively

safe play setting,[4] even though one would have to take this important knowledge at the risk of some minor injuries. Children should be able to engage in challenging play, adjusted to each individual's sense of risk and urge for exhilaration, and preschool staff, teachers and parents should be encouraged to support and maybe even inspire this.

Play environments are also important for children's opportunity to engage in risky play.[35] At playgrounds and play environments, one must consider both the risks and the developmental benefits of letting children face the risks.[1] A preoccupation with strict surveillance and restrictions of risky play would hinder the children from positive mastery experiences such as fun, enjoyment, high arousal, excitement, thrill, pride, achievement and healthy self-esteem.[12–14,16] Paradoxically, risk-avoidance puts children at greater risk because they may miss out on important developmental benefits.[1,4,13–18] Through risky play, children prepare themselves to handle “real risks and dangers,” it is “serious risk-management exercise.”[13]

Children's safety is important and severe injuries or death must be avoided. However, the benefits of risky play should be highlighted and brought forward as a natural part of the play safety discussion.

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SUPPLEMENT 2

Rewriting the ground rules for outdoor play spaces

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Are we protecting our children too much while at play? From the perspective of most professional landscape architects in North America this is a tricky question to answer. Playgrounds are the sites of frequent litigation and professional liability insurance coverage must extend to specialty areas related to playground safety, along with skate park design, and soil testing. The fear of litigation dictates design, unfortunately, and skews the focus of the design process of most play spaces from adventure and challenge to safety and protection. This situation reflects a larger societal belief that children are in danger and are in need of our protection, and it has been documented in much of the literature concerning children's health and public space over the past six years.[1–6] This nuanced understanding of the role of risk in children's development in relation to the design of outdoor play spaces seldom makes its way to debates in landscape architecture. Rather discussions in the professional literature emphasize the need to demonstrate due diligence to safety in the selection of equipment and fall surfaces.

In an effort to show due diligence to children's safety professional designers rely on safety guidelines and standards sold by organizations, such as the Canadian Standards Association (CSA) and the American Society for Testing, Materials (ASTM) International. These organizations sell guides to the technical requirements for the design of outdoor play spaces (as well as the manufacture/ construction, installation, maintenance, and inspection of them). This scope leaves little room to consider the benefits of risk-taking for a developing child—a consideration that should be factored into a playground's design. It is not the purview of these organizations to do so as the writers of these technical documents are typically engineers and manufacturers. However, municipalities often tie funding for playground construction and renovation to the use of these technical guides. The consideration of the benefits of age appropriate risk-taking is not undertaken, as the conformance to technical standards and products become the primary focus of design.

Particularly troubling are discussions among landscape architects and designers themselves regarding the safety of particular materials and equipment is often presented as a quick checklist of “dos and don'ts,” with some materials

and standards promoted as “fail-safe” approaches to the design of children's outdoor play spaces. A case in point is impact-absorbing surfaces, like rubber around play structures. In a 2011 article on playground design by an American landscape architect, he advises readers that, “safety surfacing will cushion falls so that emergency-room visits are not needed.”[7] Not to pick on this particular author (who most likely has the best of intentions) but the statement is indicative of the misinformation provided to and by landscape architects about playground safety and design. The safety surfacing that the author refers to is rubber, poured-in-place or tiles. It is tested, designed, and marketed to landscape architects for applications in children's outdoor play spaces. Yet no material can guarantee the elimination of trips to the emergency room. Moreover, the exact contribution that this surfacing makes to children's injury prevention is debated among epidemiologists and engineers. Davidson et al.[8] modeled energy flow within the wrist when impacting two playground surfaces – rubber and bark. They found that rubber surfacing returned more energy to the wrist than bark surfacing, increasing likelihood of fracture. Ball[9] found that while impact-absorbing surfaces, such as rubber tiles, were installed throughout the UK between 1981-1999, there were few cost-benefits to justify their expense, and there has been no apparent trend in playground injury cases since the surfacing was installed. This is an important consideration because outdoor play spaces have limited sources of funding, and the cost associated with implementing expensive surfacing will take funds away from other parts of the design. So while impact-absorbing surfaces' contribution to injury prevention is debatable, the promotion of its use in the literature in landscape architecture continues.

These uncertainties about the safety of particular materials also contribute to the narrowing of the palette of play surfaces and structures designed across North America and in the UK. Impact-absorbing surfaces account for the carpet in what Woolley and Lowe[10] call the KFC (Kit, Fence, Carpet) playground design style commonly found throughout the UK. KFC playgrounds are ubiquitous in Canada too. Impact-absorbing surfaces featured prominently in my own analysis of sixteen outdoor play spaces at licensed childcare centres in the city of Vancouver, British Columbia. Of the sixteen centres studied, eight contained primarily rubber matting as

surfacing for the play space.[11] We also found that impact-absorbing surfaces had little or no play value compared with sand or other loose material. During focused interviews with early childhood educators working at these centers, it was noted that the rubber could not be manipulated by the children. They also revealed that they were very aware of how expensive the rubber was, and that sand combined with sun and water eroded its surface. As a result they spent a good deal of time keeping sand away from this expensive surfacing.[12] Wooley and Lowe[10] also found that the KFC playgrounds they studied in the UK failed in providing manipulation and interaction with the environment. In short, substituting sand for rubber surfacing removes a valuable play element from the play space, especially for young children.

Play structures are another case in point, and represent the *kit* in KFC. Kits are fixed play structures. Although they provide little change over time, and do not offer the manipulation that loose parts offer, they are typically selected for playgrounds designed by landscape architects. With increased concern for safety on most Canadian playgrounds, these fixed structures have become lower and some research suggests that they are not as challenging or thrilling. In our interviews with the Early Childhood Educators working in the centres studied in Vancouver, 57 percent wished there were more challenging equipment and play structures in their outdoor play spaces.[13] This may account for why we found that children were playing on the play equipment in these centres only 13% of their play time.[11] In Cincinnati, Ohio researchers conducting nine focus groups with 49 early childhood educators at 34 childcare centres for preschoolers found that injury prevention on the playground was one of the three barriers to physical activity (finance and focus on academics were the other two barriers).[14] Several participants discussed how overly strict standards had rendered climbers unchallenging and uninteresting to the children, thus diminishing opportunities for physical activity. The new play equipment was thought to be safer, but children quickly mastered it and it became uninteresting to the children. “To keep it challenging teachers noted that children would start to use the equipment in (unsafe) ways for which it was not intended.”[14] Sadly, this could potentially increase the number of injuries in play spaces that were designed with the intention of mitigating injuries.

Regarding litigation, landscape architects should consider the fact that lawsuits are argued based on children’s developmental interest—that they enter adulthood without disadvantage.[15,16] If a landscape architect’s design or planning of a playground or specification of playground equipment causes a developmental disadvantage in a child using the playground then he or she can be found negligent.[17] Yet, could landscape architects be negligent

in providing developmentally supportive play spaces? Are KFC playgrounds with their carpets and kits developmentally disadvantaging children, especially play spaces used on a daily basis on schools grounds and childcare centres?

If so, landscape architects and designers should collaborate with researchers in child development and injury prevention to better understand the relationship between risk-taking, child development, and the design of outdoor play spaces. Landscape architects need more holistic guidance on how to balance risk benefits and safety in their design of play spaces. The UK Play Safety Forum’s *Managing Risk in Play Provision: Implementation Guide*[18] offers play providers a unique guide to strike this balance. This document gives a comprehensive description of risk-benefit assessments for the multi-faceted questions one must ask during the planning and design for an outdoor play space, as well as case studies. It could certainly provide a template for a Canadian version.

In conclusion, landscape architects are currently working with limited information regarding the relationship between child development, risk-taking, and the design of outdoor play spaces. Information on this relationship tends to be taken from guidelines that are often focused on the engineering aspects of the playground features and materials. Since funding is often tied to the design’s conformance to these guidelines, speculation beyond their requirements seldom happens. This limited knowledge has also had the unfortunate consequences of reducing much of the discussion about play space design amongst landscape architects to checklists that in some instance are based on unsubstantiated facts. To move forward, we need to cut across disciplinary boundaries—between landscape architecture, child development, and injury prevention—and adopt a holistic approach to the design of children’s outdoor play spaces. We need to rewrite the ground rules for design to help children engage with the environment rather than only protecting them from it.

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SUPPLEMENT 3

Bubble-wrapped recreation – have fun but don't get hurt!

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As a recreation practitioner who deals with the issues of risk and play on the front-line, I have had my share of experiences related to balancing facilities and programs for both risk-averse and risk-seeking community members. My goal is to provide a snapshot of the historically complex interaction between public recreation and risk, and how changes in demand – be it away from, or toward risky play have impacted municipal recreation services.

The origin of the Parks and Recreation movement in the early 1900s was largely in the provision of free and open park spaces for the aesthetic enjoyment of residents and visitors. These were simpler times and little time was spent considering potential risks in these spaces. Later, this work evolved into the development and management of swimming places (both outdoor and indoor), tennis courts, and new community halls to supplement churches and schools as venues for dances and community events. At that time, few resources were put into formalized recreation programs and services, and individuals took responsibility for their own leisure time. Our role was to build it and let them come. During this period, when government was considered “owned by the people” – it was almost unthinkable to take legal action against government for an injury incurred while playing in a park or facility; therefore little attention was paid to the mitigation of risk, and patrons were largely responsible for their own safety.

The 1950s, 60s and 70s were different times. Unstructured play was the norm for most children, playing games like scrub and kick-the-can with no adult supervision or cell phone contact. I was fortunate to spend every summer at a lake where our “main beach” had a raft, dock, slide and – the best of all – a home-crafted metal two level diving tower with planks on two sides where I learned to dive into water that was about 10 feet deep. Although I suspect the village council of the day was aware that these features brought risk of injury and they were open to litigation, the amenities made the beach area incredibly popular for locals and visitors.

This period; late 1950s to 1970s – brought some changes to the Parks and Recreation sector. During these years we were primarily seen as providers of recreation spaces - swimming pools, ice arenas, curling clubs, parks, and rather modest community centres. While more ‘managed’ or ‘organized’

recreation programs were emerging, the trend of free, unsupervised and unmitigated play remained most popular. We continued to be mainly facilitators, providing space where people could connect with each other and engage with recreation however they chose. Being safe continued to mostly be the responsibility of the patron – and while I do not suggest that this was a better time to be a child, there is a lot to be said for free play, and the associated learning that took place. I suggest that during that time, risk management was a notion for municipalities in their provision of recreation services, but not a great focus.

In the 1980s and 90s, taxpayer investment in public recreation increased as we built many facilities. We went wild in the playground department; constructing adventure and creative playgrounds that promised to foster creativity, innovation and ingenuity. We built many community recreation centres and sport specific facilities and switched from being primarily facility providers to both facility and program providers. This was a significant change sparked by consumer demand. Residents began to request recreation programs for two primary reasons.

Firstly, recreation was increasingly recognized as an important tool in positive childhood development and we developed programs and services that would maximize this development. Secondly, related more directly to risk-aversion, was parental pressures and demands. The style of parenting that dominated in the 1990s was characterized by high fear, high control and low risk. Due to fear of ‘what could happen’, parents were over-protective and over-scheduled their children. We, as recreation service providers, mirrored these trends in our practices. The pressure to remove risky play elements, such as my beloved diving tower, came from risk-averse parents, insurance providers, Council members and administrators. We developed rules and regulations, ramped up our supervision of programs held in padded gyms and tore down playgrounds that were too high and too hard. We closed diving boards during public swimming sessions, removed ropes, slides, platforms and other fun elements. We resisted the growing demand for skate parks in response to public fears that they would be havens for delinquent youth to swear, do drugs and no doubt hurt themselves. We replaced swings, monkey bars and adventure playground components with static elements, brightly coloured to

make them look attractive; distracting parents and children from the fact that they were not that much fun. We closed outdoor paddling pools, introduced waiver forms, criminal record checks for staff and risk management manuals. A good example of this is my childhood beach which today has only a dock; no raft, slide or tower - all removed because the village could not afford the escalating insurance costs and the council was not prepared to take the chance of a potential lawsuit.

For the last 2 to 3 decades, our society has been so afraid of what “might” happen that children no longer bike through their neighbourhood, let alone to soccer practice or a friend's house. According to Active Healthy Kids Canada, only 25 to 35% of Canadian children and youth walk, bike or wheel to school – 65 to 75% are driven.[1] In addition to the health issues arising from this inactivity, over-protecting children impacts their ability to assess bad situations, take physical risk, learn from the consequences of taking such risks, and to problem solve.

My colleagues and I are passionate about the physical, social, emotional and cognitive benefits of play and recreation to participants and espouse the public good that the community at large derives from quality recreation. We aim to facilitate the healthy development of children, although I suggest that we got a bit side-tracked in the past 10 to 20 years in trying to appease parental fears and by becoming overly focused on mitigating risk. We did benefit from parental fears of children playing outside unsupervised; our program registrations increased as parents sought safe indoor, supervised recreation programs.

Most municipalities are now experiencing shifts in demand and either plateaus or decreases in participation in traditional registered programs. There appears to be a renewed increase in spontaneous activities and risky recreation and sport. We are now seeing the young adults that were over-protected children in the 1990s craving activities that are thrilling. While municipalities are not usually the providers of these of high-risk activities, they have an impact on the Councils and staff as the demand for, and concerns around these activities increase and collide. In my community, we have recently dealt with two matters directly related to such risk and recreation.

Firstly, we have been wrestling with the impact of the popular longboarding trend. There is pressure from the public to ban the activity and pressure from participants and their parents to allow it. This balancing act is challenging because both those for and those against have good points. While longboarding is prohibited on certain streets, as with many banned activities, enforcement is a problem and fines are rare. Municipalities face a dilemma of wanting people to be safe but struggling with the ability to regulate.

A second example is an examination of the question of helmet use in ice arenas. Several viewpoints were expressed; that helmets should be mandatory for all, or for those under 16, while others expressed concern that teenagers would stop participating if helmets were required. We conducted research into the frequency of arena incidents, the probability of helmets preventing serious injury and the age of participants who typically participated in public skating. Our ultimate decision was to require helmets in registered programs and for instructors and supervisors on ice, and to encourage helmet use, but not to make them mandatory for all. We made this choice to ensure that we did not counter our primary objective – to attract youth to public skating sessions and to get them active.

Our challenge is to find the right balance between satisfying the legitimate concerns of risk managers and the public while meeting the recreation needs of risk-seeking parents and youth. When presented with the opportunity to offer circus programs in which participants fly high on silks and trapezes and pedal on unicycles, we jumped at it. In the 1990s we would have been too scared to try. We need to continue to move away from focusing too much on bubble-wrapped recreation – towards smartly and courageously providing new, innovative and physically challenging activities in support of healthy child development.

I wonder if in a few years we may begin to see that the parents (those who were over-protected in the 1990s) want different childhood experiences for their offspring; one with more adventure and risk-taking. Perhaps the pendulum that swung from personal responsibility for recreation to government provided; from outdoor to indoor and from risk-averse to managed acceptable risk will swing back to somewhere in the middle.

Risk in recreation is unavoidable and incidents will happen. Our goal must be to understand and meet the needs of our residents and address the expectations and fears of the risk-averse and risk-seeking in a reasonable, balanced way that protects both the participants and the municipalities. We need to understand parental fears and concerns and respond to them, but do that with our ultimate goal in mind; to build healthy individuals, families and communities.

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SUPPLEMENT 4

“Children rise to risk”¹Scott Belair²¹Phrase used by Joan Almon, Executive Director of the U.S. Alliance for Childhood.[12]²Reliable Reporting, Toronto, ON, Canada

As I sit near the playground at my 5-year-old son’s school, I see parents and teachers struggle to prevent children from going up the spiral slide to the highest platform on the playground. It seems twice as many children want to climb up the spiral slide as those that wish to sit down on their bums and descend the slide “as intended.” The reality is that it is normal for a child to want to climb up a slide when after the first few “intended use” turns, it loses its excitement. They are only doing what they are naturally wired to do – challenging themselves.

We are told that new play equipment designs are built for safety. But have playgrounds actually become any safer? Or are they just boring pieces of equipment that encourage kids to play elsewhere other than at the play space and therefore evade injury statistics? Many playgrounds have been stripped of fun and excitement for thrill-seeking kids, all as a result of litigation concerns, risk managers, parents, various pieces of legislation and playground safety standards. But, after all the playground removals we have heard about, read about or been involved with, have new playgrounds really become safer? Will this trend continue? Should more risk be re-introduced to the childhood play experience? Surely, exposure to some risk makes kids more comfortable with it.

The Executive Director of the U.S. Alliance for Childhood, Joan Almon, says, “Give [children] some genuine risk and they quickly learn what their limits are, and then they expand their limits.”[1] The problem is that if children never encounter even tiny or age appropriate risks, they never develop common sense in dealing with risk and challenge. [1] In the schoolyard, at a standard play space or elsewhere, how can we learn how fast is “too fast” unless we have experienced or witnessed “too fast”? How do children learn to fall from a playground structure safely unless they have experienced or witnessed a fall?

Some municipalities in Canada limit the height of equipment to 1.8 meters (6 feet). No doubt this will help reduce the chance of an injury from falls, especially considering that very few children will get excited about going to the park. What if for every kid who avoids breaking a leg from a playground fall, a million more never develop the muscles to do a chin-up, the endurance to play a game of tag, or the ability to analyze risk and learn about consequences?[1]

This problem, at times, goes well beyond playground safety standards. Some schools or school boards have outlawed ball playing, tag and other running games, while others only allow running around the perimeter of the yard and not anywhere in the middle due to the chance of a collision between runners.[1] In addition, some schools have optional outdoor recess and sometimes physical education class is not a requirement.

Risk limitation can encourage children to find alternative uses for play equipment (for example the common game *grounders* in which the children climb the outer periphery of the play equipment without touching the ground). If the intent is to reduce injuries from falls, could we not provide the same height, but provide more enclosure and/or better resiliency of the protective surfacing on the playground to make it safer, but still fun?

Canadian hospitalization rates due to playground injuries have dropped significantly from 35 per 100,000 in 1994/95 to 25 per 100,000 in 2011/12.[2] This might be due, in part, to increased compliance with the playground safety standard. Originally published in 1990 by the Canadian Standards Association (CSA), the standard includes recommendations for manufacturing, installation and inspection of play spaces as well as requirements for design (e.g. playground surfacing, equipment height, spacing between climber rungs).[3]

Since the initial set of safety standards was published, we have seen it grow from 52 pages in the 1990 edition, to 165 pages in 2014, even though public playgrounds account for an average of less than 1 fatality per year in Canada, much rarer than death by lightning strike.[4–6] Canada is not alone in expanding its regulations. The same scenario is evidenced in other parts of the world, including the United States.

The limitations of standards might be reflected in recent hospitalization statistics showing an upswing in playground injuries from 2007/8 to 2011/12, as reported in a CBC news article.[7] Playground designer Adam Bienenstock, raises the issue of play space surfacing (personal communication, Adam Bienenstock, October 1, 2013): when testing adherence to the recommendations for surfacing, the current gold standard for measuring impact is the surface impact test from the fall height of the installed equipment. This test is designed to prevent head injuries and is not intended to provide

any measure of injury reduction other than head injury. Commonly used surfacing, such as rubber, may comply with the standard and adequately prevent head injuries, while contributing to the increased incidence of specific bone fractures.[8]

Another limitation of the playground standard identified by Bienenstock is that it was not written to provide guidance for risk and play in nature. ‘Time in Nature’ is now an indicator in the Active Healthy Kids Canada Report Card. [9] There is growing evidence that the emotional, physical, and intellectual development of our children improves through increased contact with nature, while at the same time reduces bullying, injury rates, vandalism, and aggressive behaviors.[10] For natural playgrounds, less stringent standards might improve child development outcomes.

Some of the world’s most creative playgrounds and playground designers are located in Scandinavia and Germany. Many believe that early playgrounds evolved from children having a great time playing in the rubble of bombed out buildings (as compared to local play spaces). Following the war, many play space designers started with the concept of the adventure playground,[11] with the understanding of what children wanted in a play space (adventure, thrill seeking, changing play environment, creativity – often with loose parts, hiding play places, etc.) and then tried to add a modicum of safety.

Playground safety standards ought to be based on the hazard rather than prescriptive text. For example, in a majority of playground safety standards, climber rungs need to be 30 cm or less in distance apart. This spacing is based on the maximum distance a younger user can climb. The result is that these climbers are not challenging to our older users. What if, instead of a specific dimension, playground standards told designers to ensure climber rungs were spaced appropriately for the age group they were designed for? We might see slanted climber rungs. The idea of the slant is to make them closer together on one side and therefore easier, yet the other side of the climber might have significantly greater spacing as a challenge for older users. Children could choose the appropriate spot for themselves. This would allow play space designers to be more creative, provided the hazards are addressed and/or mitigated.

In new playground design, no one wants to create spaces that lead to children getting hurt. But there are ways to give children a sense of excitement without risking serious injuries. For instance, designers can provide climbing to thrill seeking heights of 6 to 8 metres, while limiting direct falls to the surfacing to manageable heights of 70 cm or less. These types of more exciting playgrounds are already commonplace in Europe and the movement is starting to spread to North America. The general concept is to incorporate hills,

embankments, landscape features and climbing equipment to form a pyramid or hill shape with play elements extending at various heights and lengths from a central point. The central masts are often only accessible through small cracks that adults dare not go!

Many parents, designers, and manufacturers of equipment would like to see risky elements of choice (e.g. monkey bars, suspension bridges, zip lines, hill slides, etc.) be available in play spaces, but not hidden hazards (e.g. faulty or damaged equipment, near structural failure, equipment improperly spaced, etc.).

If we focused on the following areas from a hazard removal-based perspective, we could open the door to more creative designs:

1. Heights – Do provide graduated challenge and indicate age appropriateness or difficulty levels. Do not provide great height without adequate fall protection (i.e. cushioned surfacing) and/or appropriate enclosure devices.
2. Speed – Do provide sliding, swinging, and motion activities where children control the speed and movement of equipment. Do not provide uncontrolled speed.
3. Tools – Do allow children to make a child-constructed playground or alter the look of a part, to indeed make it their park. Do not provide dangerous tools (such as saws, axes, ropes).
4. Visibility / Supervision – Do allow children over age 3 years to have some freedom without an adult (this can be done by trimming lower levels of shrubs for foot visibility, mesh enclosures so that children can have their space, provide fencing around the play space for containment, etc.). Do not design a space where children can get lost or disappear from supervision. Do not put elements too close together to inhibit flow of movement throughout the play space, or inhibit fall protection.
5. Dangerous Elements – Do not allow cliffs, deep or icy water, fire pits, etc. in a play space.
6. Entanglement / Entrapment – Do not allow equipment joints that could entangle cloth or entrap all or part of a child’s body.

Following that, a play space should be regularly inspected and maintained for obvious hazards (broken, vandalized components, significant wearing / decay, etc.). After that, we should let designers have the flexibility to be creative and add new stimuli to play spaces.

And finally...let kids play and be kids!

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Risky play, injury prevention & child development – public policy perspective

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Injury Prevention

1. INTRODUCTION

According to the Canadian Institute for Health Information, more than 28,000 children are injured on playgrounds across Canada every year.[1] Approximately 10% of these injuries result in hospitalization. The Canadian Pediatric Society notes that children five to nine years of age have the highest risk of injury.[2] Falls are the leading cause of injury, and the types of injury sustained include head injuries, fractures, internal injuries, dislocation, and amputation.

The fact that children's play and playgrounds can result in injury, even serious injury and death, is not news. Nor is the idea that measures should be put in place to prevent injuries and keep children safe from harm. Rather, the question under consideration is whether the measures put in place to keep play spaces safe also support optimal child development and health.

Balancing the need to provide environments where children can develop, and at the same time avoid injury raises important public policy issues. In this paper, we will briefly explore the current public policy landscape in Canada as it relates to children's play spaces, and touch on policy considerations that have been identified in Canada as relevant to striking the "right balance" in the context of children's play spaces.

2. CURRENT PUBLIC POLICY LANDSCAPE

Safety on playgrounds and equipment in Canada is governed by a patchwork of statutes, standards, provincial regulations, and duties at common law.

2.1 Legislation

Relevant statutory provisions can be found in provincial occupier liability statutes, which set out the general duty of care an occupier owes to persons coming on the premises. In general terms, an occupier owes a duty to take reasonable care in the circumstances, such as outlined in the Ontario's *Occupier Liability Act* (RSO 1990, c. 0.2).[3] In Alberta, the *Occupier Liability Act* also includes provisions specific to children (RSA 2000, c. 0-4, s. 13) and provides that, in certain circumstances, the occupier owes a duty to take reasonable care to see children will be reasonably safe from danger. In determining whether the duty of care has been discharged,

consideration will be given to the age of the child, the ability of the child to appreciate the danger, and the relative burden on the occupier of eliminating the burden.

Provincial education statutes set out the duties of teachers and principals to maintain proper order and discipline, and to attend to the health and comfort of students.

2.3 Standards

The Canadian Standards Association has developed a nationally recognized standard under CAN/CSA-Z614 "Children's Playspaces and Equipment".[4] Its purpose is "to promote and encourage the provision and use of playspaces that are well-designed, well-maintained, innovative, and challenging, and, in so doing, contribute to the development of healthy children in the broadest sense of the word."

The CSA Standard provides detailed information about materials, installation, strength of the equipment, surfacing, inspection, maintenance, performance requirements, access onto and off of equipment, play space layout and specifications for each type of equipment.

First issued in 1990 and last reaffirmed in 2012, this standard is not law, but it is widely used and referred to as the minimum acceptable standard that should be voluntarily complied with. The Standard applies to public use play spaces and play equipment found in schools, parks, childcare facilities, institutions, multiple family dwellings, private resort and recreation developments, restaurants and other areas of public use. It does not apply to home playgrounds.

Some jurisdictions have adopted this standard in regulation, policies, and guidelines. Quebec has made Z614 mandatory for daycare operators by referencing Z614 directly in their Education Childcare Regulation under the *Educational Childcare Act*. In Ontario, childcare settings that are licensed by the Ministry are inspected for compliance with the Z614 as a condition of licensure.

2.3 Case Law

Educators have a well-established common law duty to students. The leading case on this point is *Myers v. Peel County Board of Education* (1981), 123 D. L.R. (3d) [1981] 2 S.C.R. 21, which went to the Supreme Court of Canada. According to the courts, school authorities must conduct

themselves in the same manner as a “careful or prudent parent”, which includes a duty to guard against inherent and foreseeable elements of risk in the activities of the students.

[5] The application of the standard of care in individual cases is dependent on the facts of the case, and takes into account a variety of factors such as: the type of activity being undertaken, the location where the injury occurred, the age of the students, the condition of the equipment, and the number of students being supervised.

Interestingly, although the statistics indicate that there are lots of cases of children being injured, there is relatively little Canadian case law related to playgrounds. This does not, however, diminish the importance of legal duties, standards of care, and the risk of legal action as a policy driver.

3. DISCUSSION

Sandseter and Kennair[6] state that: “In modern western society there is a growing focus on the safety of children in all areas, including situations involving playing. An exaggerated safety focus on children’s play is problematic because while on the one hand children should avoid injuries, on the other hand they might need challenges and varied stimulation to develop normally, both physically and mentally.” Similar themes and concerns are explored in the 2012 paper by Brussoni et al[7] which raises important questions about the impact of restrictions on children’s outdoor risky play on child development and health, and proposes a new paradigm that includes a balancing of risky play and children’s safety.

In this section we briefly explore to what extent Canadian public policy balances playground safety with the need to provide stimulating play environments. We also consider whether the current standard of care could accommodate consideration of additional factors such as the importance of thrilling experiences to healthy child development.

3.1 Public Policy Focus

It is interesting to consider whether Canada’s current public policy environment reflects an “exaggerated safety focus” when it comes to children’s playgrounds and spaces.

Canada does have a nationally recognized standard for playground equipment and play spaces. The standard is voluntary, but one that has been relied on and incorporated by reference to become, in some contexts, a de facto minimum. But does having a standard necessarily imply an exaggerated focus on safety such that harm may result? The one does not necessarily flow from the other, and it is worth remembering that in addition to focusing on safety, the standard also explicitly recognizes the need for “innovative” and “challenging” play spaces that support healthy child development in the “broadest sense of the word”. (The question of whether or not it successfully achieves this

balance, or whether its implementation and enforcement have contributed to or detracted from the achievement of this balance is beyond the scope of this paper.)

Nonetheless, public policy debate on this matter does reflect a strong emphasis on the need to keep vulnerable children safe from harm. This is evident in the debate on a motion brought before the Ontario legislature relating to the CSA standards. The motion sought to have the standard recognized by the government of Ontario as the appropriate safety standards for playground equipment bought and sold in Ontario, and to urge all Ontario municipalities, school boards, childcare centres, and other provincially funded agencies to use playground equipment to adhere to the national standard when buying playground equipment. The motion was debated against a backdrop of a tragic death of a young boy who was strangled by a loop in a rope attached to playground equipment at a condominium complex.

The debate on the motion was relatively brief, focusing on the tragic event, the incidence of injury and death, and the credibility of the CSA guideline. There was some discussion about the need to reduce the costs of insurance and liability for property owners, and concern over the impact of the additional costs of meeting the standards. The legislators stated their belief that: “What we must do is ensure that the chances of children getting seriously injured are reduced as much as possible.”[8]

A similar focus can be seen in the implementation of playground safety policy in Ontario schools. The focus in this context is on risk management and harm reduction through the application of principles that “systematically identify, prioritize and address the issues related to CSA standard compliance and playground equipment safety.”[9] Insurance costs and the risk of legal action are dominant considerations, and appear to be a driving principle behind much of the dialogue and policy development process in school boards, daycares and municipalities.

When there is a consideration of the balancing of interests, the public debate on play space relies heavily on the traditional regulatory equation in the safety context: the relative need for protection versus the relative cost or burden of eliminating danger or hazards. An economic cost-benefit analysis is a standard consideration in the regulation of occupational health and safety and environmental protection, and a mandatory economic analysis of the impact of proposed regulations is fast becoming the norm.

A clear example of this equation in the context of child safety can be found in the Alberta Occupiers Liability Act, which states that in determining whether the duty of care to a child has been discharged consideration shall be given to: the age of the child, the child’s ability to appreciate danger,

and the burden on the occupier of eliminating the danger or protecting the child from the danger as compared to the risk of the danger to the child.

3.2 Standard of Care – the Careful and Prudent Parent?

When assessing negligence, the case law in Canada does not refer to the benefits of risky play or a balancing of priorities. However, it may be worth considering whether the current standard of a “careful and prudent parent” could conceivably incorporate a broader set of considerations such as whether an injury occurred in the course of age appropriate risky play. The standard is not one of “safety perfection” and as such it may be able to hold considerations such as whether a “careful and prudent parent” would encourage their child to engage in “thrilling experiences” that support normal development.

4. CONCLUSION

We started with the question of whether the public policy measures in place in Canada to keep play spaces safe support optimal child development and health, and how Canada has balanced the need to provide environments where children can develop and at the same time avoid injury.

Based on our preliminary review of the landscape, current public policy supports a strong focus on child safety, and legal risk mitigation. It does not address the balancing of risky play and child development, or explicitly consider whether public policy that has a strong safety focus may have secondary, negative impacts on child development.

The Canadian approach contrasts starkly with the explicit principles underlying public policy in at least one leading jurisdiction: Finland. The Finnish national action plan for injury prevention among children and youth published in the fall of 2009 includes guidelines for long term injury prevention for children and young people under the age of 25. The action plan explicitly states that safety, health and stimulation are the core elements of the future, and the vision is of Finnish children and young people living stimulating and safe lives.[10] Brussoni et al.,[7] cite similar emerging examples in the UK.

In our view, there is an opportunity to draw the debate into the public realm in Canada, explicitly identify the guiding principles, and shine a light on this important public policy issue.

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Risk management and risk-benefit assessment

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Injury Prevention

INTRODUCTION

This statement is written in the context of children's play, a topic of professional interest which for me commenced in 1986 and has continued with no slackening of pace to occupy a part of my life that otherwise might have been devoted to such things as climate change and nuclear waste. Some people regard play as relatively unimportant on the scale of threats faced by the human race, but I do not share that view. I believe that 'play,' however interpreted, is an essential part of life regardless of one's age and whether it is recognised or acknowledged or not, and that without it things would rapidly deteriorate.

Not everyone shares this view. For instance, as an adviser to the UK's Play Safety Forum (PSF), I am aware that of late the Forum has been in deep discussion with various influential agencies about the role of play. During one meeting, which was focused upon play equipment safety standards, a question was posed about the age of children who were being protected. The answer, after modest hesitation, was 'about 7 or 8 years.' This answer was no surprise but a confirmation of an earlier suspicion. I think there is a tendency, when contemplating play, to think only of the very young. But I also believe this amounts to a serious oversight. Teenagers (and much older folks) need opportunity to play for, to paraphrase the Bard, 'all the world's a playground,' and were one to design all equipment with just toddlers in mind, then others would find it mindlessly tame and so lose out on valuable life experiences.

WORLDVIEWS IN ISOLATION

It could be said that the above separation of view is an example of persons marching to different tunes, not necessarily deliberately, but perhaps more through a certain containment of thought processes, which in turn may be a consequence of different professional cultures and work practices. It is not by any means the only example of the co-existence of parallel universes of thought.[1]

Many research papers on the safety of playgrounds, for instance, commence with a stream of statistics implying that play is dangerous and in need of urgent intervention. What is often missing is some means of putting the injury rate on playgrounds into perspective. If you do that, by factoring

in exposure (how many children play and for how long), a very different picture begins to emerge.[2] Playgrounds start to look more like oases of safety than locations of carnage, which is pretty remarkable considering all of the antics in which players engage.[3]

Nonetheless, in Britain, the injury prevention movement has had a major influence since the 1990s, if not earlier, and its impacts have been felt in numerous areas of public life, including play provision.[4] Not all of these impacts have been considered beneficial, and some have even been ridiculed, such that the British Government is now part-way through a major review of health and safety regulation[5] with the current intention of identifying:

"areas where further reforms are needed to create a modern, simplified, risk-based framework for health and safety in Great Britain." [6]

Within this ministerial statement the words 'risk-based framework' are worthy of contemplation, for they pinpoint a further dichotomy. Although English safety law requires all reasonable interventions to be made, where reasonableness is predicated on a trade-off between the benefits of a safety measure versus its cost and difficulty of implementation, there have been signs of a hazard-based mentality creeping in, first in the workplace and then spreading to encapsulate public life, sometimes including play. The hazard-based approach essentially revolves around the identification of hazards, such as a wooden swing seat or an unprotected drop, and tries to eliminate or remediate them. In contrast, a risk-based approach would also commence by identifying hazards, but would then assess the likelihood of harm (the risk) prior to deciding what if any interventions were reasonable in the circumstances. It is clearly the Government's intention that the hazard-based approach is generally to be shunned, but in practice it remains widespread.

The words 'in the circumstances' are also deeply salient because they, in turn, pinpoint another rift, perhaps the most important of all. The numerous debates in the UK play community over recent decades have, above all, been concerned that the benefits of play have been sidelined and should be factored into decisions about the reasonableness, or otherwise, of proposed safety interventions. The simple

reason is that safety interventions may lessen benefits. The PSF has marshaled this difficult line of thought in the following policy position, which has been endorsed *inter alia* by the Government and the safety regulator:

“Children need and want to take risks when they play. Play provision aims to respond to these needs and wishes by offering children stimulating, challenging environments for exploring and developing their abilities. In doing this, play provision aims to manage the level of risk so that children are not exposed to unacceptable risks of death or serious injury.”[7]

This position is, of course, radically different from that of hazard-based control and injury minimisation. Exposure to some risk is here seen as one of the purposes of play provision rather than something to be eliminated, even including some risk of serious consequence. From this has emerged the idea that play situations should be subject to a new form of risk assessment, namely, risk-benefit assessment. So, in thinking about what interventions are reasonable ‘in the circumstances,’ consideration would need to be given to the circumstances of play including its objectives.

This, I should say, may appear radical on the one hand but at the same time it is common sense. Life, on reflection, is about trade-offs in which we accept certain risks in exchange for associated benefits.[8] It is seldom about the selection of one priority, such as injury reduction, and its single-minded pursuit without regard for other factors that may be important.

EMERGING EVIDENCE OF THE IMPORTANCE OF PLAY

Injury statistics are relatively easy to collect but hard evidence of play benefits less so, for obvious reason. Gradually, though, research in social sciences is beginning to identify the importance of play. Benefits are legion including developmental opportunities;[9] opportunities to experience challenge;[10] the chance to learn from mistakes;[11] encounters with the natural world;[12] reductions in psychopathology and neuroticism;[13] and opportunities to foster citizenship and community.[14]

IMPLICATIONS FOR THE PATH AHEAD

In most industrialised countries systems of risk assessment and play safety inspection have been devised, coupled with the publication of advisory standards on play equipment safety. The history described here raises serious and complex issues for those involved:

- » For the health and safety community, it needs to be realised that injury control measures at some point impinge adversely upon health and that that point

has likely already been passed. More benefit may be realised more easily by focusing less on injury prevention, and more upon other health benefits (whether physical, psychological or social) of varied and stimulating play provision

- » For the risk assessment community, recognition needs to be given to the essential difference between factory space and public space including play space. While it may be appropriate to minimise risk of injury in factories, public life has other valued objectives which require recognition beyond lip service
- » For standards setters, the trade-off between risk and benefit needs to be fairly acknowledged and this further requires a more inclusive process in which the play community has a greater involvement than historically has been the case
- » In addition, standards setters need to contemplate whether a) equipment standards should be more strongly age-related and b) where the boundary lies between legitimate territory for standards and territory which should be occupied by local community play providers
- » For play safety inspectors, conventional forms of industry-derived risk assessment are no longer appropriate as benefits of play need to be factored in to the consideration of what is reasonable. In turn, this implies that the next generation of safety inspectors needs to have expertise in both benefits and risks and how these may be weighed one against the other
- » Local community play providers need to be more proactive in monitoring the benefits and risks of their play provision. These things are neither delegable, nor predictable given that the recipe of children and young people, plus equipment, plus the environment is a complex system

CONCLUSIONS

It need not be said that all professional communities, whether involved in injury control, play provision, equipment manufacture, or risk management, care about the welfare of children. All do, but what is apparently missing is an agreed agenda for bringing this about, and different actors continue to sail their own course, passing each other like proverbial ships in the night, or sometimes worse - strafing the perceived ‘enemy’ with passing fire. In the interest of the welfare of children and young people, the communities they live in, and society at large, these largely disciplinary and professional barriers need to be breached and a more reflective approach taken.

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