



**DIGITISING EARLY CHILDHOOD
INTERNATIONAL CONFERENCE**

11 - 15 September 2017

Novotel Perth Langley Hotel

Perth, Western Australia



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ABOUT THIS CONFERENCE

This conference celebrates, critiques and is concerned about the activities of very young children online. It is of groundbreaking relevance to educators, media and communication theorists and psychologists. Even eight years ago, the idea that pre-verbal babies and toddlers would be able to access internet content unaided would have been fanciful. These days, it is an unremarkable activity within the wealthier nations of the world. The inclusion of very young children within the digital realm raises many issues and the speed with which this has happened has outpaced policy development and evidence-based research.

Until 2016, the American Academy of Pediatrics recommended that only children over two should have any access to screen technologies and many people still believe that access below that age is totally unsuitable. Although these guidelines have now been softened, and the value of digitally facilitated social connection for even the youngest children is more accepted, parents, caregivers and researchers continue to feel uncertain about the key issues of when, what and for how long different ages of young children should be allowed to use digital technologies.

Alongside this, digital technologies have become an essential element in many kindergartens and pre-primaries, integrated across a play-based curriculum. The development of early years multi-model literacies is keenly embraced by many educators in the face of those who argue that digital technologies are better introduced at an older age.

These are the issues that motivate this conference, along with key concerns around privacy, children's rights, policy development, risks and benefits. With many of the leaders in the field, including European researchers Professors Jackie Marsh (early childhood literacies), Sonia Livingstone (children's rights) and Brian O'Neill (evidence based policy), this conference promises to advance the field.

KEYNOTE PRESENTERS

Listed alphabetically by last name



Digital dialogue – does it make a difference in early childhood?

Caroline Barratt-Pugh

School of Education, Edith Cowan University

Keynote presentation: Thursday 1:15pm

Family involvement is a crucial aspect of high-quality early education and care. Meaningful family engagement in children’s early learning supports positive home-school relationships and ongoing academic success.

However, increasingly many families have limited opportunities to connect with early childhood educators about their child’s learning. The pressure on educators to engage in pedagogical practices that do not necessarily take account of children’s ‘funds of knowledge’ ultimately disadvantage children, families and educators. Our research explores the way in which digital technologies, such as Seesaw, may help children, families and educators to reconnect. Early childhood educators and parents/carers from pre-primary classes in Western Australia took part in an on-line survey and were invited to take part in a semi-structured interview. The children were invited to take part in focus group discussions. The instruments were designed to elicit participants’ perceptions, involvement and outcomes of digital technology as a means of enhancing family- school connections. The findings are under review and will be revealed in this keynote - Digital dialogue – did it make a difference in early childhood?

Caroline Barratt-Pugh is Professor and director of the Centre for Research in Early Childhood Education Group in the School of Education at Edith Cowan University. She has been involved in teaching and research in the UK and Australia as both a practitioner and an academic.

She has directed a number of National and local research projects and has published books and journal articles as well as stakeholder reports. She is the director of the evaluation of Better Beginnings Family Literacy program in WA (2005 – 2017) and is currently director of the evaluation of KindiLink

a supported playgroup for Aboriginal children in WA. Engagement with all education sectors in WA, early childhood professionals, parents and other key stakeholders has resulted in recommendations for both policy and practice, informing outcomes for early childhood across Western Australia. This includes the development of the WA Pre-Primary reporting policy and the WA Kindergarten Curriculum Guidelines for WA schools.



The Internet of Toys and Things (IoTts) for children: Surveillance capitalism and children’s data

Donell Holloway

School of Arts and the Humanities, Edith Cowan University

Keynote presentation: Wednesday 9:30am

Surveillance capitalism refers to new economic conditions in which online information (data) is converted into valuable commodities, and where the production of these commodities (data) relies on mass surveillance over the internet. This data is often extracted from the same population that will be eventual be its targets (Zuboff, 2104). In the case of children, the advent of internet-connected toys and children’s wearables, along with screen-based apps and games for children, has provided a significant opportunity for the appropriation of children’s digital labour for commercial profit within a surveillance economy.

Concerns have been raised about how the commercial appropriation of children’s online information compromises the privacy and data security of children; often from children who are too young to consent to or understand the implications this practice. In addition, the consequences of accumulated data over a child’s lifetime—which will quickly outstrip the data accumulated by their parents—is of concern.

This talk examines the positioning of children both as objects of economic activity (as digital labourers) and subjects of market relations (as digital consumers) under surveillance capitalism (Andrejevic, 2014; Zuboff, 2015; Chowdry 2016). It traces the history of children’s engagement with the

market economy from: their engagement in the labour force before and during industrial revolution times; their subsequent retreat, after a series of child labour law reforms in the late 19th and early 20th centuries, into unproductive, domestic spaces; the ensuing positioning of children as market consumers in the 20th century (with varying degrees of agency and competency); and, more recently, their emergence as both data sources and data consumers within a big data economy.

This talk will highlight how the emergence of internet-connected toys and things for children is significantly amplifying the value and significance of children's data for commercial entities within the surveillance economy. Firstly, and despite having already been purchased and owned by consumers, the presence of embedded and connected software means that the customer is subject to long term contractual obligations. These terms and conditions enable data exchange between the child and the platform; the child and parent; and the child and other data sharing recipients. Furthermore, the assortment of sensors embedded in IoTs for children provides new data sets that are already being captured and datified. These new data sources include children's voices, movements, locations, images, breathing and heartbeat patterns. This increase in the quantity and variety of data available for commercial profit raises concerns regarding children's privacy and data security into the future.

Donell Holloway is an Australian Research Council DECRA Fellow based at Edith Cowan University in Perth Australia. Her most significant contributions are generally clustered around issues of ICTs and everyday family life—with particular reference to children. She is lead author of EU Kids Online report Zero to Eight: Young Children and their Internet Use and has authored or co-authored over 50 refereed journal articles, book chapters and conference papers. She is currently a chief investigator on two Australian Research Council grants, Digital Play: Social network sites and the well-being of young children, and Toddlers and tablets: exploring the risks and benefits 0-5s face online.



Turning Babies Into Big Data - And How to Stop It

Tama Leaver

Internet Studies, Curtin University

Keynote presentation: Tuesday 9:30am

New parents, in both the months before the birth of a child and the early years of life, routinely invest huge amounts of time, energy and money in sourcing as much information as they can about good parenting practices. Increasingly, this investment includes a range of apps, from pregnancy apps which provide normalised information about what to expect on a day to day basis during pregnancy, through to various apps links to monitoring devices, both manual and digital, during pregnancy and infancy.

Far from just providing information, many of these apps now encourage parents to undertake specific monitoring and surveillance practices to capture large amount of data about their child. This data is often then aggregated by the corporations behind these reassuring apps – corporations which are driven by profit, and often see the aggregated data about the unborn or infants as a resource which can be aggregated, analysed and the outcomes eventually monetised. The commercial imperatives are often masked or overlooked by parents, who undertake this intimate surveillance with the very best intentions.

While the argument here is not against the value of data and observation in specific circumstances, as part of considered practice to combat a specific illness or issue. Rather, I argue against the widespread and indiscriminate push to track, survey, encode, aggregate and analyse a wide range of activities from conception to the early years of childhood. In effect, the issue raised here is why so much data being collected about the unborn, babies and infants; how is this aggregated big data being used; and in which circumstances new parents should be better informed to allow them to decide on appropriate limits on their babies being turned into big data.

Tama Leaver is an Associate Professor in the Department of Internet Studies at Curtin University in Perth, Western Australia and frequent

expert media commentator. His research interests include online identity, social media, digital death, infancy online, mobile gaming and the changing landscape of media distribution. He has published in a number of journals including Popular Communication, Media International Australia, First Monday, Comparative Literature Studies, Social Media and Society, Communication Research and Practice and the Fibreculture journal, and is the author of *Artificial Culture: Identity, Technology and Bodies* (Routledge, 2012); co-editor of *An Education in Facebook? Higher Education and the World's Largest Social Network* (Routledge, 2014) with Mike Kent; and *Social, Casual and Mobile Games: The Changing Gaming Landscape* (Bloomsbury Academic, 2016) with Michele Willson. He has been awarded teaching awards from the University of Western Australia, Curtin University, and in 2012 received a national Australian Award for Teaching Excellence in the Humanities and the Arts.



Parenting for a digital future: Beyond “screen time” rules

Sonia Livingstone

London School of Economics and Political Science
Keynote presentation: Thursday 10:00am

When parents look back to their childhood and compare it with their children's, the absence then and presence now of multiple digital media in the home marks a glaring difference. In trying to understand the significance of this difference, parents are torn between competing visions – fears of personal risk and addiction on the one hand, and of being left behind in the competition for future digital jobs on the other. No wonder that digital media catalyse myriad uncertainties about parenting. To help parents navigate these twin challenges, parenting advice is proliferating. But not only does much of it invoke moral panics but also much of it underestimates today's parents' growing expertise with digital media, offering bland advice (limit screen time, install filters, talk to your children) but leaving parents feeling judged yet unsupported.

Building on three years of research with parents, children and educators,

my current research project explores the lives of families who are variously enjoying the pleasures or wrestling with the challenges of digital media. Focusing on families with young children, I will argue that, while often engrossing and demanding in the present, parenting is inherently future-oriented: each act of parenting has a double meaning – as an intervention in the present and an effort to bring about a particular future. But bringing up a child poses parents with an almost impossible feat of imagination – for who can anticipate the world twenty years hence? Can parents take action in the present to optimise a largely-unknowable future?

Complicating parents' task to optimise their children's future is the paradox that, especially in wealthy Western countries, increasing responsibility is being devolved to parents (often in the guise of “choice”) yet at the same time the family is being reconfigured to devolve more rights from the parent to the child. Through interviews and observations with parents of young families, including asking parents to recall their own childhoods and anticipate their children's adulthood, I will argue that the digital has become a site in which personal, public and political struggles over parenting are staged. These struggles are engaged in both by parents and by society as it speaks for and about parents, in responding to wider social changes.

Sonia Livingstone OBE is a full professor of Social Psychology in the Department of Media and Communications at LSE. Author of 20 books and many articles, Sonia researches the opportunities and risks for children and young people afforded by digital and online technologies, focusing on media literacy, social mediations, and children's rights in the digital age. Her new book is *The Class: living and learning in the digital age* (2016, with Julian Sefton-Green). A fellow of the British Psychological Society, Royal Society for the Arts, and fellow and past President of the International Communication Association, she currently leads the projects *Global Kids Online* and *Preparing for a Digital Future* and previously directed *EU Kids Online*. See www.sonialivingstone.net



Techno-toddlers: The digital practices of 0-3 year olds.

Jackie Marsh

University of Sheffield

Keynote presentation: Tuesday 1:15pm

In this presentation, Jackie will report on findings from ESRC-funded study in which the under 5's use of tablets and apps in the UK was studied. In the first stage of the study, a survey of 2000 parents of 0-5 year-olds who had access to tablets in the home was undertaken. In Stage 2, six case studies were undertaken of children using tablets in the home, using an ethnographic approach. The presentation will focus on the findings relating to children aged from birth to three and will outline very young children's access to and use of tablets, analysing the way in which children in their first years are drawn into digital family practices from birth, and soon develop their own preferred ways of using technologies.

Jackie Marsh is interested in young children's digital literacy practices in homes, communities and early years settings. She has conducted research projects that have explored children's access to new technologies and their emergent digital literacy skills, knowledge and understanding. She has examined the way in which parents/carers and other family members support this engagement with media and technologies. In her more recent research, Jackie has explored changes in children's play due to developments in media, technology and commercial cultures. Jackie is Chair of COST Action IS140, 'The digital literacy and multimodal practices of young children' (<http://digilitey.eu>) and is leading a 12-country project on makerspaces in the early years (MakeEY).



'Toddlers and Tech': Policy Implications for Families and Parenting in the Digital Age

Brian O'Neill

Dublin Institute of Technology

Keynote presentation: Wednesday 12:45pm

Policy making for digital parenting, particularly with regard to younger children, is still at a very early stage of development. To date, policy makers have been content to rely on experts such as paediatricians and psychologists when it comes to formulating guidance on children's access to technology. However, given the pace of technological change, this may be insufficient or inadequate for the many issues now facing parents in regard to mediating the role technology plays in the lives of their children. In order to survey the dilemmas for policy makers as well as the gaps in current policy making in relation to technology in the lives of younger children (0-8 years old), this paper addresses three main issues from a European policy perspective. Firstly, how appropriate or effective is the approach of self-regulation when it comes to managing technology risks facing parents and younger children? How does this square, for example, in the banning of some smart toys for children? Secondly, how adequate and / or realistic is the emphasis given to effective digital parenting as a solution towards managing digital risks? Parents, we are told – at least from a practical point of view – are best placed to guide and oversee their children's technology use. Yet, are parents adequately supported to undertake this important role. And thirdly, is the emergent regime on data protection regulation an indicator of a different approach that will shape families' digital experiences in a different or better way? These three areas of policy debate combine to suggest a realm of policy thinking at a crossroads where the role of regulation in managing key parameters of digital experience for all users is being re-assessed. Arguably, the regulation of privacy is now arguably pre-eminent in this field and while particular attention has been given to the 'digital age of consent' (for children 13 years and over), connected technologies will shape all families' digital participation, presenting ever-more challenging dilemmas for policy.

Brian O’Neill is Director, Research, Enterprise and Innovation Services at Dublin Institute of Technology with responsibility for research and innovation across the three partner institutions of TU4Dublin. Previously he was Head of the School of Media at Dublin Institute of Technology and was Head of Research for its College of Arts and Tourism.

Brian is a graduate of NUI Galway with Bachelors and Masters degrees in English and Philosophy. He gained his PhD in Sociology from Trinity College Dublin in 1998. Brian’s research areas include media policy and digital technologies; media and information literacy, e-safety and information society policy for children.

Brian O’Neill has an international profile as a researcher on children, youth and media. He has conducted research for the European Commission, UNICEF, and the Broadcasting Authority of Ireland. He leads the EU Kids Online network in Ireland and is responsible for its policy works package. He is a member of Ireland’s Internet Safety Advisory Committee. He chaired the Irish government’s task force on Internet Content Governance, reporting to the Minister for Communications, Energy and Natural Resources. In 2014, he undertook an independent assessment of internet safety for 16 companies represented in the ICT Coalition. He is a member of Council of Europe’s Expert Group on Digital Citizenship Education as well as member of the Twitter Trust & Safety Council and the Safety Advisory Board of Ask.fm

PANELS AND PAPERS

Panel Presentation: Integrating young children's digital play with tangible technologies

Panel Leader: Karen Murcia

School of Education, Curtin University

Panel presentation: Tuesday 10:45am - 12:15pm

When observing young children, it is evident they find playing with coding toys and robots exciting. Children investigate the world around them as they code robot movements. This play based learning experience opens up demands for computational thinking and requires the development and use of inquiry skills. The presenters in this panel share the view that children learn by doing and that tangible objects support concrete ways of thinking and the development of inquiry skills. This shared perspective brought Researchers from the UK, Australia and the United States together as they investigate Cubetto, an innovative digital coding device's impact on young children's learning and development. Cubetto was created by Primo Toys with a range of floor maps which represent different worlds, from the deep sea to outer space. Exploring the mapped world evokes children's imagination and conversations that link to disciplines such as history, geography and science. It is proposed that the thematic approach changes the experience from a strict problem solving task to a problem finding exercise which gives the child greater autonomy and opportunity for social interaction. Self-reflection and purposeful learning conversations, with an actively listening educator, can assist children to clarifying their thinking, try out ideas and connect to the environment around them.

The perspective of the panel members is that digital learning technologies sit integrated across the learning areas and create provocation for children's inquiry learning and development of transversal competencies. We will share research findings that include insight from the design and development of Cubetto through to its implementation in early years learning environments. Illustrative examples of the curriculum development and implementation processes observed in Australia and the United States will be shared in the presentations. The use of measures of teacher efficacy to help inform teacher engagement and professional development will also be discussed.

Presentation I: Introducing Cubetto: From concept design to the classroom

Presenter: Mark Overland

Head of Education, Primo Toys, London, U.K.

Coding is a basic 21st century skill. At Primo Toys we think it should be introduced in the same way as traditional subject, such as numeracy or phonics, starting at preschool level. It should be accessible to both girls and boys, of all cultures, all over the world. Cubetto offers the first tangible programming language specifically designed for children in preliterate years. An inclusive solution that merges LOGO Turtle inspired programming with Montessori hands-on learning principles; Cubetto addresses both the need for learning computational thinking and an authentic learning experience.

Through field research Primo identified three key insights – that children:

1. Learn through play;
2. Are motivated by challenges;
3. Find abstract thought difficult.

These insights, coupled with the traditional play patterns of colour recognition and shape sorting, resulted in the birth of the Cubetto Playset. The outcome of the tangible coding tool was a physical programming interface that facilitates three fundamental principles - sequencing, debugging and functions. To achieve this functionality, two individual products were developed called the interface board and the Cubetto robot. The board facilitated a better physical interaction through a tangible coding interface whilst the character of Cubetto engaged children and emulated a Maslowian construct of creativity developing through purposeful play.

Cubetto meets the educational needs of schools at a time when many curriculums require students to learn computing at the same time they are developing their other core skills such as the 3Rs with a mix of different learning tools. Using prominent researchers such as Piaget and Papert as inspiration, we feel that authentic STEM learning opportunities are structured and scaffold around open learning where students are able to construct their knowledge. Today, however, many children still lack exposure to the fundamentals of computer science at a young age. Cubetto addresses this deficit through hands-on play that makes learning programming more approachable.

Presentation 2: Exploring Our World with Tangible Technologies: Integrating Robotics into Inquiry Project Investigations in Early Childhood Classrooms

Presenters:

Ilene R. Berson, Ph.D.
Professor of Early Childhood Education
University of South Florida

Michael J. Berson, Ph.D.
Professor of Social Science Education
University of South Florida

This presentation highlights pilot findings from a study of pre-kindergartners' playful and creative uses of Cubetto to explore the environment around them. While Cubetto was originally designed as a hands-on application for young children to learn coding, it also offers opportunities for children to develop fine motor, communication, logical reasoning, and social-emotional skills. The versatile storybooks and maps used with Cubetto provide educators with opportunities for designing learning experiences that are suited to a variety of classroom topics and academic objectives.

Our research integrated this tangible technology in purposeful ways into the project-based curriculum of our university laboratory preschool. Through the Project Approach the children, ages 3-5 years old, investigate their local surroundings and resources, deeply inquiring into topics evolving from their own interests. The integration of digital play with tangible technologies in the early childhood environment is designed to provide a context for young learners to apply their growing academic knowledge and skills in authentic ways. Papert's theory of constructionism guided the research as we observed how young children build knowledge through the creation of tangible products as "objects to think with" (Akermann, 2001, p. 4). This presentation will focus on the following research questions:

- How does Cubetto serve as an instrument through which children can construct knowledge about map reading and directionality when designing a pathway for travel?
- How can tangible technologies increase children's self-awareness as

well as awareness of other students of diverse backgrounds?

- How might cybercitizenship concepts (i.e., following safety rules, protecting personal information, and communicating respectfully with others) be introduced through digital play with Cubetto?

We will share research findings that include data on the curriculum development and implementation processes. The use of measures of teacher efficacy to help inform teacher engagement and professional development also will be discussed. The presenters will highlight strategies to help teachers demystify the process of engaging young learners with tangible technologies while the children learn about themselves and their communities. Using video documentation of the children's interactions, we will showcase how the robotic manipulatives serve as catalysts for peer collaboration, socio-emotional regulation, and creative problem solving.

Presentation 3: Early Childhood iSTEM: Playing as learning with digital technology toys.

Presenters:

Dr Karen Murcia and Dr Lina Pelliccione
School of Education, Curtin University

In this presentation we will share case study research investigating how young children learn through play with digital technology toys. The research is timely as there is a national focus on STEM (Science, Technology, Engineering and Mathematics) education. In this current climate, the role of digital technologies in early childhood is increasingly discussed and negotiated in learning centres. Educators are wanting support in understanding how young children can be creators of technology (digital coding) and not simply consumers of products. We argue that important foundation abilities and dispositions are established in the early years and these include essential computational thinking skills and transversal STEM capabilities such as creativity, inquiry, risk taking and communication.

The research was conducted in a long day care centre with 4 Educators and two focus groups of children (ages 3 & 4) selected from their kindergarten program. We used action research methods to work with the Educators as they explored a range of digital technology toys with different interfaces

(Cubetto, Bee Bots, iPads) and how they could be used in an integrated Science, Technology, Engineering and Mathematics (iSTEM) learning project. Through researcher site visits, teacher observations of children's play, shared collegial reflection and teacher generated stories of children's learning, evidence emerged regarding the impact of digital technologies on young children's engagement with learning.

We will share examples of provocations, inquiry questioning and focus language used by the Educators as they integrated the digital technology toys into the learning environment. Emerging from these examples is evidence of the design features that make a digital technology toy developmentally appropriate for young children. Consideration is also given to the enablers and barriers faced by educators when engaging children with digital technology toys in an early childhood learning environment.

Abstracts are listed alphabetically by last name of first author with presenter name(s) in bold.

From YouTube to TV, and Back Again: Viral Video Child Stars and Media Flows in the Era of Social Media

Crystal Abidin, National University of Singapore, Jönköping University
Tama Leaver, Curtin University
Wednesday, Stream 2, 1:30pm

It is a common perception that television talk shows, a genre of reality TV, can serve as an amplifier for celebrity-aspirants. Everyday, ordinary people have been known to capitalise on their talk show exposure, using their prominence and infamy on the old media platform as a springboard to wrestle attention and establish their digital media estates. One recent example is 13yo Danielle Bregoli who appeared as a foul-mouthed out-of-control teen on the Dr Phil show in September 2016, and whose snippets on the Dr Phil YouTube channel have accumulated over 59 million views. Since then, Bregoli has fostered a following into the millions on Instagram where she hawks sponsored advertorials. However, we focus on a less visible but arguably more insidious, commercialised, and exploitative form of virality flows and currency exchange, in the reverse between television and social media around child personalities. This paper examines the way

TV talk shows borrow from the native virality of social media vernaculars to bolster old media's struggling foray into digital spaces. From The Tonight Show Starring Jimmy Fallon's "Hashtag Fail" segment to Jimmy Kimmel Live!'s "I told my kids I ate all their Halloween candy" video challenge, TV talk shows have been soliciting the free and willing labour of social media users to produce content for their show. Moreover, The Ellen DeGeneres Show regularly mines YouTube for viral videos starring children in order to invite them as guests on the show, often to replicate their viral act for a live audience, disseminate these programme clips on their corporate YouTube channel, and eventually contract viral YouTube children with high attention value to star in their own recurring segments on the Show. The pathway from parents and others posting videos of children that go viral, through to their appearances on TV talkshows, incorporation into the social media output of those shows, and subsequent reappearances if warranted, beg important questions about the agency, monitoring, and exploitation of young children. Our paper investigates the way the ailing old media of television is cannibalizing the spontaneous social capital of viral YouTube children, and the ethical considerations of such childhood commerce. In tracing the lifecycle of such viral YouTube children, we map the historical precedents of pre-internet television formats that similarly capitalise on "kid moments" such as America's Funniest Home Videos and Kids Say The Darndest Things, while drawing out the important differences that are now possible due to networked communication. The paper draws on the theoretical lenses of intimate surveillance (Leaver 2015) and micro-microcelebrity (Abidin 2015), and extends these to map the shifting flows between media platforms, and the way children are implicated, exploited, and situated by these processes.

Is 'sharenting' the new normal? How 'influencer' mum bloggers and 'ordinary' mums frame presenting their children online

Catherine Archer, Murdoch University

Tuesday, Stream 2, 2:00pm

The rise of mum/mom/mommy bloggers has been a worldwide trend, with some mum bloggers now earning money from their personal 'brand' and role as online influencers. As 'prosumers' (that is consumers turned producers), mum bloggers are now courted by many international brands and organisations. While mum bloggers were early adopters in the digital landscape, simultaneously 'ordinary' (non-blogging) mums have embraced technology and have become avid prosumers themselves of social media, in particular Facebook. Many of the pro-am mum bloggers use their families (in particular their young children) as characters in their story posts and also co-opt them in sponsorship and other money-making opportunities. These posts help the bloggers increase their social capital and influence. 'Ordinary' mothers are also now 'sharenting' images and stories related to their offspring, often from the first ultrasound scan. This paper investigates and compares the motivations, hesitations and justifications of both mum bloggers (MBs) and 'ordinary' mothers (OMs) related to sharing their children's images and stories. The major research question is: What motivates MBs and OMs to share their children's stories and images and are there any ethical concerns related to this? A secondary research question is: Are there differences between the two groups of mothers, MBs and OMs? A total of 45 interviews with Australian MBs and a complementary netnography of their blogs were employed for the MBs. Ten focus groups with OMs in Western Australia were also conducted. Analysis of the MBs interviews and the focus group transcriptions was then carried out. For the MBs, while there are some hesitations related to privacy of their children, they seem less concerned with the rights of their children when the children are younger and unable to speak for themselves. It is also argued that MBs may view their children as 'brand extensions' of their own blog/personal brand. For OMs, a range of views showed that while there were some concerns with privacy, many were sharing their children's photos but were struggling to understand the complexities of laws, issues and technology related to social media. As MBs are considered influencers of OMs, their online behaviours (and those of other internet celebrities) may well be affecting the choices made by OMs related to digital parenting.

Pre-schooler as brand extension: a tale of Pixie's bows and birthdays, Beauty and the Beast

Catherine Archer, Murdoch University

Tuesday, Stream 2, 3:30pm

The phenomenon of Instagram influencer babies, toddlers and pre-schoolers, or micro-micro celebrities as they have been labelled (see Abidin 2015), has been noted in Singapore and Malaysia, to name some countries. These babies and young children (generally children of social media influencers) are building up social capital, amassing large followers and demanding (and receiving) sponsorship and brand partnership deals with organisations, products and service brands. This paper investigates, through a case study approach, Instagram influencer Pixie Curtis, the five-year-old daughter of Australian public relations business owner and celebrity Roxy Jacenko. Jacenko founded and owns Sweaty Betty PR and more recently has started The Ministry of Talent, an agency for bloggers, creatives and other social media influencers. The case study of the Australian Pixie's 'career' from 0-5, managed by her mother, is examined, using the lens of marketing theories and concepts, including branding, brand equity, personal and product branding. Through an analysis of Instagram posts by Pixie Curtis and online news reports, it is argued that Jacenko has employed the marketing concept of 'brand extension' to her daughter, effectively treating her child as a (personal) brand extension of herself. Pixie, who has her own line of hair bows which sells through her online site, is also a brand ambassador/paid promoter for many local and international brands. Brand extension is described in marketing as follows: "Leveraging the brand equity of a successful brand promises to make introduction of a new entry less costly by trading on an established name. In essence, companies can be tantalised by the prospect of reaping a second dividend from their initial investment in advertising, research, and product development costs (Pitta & Katsanis, 1995, p. 51)." It is argued that, though some would view the process as chilling, some celebrity bloggers and influencers are 'leveraging' their own brand equity and offsetting the 'research and product development costs' of producing and raising a child, and trading on their own established name and followers but with a bright, new extension 'product' – their own child/ren. The ethics, including issues of privacy and exploitation, of 'brand extension', when the brand extension is a child, are discussed.

Development of media uses in early childhood: A longitudinal study of Jonathan from six months of age to two years

Yehuda Bar Lev and Nelly Elias, Ben-Gurion University of the Negev
Sharona T. Levy, University of Haifa
Wednesday, Stream 2, 3:00pm

Dramatic changes have taken place in early childhood media use over the past few years as infants and toddlers not only watch television but also use touchscreen interactive media as an increasingly significant part of their entertainment, information, education and play worlds. At present, most studies on this topic are based on parental reports rather than field-gathered evidence and are cross-sectional rather than longitudinal. As a result, we still lack a thorough understanding of media use during this critical period of child development.

The present study seeks to examine the shaping of media use in early childhood, focusing on the case of a young boy (whom we call Jonathan) from infancy until age two. The study was conducted in Israel between June 2015 and December 2016 and was based on a combination of ethnographic methods, including observations in the family home, interviews with parents and instant messaging with the boy's mother. The family chosen for the study can be defined as highly technology-oriented with abundant screen media at home, including several laptops, an Xbox, tablets and smartphones.

The study reveals a contradiction between parental concerns regarding negative effects of media and the child's high media exposure even during the first months of his life. The child's massive exposure to media is enabled primarily by unintentional parental practices: From infancy, the child responds to television in the background. He is also exposed to his mother's smartphone, as she uses it while taking care of him. Intentional media use begins at age six months, mostly resulting from the mother's instrumental needs: Screens serve as convenient and readily available babysitters, as a daily schedule regulator, and a calming device. As a result, by the age of 14 months, Jonathan is already an experienced media user with his own recliner and remote control, who prefers watching YouTube videos to playing with toys. The study's unique value is thus reflected in its thorough and long-term examination of a formative process of shaping media preferences and habits of a very young child in his familial environment, as well as the parental practices affecting this process.

Considering how children engage with provided technologies in early childhood settings

Jo Bird, University of New England
Thursday, Stream 1, 11:15am

With technologies becoming more and more common in children's lives, educators attempt to navigate what and how to provide devices in ways that support children's play and learning. Some educators are reluctant to incorporate technologies in their classroom, fearing negative consequences (Robert-Holmes, 2013), with one often-cited criticism is technologies reduce children's creativity and imaginative play (Smirnova, 2011). When an iPad is provided for the children's use, educators turn to educational apps but find many are structured with no ability for the child to be creative or deviate from the set script (Goodwin & Highfield, 2012). When open-ended apps are provided, children control the device, displaying their agency and their enthusiasm and interest in technologies (Price, 2014) This then encourages their play and learning. It also moves children from consumers of digital technologies to creators of technologies (Moore & Adair, 2015). This study investigates technology provision from the children's view and explores how they accepted or manipulated the situation in order to meet their play needs.

Also considered is how the increase in technologies in children's lives is impacting their play themes and the required play props. In this consideration are the non-working technologies (Bird, forthcoming), that are often broken or no longer working devices provided for children's play. In particular, how children engage with what is provided and then exhibit their imaginative abilities in order to achieve the kinds of play they want to engage in will be contemplated. Play with these devices can assist children to become confident users of technologies, competent digital citizens and children who expand the possibilities around technologies in early childhood.

Mobile Phone Use by Parents and Children in Public Space and its Implications on Interactional Synchrony

Shani Dalyot and Nelly Elias, Ben-Gurion University of the Negev
Wednesday, Stream 1, 3:00pm

Taking part in outdoor activities and visiting public places together with parents is an essential part of the childhood. Despite their routine and obvious nature, these situations provide children with stimuli that enhance general knowledge, foster encounters with new people and challenge them with experiences in which they may acquire significant social skills, such as patience, restraint and courtesy. The enriching potential of public space emphasises the parents' role as primary agents of socialization who interpret social realities for children and help them integrate successfully in public places. Hence, spending time together at the playground, on public transportation or while waiting to be served at a restaurant might provide parents and children with a wealth of opportunities for dialogue, play and enriching interaction so important for children's healthy development and wellbeing.

Over the past few years communication between parents and children spending time together in public places has been affected by the massive penetration of mobile touchscreen media. Hence, it is becoming increasingly common to see both parent and child isolated in their respective "digital bubbles" during their time away from home. The research literature, however, fails to emphasize the implications of media use in the public places on the quality of parent-child communication. In line with Harrist and colleagues' (1994) model of interactional synchrony (i.e. mutually focused, reciprocated exchanges between interactional partners), the objective of this study was to examine how the use of mobile media in public places affects parent-child interactions. The study was based on a series of nonparticipant observations conducted at various playgrounds in Israel during summer and autumn 2016. Altogether we observed 28 dyads of parents and children aged 18 months to 6 years, while at least one of them (a parent or a child) was using a touchscreen mobile device during the time at the playground. The patterns of parent-child communication will be evaluated using a series of criteria testifying for the quality of interactional synchrony.

Hayley's story: Exploring a junior primary student's relationship with media

Madeleine Dobson, Curtin University
Wednesday, Stream 2, 10:45am

Young children's perspectives and experiences are tremendously valuable. By encouraging children to share, and by listening to and appreciating their contributions, we can gain insight into who children are and how they live in our world. My doctoral research explored young girls' relationships with media, including digital devices, television, film, online media, and more. The cohort comprised a small sample of girls aged 7-13 from a Western Australian primary school. At the time of the study's commencement, the school in question had recently started an iPad program. The iPad program required all students from Years 4-7 to own an iPad, while the younger students had access to school-owned iPads. Hence, the girls engaged in the study were accessing and utilising digital technologies at school and at home. The study sought to explore the girls' experiences and perspectives, with an emphasis on eliciting their voices and establishing child-centric insight. A mixed research approach was employed with a feminist and participatory emphasis. Data generation included interviews with the school community; questionnaires issued to students and parents; an analysis of the girls' most favoured media; and child-guided/documentated home tours. The intent underpinning this comprehensive data generation was to gain a holistic, context-specific appreciation of the girls' lives and lived experiences with media. In terms of the girls' relationships with media, it became distinctly evident that these relationships were intimate and meaningful. While there were commonalities, such as the girls feeling emotionally bonded with and very excited about media, there was also rich diversity amongst the cohort. Three case studies emerged, one of which was focused on Hayley, a Year 2 student and the youngest of the cohort. Hayley's world was rich with technologies and a wide range of media, and she was keen to contribute to the study and share her views. Hayley spoke emotively about her favourite media, with which she had developed long-term bonds. This paper will focus on Hayley's story by exploring her whole-school, classroom, and home environments, and, most importantly, her thoughts and feelings about the media in her life.

A new online risk? How young children negotiate avatar death in virtual game worlds.

Ashley Donkin, Edith Cowan University
Wednesday, Stream 1, 1:30pm

Children's virtual worlds have become popular places for children to play and socialise with their friends. Children gain many social and emotional benefits from playing in these virtual game worlds. However, there are also potential risks to children playing in these spaces, which include: bullying and grieving; social exclusion; misuse of online profiles; and negotiating with online commercial content (Holloway, Green & Livingstone, 2013, pp. 17-18). Whilst research into children's use of virtual worlds is ongoing, to date, minimal research attention has been given to the representation and experience of virtual death; it is often completely overlooked (Black, 2010; Black, Korobkova & Epler, 2014; Green, Brady, Holloway, Staksrud & Olafsson, 2013; Livingstone, Haddon, Gorzig & Olafsson, 2011; Marsh, 2010, 2014; Shen, Liu & Wang, 2013; Valentine & Holloway, 2002). Virtual death refers to the death of an avatar in a virtual game world (Klastrup, 2007). In many virtual game worlds, death is a common occurrence that players have to manage.

The author, whose current research investigates 5-12 year old Australian children's use of virtual worlds, has observed that many child participants avoid virtual games where their avatar might die. A small number of child participants in this study play in survival virtual games; although, they also commented that they are bothered when their avatar dies. Additionally, whilst many children try to avoid the death of their avatar, they still engage in killing other avatars, and/or non-player characters in their games. This paper examines the representation of death in children's virtual worlds, and how children avoid, manage, or contribute to death in their games. The paper also discusses the contribution this research makes to our understanding of the risks children encounter whilst playing in virtual worlds.

Early Childhood Educators' Play-based Experiences to Support Pre-schoolers' Learning about the Internet and Cyber safety

Susan Edwards and **Ana Mantilla** (Australian Catholic University),
Andrea Nolan (Deakin University), Michael Henderson (Monash University) and Helen Skouteris (Deakin University)
Thursday, Stream 2, 2:00pm

International research shows young children are now online in rapidly increasing numbers. Children's participation in online environments can provide rich opportunities for learning, communication and enjoyment but being online also exposes children to potential risks. As a result, the importance of cyber-safety education has long been recognised (Third, et al., 2014). However, the available resources, initiatives, curriculum outcomes and pedagogical approaches towards cyber-safety education are orientated towards the learning of older children. Consequently, young children do not yet have access to age appropriate cyber-safety education.

To address this dilemma, we conducted a pilot study that considered the specific provision of cyber-safety education within kindergarten settings. The study was conducted as a controlled trial involving two groups of educators (n=4) and children (n=70): an intervention group and a control group. Educators in the intervention group were supported and asked to develop play-based learning experiences to teach the children about the Internet and cyber-safety. They documented the planning and implementation of these experiences and participated in a focus group interview at the end of the intervention. This paper reports preliminary findings from the analysis of the intervention educators' data.

We use the Vygotskian understanding of the role of double stimulation in informing the educators' response to the invitation to develop cyber-safety play-based learning experiences for young children. This understanding suggests that the educators first faced a problem situation in not knowing how to make cyber-safety education play-based. The problem situation was followed by the educators' response in which they used a puppet to represent play-based learning with the children. The puppet enabled the educators to engage children in awareness building about cyber-safety education. This awareness building prompted the teachers' own conceptual development regarding the children's understandings of the internet and the increased necessity for education about the internet to be enacted in early childhood education settings. These findings contribute

new knowledge to the early childhood education sector regarding:
a) educators' understanding of the role of internet education in early childhood as a platform for cyber-safety and b) the provision of play-based cyber-safety education that is age appropriate for young children.

Like mother, like daughter? Unboxing an Etsy childhood

Lelia Green, Kylie Stevenson, Donell Holloway, Kelly Jaunzems
Edith Cowan University

Wednesday, Stream 1, 3:00pm

This paper is based on an in-depth, ethnographic case study of a six person household with four children, the two youngest of whom are under the age of nine. The study particularly includes interview data from the mother and the youngest child, five year old Alice. It concentrates on exploring the ways in which Alice has internalised her mother's Etsy 'pre-loved' business as a major focus of her own play world, and enriched it with additional features from her unboxing fandom and vlogging consumption. Although the family is not well-off, it cultivates creativity and enables positive attitudes towards the repurposing of technologies and the support of passionate engagement. The parents have made available to the two younger children an outdated mobile phone without a sim card, but with video recording capacity. Using this technology, the children have developed vlogging personas, allowing them a level of voice and agency unusual in this age group, but especially striking in Alice. Alice has developed sophisticated play practices which have seen her translating her mother's online 'pre-loved' Etsy market-place into a tangible play shop which echoes girls' structured play of fifty years ago, but which is brought up to date by the integration of vlogging and unboxing literacies within Alice's play behaviours. On the brink of joining primary school, Alice is already a seasoned op-shop visitor, and critically assesses her own pre-loved physical toys for their relative market value before offering them for virtual sale to imaginary customers. Supporting her mother's business also means helping to box the unboxed goods prior to posting them around Australia and the world, allowing Alice the opportunity to live in physical space her imaginative online world of shopping, vlogging and (un)boxing.

What we don't know children do online matters. What we don't know ourselves matters more

Simone Inglis

Tuesday, Stream 2, 3:30pm

The level of awareness that parents perceive they have of their child's Internet use and online behaviours do not necessarily correlate with the activities and impressions of the child. This study questions whether a failure of knowledge transfer exists from parent to child, child to parent or simply a lack of knowledge and education given to and shared by both parties. Parents want to ensure their child's safety and to teach them how to safely navigate the Internet but often they do not know what they need to know to enable this to happen. Digital literacy, both critical and technical, needs current and specific strategies for not only the children but also their parents. This parent/child dyadic qualitative study identified the ways in which the parents and children's knowledge were different. Parents had a far better understanding of the dangers and consequences of online activity, which the children developmentally had not acquired. Children had excellent skills but they were not accompanied by a cognitive understanding of consequences. Coupling a perception of a high level of confidence in both the parents and the children with a patchy level of knowledge about the children's activities meant that children indulge in online activities that their parents find difficult to monitor and moderate. Parent's lack of involvement in their children's online activities leads to a lack of awareness; a lack of awareness means a lack of realisation that they need an increased or targeted level of knowledge. With a disparity of skills come an inability to protect and ultimately an inability to empower the children.

The low-tech child in a digital world

Kelly Jaunzems, Lelia Green, Donell Holloway, Kylie Stevenson, (Edith Cowan University), Leslie Haddon (London School of Economics)

Tuesday, Stream 1, 3:30pm

For more than twenty years parents have been at the receiving end of an evolving series of injunctions around equipping their children to function in a digital society. Calls to parents to take their digital responsibilities seriously have changed as a reflection of the proportion of children

online, and the age at which children first began to participate in digital environments. Thus, in the 1990s, parents were told that their children should have the opportunity to use computers: families with children were the largest group of new adopters at this time. Within a few years, parents began to think that children needed broadband access to reach their online potential. By the mid-2000s, when a majority of children in Australia had internet access, the discourse changed to one of risks: pornography, gaming addiction, cyberbullying and compulsory filters at the level of the internet service provider. With the advent of the smart phone, new narratives gradually emerged around toddlers and touchscreens. Even though tap and swipe technologies liberated the youngest children from needing the fine motor skills required for a keyboard and mouse, parents were increasingly warned not to allow 0-2s online.

This paper reports on emerging research with the under 5s; and particularly addresses the phenomenon of highly technological parents who have chosen a low-tech early childhood for their children. Comparing two families, one in the UK and one in Australia, it examines the ways in which these digital/knowledge worker parents have negotiated the various injunctions directed at contemporary caregivers around the responsibilities of digital parenting. It examines the strategies and rationales employed in the raising of these low-tech under 5s, and considers the parents' judgements about the benefits offered by their approach and the futures for which they are equipping their children.

Privacy Concerns and Emergent Norms of Parental Sharing of Information About Children Online

Priya Kumar, University of Maryland College of Information Studies
Tuesday, Stream 2, 10:45am

As part of the first "born digital" generation, today's children exist online before their bodies enter the physical world. Parents now post sonogram images and baby pictures online, track pregnancies through mobile apps, and register email addresses, social media accounts, and web domains in their children's names (Leaver, 2015; Lupton, Pedersen, Thomas, 2016). These children won't decide whether to create a digital footprint; they will face the novel task of inheriting the digital identities that their parents – wittingly or not – steward for them (Kumar & Schoenebeck, 2015).

When deciding what information to share about their children online, parents must not only weigh the potential benefits and risks, but also their own interests against those of their children. This balancing is, of course, nothing new; it reflects the essence of parenthood. But today's parents inhabit the unique position of being the first to grapple with these questions as they relate to the development of a child's digital footprint.

In this paper, I explore how parental sharing of children's information online can implicate children's privacy. I also examine what norms are emerging about what parents should or should not share online about their children. I answer the first question by performing a contextual integrity analysis of parental sharing of children's information on Facebook in the context of home and family life (Nissenbaum, 2010). The analysis demonstrates how this type of parental sharing raises privacy concerns.

To answer the second question, I conduct a qualitative analysis of a sample of posts on the popular blog STFU Parents. The irreverent blog is a well-known site focused on parental sharing, or as the blog's author calls it, "overshare." Intended as entertainment, the blog now represents a repository of examples of parental oversharing. While one author curates the blog, users submit and comment on posts, suggesting that the blog resonates with people. Its explicit focus on value judgments makes it a particularly appropriate venue to study emerging norms.

Taken together, these analyses offer conceptual clarity about what constitutes parental sharing of children's information online and why it raises privacy concerns for children.

Why Young Children Don't Play: Parents' Accounts of Non-engagement with Digital Games

Jane Mavoia, University of Melbourne
Tuesday, Stream 2, 10:45am

Young children increasingly have play experiences that transverse digital and non-digital spaces (Giddings, 2014; Kervin, Verenikina, & Rivera, 2015; Marsh, Plowman, Yamada-Rice, Bishop, & Scott, 2016). However, while many children play digital games, many do not. As conversations about children's digital worlds shift from focus on risks and harm, toward ensuring provision of opportunities for maximizing benefits associated with digital media (Livingstone & Third, 2017), there is a need to consider the permissive and restrictive forces acting on these opportunities. In this

paper we consider the views of parents of young (three to five year old) children who do not play any digital games. Data was collected through text responses to part of a larger survey about children's digital gaming practices. We present the reasons parents gave for their children not playing any digital games. We discuss how this group of parents construct play in utilitarian terms and how digital games, talked about as a form of 'screen time', are thought to either displace time away from more beneficial types of play, do not add anything of value to, or actively cause some harm to, children's development. These findings are then related to current early years education frameworks which include the use of technology, including digital games, in learning tasks and outcomes. We urge educators, and media scholars alike, to consider these parental constructions, as influential components of the context of children's informal experiences with digital games at home.

Digitising Kids with Chooks to Supercharge One Online Activism Campaign

Jane Mummery (Federation University Australia) and **Debbie Rodan** (Edith Cowan University)

Wednesday, Stream 2, 10:45am

In July 2014 the peak national animal welfare organisation, Animals Australia, took on McDonalds and other fast food companies with regards to their continued use of cage eggs. As part of their ultimately successful campaign – and what has been detailed as instrumental towards that success – Animals Australia put out the following invitation to young Australians and their parents:

Children and animals — it's a tale as old as time. If you've ever seen a child and a dog, cat, chicken or any other animal together, you'll have witnessed the unique bond they share.

But how many children you know would support keeping chickens in cages?

It's time for McDonald's to hear what the kids of Australia think of keeping hens in cages.

If you have a child who cares about animals, or you know someone who fits that description, we want to help them make their voice heard! And to say thanks for speaking up for hens we'll

send them some fun stickers and a fridge magnet PLUS a petition to get their friends on board!

Here's what to do:

Grab your kids and help them compose their personalised message asking Maccas to free chickens from cages. You can do this one of two ways:

Write a handwritten letter (and take a photo of your child holding their letter); or

Film a short video message — whether it's 5 seconds or 5 minutes — it doesn't matter!

When that's done, complete the form below to send it to us and we'll make sure Maccas gets the message that kids want to see hens freed from cages!

Our interest with this paper is to analyse this invitation, the responses – specifically those made into the short video that went viral in social media – and their reception. More specifically, we will explore the management of children's voices, images and authenticity within this domain in the context of charges of green-zealotry and the propagandising of children and the recognition that digital campaigning always needs an effective affective hook to capture attention.

Dispositifs and dispositions in infant mobile media use

Bjorn Nansen, University of Melbourne

Tuesday, Stream 1, 3:30pm

Young children's use of mobile media devices, interaction with touchscreen interfaces, and engagement with digital content and communication is attracting increased research attention. As these technologies have penetrated domestic spaces and lowered thresholds of usability, a number of studies have quantified young children's digital practices and routines, and investigated parental attitudes towards and mediation of digital media play.

The research highlights a critical tension between policy and practice. Health guidelines continue to emphasise a restrictive approach to young children's 'screen exposure' – despite now distinguishing between broadcast and interactive – whilst the use of touchscreens in early

childhood is both common and unexpected with young children inhabiting media environments containing multiple and mobile devices. In these contexts, parents are often left 'rudderless', having to navigate competing and contradictory messages from commercial, health, and educational discourses.

This paper contextualises the entanglements of discursive tensions and material negotiations by analyzing how infant mobile media use is enacted and understood within domestic space and family life. It draws on qualitative research that explored young children's (aged 0-5; n=41) use of mobile media in domestic contexts in Melbourne, Australia, during 2015-2016, using techniques including household media and screen tours, family interviews, and demonstrations of digital play. This household research was complemented by social media data collection exploring wider cultural contexts and content shared about young children's mobile media use on platforms such as YouTube and Instagram.

This research findings are located in reference to the concept of *dispositif* (Foucault), which articulates the varied discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements and so on that collectively shape and govern a particular situation. The *dispositif* analysed in contexts of infants' mobile media use incorporates a range of material and discursive elements, including histories of media domestication, wifi infrastructures, device distribution and mobility, policy guidelines, family routines, news media, internet publics, social norms, and personal values. The paper argues that this *dispositif* configures and complicates parental dispositions towards infant mobile media use, challenging models of parental mediation through uncertain and inconsistent practices.

Developing an innovative online intervention to support schooling for children and young people with cystic fibrosis

Rebecca Nguyen¹, Cindy Branch-Smith¹, Therese Shaw¹, Ashleigh Lin¹, Kevin Runions¹, Donald Payne^{1,2,4}, Heather Hugo³, Donna Cross^{1,3,5}

Telethon Kids Institute, Western Australia¹, School of Paediatrics and Child Health, The University of Western Australia², School of Medicine, Dentistry and Health Sciences, the University of Western Australia³, Princess Margaret Hospital, Western Australia⁴, Edith Cowan University⁵
Thursday, Stream 2, 11:15am

Students with cystic fibrosis (CF) are often faced with rigorous daily treatments and challenging side effects, frequent hospitalisations and some socio-economic related factors that can contribute to increased school absences. Having CF can lead to social isolation, increased risk of mental health problems and poorer school performance compared to students without CF.

Our aim is to develop an innovative online intervention that will support students with CF to improve their mental health, social wellbeing and school connectedness by encouraging social interaction via online conversations with other students and peers with CF.

A sequential mixed-methods approach was utilised which included online focus groups involving 11 young people with CF. These young people discussed their lived experience of being a school student with CF. Quantitative data were also collected via an online survey from 26 CF students (aged between 10 – 16 years of age) and their parents.

Focus group participants assisted with the development of the content and functionality of a mock-version of a mobile smartphone app (called a 'wireframe') that was designed to help to improve their social and mental health and wellbeing and school connectedness through a number of features. These features included:

1. 'School Connect' – an interface that allows students to manage their schoolwork via downloadable class curriculum, tasks and activities (to help them when they are absent)
2. 'Virtual Buddy' – an interactive artificial intelligence feature that prompted them to think about their feelings throughout the day and responded with positive messages

3. 'Medication Reminders' – a 'gamified' function that reminded students to take their medication and be rewarded with goals and achievements
4. 'Social Chat' – an interactive online chat room that allowed students to connect to other students with CF (given the limited face-to-face contact young people with CF can have with each other due to the risk of cross-infection)
5. 'Entertainment' – a function that allowed students to play entertainment while completing their daily physiotherapy

Focus group participants provided feedback on each of the features and responded very positively when it was presented to them.

The use of the CF mobile app may help to improve the socio-emotional health outcomes and school connectedness for students with CF. The outcomes of the study found the need for systematic assessment of psychological outcomes for youth with CF attending school, and provide guidance for interventions to promote mental health and school engagement. This project has recently received funding to develop and test this app more fully.

Toy unboxing videos and the mimetic production of play

Benjamin Nicoll and **Bjorn Nansen**, University of Melbourne
Wednesday, Stream 2, 1:30pm

This paper contributes to research on the digitisation of early childhood – particularly emerging research on young children's participation on social media – by analysing "toy unboxing" videos. Toy unboxing videos are a popular genre on the video-sharing platform YouTube, in which children and adults record themselves unpacking various commercial toys. Existing research in this area has focused on case studies of how these videos are consumed as a means of augmenting offline toys and play practices (Marsh, 2016: 375-376), or alternatively, how well-known unboxing channels such as EvanTube operate as "brand influencers" (Ramos-Serrano and Herrero-Diz, 2016). Drawing on data produced through a content analysis of 100 recent toy unboxing videos, this paper analyses the place of children in the genre's "affinity space" (Lange, 2014).

The "toy unboxing" videos were coded across five key categories – production, actors, narration, products, and branding – to analyse

variations of expertise, professionalism, and promotion across the genre. The findings indicate that children's modes of production as amateur content producers both shape and are shaped by the conventions of this video genre. While well-known "professional" channels such as EvanTube often seek to produce a semblance of playful amateur authenticity, the ostensibly "amateur" child unboxers mimic the production and branding strategies of the "professional" channels.

We argue that this reciprocal relationship between professional and amateur content production can be best understood through the concept of "mimesis", which characterises the qualities of play and commercialisation within the toy unboxing genre. Such mimetic participation involves children operating as both sites and subjects of imitation within affinity spaces such as YouTube, articulating how "waves of collective imitation" in "brand publics" (Arvidsson and Caliandro, 2015: 2) cut across rigid boundaries of production and consumption, amateur and professional, adult and child.

Detoxing from digital parenting: the precarious pressure of parenting apps

Kate Orton-Johnson, University of Edinburgh
Thursday, Stream 1, 2:00pm

Parenting apps for smartphones and other mobile devices are an increasingly popular source of information and advice for new parents. They enable parents to monitor feeding and sleeping schedules and to measure these against normal patterns for their infant's age and stage. They provide medical advice, function as baby monitors and sleep aids and act as social platforms where parents can track and share essential milestones and memories.

A growing body of research has focused on the ways parenting apps provide support and reassurance for parents learning to care for a new baby. At the same time the use of these apps is raising concerns around issues of data security, surveillance and privacy, the idealisation of the post natal experience and the digital footprints and shadows created by data tracking.

This paper contributes to these debates by focusing on parents who have made an active decision to reject these kinds of digital mediations.

Drawing on qualitative data from interviews with 10 sets of parents the paper explores their decisions to stop using parenting apps. While the monitoring and measurement of infant milestones has long been a part of parenthood, these parents found the use of apps shaped their parenting practices, and their relationship with each other as parents, in ways that were problematic and undesirable. The paper discusses the conflict that the parents faced in their love/hate relationship with the apps they used; feeling that they gave a sense of structure and security when tired, frazzled and vulnerable, but also that they exacerbated feelings of pressure, comparison and guilt.

The paper argues that in using digital objects and spaces to help navigate parenting, apps do not simply mediate but can actively shape the experience of parenting. Through the datafication of the infant body and in its representation in digital form, apps create a digital double, a collection of data points, which frame the infant and parent in ways that can feel precarious.

Vietnamese pre-schoolers' use of tablet devices and emergent literacy: An ecological investigation

Becky Pham and Sun Sun Lim, Singapore University of Technology and Design

Wednesday, Stream I, 10:45am

As Vietnam's economic growth and consumer demands continue to accelerate, more Vietnamese families are now able to access smartphones or tablets. Bronfenbrenner's ecology of human development (1979) theorises that children's development is shaped by the multiple environments that they live in including the microsystem (the home and school settings), the exosystems (the family's social networks), and the macrosystem (the larger social, cultural contexts that embed the other systems). A growing body of literature has found that the use of digital devices has positive influences on young children's early learning processes such as letter sound knowledge, reading, writing, and solving problems both at home and at school. However, little is known about the impact of other factors outside the home and school environments on young children's emergent literacy development through such digital device use. This research, therefore, aims to investigate the ecology of

pre-schoolers' use of tablet devices and emergent literacy in Vietnam. We conducted an ethnography with 42 mother-child dyads in the Ho Chi Minh City Metropolitan Area in the South of Vietnam, which involved in-depth interviews with the mothers and observations of both the mothers and the pre-schoolers in their homes to answer three research questions:

RQ1: How do the home and school environment influence Vietnamese pre-schoolers' tablet use to develop their emergent literacy?

RQ2: How do the family's social networks influence Vietnamese pre-schoolers' tablet use to develop their emergent literacy?

RQ3: How do Vietnam's social and cultural contexts influence Vietnamese pre-schoolers' tablet use to develop their emergent literacy?

We found that although digital devices have not been formally incorporated into pre-school education in Vietnam, the mothers strongly regard the smartphone and tablet as learning tools that gave their children a distinct edge in educational achievement. This perception also influenced their tablet purchase decisions and to regard these devices as strategic tools to cope with Vietnam's stressful education system and cram-school culture. However, their growing adoption and appropriation of these devices is not matched by a concomitant understanding of the benefits and risks of introducing such devices to children in early childhood.

iPad apps for Toddlers: How can we know which ones are good?

Pauline Roberts, Edith Cowan University

Thursday, Stream I, 11:15am

The year, 2017, marks ten years since the iPhone was introduced and since then has come the iPad and other variations of tablet-based devices. The increased use of these devices has permeated all areas of modern life including the entertainment and education of young children. The developers of applications (apps) for these devices have also targeted the early years with educational and entertainment apps being explicitly designed and marketed for use with young children.

As the use of these digital technologies has increased, there have been concerns raised about the amount of time children - particularly those under 3, are spending interacting with these devices. Currently, research is being conducted into the effects of the use of these devices. Much of this research is embedded in the tenet that a balanced approach is the best

approach. Specifically it advocates the need for a balance between ‘screen time’ and ‘green time’ – time for young children to be outside playing and engaging with the natural world.

The use of iPads and their associated apps have become common place in early years’ settings. This increased use has highlighted the need for critical evaluation, particularly with the plethora of apps now available. So, how can educators judge the quality of apps and manage the time young children spend with these devices?

This presentation will outline some of the frameworks that have been developed to assist in the evaluation of apps created for tablet-based devices. This examination will include reviews of a number of apps, specifically designed for toddlers that have utilised these frameworks. The aim of the presentation is to provide key indicators of quality that can be used by educators in making decisions about the selection of appropriate apps for use with young children. It is hoped that this information may also provide the basis of notices or newsletters that could be distributed to parents to help them in navigating the maze of app selection for young children outside of the educative environment.

Television and related media in the everyday lives of UK preschoolers: play, literacies and classed practices

Fiona L. Scott, The University of Sheffield

Wednesday, Stream 1, 10:45am

This paper engages with issues of diversity and inclusion by considering how social class is implicated in children’s home practices with television and related media. Beck (2014) famously described social class as a ‘zombie category’, suggesting that thinking in terms of social class was blinding academic researchers to the real ‘experiences and ambiguities’ of modern life. And yet, inequalities in the UK not only persist, but are in fact growing. As Diamond & Giddens (2005) point out, the UK ‘suffers from high levels of relative poverty and the poor in Britain are substantially poorer than the worst off in more equal industrialised societies’ (p. 102).

Existing studies examining very young children’s relationships with television in relation to social class or socio-economic status tend to be quantitative, light-touch and arguably rather reductive (with a focus on what and how much children watch). Social class is often inserted as ‘another variable’ in existing debates about negative aspects of television

and related media. There has, thus far, been little detailed fieldwork examining the role that engagement with television and related media at home play in shaping children’s very earliest understandings of the world and their early literacy practices across a socio-economically diverse range of participants.

This paper presents findings from a recently completed mixed-methods study, including the results of a survey with 1,200 UK parents and six months of ethnographic fieldwork at home with 8 UK families. It discusses the role that TV plays in shaping children’s experiences of the world and their earliest learning, showing how digital technology, play and literacy are interrelated. It will illustrate a broad range of contemporary home/family practices around television and related media in a diverse range of UK homes and ask the question: ‘how is social class implicated in these practices?’ Drawing on a Funds of Knowledge approach and Bourdieusian notions of social capital, it will also take a new look at the gap between home and school literacies with regards to children’s play around television and related media.

Playing with a digital swing

Helle Marie Skovbjerg, Aalborg University

Wednesday, Stream 2, 3:00pm

Based on a four months field study in a kindergarten among 37 5-year-old children in Denmark, this paper explores playing activities on a digital swing called SON-X Octavia. SON-X Octavia is an interactive sound unit, which can be attached to any swing chain, containing different types of playing activity. The paper explores the relationship between SON-X, the playing activities, and risky play.

The aim is to show that the SON-X Octavia offers the children play possibilities that allow them to explore different types of play practices. One interesting finding was that the children explore risky play using the feedback from the SON-X technology as a way to manage risk and security within the limits of their playing activities (Sandseter, 2009; Svendsen, 2008, Skovbjerg, 2017, forthcoming).

The exploration and analysis is understood through the following theoretical framework: Play media, play practices, and play moods (Karoff, 2013) using Bateson’s term of “framing” (1955/2001), Schmidt’s notion of commonness (Schmidt, 2011), and Heidegger’s term “mood” (1996). Play mood is state of

being in which we are open and ready, to both others and their ideas, and to new opportunities for play practices. The paper points to four types of play moods – devotion, intensity, tension, and euphoria that show affiliation with four types of play practices – sliding, shifting, displaying and exceeding. Through play practices on the interactive swing, children create play moods. Through this conceptual framework, it is possible to highlight three features of play on the digital swing. First moods are essential to play on the swing; second, moods are always in plural; and finally, playing on the swing children look for ways to engage with the swing in order to explore and manage risky play.

Screening language acquisition skills in a mediated childhood

Kylie Stevenson, Donell Holloway, Lelia Green and Kelly Jaunzems, Edith Cowan University
Wednesday, Stream 1, 1:30pm

In a wide-ranging research project which focuses on the digital media consumption of very young children (aged 0–5), and the family-based construction and support of these skills, one child has particularly caught attention. This child finds herself raised in a multi-lingual dual location household spanning three generations, with two foster siblings who are mother tongue English, raised by the grandparents. The parents use English as their working language but Mandarin at home, while the grandparents are mainly Mandarin speaking. This paper draws upon an observational ethnographic case study plus interviews with mother, and engagement with the two year old child, Lavinia. Lavinia is an ardent fan of Peppa Pig and loves everything that brings Peppa Pig into her life. However, what astonished the researchers was when she was playing Peppa Pig in Mandarin on an iPad in parallel with the same episode in English in streaming video mode on the television. Whilst talking to her mother, the researchers watched Lavinia set this whole system of media retrieval and play into action. In a matter-of-fact way and without needing to ask for help, Lavinia created a self-paced tutorial to practice her Mandarin–English bilingual comprehension using Peppa Pig. Neither mother nor daughter construed this behaviours as either out-of-the-ordinary and it seems as though this innovation, which has been practiced on a number of occasions, was entirely Lavinia’s idea. Lavinia’s clear desire to learn bilingually has also prompted her parents to enrich her play experiences with supplementary media resources and experiences.

Building Online Media Literacy at Harapan Ibu Kindergarten, Indonesia

Erna Mariana Susilowardhani and **Yute Inten Apsari**, Tanri Abeng University
Tuesday, Stream 2, 10:45am

Lack of parental supervision associated with the use of media in children would have caused the adverse implications for their children. They could have access to content that is not appropriate to their age because of the ignorance of the children when it is associated with the content. Therefore, we should foster early literacy to children. The role of parents is very important in monitoring their children’s activities in using online media. However, they also introduced on how to use digital communication devices and the use of online media at school. Each school has a different way of introducing it to their students. As an established educational institution on kindergarten school, Harapan Ibu Kindergarten that is located in Jakarta, Indonesia, of course has its own way in introducing online media to their students and foster media literacy among them. Therefore, this study wanted to know how Harapan Ibu Kindergarten develops online media literacy to their students. This study used the concept of online media, media literacy, media use, and the concept of early childhood.

By using qualitative descriptive approach, researchers used in-depth interviews to a number of informants among kindergarten teachers of Harapan Ibu Kindergarten, to get an idea of their efforts to foster media literacy, particularly in relation to online media. For technical validity of the data, researchers used triangulation to re-cross check information that has been obtained from the interviewees in this study.

The results of this study are expected to provide input to early childhood education to institutions on introducing the good use of online media and also foster media literacy for the students. Also to give positive feedback to Harapan Ibu Kindergarten in applying learning methods related to the use of online media among early age children so they are aware on using online media on their early stage, though with their limited ability to read and analyse the contents on the online media.

Media Online Use amongst Early Childhood: What Do They Seek?

Erna Mariana Susilowardhani and **Yute Inten Apsari**, Tanri Abeng University

Tuesday, Stream 1, 2:00pm

Online media has become the part of our daily life. Moreover, supported with the use of smartphones that has made us access the internet easier, wherever and whenever we are. In a family environment, an early age children also use smartphones and access online media even though they don't have the smartphone and the account themselves. However, because of family members are using smartphones that are accessible by the internet, the children tried to use it too. Yet, what are they looking for and devise are they using? This study aims to describe the use of online media in early childhood.

Researchers used several concepts that are relevant to this research, among them is the concept of the use of media, new media, online media characteristics, and characteristics of early age children.

This study used a qualitative approach. Type of descriptive exploratory. Based on the reality encountered, this study used the phenomenological method. Primary data from observations and interviews. The observations were made to a number of children of early age in their daily use of online media. While the interview was conducted with their parents as an explanation of the use of online media among their children. Mechanical validity of data used triangulation methods that try to compare the results of observational research with interviews that have been made to each of the parents of early age children.

The result of this study is expected to provide an overview of the use of online media among early age children. Furthermore, this research can contribute, especially to online media content providers to create applications that are useful and can support the needs of early age children in their learning process. In addition, it is also to advise the parents to better assist their children to access online media content in order to adapt to the needs of their children.

Rethinking the child: A download on human rights, children and the digital

Amanda Third, Western Sydney University

Thursday, Stream 1, 2:00pm

Recently, calls for the recognition of the potential of online and networked media for promoting and sustaining children's rights have gained momentum. But what are the implications for human rights, as both a theoretical concept and a field of practice, of claiming children's rights in the era of connectivity? And what are the meanings and limits of the concept of the child in this context? Reflecting on a study conducted with 148 children from 16 countries, this paper argues that the move to embrace both 'children' and 'the digital' necessitates a radical rethinking of the concept of human rights. To make this argument, I examine the temporalities that proscribe children's relationship to the state, citizenship, rights and 'the digital'.

Early childhood workforce engagement with an online, community-of-practice to support healthy eating environments

Ruth Wallace, Leesa Costello and Amanda Devine, Edith Cowan University

Thursday, Stream 2, 2:00pm

Early childhood education and care (ECEC) settings offer an important environment where children's food preferences and habits can be positively influenced to enhance future health and wellbeing. In particular, nutrition-oriented online communities-of-practice (oCoP) can offer support and information required by the ECEC workforce to provide healthy eating environments in this setting.

Supporting Nutrition for Australian Childcare (SNAC) is a nutrition-education website developed specifically for the ECEC workforce, where the online community-of-practice was fostered. A qualitative, netnographic, analysis of the SNAC community was conducted longitudinally over a 12-month period. Data was collected from interviews (n=42), observational and website data, including discussion-board threads and web-analytics.

One-year post-launch, there were 1045 SNAC members; 1.5% were regular contributors, 7.5% intermittent contributors, 80% peripheral participants

(those who read posts without contributing material), and 11% not returning to the SNAC website after initial registration. Although, this 'participation inequality' is typical of most online communities (Nielson, 2006), for an emerging oCoP such as SNAC, it is often frustrating for active members and moderators who invest time and energy encouraging active participation.

It was encouraging, however, that while most members were inactive 'peripheral' participants, they still reported satisfaction with the 'vicarious support' received through reading food and nutrition-related online discussions. Although these participants avoided posting their own stories for fear of criticism, they were encouraged by stories shared by active members. In this way, the 'write-once read-many' concept, coined by technology experts, provides a continuous conduit of support: where stories which have been posted (once) by few active members, are read many times by less active members. In this respect, active members and moderators do make a difference despite the apparent silence; would knowing this encourage active members to continue posting, especially if they are inclined to reduce participation if the silence continues for too long?

While strategies to increase ECEC workforce engagement with this emerging oCoP is still needed, it is encouraging to see the efforts of a few making a difference for those working on the frontline. But what happens to the few? What rewards do they reap and how might they be encouraged to stay?

Raising the Perfect Child? Algorithms, Quantification and Prediction

Michele Willson, Curtin University
Tuesday, Stream 2, 2:00pm

The nature and possibilities of the everyday are changing rapidly – new occupations, new skill sets and epistemological and ontological understandings are required. The environment in which the 0-8 year old child is conceived and raised increasingly draws upon the knowledge and the outputs of a technologised environment that is variously programmed, monitored, analysed and manipulated. Simultaneously, the expectations of parents, educators and health professionals are changing as new

tools and new possibilities for quantifying; analysing and predicting the directions and futures of these children become available. Algorithms as ways of doing or fixing are central to this process. This paper will explore the power of algorithms within the everyday of the digital child and the questions this raises about the expectations, the challenges and the politics of raising the 'perfect child'.

Understanding and articulating algorithmic power has become increasingly complicated with the introduction and expansion of the internet of things – the encoded and interconnected actions of a range of technologies in and around the everyday. From wearable technologies to digital and robotic assistants online and in the home, the intersection of the online spaces and the domestic, the personal and the public spaces we inhabit are increasingly inseparable, 'data-fied' and algorithmically entwined. This intersection of spaces and places and infiltration with the lived experiences of the everyday is an environment and a reality within which the raising of the 0-8 year old child is embedded and with which the child regularly engages or will engage.

This intersection also opens the possibility for all of the child's activities to be recorded, surveilled and analysed. From the moment of conception onward, increasingly the activities and attributes of the child are monitored, captured, analysed and predicted within parental, health, commercial and educational concerns rendering the digital child as quintessentially embedded in an algorithmic derived amalgam of measurements, tools and discourses that describe not only the parameters of the perfect child but also create the expectations and detail the processes involved in achieving this outcome.

Digital childhoods and multimodal lives

Nicola Yelland, Victoria University
Thursday, Stream 2, 11:15am

This paper will summarise the findings from a four year iPad project with young children in preschool and the early years of school. The project explored the pedagogies that could encourage and support multimodal learning in contemporary educational settings. Working alongside teachers, we sought to discover how tablet technologies can enhance and extend the use of traditional materials to enable young children to

become literate and numerate in the 21st century. This paper describes some of the ways in which this was achieved, as well as encouraging the use of '21st century skills'; creativity, collaboration, critical thinking and communication.

Young children and digital technology use

Juliana Zabatiero, Clare McHugh, Susan Danby, Suzy Edwards and Leon Straker, Curtin University
Tuesday, Stream I, 2:00pm

The rapid proliferation of Australian children accessing mobile touch screen devices (e.g. tablets, smart phones) has led to widespread uptake across home, school, and community settings. Whilst no Australian representative national data exist yet, available evidence suggests that many children under 2 years, and most children aged 3-5 years, are using these devices. As with prior waves of technology (television, computers, electronic games), broad access led to communities embracing these new technologies as well as having concerns about potential negative consequences on young children's development. Although longer-term evidence exists of the impact of older technologies on children's physical and mental development and well-being, such evidence is not yet available for this new generation of mobile technologies; a natural consequence of rapid technological evolution.

Family members and early childhood educators have pivotal roles in helping young children develop appropriate habits for wise technology use. This significant role for families and educators reflects that many caregivers of young children are the first generation to raise children who use mobile digital technologies. Helping children to learn wise and developmentally appropriate ways of using digital technology is likely to help ensure children gain the potential benefits from technology whilst minimising the potential risks.

Given community concerns, a better understanding of families and early childhood educators' attitudes towards digital technology use by young children is essential to inform policy and practice. This presentation describes preliminary data from an industry survey of Australian families and early childhood educators. The survey investigated respondents' attitudes, particularly on what excites and concern them about young children using digital technologies, as well as areas families and educators believe guidance or advice is most needed.

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