Growing up in the digital environment

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Abstracts

THE IMPACT OF SCREEN ENGAGEMENT ON YOUNG CHILDREN'S COGNITIVE DEVELOPMENT
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Aims: While much is known about the effects of screen time on child development, less research has focused on the effect that various types of screen engagement (such as playing computer games or watching TV) are having. The research aims to address this gap by assessing the extent of young Irish children's engagement with various screen activities, and whether these types of engagements have differing impacts on their cognitive development.
Methods: The study is a cross-sectional design using the Growing Up in Ireland Infant Cohort dataset to investigate the effects of screen time variables on vocabulary development and problem-solving skills in 5-year-old children, as measured using the British Ability Scales.
Results: The results indicated that both amount of screen time and type of screen time engagement had a significant impact on the children's cognitive scores, with regression analyses showing cognitive scores continuously decreasing the longer the child is exposed to a screen. However, these results vary in severity based on what type of screen activity the child was mostly engaged with. For example, children who mostly played video games had the lowest vocabulary development scores across all time brackets, even after controlling for parental and environmental factors.
Conclusions: The implications of the findings may be of interest to Governmental bodies during policy making for young children's screen use, while also contributing to the discourse on what aspects of screen-time use may be detrimental or beneficial for the healthy development of children in this age bracket.

MOVING WELL-BEING WELL: GETTING IRELAND'S CHILDREN MOVING
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Aims: The project aims to assess the current status of Irish children's physical literacy status, while developing an intervention seeking to address deficiencies in these areas and have a positive impact on the participant's physical literacy. With physical literacy being recognised as a key driver in lifelong physical activity participation, phase one of the Moving Well-Being Well study has assessed 2,148 primary school children (5-13 years) in all aspects of the currently accepted physical literacy model. Phase two has seen the implementation of a pilot intervention aimed at increasing participants physical literacy in a novel and unique way, in part by using interactive whiteboards to bring physical activity into the classroom.

Methods: Areas of assessment included; fundamental movement skills (FMS) proficiency, perceived motor skill competence, motivation and confidence measures, health related fitness measures, body image, wellbeing and physical activity participation. All assessments were carried out using a bespoke iPad application created for this research project.

Results: Results from the initial data collection suggest Irish school children, who lead more active lifestyles, have significantly higher FMS proficiency, higher fitness levels, increased wellbeing, and are more motivated and confident to take part in physical activity. The pilot intervention has increased participants fundamental movement skill proficiency, which is a key component of physical literacy, by 25%.

Conclusions: The results of the Moving Well-Being Well project could have a large role in addressing Ireland's increased sedentary lifestyle and the growing obesity epidemic. Future research should investigate longer term impact and sustainability of such a programme

CHILDREN'S OWN PRIORITIES FOR THEIR SCHOOL READINESS: MORE THAN JUST A CHECKLIST OF SKILLS AND BEHAVIOURS

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Aims: Young children in communities facing socioeconomic disadvantage are increasingly targeted by school readiness interventions. Yet we know little about how intervention design, including the selection of outcomes measures, aligns with children's own priorities for their early school adjustment. The Children's Thoughts about School Study sought to address this gap by examining young children's accounts of their early school experiences and their advice for others starting school.

Methods: Mixed-method interviews were conducted with 42 junior infant children living in the Preparing for Life early intervention catchment area. First inductive thematic analysis identified 25 priorities across four inductive domains: feeling able and enthusiastic for school; navigating friendships and victimisation; supportive environments with opportunities to play; bridging school and family life. Second, deductive analysis compared children's priorities at item level against a state-of-the-art battery of school readiness outcome measures.

Results: Many of children's priorities, including core academic competencies and aspects of self-regulation, were well captured by available outcome measures. Yet some priorities relating to school liking and self-efficacy, specific social skills, creative thinking and play, the school environment, and family-school involvement were less well measured, and in some cases overlooked, by the assessment tools most commonly used in the field.

Conclusions: This analysis derived from children's own perspectives suggests that assessments of children's school readiness and early school adjustment would benefit from considering factors children consider salient. Such assessments could expand our understanding of treatment effects as well as elucidating areas in which children's school adjustment could be further potentiated.

RELATIONSHIP DYNAMICS IN YOUTH MENTORING RELATIONSHIPS: A MIXED METHODS ANALYSIS

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Aims: The relationship between mentor and mentee is critical to youth mentoring interventions and thus it is imperative that relational dynamics are explored and understood in order to inform

programme development. This paper presents quantitative and qualitative data in relation to relational dynamics between mentors and mentees taking part in the Irish Big Brothers Big Sisters Programme (BBBS).

Methods: The paper integrates a secondary analysis of quantitative and qualitative data gathered as part of a large-scale evaluation of the BBBS programme in Ireland (Dolan et al, 2011), including: Hierarchical Multiple Regression analyses of survey data provided by 76 mentors and mentees in relation to relational dynamics (e.g. satisfaction, closeness, happiness, helping, & frequency of meeting) and how such dynamics impact on youths' developmental outcomes for young people (including emotional well-being, relational support, risk behaviour & education).

A thematic analysis of in depth semi-structured qualitative interviews undertaken with ten mentors at two time points during their mentoring relationship (Braun and Clarke, 2006).

Results: The qualitative data will provide an insight into how mentors conceptualise their roles and the actions they take to build relationships with young people. Quantitative data will focus on examining the relational dynamics between mentors and mentees over time and outline how these dynamics impact developmental outcomes for young people.

Conclusions: The paper will draw a series of conclusions of relevance to youth mentoring theory and practice.

INVESTIGATING ASSOCIATIONS BETWEEN MATERNAL WELL-BEING AND INFANT DIETARY INTAKE IN A LOW-INCOME SETTING

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Aims: One in four children are currently overweight or obese, with dietary intake a key contributing factor for weight outcomes. Low socioeconomic status and maternal well-being have been identified as risk factors for poor dietary intake and childhood overweight and obesity. This research aims to explore effects of maternal stress, depression and self-esteem on dietary intake at 18 months in a low socioeconomic context.

Methods: Data from the Preparing for Life study were analysed. Participants were parents and children (n=332 dyads) from low socioeconomic areas in Dublin. Maternal stress, depression and self-esteem were measured using the Parenting Daily Hassles Questionnaire, the Edinburgh Postnatal Depression Scale and the Rosenberg Self-Esteem Scale, respectively. Child dietary intake was measured using a Food Frequency Questionnaire. Based on national guidelines, binary outcomes were created for each of the four food groups (grains, fruit and vegetables, protein, dairy) and a composite binary "overall healthy diet" variable. Logistic regression models were used to examine associations between stress, depression and self-esteem and these dietary outcomes.

Results: Two-hundred and twenty five parents completed measures when children were 18 months old, representing a response rate of 68%. At this time, only 0.9% of children were receiving an overall healthy diet. No significant associations were found between stress, self-esteem or depression and dietary outcomes.

Conclusions: Maternal stress, depression and self-esteem did not demonstrate significant effects on children's dietary intake at 18 months in this sample. At 18 months, environmental factors, including low socioeconomic status, may present a greater risk of childhood overweight than maternal factors.

LEADERSHIP, SUSTAINABILITY AND EXTENDING THE LEARNING FROM THE HEALTHY SCHOOLS PROGRAMME TO OTHER NATIONAL AND INTERNATIONAL CONTEXTS

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Aims: The aims were two-fold, one to compare victimisation, depression and body mass index among school children internationally and two to lead on the sharing of the Irish learning with a view to sustaining and extending this learning internationally.

Methods: Building on existing and new collaborations, researchers from South Africa, Australia and the Netherlands, were invited to participate in a shared analysis of children's health and victimisation data. Regular skype meetings led to further details and descriptions of the four international data sources, selections of the variables, and choice of year(s) of data were decided. Permissions to access the data was obtained and protocols for data extraction were drawn up. A descriptive and correlational analysis and mediation and moderation modelling was decided upon.

Results: Preliminary analysis on victimisation found that frequency of victimisation had decreased in Year 2 compared to earlier waves. As for childhood depression, using mediation models incorporating age, and controlling for gender, that health status did not change for these urban disadvantaged children. In terms of leading and sustaining a healthy school in practice, the importance of good leadership within a school; the importance of identifying a local school based need that was endorsed and recognised by the whole school community and finally the readiness of a school for local implementation, was identified.

Conclusions: The sharing of learning from the original healthy schools project has extended beyond the original project and practice and has contributed not only to the region but also to international practice.

A CHILDREN'S RIGHTS FRAMEWORK AS A MECHANISM TO ENHANCE THE SAFETY AND PRIVACY OF EXPLORING PORNOGRAPHY VIEWING PATTERNS AMONG IRISH STUDENTS AND ESTABLISHING AN EVIDENCE-BASE FOR THE DEVELOPMENT OF PORNOGRAPHY LITERACY INTERVENTIONS FOR ADOLESCENTS

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Aim: Researchers and educators continue to express concern about the use of pornography as a source of information about sex by young people and have called for pornography literacy education to be incorporated into sex education programmes. However, we have little information about the pornography viewing experiences of Irish young people and lack of agreement regarding pornography intervention development. This first phase of this study was to explore the pornography viewing patterns of Irish university students (N = 1,934). The second aimed to engage participants, aged 18-29 (N = 54), in the identification of relevant curriculum content.

Method: Phase one involved the administration of a cross-sectional, quantitative survey to a sample of university students. In phase two participatory methods of data collection were used to generate core concepts for porn literacy education and these concepts were subsequently explored in group interviews.

Results: Phase one findings show that the majority of Irish youth first engage with pornography from between ages 10 and 13, with many using pornography as a source of sex education. Phase two findings suggest that the proposed learning outcomes for pornography literacy education should focus on reducing shame regarding pornography engagement and improving critical thinking skills regarding the following sexual health topics: body image comparisons and dissatisfaction; sexual and gender-based violence; fetishizing of gay and transgender communities; and setting unrealistic standards for sex.

Conclusions: Methods of engagement for porn literacy, gendered differences and important findings that are specific to LGBT+ persons are discussed and recommendations regarding future research and intervention development are outlined.

YOUNG PEOPLE'S PERCEPTIONS OF THE NATURE OF CYBERBULLYING: A META-ETHNOGRAPHY

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Aims: Cyberbullying is an international Public Health concern. Progress in addressing it has been hindered by a lack of consensus regarding conceptualisation of the phenomenon. A number of studies have explored young people's perceptions of cyberbullying using qualitative methods. A synthesis of these studies has the potential to advance our understanding of this complex phenomenon.

Methods: Researchers conducted a systematic review, quality appraisal, and meta-ethnographic synthesis of primary studies that used qualitative methods to explore young people's perceptions relating to the nature of cyberbullying. Conduct of the synthesis was guided by the seven step model of meta-ethnography as described by Noblit and Hare.

Results: A comprehensive search of nine databases returned 4,872 unique articles. Of these, 122 were reviewed in detail by two reviewers, and 13 were included in the synthesis comprising 753 young people across 12 countries. Researcher reflexivity was found to be lacking in the majority of studies, only one study made explicit reference to the adult-child relationship and its impact on the research process. Findings suggest that cyberbullying takes place within young people's social groups and relationships. Key factors considered by young people in characterising cyberbullying emerged from the papers including intent, repetition, power imbalance, anonymity and publicity.

Conclusions: This review highlights the unique, complex and ambiguous nature of the cyber-world and the interactions that take place within it. Understanding this world from young people's perspective is essential to protecting young people's health and wellbeing and tackling cyberbullying effectively in policy and practice.

'KIDS WILL *ALWAYS* OUTSMART US': A QUALITATIVE STUDY INTO PARENTS' DECISION-MAKING AROUND SCREEN TIME

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Aims: The study aimed to ascertain the types of screen time children are engaging with, their level of access to devices, parental attitudes and concerns, perceived challenges, and which strategies parents adopt to navigate decision-making around screen time rules in an increasingly digital world.

Methods: Semi-structured interviews (n = 12) with caregivers of children (7-12 years of age). The sample is split between family whose children attend state schools (n = 7) and Steiner schools (n = 5). Interviews were analysed thematically.

Results: Children's screen time is divided into watching, playing games, interacting, and finding information. The most frequently used devices are television, tablets and game consoles. The level of access and rules around screen time vary significantly across families. All parents express concerns about adverse impacts of screen time or potential dangers, specifically around inappropriate content and contact. Strategies to counterbalance concerns include restriction, protection, and encouraging an open dialogue. The most pertinent influence discussed by parents is peer pressure.

Conclusions: Parental attitudes and concerns are considered from a cognitive dissonance perspective (Festinger, 1957). Parents solve the perceived incongruence by adopting different strategies to balance their concerns around screen time and their children's engagement with digital devices. Furthermore, the popularity of YouTube videos is discussed in relation to the discourse around digital consent and online safety.

POPULATION-BASED SYSTEM OF PARENTING SUPPORT TO REDUCE THE PREVALENCE OF CHILD SOCIAL, EMOTIONAL, AND BEHAVIOURAL PROBLEMS: DIFFERENCES-IN-DIFFERENCES STUDY

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Aim: The quality of parenting is recognised an important determinant of children's mental health. Interventions which promote parenting are typically targeted at high-risk families rather than adopting a universal preventative approach. This study examined the population impact of the Triple P Positive Parenting Programme on the prevalence of children's social, emotional, and behavioural problems.

Method: A quasi-experimental differences-in-differences method was used to compare two intervention regions and two comparison regions matched on socio-demographic characteristics in midlands Ireland. The pre-intervention sample included 1,501 and 1,495 parents of children aged 4-8 years in the intervention and comparison regions respectively. The post-intervention sample included 1,521 and 1,544 parents respectively. The primary outcome measure was parental reports on the Strengths and Difficulties Questionnaire.

Results: There was a significant reduction in the prevalence rates of social, emotional, and behavioural problems over time in the intervention region compared to the comparison region. Children in the intervention sample experienced lower total difficulties, emotional symptoms, conduct problems, and peer problems than children in the comparison sample, and they were less at risk of scoring within the borderline/abnormal range for total difficulties, emotional symptoms, conduct problems, and hyperactivity. Odds ratios ranging from 0.62 to 0.86 for a reduction in the proportion of children scoring in the clinical range were found.

Conclusion: The study demonstrated that a universal parenting programme implemented at multiple levels using a partnership approach may be an effective population health approach to targeting child mental health.

HOW CAN WE COMPARE? ANALYSING THE COMPARABILITY OF EVALUATIVE DATA FROM THE TALLAGHT WEST CHILD DEVELOPMENT INITIATIVE WITH A UK DATASET

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Aims: The aim of this comparative study was to identify areas of similarity and difference across two datasets with a view to contributing, both locally and internationally, to exploring the potential long-term impact of an Irish early intervention project.

Methods: The CDI evaluation was designed using a shared core sample of instruments with the UK Effective Provision of Preschool Education [EPPE] dataset. The steps in the comparative analysis included the development of an analytical framework; the identification of points of similarity and difference at the Child, Parental and Service Level and the interpretation of the data drawing on the qualitative data from both evaluations. By quantifying the degree to which the outcomes at comparable points are similar (or different), the study statistically extrapolated what the results might have been had the CDI evaluation study extended on for a longer period of time to allow data collection as the sample children progressed through into primary school.

Results: Drawing on the findings from the application of the analytic framework to the descriptive statistics of the British Ability Scales (BAS) for CDI Baseline and EPPE Entry we can see that the descriptive statistics are comparable with each other. However, the Adaptive Social Behavioural Inventory (ASBI) final scores were computed differently between the two datasets so direct comparison is not possible.

Conclusions: The study identifies the challenges faced in developing the analytic framework, the results derived from the application of the framework and discusses the value of the comparable data for further extrapolation.

"GIVING OUR CHILDREN THE BEST START IN LIFE": AN ONLINE, QUALITATIVE PARENT CONSULTATION SURVEY
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Aim: To promote greater engagement and dialogue between parents/ caregivers and services and supports and to understand Irish parents use and attitudes towards services and supports.

Methods: A large-scale, qualitative survey was developed by the Katharine Howard Foundation. The survey was piloted with a small number of parents and distributed through a range of online platforms. Data was analysed using a standard thematic analysis.

Results: In total, 1048 parents commenced the survey; 481 provided at least one valid response to the main survey items (46% response rate). Participating parents had, on average, 2 children (SD=1.1); 14% were expecting a baby at the time of participation. The findings shed light on parents' perceptions and utilisation of services and supports. For instance, the vast majority of parents reported regularly consulting internet sources for advice/guidance in relation to child development and parenting. Parents also reported using the internet to connect and interact with other parents and widespread usage of social media was reported. The study also highlighted parenting challenges, whilst many parents felt there was a significant need for well-funded community-based, accessible family support services and amenities.

Conclusions: Online data gathering systems can be a useful source of rich and detailed feedback on parents' experiences, ideas, opinions and preferences in relation to the services and supports and can be important to quality improvement for public services and organisational practices. A climate where service users are encouraged and enabled to actively and meaningfully participate in services, decision making, and policy planning is an important public policy priority.

ASSOCATIONS BETWEEN THE TECHNOLOGY USE AND SCHOLASTIC ACHIEVEMENT OF STUDENTS IN URBAN DEIS PRIMARY SCHOOLS
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Aims: The aims of the paper are to investigate the nature and extent of the use of digital technologies by students attending primary schools serving concentrations of students from disadvantaged backgrounds (DEIS schools), and to investigate links between technology use and pupils' performance in assessments of reading and mathematics achievement.

Methods: Participants were 4239 Third class children from whom achievement and contextual data were collected as part of the ongoing evaluation of the DEIS programme. Data were collected in spring 2016. Student achievement was assessed using the Drumcondra Sentence Reading Test (DSRT) and a shortened version of the Drumcondra Primary Maths Test -- Revised (DPMT-R). Information on students' access to and use of information technologies was collected via questionnaires administered to students along with the achievement tests. Questionnaires contained items on the amount of time spent by students outside of school on activities such as

reading online, messaging friends, playing games on devices, and streaming television, videos and music on devices. Students were also asked about their membership of social media networks and their smartphone ownership. Associations between each of these variables and student achievement in reading and mathematics were explored.

Results: On the whole, students who reported moderate use of digital technologies had higher average achievement in reading and mathematics than students who reported large amounts of technology use and those who reported little to no use of such technologies, all else being equal.

Conclusion: Moderate use of digital technologies may be supportive of children's scholastic achievement.

GENDER DIFFERENCES IN COGNITIVE DEVELOPMENT AND SCHOOL READINESS: FINDINGS FROM A RANDOMISED CONTROLLED TRIAL OF CHILDREN FROM COMMUNITIES OF SOCIO-ECONOMIC DISADVANTAGE IN IRELAND

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Aims: With the growing interest in the field of early intervention and prevention science in Ireland, it is important to explore whether boys and girls develop in the same way during early childhood. The current research therefore aims to examine whether boys and girls differ in their developmental trajectories across the areas of cognitive development and school readiness behaviours. The research also aims to examine whether a high intensity early intervention and prevention programme is effective in reducing any such gender discrepancies.

Methods: The current study involves secondary analysis of data generated under the Preparing For Life evaluation in Ireland.

Results: Analysis revealed gender differences in cognitive development at four years of age, with girls demonstrating higher scores compared to boys. Gender differences were also found in the area of school readiness at five years of age, again with girls demonstrating higher scores than boys. Finally, it was found that gender differences were more apparent in the low treatment group compared to the high treatment group.

Conclusions: The current research makes a valuable contribution to the field of early intervention and prevention science in Ireland, through highlighting possible gender disparities in early childhood development. Furthermore, the findings also highlight the potential of early intervention and prevention programmes in reducing these gender disparities.

CONNECTIONS: PARENTING INFANTS IN A DIGITIAL WORLD

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The use of digital technology in families with very young children is a largely unexplored area.

The purpose of the Connections: Parenting Infants in a Digital World study was to provide a greater insight into how digital technology is used by both parents and infants aged 0 - 3 years old and how it may influence these interactions in the home environment. Particularly, the new phenomenon of 'technoference' is considered through exploring the extent to which parental use of digital technology in the home may interfere with interactions or time spent with infants.

Participants for the study were parents living with a child aged 0 - 3 years old and were recruited through seven Barnardo's NI services related to parenting in the early years including three Sure Start services. The research was quantitative in nature and data was collected by an anonymous questionnaire. Both online and paper versions of the questionnaire were available during March 2018. A total of 199 questionnaires were completed drawn from across Northern Ireland.

Results show that the majority of parents reported medium to high levels of technoference. This indicates, to some extent, that infants' interactions with parents may be reduced by either quality or

time by parental use of digital technology. Findings show participants with high levels of digital technology use were more likely to permit their child to access online content alone for longer periods of time and were less likely to have limits around their infants' use of digital technology. This work offers fresh insight into how digital technology is used in the family environment and has highlighted the lack of evidence-based advice for parents when dealing with the opportunities and challenges of digital technology in family life.

A DIGITAL PRECISION TEACHING INTERVENTION IN THE PRIMARY CLASSROOM: EFFECTS ON IRISH READING FLUENCY
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Aims: The current study aimed to examine the impact of a three-week computer-based Precision Teaching (PT) intervention programme through the Irish language on a group of primary school pupils' Irish reading fluency.
Methods: The study employed a mixed factorial experimental design. Thirty-six Irish primary school pupils who were learning Irish as a second language were recruited for this study. Participants were divided evenly into two groups: experimental and control (N = 18). Participants completed tests of isolated sight word reading fluency and contextualised reading fluency before and after the PT intervention programme. The experimental group was exposed to the PT programme, which focused on isolated Irish vocabulary and was presented to them daily through use of laptop computers and Microsoft Excel, while the control group experienced typical teaching of Irish.
Results: The results of a one-way multivariate analysis of variance and a series of dependent-samples t-tests revealed that in contrast to the control group, the experimental group exhibited a significant increase in both isolated sight word reading fluency and contextualised reading fluency following the intervention.
Conclusions: This study emphasises the potential value of utilising a computer-based PT programme to aid second language learning, not only for increasing isolated sight word reading fluency, but also for enhancing contextualised reading fluency. It also emphasised the potential value of utilising digital intervention strategies in the primary classroom.

CODERDOJO YOUTH WORKER CHAMPION TRAINING
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CoderDojo Foundation
Introduction: CoderDojo is an education movement with the vision that every child worldwide should have the opportunity to learn code and to be creative with technology in a safe & social environment. In 2018 the CoderDojo Foundation offered youth workers the opportunity to join in our mission. To do achieve this, we developed and delivered 9 training days to 233 youth workers throughout Ireland.
Aims:
- Build confidence of youth workers to support young people to access programming and digital making skills.
- Support youth workers to overcome barriers to access to coding skills for young people in lower socio-economic areas and challenges with access
- Support technical skills for youth workers
Methods:
- Delivered 10 free, in person CoderDojo Champion training workshops in varies location across Ireland
- Provided free online content for a beginner, intermediate and advanced levels
- Supported youth workers to integrate CoderDojo activities into their existing programmes

- Support youth workers and librarians to work together to set up new creative spaces for young people to learn computer programming.

Results:

- 233 youth workers have been trained in 9 locations around Ireland
- Found solutions and provided templates to find funding to overcome challenges e.g. transport, food etc.
- Identified challenges in underserved areas with the aim to be able to provide some solutions in 2019

Conclusions: Challenges for youth workers to provide spaces for coding include equipment and lack of confidence. Connecting library groups with youth groups is an opportunity to meet the equipment challenge. Final conclusions will be outlined in the final to be published in January 2019.

IRISH STUDENTS' ICT COMPETENCE AND USE, SCIENCE PERFORMANCE, AND FUTURE STEM PATHWAYS: FINDINGS FROM PISA 2015
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Educational Research Centre

Aims**:** The Programme for International Student Assessment (PISA) transitioned to computer-based assessment in 2015 and Irish students completed their assessments in Science, using ICT, for the first time. Over the period 2012 to 2015, Irish students dropped over 20 points in scientific literacy. The aims of this paper are twofold: first, to explore the relationship between ICT factors and science performance; and second, to examine the relationship between science performance and future STEM pathways, specifically, Irish students' science-related career expectations at age 30.
Methods**:** Data from over 5,000 15-year-olds across 167 schools were analysed. These data consisted of student scores on the PISA scientific literacy assessment and responses to the PISA Student and ICT questionnaires. Findings for Ireland were compared with OECD averages.
Results**:** Looking at the student achievement in science, Irish students performed less well on new items, incorporating innovative formats, than on trend items. Students in Ireland reported using ICT for schoolwork less than the OECD average. However, they also reported greater interest in ICT and had higher scores of perceived autonomy and competence. Perceived autonomy and competency in ICT were positively correlated with science performance, although this relationship was weak-moderate. Less than one-third of students in Ireland expected to be in a science-related career at age 30.
Conclusions**:** Conclusions drawn from the analysis indicate the importance of nurturing students' autonomy and competency in relation to ICT and of continuing the efforts to embed ICT into teaching, learning and assessment in Irish schools (e.g., Digital Learning Framework). The potential impact of process data from digital environments for teaching and learning is also considered.

HOW DOES THE DIGITAL WORLD HELP DEAF CHILDREN TO IMPROVE THEIR COMMUNICATION AND LITERACY?
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Most children are now considered 'digital natives', learning from an early age how to use technology, regardless of whether they can read, write or communicate. Watching how well infants from around 10 - 18 months old interact on a mobile phone, 'Leapfrog' program or picture/word/sound association game is more the norm than extraordinary. So how does the digital world help Deaf children to improve their communication and literacy? In Ireland, the primary language of the Deaf is sign language - regardless of whether it is 'baby sign' (before implant or aids) or Irish Sign Language, whether the child has a cochlear implant or wears hearing aids. In the digital age we live in, the Deaf are able to access more information than five years ago or even two years

ago. And yet, the question needs to be asked whether this has created counterfeit development of literacy and communication within the Deaf community. Understanding how the Deaf access this digital world is fundamental in identifying how well and what they learn.

A LONGITIUIDNAL REGRESSION MODEL OF THE RELATIONSHIP BETWEEN COMPUTER USAGE AND ACADEMIC PERFORMANCE USING THE CHILD COHORT OF THE GROWING UP IN IRELAND STUDY
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Aims: Increased use of computers at home and school is current government policy in Ireland (Digital Strategy for Schools, 2017). Along with a continued growth of computer ownership and broadband connectivity, Ireland has seen an increase in children using computers and accessing the internet from a young age (Eurostat, 2016). This paper conducts a longitudinal exploration of the link between children's home computer use and their academic performance in the areas of reading and mathematics.
Method: Linked data from the GUI Child Cohort at nine-years (N = 8,568) and thirteen years (n = 7,525) will be used for this study. Cross sectional and longitudinal regression models are used to explore longitudinal changes in computer usage and relationships with academic performance from childhood into early secondary school.
Results: Previous research using the 9-year-old GUI cohort (Casey, Layte, Lyons, & Silles, 2012) revealed that internet surfing for fun had a positive and significant relationship with reading and mathematics performance at age 9: $\beta = 0.16$, $p < .05$, and $\beta = 0.05$, $p < .01$ respectively. Whereas instant messaging showed a negative relationship with reading $\beta = -0.16$, $p < .05$. The current study replicates and extends these findings with longitudinal data. Overall, high computer use and early social media adoption are associated with worse academic outcomes. Moderate usage patterns and independent learning using computers are associated with better academic outcomes.
Conclusions: The findings add to the body of knowledge on how computers can be best used in the home to promote beneficial academic outcomes.

DIGITAL LITERACY OF IRISH CHILDREN. A COMPARATIVE ANALYSIS OF 9-16-YEAR-OLDS' DIGITAL SKILLS USING DATA FROM EU KIDS ONLINE 2011 AND NET CHILDREN GO MOBILE 2014
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Aim: Meeting the challenges of the digital age and securing its benefits for children increasingly requires attainment of digital literacy. Focusing on *instrumental*, *informational*, *safety* and *communicative* skills (Sonck et al 2011) the aim of this paper is to set out a baseline for digital literacy levels in Ireland as reported by children.
Methods: Drawing on data from *EU Kids Online* (2011) and *Net Children Go Mobile* (2014), children's digital literacy was measured by: 1) breadth of use, measured in terms of children online' activities; 2) self-reported digital skills; and 3) self-efficacy: children's confidence in their own online abilities. These three measures were used with both datasets to produce a profile of digital competence among children aged 9 to 16.
Results: Using both comparative and correlation analysis, four main clusters were identified. Uses of digital technologies that are more demanding in terms of digital literacy are found to be concentrated among older teens and higher SES groups. Contextual measures (age, gender, social economic status, parental internet use, and parental mediation) help explain uneven distribution of digital skills.
Conclusion: The uneven levels of skills despite the high levels of access to social and digital media technologies raise important policy issues regarding support for development of children's digital literacy. An area of particular interest is the role played by parental mediation. Given the high levels

of restrictive parental mediation in evidence, implications for further research as well as for policy guidance are considered and discussed.

TECHNOLOGY IN THE EARLY CHILDHOOD (EC) CLASSROOM STARTS WITH THE EDUCATOR – AN EXPLORATION OF THE USE OF DIGITAL TOOLS BY E.C. UNDERGRADUATES.
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Children are growing up in a digital age surrounded by devices which influence their daily experiences, culture, and learning. Despite persistent debates about the appropriateness of technology use for children from birth to 6 years, advances in portability, accessibility and affordability have meant that children routinely engage with digital devices. Consequently, children are developing associated skills, competencies and habits very early.

The use of technology in early childhood (E.C.) settings however, has yet to be embraced. Recent research suggests that this is due to lack of educators' understanding and knowledge about how to integrate and intentionally use digital devices with young children (Aubrey and Dahl, 2014).

This presentation will describe the journey of a group of early childhood education undergraduates as they begin to investigate the potential of digital devices in EC. Over a number of weeks, students explored a variety of tools (such as iPads, digital microscopes, cameras, open-ended software and apps) and were encouraged to reflect on how, when and why they might be used in EC classrooms. Students were also introduced to the concept of digital childhoods, the educators' role in evaluating and selecting digital tools in EC settings, and the appropriate integration of tools in the indoor and outdoor learning environment.

Case studies from these sessions, supported by students' own reflections, photos and videos will be used to illustrate challenges and benefits associated with technology use in EC.

WYRED – NETWORKED YOUTH RESEARCH FOR EMPOWERMENT IN THE DIGITAL SOCIETY
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Early Years – The organisation for young people
The WYRED project is a 3 year funded EU Horizon 2020 programme with 9 partners from 7 European countries.

WYRED wants to empower children and young people, building on their differences and uniqueness, to express themselves in a safe space and get fully engaged as responsible actors who positively shape their present and future.

The emergence of the young as a distinct social group, and their slowly increasing empowerment through the availability of digital technology, has brought with it an understanding that they have a key role to play in the digital society, as drivers of new behaviours and understandings.

However, their active participation in society is not reflected sufficiently in policy and decision-making, especially in relation to digital issues. Because of this, they are not well represented and unheard, and this makes it hard for research and policy to identify and understand their needs.

These issues are further complicated by the fact that the group is a swiftly moving target, it is as heterogeneous as the wider society, and young people can be unwilling to be subjects of research.

The principal focus of WYRED is having children and young people fully engaged and empowered through dialogue and research, interaction with stakeholders in onlife society through a wide range of innovative participatory research methods.

WYRED is designed to facilitate children and young people's engagement, and develop approaches to ensure safe participation by reducing vulnerability and promoting online resilience.

As a participant in the WYRED project children and young people are empowered to have a voice in relation to the online world.

A CHILDREN'S RIGHTS FRAMEWORK AS A MECHANISM TO ENHANCE THE SAFETY AND PRIVACY OF CHILDREN ONLINE

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Given Ireland's position as the European hub of the world's leading technology companies, our Government is in a unique position to lead in the field of children's rights online. While the Government's plan focusing on online safety is welcome, the issues faced by children online relating to safety cannot easily be detached from issues of privacy and data protection primarily but also participation, access to information etc. and a delicate balance must be found between all of these rights.

Developing a Government response using a rights framework would ensure that the full range of rights of all children in their online lives is respected and protected including safety and privacy. In addition it would ensure transparency, equality, clarity in terms of which body has the duty to fulfil a particular right (e.g. government or tech companies?) and commitment to the rule of law. International and European mechanisms such as the UN Convention on the Rights of the Child can be drawn upon as a basis for a framework in the Irish context.

If implemented in full, the Government's Action Plan For Online Safety 2018-2019 will go some way towards improving the safety of children in the online world but a comprehensive response must also focus adequately on privacy and other issues. This presentation proposes that as a follow up to the Action Plan, a broader national strategy on the full panoply of online rights with a dedicated section on children should be developed.

EXPLORING THE IMPACT OF MENTORING RELATIONSHIPS IN ADOLESCENT EMPATHY: A MIXED METHODS APPROACH.

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Aim: This Secondary Data Analysis aimed to explore the impact of mentoring relationship in adolescent empathy specifically.

Method: Data for this secondary data analysis originated from the Big Brother Big Sister (BBBS) Evaluation Study (Dolan et al., 2011). A secondary Content Analysis was carried out with nine longitudinal case study interviews to identify the role of empathy in mentoring relationships. Manuscripts were analysed to find evidence of the empathy. A subset of the overall database for young people was selected to examine the role of mentoring relationships in perceived social support. A standardized measure of mentoring relationships and perceived social support were used. The model was evaluated using a fixed effect model.

Results: Regarding the quantitative analysis, the model was statistically significant, indicating that an improvement in the relationship with mentors also increased young people's level of perceived social support. Time was not significantly explaining any of the variance. A pattern was identified in the interviews, where active references to empathy were more common than passive ones in mentoring relationships. There was an increase over time in active verbs and a reduction in passive ones. Most references to active empathy were identified in mentor interviews both at baseline and follow up. Active empathy increased for adolescents and mothers over time.

Conclusion: Mentoring relationships can contribute to develop empathy in young people. Empathy benefits young people increasing interpersonal competence, reducing aggressiveness and antisocial behaviours, improve friendships, prosocial behaviour, and their capacity to anticipate negative consequences of their behaviour. Empathy is crucial for youth empowerment, social responsibility, and social justice.

DOES EARLY HOME ENVIRONMENT INFLUENCE BASIC NUMERACY SKILLS? THE PREPARING FOR LIFE STUDY

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Aims: This study used the Preparing for Life (PFL) intervention dataset that provided unique longitudinal data to explore the relationships between home environment in the development of numeracy skills, no study to date investigating early numeracy skills includes home environment measures from infancy. The overall aims of this study were; (1) to identify if group membership (high or low treatment group) predicts numeracy skills, (2) to investigate if home environment scores measured in infancy, toddlerhood and early childhood predict numeracy skills, and (3) does home environment measures predict numeracy skills after controlling for socio-economic status?

Methods: 233 pregnant women were recruited into the PFL programme. On recruitment during pregnancy, participants were randomly assigned to either a low treatment group or high treatment group. The Preparing for life (PFL) programme aimed to improve school readiness by intervening during pregnancy and working with families until children started school (Doyle, 2008). Home environment was measured using the HOME observation tool at 6, 18, 36 and 48 months. Numeracy skills were measured using the British Ability Scales at 48 months.

Results: Children in the high treatment group significantly outperformed children from the low treatment group in numeracy skills at 48 months. Linear regression suggests that there is no influence of early home environment on numeracy skills, both before and after controlling for socio-economic status.

Conclusion: The results are discussed in the context of the measurement of home environment in early childhood and potential interventions to improve school readiness outcomes.

RIGHTS OF CHILDREN WITH DISABILITIES AND THE DIGITAL ENVIRONMENT

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This Council of Europe funded study explored the experiences of children with disabilities, aged 13-17 years, of their rights in the online environment under the light of the 3 "P's" of the UN Convention on the Rights of the Child: Participation; Protection and Provision.

Four advisory groups, representing a range of disabilities, were established to advise the research team on the research questions, design and data analysis. Data was gathered from children with disabilities in six European countries; UK, Germany, Portugal, Belgium, Moldova and Turkey. During interviews and focus groups with children with disabilities, the study investigated the following:

Participation - Do children with disabilities have equal access to the use of Information and Communication Technologies (ICT) and if not, what are the specific barriers?

Protection - Do children with disabilities encounter different risks through the use of ICT than non-disabled children? If yes, which are these risks, and how do they affect children with specific types of disabilities?

Provision: What kind of support do children with disabilities need to be able to effectively enjoy their rights online?

The digital environment has opened up many possibilities for children with disabilities enabling them to engage in educational, recreational and social-networking activities from which they may previously have been excluded. In relation to enhancing their accessibility and participation, they suggested ways in which professionals and parents could better support them to effectively enjoy their rights online, and also solutions for the corporate sector to consider when developing both their hardware and software.

THE IMPACT OF SCREEN VIEWING TIME ON 5-YEAR-OLD CHILDREN'S SCHOOL ADJUSTMENT AFTER THE PRE-SCHOOL TO PRIMARY SCHOOL TRANSITION IN IRELAND

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Aims: The aim of the current study was to examine whether screen-viewing time impacts school adjustment during Irish children's transition to primary school and if socio-emotional well-being accounts for part of the relationship between screen viewing and school adjustment.

Method: The study analysed secondary data from the nationally representative Growing Up in Ireland Wave 3 study of 5-year-old children and hypothesised screen-viewing time will negatively influence school adjustment (H1), and the inclusion of socio-emotional well-being will mediate the relationship between screen viewing and school adjustment (H2).

Results: The results of this study indicate that screen viewing time does have a significant impact on children's school adjustment. H1, screen viewing time will negatively influence school adjustment was supported, though with a small effect size, and H2 that socio-emotional well-being will mediate the relationship between screen viewing time and school adjustment was supported. However, after controlling for gender and socioeconomic status, the effect sizes were small, indicating that screen viewing is only one of many predictors of school adjustment.

Conclusion: Findings from the current study provide insight into the way 5-year-old children adjust to primary school in an environment that is seeing an increase in usage and ownership of multiple screen viewing devices. As families' and children's ownership and use of screens increases every year, it can be argued that the negative associations found between screen viewing, socio-emotional development and school adjustment may potentially become more prevalent if policies and practices are not put in place by parents and schools

UNDERSTANDING AND ADDRESSING THE CONCURRENT NEEDS OF FAMILIES LIVING IN THE COLIN AREA: A SECONDARY ANALYSIS OF THE COLIN EARLY INTERVENTION COMMUNITY REPORT CARD DATA

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Aims: Family support studies have found that family members often experience multiple issues but responses to them are normally targeted at a specific population (Walsh & Doherty, 2016) for narrow but well defined issues (Aarons & Palinkas, 2007) and vary greatly. This retrospective secondary data study aimed to understand the potential of blended environments in which families engage in multiple interventions in order to address or seek support with the range of issues or challenges they experienced.

Methods: Routinely collected data were reviewed from Report Cards accessed from the Colin Early Intervention Community. 207 families were included in the study. The data was analysed using SPSS Version 22 (SPSS, 2013). Descriptive statistics show the means, standard deviation and range across all variables. Independent samples t-tests were used to compare means between variables of interest. Cross-tabulations were used to compare categorical data and Chi-square tests of independence were used to explore statistical relationships between them.

Results: There are significant challenges associated with sharing data between organisations in order to link families across multiple interventions. Based on the limited data reviewed, those who engaged in more than one intervention were more likely to complete the interventions.

Conclusions: There have been significant advances in our understanding of how best to implement evidence-based models. How these individual interventions connect to wider social contexts is not well established. Multi implementation sites show promise but the ways in which blended environments are designed and implemented require further investigation.