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Call for Research – The Consuming Child-in-Context in Unhealthy and Unsustainable Times

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Abstract

Childhood obesity is a highly complex issue with serious health and environmental implications. It has been postulated that young children (preschool-aged in particular) are able to internalise positive environmental beliefs. Applying a socioecological theoretical perspective, in this discussion paper we argue that although children may internalise such beliefs, they commonly behave in ways that contradict these beliefs as demonstrated by their consumer choices. The media directly influences these consumer choices and growing evidence suggests that media exposure (particularly commercial television viewing) may be a significant “player” in the prediction of childhood obesity. However, there is still debate as to whether childhood obesity is caused by digital media use per se or whether other factors mediate this relationship. Growing evidence suggests that researchers should examine whether different types of content have conflicting influences on a child’s consumer choices and, by extension, obesity. The extent to which young children connect their consumer choices and the sustainability of the product/s they consume with their overall health and wellbeing has not previously been researched. To these ends, we call for further research on this socioecological phenomenon among young children, particularly with respect to the influence of digital media use on a child’s consumer behaviours.

Orienting the Research - An Interdisciplinary Approach

Childhood obesity is a multifaceted health issue. This complexity has been highlighted in current debates that have questioned the use of terms such as epidemic or crisis to describe childhood obesity (Moffat, 2010). Although valid concerns regarding the conceptualisation of obesity have been raised in such discussions, it still remains that 15.4% and 5.5% of Australian preschool-aged¹ children have been estimated to be overweight and obese, respectively (Wake, Hardy, Canterford, Sawyer, & Carlin, 2007). It is also becoming clear that childhood obesity is likely to be caused by a combination of factors such as sedentary lifestyles, the availability of calorie dense food

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and genetics. Although these factors have been identified through rigorous research by individual disciplines (such as health, education, biology and genetics) it has been suggested that interdisciplinary efforts are required to lower the incidence of childhood obesity (Huang, 2009). We propose that a socioecological framework (a system whereby the individual organism is contextualised within its environment) may facilitate and sustain multipronged efforts by different disciplines to reduce the incidence of childhood obesity (Bronfenbrenner, 2005; Kolasa & Pickett, 2005).

The purpose of this paper is to highlight the efforts made by researchers in the disciplines of early childhood environmental education, health and digital media to conceptualise the multiple contexts in which obesity has proliferated. Additionally, we seek to understand the direct (higher caloric intake relative to energy expenditure) and indirect causes of obesity which include, but are not limited to, sedentary behaviours, genetic predispositions, physical inactivity and consumer food choices, specifically, the consumption of food with higher fat and sugar content (Deckelbaum & Williams, 2001; Harrison & Marske, 2005). The overall aim is to argue for the development of multiple literacies within early childhood which shall be defined as the period between 0 to 8 years, consistent with Australian standards. We contend that although previous attempts have been instrumental in raising our level of awareness of the complexity of childhood obesity, a holistic approach is needed to address the issue of obesity in its entirety. We also contend that applying a socioecological approach to a child's development will foster the first generation of children that can enact long-term, positive changes for both the current and future climate of obesity. A socioecological framework can be similarly applied to multiple aspects of a child's health and wellbeing, such as psychological (self-esteem, subjective wellbeing), sociocultural (positive family and peer relations) and physical health (active lifestyles that incorporate exercise and team sports).

This paper comprises four main parts:

1. the first considers conceptual perspectives that emphasise the young child's role in their own learning. Moreover, an argument will be made that the child must be conceptualised within a socioecological framing to systematically examine the multilevel effects of environmental education on childhood values/attitudes and subsequent behaviours;
2. the second suggests that given the anecdotal evidence and salient case studies in the areas of environmental education in early childhood education, a logical extension could be made to young children's consumer choices;
3. the third presents existing research findings on the effects of digital media exposure on children. The media is one context in which children develop and it is the daily exposure to certain types of content (i.e., commercial television viewing) that appears to play a more profound role in predicting childhood obesity; and
4. in the fourth section we discuss the relationship between consumer choice and environmental education (and sustainability), and the role of developing media literacies.

Early Childhood Pedagogy and Social Ecology - The Multiple Contexts of Child Development

Early childhood education has, for many years, drawn on concepts associated with student-centred learning which are premised on the idea that children are naturally inquisitive and capable of independent thought (Cornelius-White & Harbaugh, 2010). This principle has informed many approaches to early childhood pedagogy, including

the use of open-ended or “free” play to support learning and the use of Developmentally Appropriate Practice (Bredekamp & Copple, 1997) to guide student learning. In recent years, pre-school education has benefitted from discussion in which multiple perspectives on the relationship between play and learning have begun to inform pedagogy beyond that used for open-ended play and Developmentally Appropriate Practice. These include for example, cultural historical theory, post-developmentalism, post-structuralism and social ecology (Brooker & Edwards, 2010). The multiplicity of perspectives currently informing pre-school education have most recently been recognised in the new Australian early childhood curriculum framework, *Being, Becoming, Belonging* in which no one theoretical or philosophical perspective is suggested as the most appropriate way to educate all children (DEECD, 2009). This “multiple” orientation towards early childhood pedagogy is a response to research and discussion in the field which over the last ten years has increasingly criticised the dominant child-centred developmental perspective and instead shifted to a focus on understanding the “child-in-context” as a starting point for ethically and socially engaged approaches to early childhood education (Nuttall & Edwards, 2009).

A socioecological perspective which draws on the work of Bronfenbrenner (1986, 2005) seeks to recognise the relationships between children and their environments, including their immediate family environments, educational, community and *media* contexts (Lee, Bartolic, & Vandewater, 2009). These multiple contexts are referred to as the *microsystem* (Campbell, 2009). It is from the interactions within the microsystem that children develop the core values and beliefs of their culture. These values and beliefs constitute the *macrosystem*. By conceptualising the child within a socioecological framework, it becomes possible to identify a common but implicit thread in the areas of environmental education, health and media. That is, if long-term and sustained reductions are to be made on the prevalence of childhood obesity and to increase the health and wellbeing of the child more generally, then the links between a child’s core values and beliefs towards the environment in addition to the consumer choices that children make and the impact of such decisions on their health need to be made explicit. Whilst children have been shown to care for their environment, the consumer choices they make often contradict these values (e.g., purchasing plastic toys from McDonalds), and these consumer choices are directly influenced by the media.

Whilst not a predominant pedagogical perspective in early childhood education, a socioecological perspective is a useful means of thinking about the way children learn about their environments and how they would apply that knowledge to their environment (through behaviours such as reducing water use). A socioecological perspective also has the benefit of considering children’s digital environments as part of their family and social experiences. This is important in research seeking to examine the links between obesity and environmental education because existing research suggests a relationship between digital media consumption and obesity. A socioecological perspective therefore allows the child to be considered “in context” and acknowledges the role of family and community practices on children’s learning and development, particularly in terms of environmental education and obesity awareness. A socioecological perspective supports the notion of the engaged and participating child-in-context. This is important for understanding the capacity children have to be participants of change within their families and local communities.

Existing research shows that children are increasingly participating in environmental education programs in Australia (Cutter-Mackenzie, 2010; Cutter-Mackenzie & Edwards, 2006; Davis, 2005). However, the extent to which such programs focus upon the consumer choices that children make and the repercussions of those choices on their health (physiological and psychological) and the environment (i.e.,

plastic packaging, plastic toys) is limited. It is our contention that this vital, yet implicit, link has been seriously lacking in preschool environmental education programs. That is, children may not learn that the consumer choices they make can have direct impacts on the environment. This holistic and socioecological approach can only be developed by combining age-appropriate environmental education (Environmental Protection Agency [EPA], 2003) with consumer choice (Anderson & Hanson, 2009) and health education (Lobstein, Baur, & Uauy, 2004; Reid, Jensen, Nikel, & Simovska, 2008).

Preschoolers and Sustainability – Preludes to Healthy Adults?

To date, research into the effects of environmental education in preschoolers on later childhood and adulthood practices is limited (EPA, 2003)². This may be due to a number of reasons. First, environmental education has a relatively short history with international policies being foreground in the 1970s with the concept of sustainability coined in the early 1980s gaining credence in the 1990s. Despite the latter developments, the practice of environmental education in early childhood settings is often described as adhoc (Strife, 2010). Second, there is a paucity of research with a specific focus on environmental education and young children. By way of example, a literature review by Davis (2009) revealed that 39 articles have been written on the subject matter from the periods of 1996 – 2007. Given the development of an emerging sustainability culture in Australian school (as reflected in the establishment of the Australian Sustainable Schools Initiative; Department of the Environment, Water, Heritage and the Arts [DEWHA], 2010) this lack of research suggests that more interest needs to be generated in the area of environmental education and early childhood education if we are to determine whether there are significant, long-term effects on later adulthood practices.

Sustainability is a catch all term. A simple Google search yields over a billion results. Hence, for the purpose of this paper, sustainability will be defined broadly in accordance with a deep socioecological perspective:

... no habitable future is possible without a fundamental change of attitude away from a sense of technological hubris towards a much more humble and humane approach of harmony with ecological processes and a sense of true association with the earth (O’Riordan, 1981, p. 377).

We acknowledge that the actual concept of sustainability is problematic as previously outlined by Jickling (1992). However, it can be a useful and accessible concept (particularly across disciplines) when discussing the long-term conservation of the environment (in all its varying forms) and the future health and wellbeing of children. Specifically, through a socioecological framing, it becomes clear that although children can be taught positive attitudes towards the environment, they still behave in ways that directly contradict such values. Although the importance of sustainability has been advocated by various authors and agencies (Campbell et al., 2000; Davis, 2009; EPA, 2003), more needs to be done so that children internalise and behave in such a way that the consumer choices they make are consistent with these values.

Unfortunately, the influence of environmental education on subsequent adult practices is not well understood because longitudinal research studies have not been undertaken from childhood through to adulthood. However, drawing from anecdotal evidence and salient case studies in the areas of environment education in early childhood education (Davis, 2005; EPA, 2003), a logical extension could be made to children’s consumer choices in early childhood. Indeed, increasing anecdotal evidence suggests that the practice of environmental education in early childhood education (specifically preschools) gestures that children not only internalise attitudes and

values consistent with environmental and sustainability principles, they enact those behaviours outside of the immediate learning environment (Davis, 2009). In order to further understand young children's experiences in context, we now consider the broader socioecological implications in light of the highly controversial issues around digital media and obesity.

Digital Media and Obesity – A Distinction in Content and Environmental Contexts

An important but contentious issue relates to the use of digital media and how this informs and constructs the various socioecological systems in which individuals develop. A socioecological view of development acknowledges that a child's learning is inextricably linked to the environment in which it occurs and the "cultural tools" (such as technologies and family practices) that are appropriated in the process (Plowman, McPake & Stephen, 2008; Gutiérrez, 2002). Digital and analogue media activities, technologies and content (texts/programs) form an essential backdrop to children's daily routines and domestic spaces. In addition, researchers on children's emerging e-literacies foreground the ubiquitousness of "environmental texts" and "environmental technologies", that is, the examples of media content and technology that are "structuring resources" that allow children to learn the socio-cultural significance of digital platforms and the texts that can be accessed and created with them (Plowman et al., 2008).

However, how far the microsystem of the child's immediate family and community practice is influenced by practices modelled via the commercial texts circulated by the wider media macrosystem is yet to be well researched in the literature employing a socioecological perspective (Campbell, 2009). The influence of media content on individuals ("controlling" for socio-cultural variables) is beginning to be canvassed in the psychological and public health literature (Harris, Bargh, & Brownell, 2009; Zimmerman & Janice, 2010). By focusing on the content of media (rather than the time spent with it), contemporary childhood media research allows us to scrutinise the socially situated practices (such as the social context of the consumption of food, toys, etc) that are modelled in the narratives (the everyday life represented in the stories) of digital media texts (including advertisements). These narratives and practices (e.g., that suggest that unhealthy food is "fun"), may model intergenerational informal practices around food and waste that support environmental degradation and health problems such as obesity.

Obesity researchers have acknowledged that children are raised in a media rich environment in the form of cartoons, children's educational programs and television commercials (Greenberg, Eastin, Hofschire, Lachlan, & Brownwell, 2003). These more positivist approaches understand media to be one context in which children develop. Hence, there is an impetus to understand the effect of such media both causally (i.e., does the promotion of sedentary lifestyles cause obesity?) and indirectly (i.e., does the media affect their attitudes towards environmental awareness, health and food choices?). This kind of paradigm attempts to identify factors observable and consistent at a population level that might be subject to intervention to improve the health and well-being of children.

This research has shown that digital and analogue media use (particularly television) is associated with obesity (Crespo et al., 2001; Dietz & Gortmaker, 1985; Zimmerman & Bell, 2010), although several researchers have pointed out that an association does not necessitate causation (Anderson & Hanson, 2009; Viner & Cole, 2005). Moreover, it has been suggested that certain *types* of media exposure (e.g., commercial television or educational viewing) and differing media platforms (e.g., computer/internet vs

television/games use) may have differing influences on the development of childhood obesity.

For instance, a large scale study (originally $n = 4,800$ families) conducted by Zimmerman and Bell (2010) provides evidence that different types of media may have differential affects on a child's weight. They employed time-use diaries (a diary that chronicles the amount of time devoted to an activity, in this case, the type of TV program viewed) to record the viewing habits of children. They also measured body mass index (BMI; a standardised scale used to allocate individuals in weight categories). They identified five different types of programs that included commercialised, educational and general viewing. In their final analysis they coded programs as either commercial (television viewing with advertisements for McDonald's) or non-commercial (educational programs such as Play School). Their results showed that only commercial viewing was associated with obesity, and that educational viewing did not have an association with childhood obesity.

Similar or related findings have been reported in the obesity and digital media literature. For example a large study by Viner and Cole (2005; $n = 14,875$) found that weekend television viewing was associated with obesity. In a review of the digital media literature Caroli, Argentieri, Cardone, and Masi (2004) identified several factors that were pertinent to the development of obesity including the number of commercials viewed (Galts & White, 1976). Even, short exposures (30 seconds) to television commercials can have direct influences on the food choices that young children make (Borzekowski & Robinson, 2001). Therefore, there is mounting evidence that the *content* of digital media seems to have differing influences on a child's consumer choices and, by extension, obesity. Moreover, as will be argued further below, marketing communications now extend "360 degrees" (Kelly, Smith, King, Flood, & Bauman, 2007; Kenway & Bullen, 2001; Schor, 2004) to repeat the "stories" modelled in electronic media to other examples of "old media" (Livingstone, 2002), and "environmental print" (Kelly et al., 2007), such as product packaging, point of sale signage, and toys linked to unhealthy foods.

The need to develop distinctions in media content has been argued at great length by Anderson and Hanson (2009). They argue that without proper acknowledgement by researchers on the differing effects of different types of media, the commonly held view that all media exposure is detrimental to one's health is inaccurate. Obesity is a complex issue and clearly cannot be attributed to a single cause (Saguy & Almeling, 2008). These inaccurate assumptions only hamper research efforts to understand the underlying causes of childhood obesity. Therefore, serious consideration must be given to the type of media that children are exposed to.

Developing Media Literacies – The Link Between Consumer Choice and Environmental Education (and Sustainability)

Current obesity interventions for children typically involve educating parents to promote healthy changes in their children (Andrews, Silk, & Eneli, 2010; Faith, Scanlon, Birch, Francis, & Sherry, 2004; Harvey-Berino & Rourke, 2003; Mayer, 2009; Skouteris, McCabe, Swinburn, & Hill, 2010). These strategies can be described as top-down approaches. That is, adults are taught to model healthy behaviours for their children. Given that children are subject to the direct influence and care of their parents, it has been argued that top-down approaches are needed to raise awareness of obesity and to facilitate the overall effort to reduce the rising incidence of childhood obesity (ABS, 2007; Booth, Dobbins, Okely, Denney-Wilson, & Hardy, 2007).

However, by applying a socioecological framework, it becomes clear that children are not only brought up in the "microsystem" of their domestic sphere (Slingsby &

Barker, 2005), they are also brought up in a media rich environment that facilitates access to the messages generated in the macrosystem of their culture (Carilo et al., 2004). More crucially, researchers on adult media literacy argue that both adults and children are subject to the influence of consumption practices modelled in the narratives of marketing communications (Livingstone & Helsper 2006). Hence, the positive influences of adult-directed behaviour are called into question. Although adults have a say in what children view on television, children often view adult programs (Skouteris & McHardy, 2009; Valerio, Amodio, Dal Zio, Vianello, & Zacchello, 1997). Indeed, family routines are often structured around joint media usage that may also incorporate family meals and other shared practices. Adult programs are not subject to the same level of regulation as children's programs (Australian Communications and Media Authority [ACMA], 2009), and even dedicated children's programs and websites may contain, or be only a click away from, food promotion messages. The digital media context, therefore, has a direct influence in shaping the attitudes and behaviours of the child, and the family contexts and practices in which they develop.

Given this daily exposure and the strong influences on digital media on behaviour, there is a lack of research to help us understand how children make sense of the content of digital media (Anderson & Hanson, 2009). Of particular valence is the way media constructs competing messages about health and environmental values and the pleasures (and social inclusion values) of consumer choices modelled in marketing communications.

Children and adults are increasingly exposed directly and more distally to the messages and intents of corporations (such as, McDonald's). The process used by such corporations is usually through paired associations (i.e., Happy Meals' are associated with "Toys") and it has been shown that even short exposures are highly effective at influencing their food choices (Borzekowski & Robinson, 2001). A quick look at television guides shows that children's programs are aired every day and during times when children are most likely to watch television (Caroli et al., 2004; TVFIX, 2010). Moreover, many families with young children have access to subscription children's channels and their websites, which are not subject to the same advertising regulations as free to air television in Australia. In addition, children's (and adults') attraction to television program characters (or celebrities) forms a crucial part of the cross-promotional circuit known within the advertising industry as "360 degree marketing". The study *Food Marketing to Children in Australia* commissioned by the Cancer Council contends that:

Food marketing to children occurs in a variety of guises across different forms of media, including TV, internet, magazines, in-school marketing, sponsorship, product placement and point of sale promotions (Centre for Health Initiatives 2007, p. 6).

TV-centric regulation fails to "catch up" with campaigns that traverse media platforms. Many of these campaigns use longstanding strategies for the child market—promotions employing cartoon program characters, premium offers, and the co-option of children's game play as "invisible" advertising. Contemporary product packaging and "environmental print" in retail environments directs children to websites where games and interactive material invite users of the site to register, and to provide contact details such as email addresses which can then facilitate direct company-to-user communication (Centre for Health Initiatives 2007, pp. 16-19). Popular children's magazines (print) are part of the brands of subscription television channels such as Nickelodeon and Disney, and these heavily promote energy dense and nutritionally poor foods (Centre for Health Initiatives 2007; Kelly et al., 2007). This repetition of

media narratives about food across the child's landscape has been shown to be more effective in changing children's and families' consumption practices (Kelly et al., 2007).

Research is needed to examine children's understanding of commercial media to determine the extent to which young children connect their consumer choices and the sustainability of the product/s they consume with their overall health and wellbeing. Research about primary-school aged children's and adolescents' consumer choices and the consequent links with obesity and sustainability is lacking. As a group of interdisciplinary researchers, we "throw down the gauntlet" and call on researchers to take up the challenge to conduct such research in these contemporary unhealthy and unsustainable times (particularly in Australian early childhood contexts).

Conclusion

In recent times, there has been an increase in preschool obesity prevention programs that have been conducted within the childcare/preschool setting or home setting (Skouteris et al., in press). These programs have been concerned with educating and supporting early childhood educators/carers and/or parents to foster healthy weight gain in preschool children by influencing obesity-promoting behaviours, such as eating, physical activity, and sedentary behaviours. To our knowledge, none of the published intervention programs to date has recognised the child's role in enacting self-changing behaviour and the connections between the educational setting, family and community as the basis for learning content knowledge, such as that involved in healthy weight. In contrast, research in the area of environmental and early childhood education has shown that even young children are capable of understanding highly complex concepts, such as environmental sustainability, and that they are capable of *acting* upon their knowledge and exhibit behaviours consistent with that knowledge when appropriate play-based pedagogies are used.

Given that child weight is a multi-determined characteristic, researchers now argue that obesity prevention/intervention strategies must target multiple determinants of child risk factors for overweight and obesity (i.e., increase in high-calorie, poor nutrient food consumption, increase in sedentary behaviours, and a lack of physical activity) (Skouteris et al., in press; Ventura & Birch, 2008). In this discussion paper (a somewhat think piece), using a socioecological perspective we have sought to understand the child-in-context, acknowledging the role of parents and digital media environments on children's learning and development, particularly in terms of environmental education and obesity awareness, and the role of children as participants of change within their own families and communities. That is, by supporting young children and their families to *realise the connections* between obesity prevention, environmental education, the use of digital technologies, and children's consumer choices may be a more effective way to prevent and control childhood obesity. This is in contrast to the more traditional approaches which aim to target children's diet and physical activity habits directly by implementing researcher-designed preventative programs that are isolated from the child's family, digital media, and community experiences and practices. Hence, we call for "solution-oriented" rather than "problem-oriented" research, with the latter several steps away from being translated into health gains, especially given that research evaluating the links between health, wellbeing, environmental sustainability, and early childhood education is lacking in Australia and internationally.

Keywords: young children; preschool children; obesity; sustainability; consumption; consumer choices; media; television; digital.

Endnotes

1. In this paper the term young children is used to mean preschool and/or kindergarten children (ages 4-5).
2. The seminal work of Barratt and Barratt Hacking (2008), Chawla (1999, 2002, 2007, 2008), Gaster (1991), Loughland et al. (2002), Moore (1989) and Palmer, Suggate, Robottom and Hart (1999) has provided substantial insight with respect to children's environments and their perceptions, voices and pathways. However, this work has not specifically focussed on very young children (preschoolers).

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