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REVIEW ARTICLE

The joy of being: making way for young children's natural mindfulness

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This article offers a novel and timely context for understanding mindfulness practices in early childhood education. Positioned within a larger social context of mindfulness, we conducted an extensive systematic review of the literature to examine the scope and nature of mindfulness and early childhood. We found that mindfulness and young children constitute a growing area of interest globally which may be culturally determined as demonstrated in how these practices are perceived and implemented in early childhood settings. Although there was variability in the ways mindfulness practices were considered, all of the articles selected for this review discussed the positive outcomes associated with mindfulness for young children. Research and practice implications are offered.

Keywords: young children; meditation; yoga; mindfulness; early childhood; disabilities

In our current information era, many are feeling trapped between simultaneous impulses to accomplish more during our every waking moment and overwhelming urges to hide from the barrage of digital information. It may be the ambiguity of this paradoxical environment that has launched mindfulness into the public consciousness. Jon Kabat-Zinn, scientist and mindfulness educator, described mindfulness as being, 'the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment' (Kabat-Zinn, 2003, p. 145).

Mindfulness is receiving more attention in popular culture than ever before. A quick search of Amazon for books on 'mindfulness' in late January 2015 yielded over 10,000 returns; 703 titles of which were posted for sale in the previous 90 days. Universities throughout the world have begun to incorporate mindfulness practices, known also as contemplative practices, both as areas of study and as methods for promoting students' physical and emotional health. Some of these centres are The Centre for Mindfulness Research and Practice at Prifysgol Bangor University in Wales, Oxford Mindfulness Centre, University of Oxford in England; Contemplative Sciences Center at University of Virginia, USA, and Center for Mindfulness – University of California at San Diego Health System, USA.

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In the public arena, mindfulness is being used by government agencies, corporations, and school districts. Popular media is reporting that yoga and meditation are used by members of the United States Marines and National Football League to achieve the focus they need to improve their performance (Hurley, 2014; Roenigk, 2013). In addition, there is increasing interest within large and established companies such as Google and General Mills to promote the principles of mindfulness practices among their employees (Pickert, 2014; Walton, 2013). In their quest to promote productivity, government agencies and corporations seem to recognise that a busy employee is not necessarily an engaged one; and that a constantly connected-to-theworkplace employee is not necessarily a productive employee. It appears that mindfulness practices are being seriously considered in an effort to increase positive outcomes in the workplace.

There is growing interest in mindfulness in politics and government. During a Parliamentary session in 2014, members of the UK's Parliament took time out to meditate together to promote the benefits of mindfulness practices in supporting mental health (Booth, 2014). French Buddhist monk, Matthieu Ricard and US actress Goldie Hawn, together, promoted meditation at the World Economic Forum's 2014 meeting in Davos, Switzerland (Treanor & Elliott, 2014). US Representative Tim Ryan (D-Ohio) wrote a book called, *A Mindful Nation* (Ryan, 2012) and has promoted mindfulness in the USA on Capitol Hill through legislation aimed at including alternative medicine in US veteran's healthcare benefits and by hosting weekly meditation sessions for lawmakers which he calls, Quiet Caucus gatherings (Bendery, 2014; Pickert, 2014).

Mindfulness and education

Just as the presence of mindfulness in many aspects of mainstream society continues to grow, there is increased attention in education, particularly for elementary age students and older. Theorists and educators such as Vygotsky, Piaget, and Dewey advocated that children learn through play and also acknowledge the importance of providing children opportunities for both self-directed and planned play experiences (Tracey & Morrow, 2012). Play is not as valued in the current educational climate within the USA as greater emphasis is being placed on prescribed educational experiences and standardised testing. These methods have gained popularity in US public education so that student achievement can be quantified, compared, and used in the evaluation of children, teachers, and schools (Bowdon & Desimone, 2014; Spencer, 2014; Yelland, 2011). As opportunities for play and other forms of self-expression are being replaced by an increased academic focus, some educators have begun to explore opportunities for students to engage in mindfulness practices to promote children's positive academic, emotional, and behavioural outcomes in the classroom (Desmond, 2009; Flook et al., 2010).

Around the world, the focus on mindfulness practices, which has traditionally been associated with adults and Eastern philosophies, is becoming more visible in education. For example, the following newspapers each ran articles focusing on the anticipated benefits of including mindfulness practices in the school curriculum: The UK's *The Times* (McMahon, 2014; Woolcock, 2014), Canada's *Toronto Star* (Rushowy, 2014), and Australia's *Herald Sun* (Howard, 2014). Several newspapers such as Ireland's, *Irish Examiner* (Baker, 2014) and South Africa's, *Mail and Guardian* (Green, 2014) published articles about using mindfulness practices to better manage mental health; the Irish Examiner specifically focused on how mindfulness can

promote mental health in children and adolescence (Baker, 2014). In the USA, articles about mindfulness practices in education as cost-effective classroom tools with the potential to increase positive student outcomes have been published in *The New York Times* (Bornstein, 2014), *Wall Street Journal* (Glazer, 2011), and *Los Angeles Times* (MacVean, 2014).

While popular media has been exploring the ways in which children's personal and educational enrichment is impacted by mindfulness, educators and scholars have been exploring *how* children benefit from mindfulness practices within a school setting. A growing body of research has demonstrated that teaching older children and youth how to use mindfulness practices improved their behaviour, time on task, focus, and self-regulation as well as reduced attention challenges, absenteeism, anxiety, depression, psychological distress, and maladaptive behaviours (Case-Smith, Shupe Sines, & Klatt, 2010; Flook et al., 2010; Frank, Bose, & Schrobenhauser-Clonan, 2014; Koenig, Buckley-Reen, & Garg, 2012; Semple, Lee, Rosa, & Miller, 2009). In short, mindfulness tools appear to be useful for enhancing academic, social, and emotional outcomes for older students.

As we began to pursue this line of inquiry, it became apparent that much of the research on mindfulness and education focused on elementary or older students. And yet, the early years are a time when the foundation of learning is rooted and lifelong habits are created. Therefore, we realised that there was an unmet need to investigate mindfulness practices from an early childhood perspective. It is, therefore, with this lens, that we explored how mindfulness in early childhood education is positioned and understood. We reviewed the scope and depth of the existing research and related literature on mindfulness during the early years; to our knowledge, there is no other literature review focusing on mindfulness and early childhood education. There is a literature review on self-regulation during the early years (Willis & Dinehart, 2014) which is included in our review. However, our focus extends beyond self-regulation skills. Galantino, Galbavy, and Quinn (2008) conducted a literature review exploring the therapeutic effects of yoga; however, the focus in their literature review differed significantly from this one, in that they focused on yoga exclusively. In addition, their focus was predominantly on adolescent participants and yoga was explored through a medical intervention lens. The purpose of our literature review was to determine the scope and nature of the knowledge base on mindfulness in early childhood education and across a range of mindfulness practices. Additionally, we were interested in mindfulness as it relates to diversity in young children, with a particular focus on those who have been identified as having disabilities.

Systematic review of the literature

We began our investigation by identifying practices that promote mindfulness such as deliberate or deep breathing, yoga, and meditation, all of which produce a sense of calm, joy, and focus. The Association for Mindfulness in Education described mindfulness as '... paying attention here and now with kindness and curiosity. Mindfulness reconnects students to their five senses, bringing them into a moment to moment awareness of themselves and their surroundings' (Association for Mindfulness in Education, n.d.). There is a sense of engagement, awareness, and harmony that seems to permeate a child's experience in the moment. There are numerous definitions of mindfulness and education in popular and academic circles, but we deliberately focused on how mindfulness can be understood within an early childhood education framework. Our interest

in mindfulness focused on identifying articles related to young children in an educational setting where contemplative practices, or a discussion of mindfulness, were central to the authors' inquiry. As a first step of our literature review, we identified key words that were considered to represent either the overall concept of mindfulness or a specific mindfulness practice (e.g. yoga, meditation).

Selection of articles

Our initial searches included the broader category of education and mindfulness to determine an overall history and context to better understand mindfulness practices in the schools. Our initial criteria included all publications and then we further narrowed the scope to focus on peer-reviewed articles only. In the next step in our systematic review of the literature, we conducted extensive searches of the following electronic databases ProQuest Social Science Databases and Education Resource Information Center (ERIC). Within just one of these databases (i.e. ProQuest Social Science), there were 20 social science databases. The breadth of our search was extensive. For example, there were over 1350 journals within just one of these databases, ProQuest Education. We conducted ongoing searches of these three databases which took approximately four months.

Search procedures

We had begun our initial search casting a wide net to understand the general scope of mindfulness and education in today's schools including universities, secondary and primary education. This was useful in providing a general context of the current knowledge base on mindfulness in education, which in turn provided a solid foundation for us to construct a comprehensive understanding of early childhood education and mindfulness. We wanted to narrow the focus to concentrate specifically on children within a school context. We used a variety of key word combinations early in our searches such as 'schools and mindfulness', 'education and meditation', and 'education and yoga'. Over 1500 articles were identified using just one of these key word combinations, 'education and meditation'. Our search using the broader lens of 'education and mindfulness' yielded over 4800 articles. Naturally, some articles may have appeared under multiple databases or across different key word searches. As a result, many duplicate article listings were present within these 4800 returns. Out of over 4800 returns from our initial searches on mindfulness and education, we identified approximately 170 articles specifically on children, adolescence, and younger, which helped to limit and focus. These articles were analysed for possible inclusion in our pool.

During the next phase of our investigation, we narrowed our search further to concentrate on mindfulness practices as they relate to young children only. We focused our review of articles on education and young children and used key words such as 'early childhood education', 'young children', and 'preschool'. We defined early childhood education using the established National Association for the Education for Young Children's (NAEYC, n.d.) age definition, birth through age eight. The early childhood key words were coupled with additional key words such as 'mindfulness', 'meditation', 'yoga', and later included 'breathing', 'movement', and 'relaxation'. We also combined specific terms such as 'autism' and 'disabilities' with the early childhood key words to identify the literature on young children with disabilities. This process was complex as

many articles referred to young children or early childhood in the title or abstract, but had a mixture and range of student ages well beyond our scope. For example, the title of one article that appeared promising was, *Relaxation response* – *based yoga improves functioning in young children with autism: A pilot study* (Rosenblatt et al., 2011); however; the age range was 3–16 years which was outside our scope.

Criteria and process for reviewing studies

Articles were considered for our review if they met each of the following criteria: (a) within early childhood age range birth to age eight years, (b) mindfulness practice(s) were clearly identified and described, and (c) published in peer-reviewed journals. We used the following criteria to ensure quality across studies when determining the final selection of research-based articles: (a) the significance of the research question and/or purpose including its potential contribution to the field, and (b) the presence and alignment of research question(s), design, methods, results, and interpretations.

Twelve articles met our criteria and were included in the selected pool on mindfulness and early childhood. We examined articles to determine from an early childhood education perspective how mindfulness practices were explored. There was great variability in the ways in which authors studied mindfulness and young children. Several articles were identified as research studies and others were considered as descriptive or conceptual papers. For example, of the articles we reviewed, five were quantitative studies (Bubela & Gaylord, 2014; Garg et al., 2013; Mische Lawson, Cox, & Labrie Blackwell, 2012; Peck, Kehle, Bray, & Theodore, 2005; Razza, Bergen-Cico, & Raymond, 2013); four were conceptual (Kim & Lim, 2007; Potter, 2007; Scully, 2003; Wolf, 2000); one was descriptive (Adair & Bhaskaran, 2010); one was a case study (Capel, 2012); and one was a literature review (Willis & Dinehart, 2014). Research articles comprised less than half of all the articles we selected; yet, they represented the greatest quantity of any given type of article. See Table 1 for an overview of the articles which were included in the final pool. Articles from our initial searches which did not meet our criteria were eliminated from our data set. Some of the articles reviewed, however, included a mix of age ranges. For example, we identified two articles in which children older than eight years participated, but we chose to retain them in our pool of articles because more than half of the population in these studies was under age eight years (Garg et al., 2013; Peck et al., 2005). Another article did not define the ages, but we included this work because the aim of the journal focused specifically on young children (Wolf, 2000).

When defining the mindfulness practices we wanted to include in our review, we determined that movement practices such as dance, physical education activities, and stretching could conceivably be *part of a mindfulness practice*. These activities, however, on their own do not qualify as mindfulness practices and, therefore were not included in our review. Articles that met our criteria were saved as PDFs on a laptop hard drive as well as saved in Zotero (a research collection and management tool). We then further organised the articles using a Microsoft Excel spreadsheet which was revised throughout the process to capture common elements or raise questions. We identified several descriptive categories that would help us better understand, categorise, and code key information across articles. These categories included but were not limited to: type of article (type of research, descriptive, conceptual, literature review), country of origin, child demographics, and type of mindfulness/contemplative practice.

Table 1. Overview of early childhood articles reviewed.

Authors	Geographic and environmental context	Purpose and article type	Discipline	Target population	Type of mindfulness practice
1. Adair and Bhaskaran (2010)	Region: India, Bangalore	Purpose: Examined how mindfulness practices build community amongst diverse population	Education	Age(s): 2–5 years; # of students: Unspecified; Disability present?: unspecified	Meditation, yoga
	Programme type: Sattva Montessori	Article type: Descriptive			
2. Bubela and Gaylord (2014)	Region: USA, Connecticut	Purpose: Examined how yoga practice in a preschool setting influenced motor skills	Kinesiology	Age(s): 3–5 years; # of students: 27; Disability present?: unspecified	Yoga
	Programme type: Preschool in the UCONN developmental labs	Article type: Quantitative			
3. Capel (2012)	Region: Malaysia, Kuala Lumpur	Purpose: Explored the potential effects of mindfulness practices on learning and educational experience in early childhood educational settings	Business and industrial environments (Reliability Management)	Age(s): 6 years; # of students: 1; Disability present?: at risk for disabilities	Unspecified – mindfulness as an approach
	Programme type: International school and homeschool perspectives	Article type: Case study			

4. Garg et al. (2013)	Region: USA, New York City, New York	Purpose: Examined the effectiveness of the Get Ready to Learn (GTRL) programme on behaviour	Occupational therapy	Age(s): 5–9 years; # of students: 51; Disability present?: All children had disabilities including multiple handicapping conditions, developmental disabilities or Autism Spectrum Disorder	Yoga, relaxation, breathing/pranayama
	Programme type: Public school, self-contained special education classroom	Article type: Quantitative			
5. Kim and Lim (2007)	Region: South Korea	Purpose: Explored mindful practices as ways to support children as they grow in body, mind, and spirit and as a way to help them be happy	Education	Age(s): unspecified; # of students: unspecified; Disability present?: unspecified	Meditation, movement, relaxation
	Programme Type: Eco- early childhood education	Article Type: Conceptual			
6. Mische Lawson et al. (2012)	Region: USA (Midwestern)	Purpose: Examined the effects of yoga on fine- and gross-motor performance, classroom behaviour, and academic performance	Occupational therapy	Age(s): 3–5 years; # of students: 33; Disability present?: included children considered 'high risk' who had difficulty with speech, behaviour, or other	Yoga
	Programme type: Head Start and PALS (Preschool and language stimulation) located in an elementary school	Article type: Quasi- experimental			

Table 1. (Continued).

Authors	Geographic and environmental context	Purpose and article type	Discipline	Target population	Type of mindfulness practice
7. Peck et al. (2005)	Region: USA (Suburban, Northeast town) Programme type:	Purpose: Examined the effects of yoga in improving time on task for children who exhibited attention problems Article type: Quantitative	Psychology	Age(s): 6–10 years; # of students: 10; Disability present?: Identified but undiagnosed attention problems: yes – all	Yoga, relaxation, slow deep breathing
	Elementary school	Article type. Quantitative			
8. Potter (2007)	Region: Australia, Coastal, Maleny, Queensland	Purpose: Explored pedagogical and curriculum approaches that included mindfulness practices	Education	Age(s): unspecified; # of students: unspecified; Disability present?: unspecified	Yoga, meditation
	Programme type: Independent Ananda Marga school (neo- humanist philosophy)	Article type: Descriptive/ Conceptual			
9. Razza, Bergen- Cico, and Raymond (2013)	Region: USA, Syracuse, New York	Purpose: Examined effectiveness of mindfulness-based yoga intervention in promoting self-regulation	Family studies	Age(s): 3–5 years; # of students: 29; Disability present?: unspecified	Yoga
	Programme type: preschool classrooms within a public elementary school	Article type: Quantitative			

10. Scully (2003)	Region USA, not applicable	Purpose: Explored how to teach children deep breathing and muscle tense and release exercises in order to improve student transitions and classroom management	Education	Age(s): unspecified; # of students: unspecified; Disability present?: unspecified	Breathing, relaxation techniques, movement
	Programme type: Not applicable	Article type: Conceptual			
11. Willis and Dinehart (2014)	Region: USA, Not applicable	Purpose: Explored contemplative practices as a tool to facilitate self-regulation	Child development	Age(s): unspecified; # of students: unspecified; Disability present?: unspecified	Unspecified – mindfulness As an approach
	<i>Programme type</i> : Not applicable	Article type: Literature review		•	
12. Wolf (2000)	Region: USA, Unspecified	Purpose: Explored mindfulness activities as a method to nurture children's well-being	Education	Age(s): unspecified; # of students: unspecified; Disability present?: unspecified	Mindfulness as an approach including activities such as meditation, a silence game, space for a student quiet corner
	Programme type: Montessori	Article type: Conceptual			June 4 and 50 mer

Summary and analysis of findings

In this review, we sought to identify and understand the complexities and commonalities of the knowledge base in early childhood and mindfulness. Our systematic review of the literature yielded an even smaller collection of articles than we anticipated. Given that our initial searches in elementary education and mindfulness resulted in approximately 170 articles, we did not anticipate that the knowledge base in early childhood would be as limited as it was. All of the 12 articles were peer reviewed as established by our criteria. Publication dates ranged from 2000 to 2014, although seven articles were published after 2010, suggesting that mindfulness in early childhood is a very new and evolving area of inquiry.

Key contextual and demographic factors of articles reviewed

While all of the articles we identified focused on early childhood education, the ages and/or grades included in each article varied or were not clearly specified. The ages of the populations included in our final pool were all considered early childhood, but varied greatly: 2–5 or 3–5 years (Adair & Bhaskaran, 2010; Bubela & Gaylord, 2014; Mische Lawson et al., 2012; Razza et al., 2013). Populations were also defined as preschool, lower primary, early childhood, early childhood education, or kindergarten without specifying the ages of the children (Capel, 2012; Kim & Lim, 2007; Potter, 2007; Scully, 2003; Willis & Dinehart, 2014); In addition, articles identified the target population as ages 5–9 years (Garg et al., 2013), grades first through third or ages 6–10 (Peck et al., 2005); or unspecified (Wolf, 2000). It is worth noting that while two of the articles specifically addressed 'young children', they also included discussions of primary-aged children (Potter, 2007; Scully, 2003).

Although all of the articles we analysed focused their discussion or research on early childhood populations and education, there was substantial diversity in the disciplinary lens from which these topics were presented. Five of the articles in our review were written from an education or early childhood perspective (Adair & Bhaskaran, 2010; Kim & Lim, 2007; Potter, 2007; Scully, 2003; Wolf, 2000). The rest of the articles represented the following disciplines: business and industrial environments (Capel, 2012), occupational therapy (Garg et al., 2013; Mische Lawson et al., 2012), kinesiology (Bubela & Gaylord, 2014), psychology (Peck et al., 2005), child development (Willis & Dinehart, 2014), and family studies (Razza et al., 2013).

Eight of the articles originated from the USA and four of the articles were international (i.e. Australia, India, Malaysia, South Korea). In our analysis, three of these four articles published outside the USA were notable, in that the mindfulness experiences they presented were less practice-oriented, more philosophically driven and situated within a larger cultural or environmental context (Adair & Bhaskaran, 2010; Capel, 2012; Kim & Lim, 2007; Potter, 2007). These schools integrated mindfulness experiences as a natural part of their students' daily routines and the values related to mindfulness were consistently embedded into the classroom or school culture.

The demographics across the 12 articles also varied widely. Authors of each article identified their local environment or community as residential (Adair & Bhaskaran, 2010), rural (Mische Lawson et al., 2012), suburban (Peck et al., 2005), urban (Garg et al., 2013; Razza et al., 2013), and coastal (Potter, 2007). The remaining six articles either did not define the communities which they wrote about or the articles were conceptual in nature and the mindfulness practices on which they focused could

conceivably occur in a range of settings. While the diverse representation of locations and environments represented in these articles makes it difficult to speak to commonalities, it highlights the wide appeal mindfulness practices have across regions and cultures.

How mindfulness practices were defined

There were many ways in which mindfulness was described or defined. Yoga was the most frequently identified mindfulness practice for young children (Adair & Bhaskaran, 2010; Bubela & Gaylord, 2014; Garg et al., 2013; Mische Lawson et al., 2012; Peck et al., 2005; Potter, 2007; Razza et al., 2013), followed by relaxation or quiet contemplation (Garg et al., 2013; Kim & Lim, 2007; Peck et al., 2005; Scully, 2003; Wolf, 2000), meditation (Adair & Bhaskaran, 2010; Kim & Lim, 2007; Potter, 2007; Wolf, 2000), breathing exercises (Garg et al., 2013; Peck et al., 2005; Scully, 2003), and movement (Kim & Lim, 2007; Scully, 2003). Two of the 12 articles did not include a specific approach or practice (Capel, 2012; Willis & Dinehart, 2014).

There was some overlap across the articles regarding how mindfulness practices were defined, although the ways in which the practices were incorporated into the early childhood curriculum or school routine varied widely. For instance, yoga was implemented in the classroom in a number of ways and with varying frequencies including simple yoga postures following meditation (Adair & Bhaskaran, 2010), yoga practice twice a week for 30 minutes for three weeks (Peck et al., 2005), 20 minutes of yoga once a week for six weeks (Bubela & Gaylord, 2014), 10 minutes of yoga practice four days a week for nine weeks (Mische Lawson et al., 2012), a daily 20-minute programme including yoga, breathing, chanting and relaxation practiced from 12 to 26 weeks (Garg et al., 2013), and 10–30 minutes of practice daily for a total of 40 hours of yoga over a 25-week period (Razza et al., 2013). Potter (2007) discussed yoga, but did not define its practice or frequency within that setting.

We were interested to determine how mindfulness was positioned within a context of diversity, particularly for young children with learning, behaviour, and other disabilities. Four articles in our pool focused on children with disabilities or potential disabilities. Peck et al. (2005) identified yoga as a mindfulness practice showing potential in the treatment of children with attention problems. The population included in the Mische Lawson et al. (2012) research, which was conducted in an inclusive preschool setting, involved 'children considered at 'high risk' due to difficulties with speech, behavior management, or other concerns' (p. 129). While Mische Lawson et al. (2012) included children with these characteristics in their study, this population was not the focus of their research nor did researchers distinguish treatment results based upon these characteristics. Garg et al. (2013) focused their research on children in a public school self-contained special education environment and students were identified as experiencing multiple handicapping conditions, developmental disabilities or Autism Spectrum Disorders. Capel's qualitative, auto-ethnographic study indicated that the child she was caring for could be 'observed as a child with potential learning difficulties' (Capel, 2012, p. 672). In general, children younger than eight years with disabilities may not yet be identified or classified, particularly before entering the public school system; this may account for the low number of articles which examined mindfulness related specifically to young children with disabilities. In all the articles that focused on children with diagnosed disabilities, mindfulness practices were introduced

as a way of teaching or improving skills or reducing challenging behaviours that interfered with learning.

Benefits of mindfulness practice for young children

One of the few consistent commonalities we discovered across articles was the benefits associated with mindfulness practices. Within all 12 articles we analysed, mindfulness practices were identified as positive and beneficial within an early childhood environment. Only one article identified only 'minimal positive effects' associated with yoga. As part of their discussion of limitations, the authors state that the minimal effects may be associated with the short duration of the yoga intervention (one six-week session) and because the quality and quantity of instruction were not controlled between the intervention and control populations (Mische Lawson et al., 2012).

See Table 2 for a summary of the key findings related to mindfulness practices for young children. There were many benefits related to mindfulness practices regardless of the time, frequency, duration or nature of mindfulness practice that was implemented. It was difficult to ascertain the quality and progress of positive outcomes associated with mindfulness practices since each article described its approach and reported findings differently. The general agreement across articles is that many skills improved including, but not limited to, focus and attention (Adair & Bhaskaran, 2010; Garg et al., 2013), self-regulation (Garg et al., 2013; Razza et al., 2013; Willis & Dinehart, 2014), social-emotional (Adair & Bhaskaran, 2010; Willis & Dinehart, 2014), and physical (Bubela & Gaylord, 2014). In the articles which were more conceptual in nature, the authors all proposed that children experience positive outcomes when a mindfulness approach to learning is provided. Some of the proposed benefits to children included increased happiness (Kim & Lim, 2007), self-awareness (Capel, 2012), and stress reduction (Scully, 2003). Additionally, Capel (2012) suggested that teachers experience the benefits of increased sensitivity, creativity, and innovativeness when they design their classroom instruction using mindfulness practices and perspectives.

A holistic perspective of mindfulness

Another theme to emerge centred on environmental sensitivity and sustainability. Mindfulness was perceived as part of a larger and holistic commitment to the natural world. For example, Kim and Lim (2007) described a new paradigm in eco-early child-hood education which 'encourages living in the here and now in accordance with the rhythms of nature' (p. 42). Likewise, Potter (2007) encouraged a deep appreciation and awareness of our natural environment including 'the realisation of the inter-relatedness of all things, and to encourage respect and care for all living beings' (p. 15).

Additionally, we noticed another theme regarding the intention or reason for using mindfulness practices with young children. Half of the articles we reviewed framed mindfulness as a tool to enhance comprehensive well-being (Adair & Bhaskaran, 2010; Capel, 2012; Kim & Lim, 2007; Potter, 2007; Scully, 2003; Wolf, 2000). The other half of the articles described remedial benefits by approaching mindfulness as a way to improve skills or reduce or eliminate challenging behaviours (Bubela & Gaylord, 2014; Garg et al., 2013; Mische Lawson et al., 2012; Peck et al., 2005; Razza et al., 2013; Willis & Dinehart, 2014). Four of the six articles that presented mindfulness as providing health or holistic benefits originated outside the USA (Adair & Bhaskaran, 2010; Capel, 2012; Kim & Lim, 2007; Potter, 2007) and all six

Table 2. Summary of key findings.

Authors	How mindfulness practices were considered	Key findings
Adair and Bhaskaran (2010)	Meditation and yoga described as 'simple yoga postures meant especially for children'; included silent sitting, rangoli art, eating as a community while seated on the floor integrated into a Sattva Montessori curriculum Time/frequency/duration:	Increased calmness concentration, focus, attention spans, and fewer tantrums
Bubela and Gaylord (2014)	 unspecified Hatha yoga instruction, breathing exercises, seated meditation <i>Time</i>: 20 minutes <i>Frequency</i>: Once a week <i>Duration</i>: 6 weeks 	 Increased strength, balance, and bilateral coordination and flexibility
Garg et al. (2013)	 Programme included yoga positions, relaxation, chanting, and breathing exercises Time: 20 minutes Frequency: Daily Duration: Between 12 and 26 weeks 	• Increased independence, attention, transition, and self-regulation
Mische Lawson et al. (2012)	 YogaRI (Yoga Reflex Integration video) Time: 10 minutes Frequency: 4 days a week Duration: 9 weeks (6 weeks of intervention – 3 weeks of repeated data collection) 	Minimal positive effects in fine- motor and academic performance
Peck et al. (2005)	 Yoga (GAIAM yoga for kids video) Time: 30 minutes, Frequency: Twice a week Duration: 3 weeks 	• Promising alternative or complement for treating children with attention problems
Razza, Bergen- Cico, and Raymond (2013)	 Yoga Time: gradual increase from 10 minutes in the fall to 30 minutes in the spring (estimated 40 hours of instruction total) Frequency: Daily Duration: 25 weeks 	• Enhanced self-regulation, increased delay of gratification, no improvement in focused attention
Willis and Dinehart (2014)	 Literature review focused on contemplative practices related to school readiness Time/frequency/duration: Not applicable 	• Increased self-regulation, increase in ability to manage social—emotional behaviours

articles which presented mindfulness to remedy a problem or issue were from the USA (Bubela & Gaylord, 2014; Garg et al., 2013; Mische Lawson et al., 2012; Peck et al., 2005; Razza et al., 2013; Willis & Dinehart, 2014). Understanding mindfulness in early childhood education may be culturally determined by societal norms and values.

This literature review provided an initial context for understanding the promise and the complexities of studying mindfulness during the early years. This systematic literature review yielded 12 articles on the topic of mindfulness in early childhood with variation in target populations, approaches/methods, definitions and parameters, disciplinary perspectives, and implementation. There was also variability in the contexts in which mindfulness practices were examined including urban, suburban, and rural environments. It is, therefore, premature to draw widespread conclusions. Despite these limitations, our analysis highlights the promise of this emerging and important field of inquiry. This literature review provided new insights about how mindfulness in early childhood education is an expanding area of interest globally and how mindfulness practices may be culturally determined within a societal context. Another common theme to emerge was the promise and positive outcomes associated with mindfulness practices for young children. Given that the majority of articles (n = 8) were written from a discipline other than education, it would appear that more attention about mindfulness during the early years from an educational perspective is needed. A focus on young children with disabilities and mindfulness practices in early childhood education is another area worthy of further investigation.

Discussion and implications

Mindfulness as part of the school culture in early childhood education

It was our intent to determine the scope and analyse the literature on mindfulness practices and early childhood education. This is a relatively new and emerging area of interest within early education as evidenced by all 12 articles published after 2000. Each of the 12 peer-reviewed articles discussed and promoted the benefits of mindfulness within early childhood education which would suggest that mindfulness practices can yield a positive influence in young children's lives.

This literature review produced an initial snapshot of how mindfulness practices are perceived and implemented in early childhood education. Although two-thirds of the reviewed articles were from the USA, the definition, application, and outcomes appeared different from articles that were from outside the USA. Perhaps through a contemporary American lens, mindfulness practices are viewed and understood as a means to an end and not a valued end it itself.

For example, it is notable that three of the international articles discussed how respect and knowledge about their own and others' cultures as well as nature and ecology were embedded into their school curriculum (Adair & Bhaskaran, 2010; Kim & Lim, 2007; Potter, 2007), thus indicating that there is a school climate that extends beyond any one mindfulness practice. Adair & Bhaskaran (2010) presented the diverse practices of a Sattva Montessori preschool which demonstrated a clear commitment to the many multi-cultural practices and languages embraced by their students. This was accomplished through the experiences of yoga, eating together on the floor and creation of traditional art projects. Kim and Lim (2007) discussed students' meditation, communal walks, intergenerational teaching partnerships, and traditional Korean exercise, gardening, crafts as part of the ecologically based school. Potter (2007) described how the commitment the Ananda Marga River School had values such as ecological and environmental sustainability reflected learning through yoga, meditation, hands-on gardening and river study, as well as community events including intergenerational outreach.

Of the eight articles we analysed from the USA, the recommendations by Wolf (2000) are most closely aligned with the international articles in its focus on nature.

Like the three international articles, Wolf (2000) focused on the need to integrate mindfulness practices such as meditation, self-reflection, care of the earth, and community development into early childhood curriculum. In other words, simply incorporating mindfulness practices into the early childhood classroom is not enough; a philosophy and climate of interconnectedness to the community as well as a commitment to the sustainability of our natural world must exist.

Challenging the current ABCs of early childhood education: assess, behave, and conform?

One issue to emerge is how mindfulness fits into the new age of accountability. This literature review has highlighted the need to look more closely at priorities or values inherent in contemporary early childhood education. It appears that American children's natural ability to engage mindfully with others and their environment is being increasingly disrupted. Sapon-Shevin (2010) suggested, 'We live in an era of high-stakes testing, increasingly narrowed and prescribed curricula, and the conflation of *accountability* with testing and of *high quality* with standardization' (p. 3). There is an increasing public focus on standardisation as a means to increasing academic preparedness. As a result, it appears that in this new age of accountability, educators are asked to ignore the very essence of who children are and what they need to learn and grow.

With an increasing focus on academics and standardised testing, what does all this mean for young children? Ghiso and Spencer (2011) noted that research continues to find that young children learn best, 'in social and playful pursuits', but the USA continues to focus its early childhood standards on 'remedial, skills-based conceptions of early literacy' (Ghiso & Spencer, 2011, p. 294). Although it is widely understood and accepted in the early childhood field that young children learn best through a playbased, holistic and inquiry-driven approach, the recent emphasis on standardisation, academics, and uniformity particularly in early childhood highlights a serious and growing problem in our nation. Spencer (2014) further explained

While early childhood education gains prominence in places like New York City and beyond, changes are unfolding that may make our classrooms unrecognizable. As curricula and policies that promote high-stakes testing and uniformity invade early childhood classrooms, there is a real threat to early childhood being a rightful place and time in a child's educative experience. (p. 182)

Given the recent focus on standardisation and high-stakes testing in the USA, young children are not having adequate time to play, investigate, move, reflect, or discover. Perhaps this changing educational landscape is one reason why even very young children are now experiencing stress, inattention, and anxiety (Anticich, Barrett, Gillies, & Silverman, 2012; Fox et al., 2012; Honig, 2010; Swick, Knopf, Williams, & Fields, 2013). Within this increasingly standardised US framework, is there room for mindfulness practices?

Future directions in the research and practice of mindfulness in early childhood

The question is not whether mindfulness benefits young children, but instead how mindfulness practices can be valued within a larger educational context. It is not in children's best interests to view mindfulness practices as prescriptive experiences, which fix a problem or enhance abilities, but instead as experiences which are fundamental to our natural state of well-being. If mindfulness practices are viewed simply as interventions, we miss the opportunity to recognise the countless ways children inherently focus, wonder, engage, and connect with their natural environment.

One example of how mindfulness is a valued and integral part of the early childhood curriculum is Australia's national framework, *Belonging*, *Being*, & *Becoming* (Australian Government Department of Education, Employment and Workplace & Council of Australian Governments, 2009). The spotlight on mindfulness practices, in the title and prominently threaded throughout this entire framework, delivers a clear acknowledgement of its significance in young children's learning. The concept of mindfulness is implied in 'being' which recognised '... the here and now in children's lives. It is about the present and them knowing themselves, building and maintaining relationships with others, engaging with life's joys and complexities, and meeting challenges in everyday life' (Australian Government Department of Education, Employment and Workplace & Council of Australian Governments, 2009, p. 7). Understanding mindfulness, particularly for young children, is simply to experience the joy of being in the present moment. As such, how do we ensure that young learners know joy every day in early childhood classrooms in the face of an agenda in the USA promoting high-stakes testing and accountability?

The following considerations are offered in an effort to frame a future research agenda in mindfulness and early childhood including:

- (1) How mindfulness is practised in early childhood is a reflection of the goals of the educational culture in which it is used.
- (2) The narrow and focused perspective on quantifiable academic outcomes in the USA may impede the benefits and holistic nature of mindfulness practices.
- (3) Recognising the whole child, and the value of 'belonging, being and becoming' in particular, may provide a global mechanism to realise the potential of mindfulness practices.
- (4) What conditions or environments are best suited to promote children's wellbeing and learning and how can mindfulness practices be incorporated into the existing framework of established early childhood knowledge, goals, and practices?
- (5) What kinds of mindfulness tools can benefit children with learning, behavioural, physical or other disabilities and their families and how are they best used at home and school?
- (6) A deeper understanding of how the role of mindfulness and ecology and environmental sustainability influence young children's learning and outcomes.

This systematic review of the literature on young children and mindfulness demonstrated the promise of mindfulness practices in early childhood education and the benefits that can result. There is an inherent challenge in describing what mindfulness is during the early years because young children are naturally mindful. Like adults, they may become distracted by the many demands for their attention in the environment. Even toddlers, who are known for their very short yet developmentally appropriate attention spans, are genuinely focused on their immediate experience. Since young children – across all types of diversity – are naturally curious about their world in which they live, let us ponder how we can best support young children's natural states of joy, wonder, and engagement – or at the very least move out of the way so they can experience their world mindfully.

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