



**Growing Up  
in Ireland**  
National Longitudinal  
Study of Children

# **Growing Up in Ireland**

## **National Longitudinal Study of Children**

**13th Annual Research Conference**  
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**Book of Abstracts**

# Paper presentations

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## Keynote Address

**Professor Nicholas Timpson (University of Bristol)**

### The Avon Longitudinal Study of Parents and Children: A longitudinal and multi-generation platform for collaborative research

#### Yellow Room

ALSPAC is a multi-generation (G0/G1/G2), prospective cohort based in and around the city of Bristol in the SW UK. Between April 1991 and December 1992 >14000 pregnant women were enrolled resulting in 14062 live births. Mothers, fathers, children and now children of the children from this recruitment have been followed up at multiple timepoints and a wide variety of samples, exposure and outcome measures collected ever since. The mission of the study is to be a multi-generational birth cohort offering access to data and samples to the research community and related stakeholders. Key to this is looking after the existing samples and data, improving visibility and access to data and samples, maximising the connection of administrative data and continuing the collection of new data and samples. The more general and community aim is that maintaining and optimizing valuable research assets like ALSPAC generates unique conditions able to follow changes in health and well-being across life. More than ever, we have recently seen just how important this is.

I will talk about the overall composition and structure of ALSPAC and the resources that are available to researchers. Using examples, I will try to demonstrate the breadth of possible lines of investigation enabled by studies like ALSPAC (hopefully relating to the brilliant Growing Up in Ireland (GUI) study). This will chart the utility of longitudinal data, but also try to relate to the relevance of participants approaching the same ages as the new sweep in GUI. Lastly, I will use the obvious example of the recent pandemic to illustrate the potency of existing, dynamic and well engaged cohorts when research is needed to furnish understanding about rapidly changing population-health situations.

#### Biographical note:

Nic's research concerns the contribution of genetic factors to complex traits and the use of genetic data within frameworks of epidemiological analysis allowing causal inference. In 2005 he undertook one of the first formal applications of Mendelian randomisation (MR) and from here he worked on the first wave of genomewide association studies. This has been followed by the collection of detailed 'omic data within population-based resources and the use of this and genetic epidemiology to attempt to dissect disease aetiology. Nic has a core interest in the assessment of apparently causal effects of BMI on important health outcomes – the research area his non-cohort flag currently flies is as a Wellcome Investigator. This work is applied to questions on the aetiology of cancer (CRUK and H2020 supported), cardiovascular health (NIHR supported) and the role of the environment in cardiometabolic health (H2020 supported). Nic is a co-lead for a Wellcome PhD programme which was renewed in 2019 and is actively recruiting students.

Nic is the PI for the Avon Longitudinal Study of Parents and Children ([www.bris.ac.uk/alspac](http://www.bris.ac.uk/alspac)). Through this role, Nic has become involved in the strategic deployment of population-based resources in a coordinated manner to address population health. This has been most starkly demonstrated in the case of COVID-19, where through collaboration with the UK Coronavirus Immunology Consortium, Wellcome Longitudinal Population Studies COVID-19 Questionnaire Research Group, National Core Studies (Longitudinal Health and Wealth) and NIHR/UKRI non-hospitalised longCOVID group "CONVALESCENCE", work is providing a population-based contribution to the understanding of pandemic impact.

## SESSION A: YELLOW ROOM

### Job loss among 22-year-olds in the wake of the pandemic

Anne Nolan (ESRI)  
Emer Smyth (ESRI)

#### Session A, Yellow Room

**Context:** The COVID-19 pandemic and associated restrictions led to a very significant increase in unemployment, especially among younger adults. The Pandemic Unemployment Payment (PUP) had distinctive features in terms of young adults – with no requirement for insurance contributions or a mean-test, being paid at a higher level than the Jobseekers' young adult rate and being payable to students who had been in term-time employment. This support may have mitigated some of the impact of job loss on financial wellbeing and perhaps on wellbeing more generally.

**Methods:** The presentation uses data from the COVID-19 survey of Cohort '98 conducted in December 2020 to look at job loss among the cohort, comparing those who were full-time in the labour market prior to the pandemic with those who were working while studying. Multivariate analyses are used to distinguish these groups from those who retained their employment and to look at the implications for their financial and overall wellbeing.

**Results and conclusions:** Almost half (47%) of 22-year-olds who had been in employment before the pandemic lost their jobs, with the vast majority receiving the PUP. The profile of those who lost their job who were full-time in the labour market and those who lost their term-time job was very different. The latter group were more disadvantaged in profile in terms of family characteristics and prior educational history. Job loss was associated with poorer wellbeing for this group but had no significant impact on the group who were working while studying.

### Work values of 17/18-year-olds in GUI

Bharvi Dhall (Hamilton Institute, Maynooth University)  
Catherine Hurley (Department of Mathematics and Statistics, Maynooth University)  
Katarina Domijan (Department of Mathematics and Statistics, Maynooth University)

#### Session A, Yellow Room

**Context:** Preparation for building a career is an important element of transition from adolescence to adulthood. Career choices can be driven by intrinsic objectives such as the meaningfulness of a job and/or extrinsic rewards, like high income or job security. In the literature, the work values in the early years have been found to be predictive of career and life satisfaction in later years. The current study analyses work values of Irish teenagers and explores how they differ by various factors such as gender, academic achievement, type of school attended, parental involvement, education and social class.

**Methods:** Our research uses data on work values of 17/18-year-olds from wave 3 of the Growing Up in Ireland Child Cohort. We investigate patterns in the different work values using novel visualisation techniques including upset plots, heatmaps and seriation. Logistic regression is used to identify factors influencing work values and novel visualisations highlight our findings.

**Results:** The 17/18-year-olds aspire to get high-paying, interesting jobs with travel opportunities. After that, career aspirations are strongly associated with gender, school ethos and the involvement of parents. For instance, girls are more likely to select intrinsic work values like helping society while having a rewarding career is more important to boys.

**Conclusions:** Our findings have implications for educators and career guidance providers seeking to address the needs of different student groups and promote social mobility.

## SESSION A: YELLOW ROOM

### The development of gendered occupational aspirations in the Republic of Ireland

Delma Byrne (MU)

#### Session A, Yellow Room

**Context:** The persistence of occupational sex-segregation in European labour markets is well established, despite an increase in educational attainment among women and more progressive attitudes in societies (DiPrete and Buchmann 2013; Platt and Parsons 2017). While the gender gap has narrowed considerably in the Irish context over the last 50 years, the narrowing has slowed more recently (Doris 2019). In this paper I extend this research field by examining how far the future labour market orientations of girls and boys differ, and the extent to which individual and family characteristics shape aspirations.

**Data:** Analyses are based on the infant cohort of the Growing Up in Ireland study, which is a nationally representative sample of children living in Ireland. I explore the extent to which girls and boys aim for a professional occupation by age 9, and aim for (non-) gender typical jobs at age 9, taking into account their cognitive skills, wellbeing scores, and family background pattern over the lifecourse. Children's occupational aspirations by age 9, and their gender-typicality, are linked to labour force data.

**Results and conclusions:** The paper shows that by age 9, while girls are more likely than boys to aspire towards a professional occupation, self-concept appears to boost boys' aspirations (but not girls'). While a majority of children indicated that they were aiming for an integrated rather than gender-typed occupations, boys are more likely to aim for a gender-typical occupation than girls. High levels of maternal education help boost girls (but not boys) towards male dominated occupations.

## SESSION B: GREEN ROOM

### The influence of preterm birth on language outcomes: The roles of non-linguistic abilities, parental mental wellbeing, and parent-child relationships

Sarah Coughlan (Trinity College Dublin)

Elizabeth Nixon (Trinity College Dublin)

Jean Quigley (Trinity College Dublin)

#### Session B, Green Room

**Context:** Preterm birth (< 37 weeks' gestation) is associated with language difficulties (Barre et al., 2011). However, few studies have simultaneously investigated the longitudinal impact of multiple risk/protective factors on these language outcomes. This study adopted a transactional perspective and used a longitudinal path analysis to examine how gestational age (GA; ≤25 ~ 46 weeks) may indirectly affect the language outcomes of 3- and 5-year-olds through influencing parent-child relationships, parental wellbeing (stress, depression), and non-linguistic child characteristics (cognitive/motor/socio-personal abilities, fussy temperament).

**Method:** The path analysis used three waves of data from the Growing Up in Ireland Infant Cohort (Ages: 9 months, 3 years, 5 years). Two structurally identical models were specified – the parent-child relationship/stress/depression variables related to the child's mother in one and the father in the other. Equivalised household income and child gender were included as covariates.

**Results:** The child's cognitive, motor, and socio-personal abilities (but not mother-/father-child relationship) at 9 months fully mediated the association between GA and 3-year-old language outcomes. The association between GA and mother-/father-child relationship (at 3 years) was mediated by paternal stress, but not by maternal stress, maternal/paternal depression, or temperament (at 9 months). GA did not significantly affect 5-year-old language scores.

**Conclusion:** Both linguistic and non-linguistic (cognitive/motor/socio-personal) developmental domains should be targeted when preventing, and intervening after the emergence of, language difficulties among preterm-born children. Policy should also acknowledge how mothers and fathers in Ireland may be differentially affected by preterm birth (e.g., stress) in ways that are consequential for the parent-child relationship.

## SESSION B: GREEN ROOM

### Pregnancy intention and child development in Ireland

**Yekaterina Chzhen** (Trinity College Dublin)

#### Session B, Green Room

**Context:** Although unplanned pregnancies have been linked to poorer perinatal outcomes, few studies analyze the role of pregnancy intention in children's development. The limited literature from the United States and the United Kingdom finds that children from unplanned and/or unwanted pregnancies tend to have lower cognitive ability and emotional-behavioural functioning scores, but these differences disappear after adjusting for parental socio-economic background. Yet it is not clear if the association between pregnancy intention and child outcomes is confounded by socio-economic status (SES) because disadvantaged families are less likely to plan their pregnancies in the first place or because they are less able to deal with the consequences of an unintended one.

**Methods:** This paper investigates the effect of pregnancy intention on children's cognitive and emotional-behavioral development between the ages of 3 and 9, using data for the '08 cohort from the "Growing Up in Ireland" (GUI) study. Biological mothers were asked about their pregnancy intention with respect to the study child at the 9-month interview. Panel regression and dynamic structural equation models were used to estimate the association between pregnancy intention and child outcomes, controlling for family SES, parental mental health, and child-parent relationship scores.

**Results:** Unplanned pregnancies were socially patterned and associated with poorer child outcomes at ages 3, 5 and 9. The main pathways were the home learning environment for cognitive test scores, and parental mental health and family functioning for the Strength and Difficulties Questionnaire total difficulties scores.

### Longitudinal effects of birthweight on mental health of Irish children

**Niamh Dooley** (RCSI and TCIN)

**Mary Cannon** (RCSI, Beaumont Hospital & TCIN)

**David Cotter** (RCSI, Beaumont Hospital)

**Mary Clarke** (RCSI)

**Colm Healy** (RCSI)

#### Session B, Green Room

**Context:** The odds of having a mental health problem in adulthood are linearly related to birth weight (BW), with smallest newborns at greatest risk. The effect is small but robust, existing independently of socioeconomic and family factors such as familial liability to mental illness. We investigated how this risk develops throughout childhood. Our questions are: (i) What effect does each kilogram drop in BW have? (ii) Is the effect of BW on mental health stable from age 9-17? (iii) What aspects of mental health does BW affect most? (iv) Are the effects of BW similar for male and female mental health?

**Methods:** In the '98 GUI cohort, the SDQ (mother-report) was used to capture mental health of the child at ages 9, 13 and 17. BW was reported retrospectively by mothers at child-age 9. Covariates included: time, gestational age at birth, sex, mental health of parents and familial socioeconomics. We extracted the effect of BW on SDQ scores cross-sectionally and longitudinally using generalised linear mixed models in R.

**Results:** Each kilogram drop in birth weight (BW) corresponded to a ~1% increase in all mental health problems. BW had significant and persistent effects on all studied areas of mental health with strongest effects on attention/hyperactivity issues. The effects of birth weight on emotional issues increased throughout adolescence, particularly for females.

**Conclusions:** Low birth weight poses a persistent risk to mental health from ages 9-17, particularly attention/hyperactivity issues. The specific areas of mental health affected may differ across development and between the sexes

## SESSION C: BLUE ROOM

**Digital coming of age: Longitudinal modelling of the relationship between technology usage and academic performance from 9 to 18 years**

**Desmond O'Mahony (ESRI)**

### Session C, Blue Room

**Context:** Increased use of computers at home and school is current Irish government policy (Digital Strategy for Schools, 2017). Ireland has seen a steady increase in the number of children using computers and the internet from a young age (O'Neill, Grehan, & Ólafsson, 2011). This paper conducts a longitudinal exploration of the link between home computer use and academic performance in Mathematics.

**Method:** All four waves of the Growing Up in Ireland '98 Cohort from 9-20 years were used for this study. Latent Growth Curve (LGC) modelling was used to explore longitudinal changes in computer usage and the associated relationship that this has with academic performance from childhood into early adulthood.

**Results and conclusions:** Previous research using the 9 and 13 year GUI data (O' Mahony, 2018), revealed that by midway through secondary-schooling, consistent positive effects were found for informational computer use for English and Mathematics ( $\beta = 0.09 \text{ & } 0.12$ ,  $p < .01$ ) respectively. Consistent negative effects were found for social-media use ( $\beta = -0.11 \text{ & } -0.06$ ,  $p < .001$ ). The current study extends these finding using LGC modelling to account for inter-wave-attrition as well as non-linear changes over time in computer usage and in academic performance.

**Parental influences on excessive internet use among Irish adolescents**

**Conor O'Reilly (ESRI, University of Cambridge)**

**Gretta Mohan (ESRI)**

**Míde Griffin (ESRI)**

**Seán Lyons (ESRI)**

### Session C, Blue Room

**Context:** Excessive internet use (EIU) is of growing concern among parents, public health advocates and policymakers because of fears about the development of internet addiction. Parenting approaches and behaviours may influence children's internet use. To better understand these issues, we evaluate several aspects of parental influence on EIU among Irish adolescents.

**Methods:** Data from the second and third waves of the Growing Up in Ireland '98 Cohort were used to inform this investigation. Regression models estimate the effect of parental influences, measured when children were 13, on symptoms of EIU in young adults at 17/18, controlling for other child and family factors. Separate models for males and females examine gender differentials.

**Results:** More conflicted parent-adolescent relationships and the use of power-assertive discipline in early adolescence are found to be risk factors of EIU in later adolescence. More autonomy-granting parenting and the use of non-power assertive discipline are found to be protective. Females who spend time home alone in early adolescence have more EIU symptoms later, but those who play games regularly with their primary caregiver have less. No evidence of associations between internet-specific mediation practices in early adolescence and EIU in later adolescence are uncovered.

**Conclusions:** Non-internet-specific parenting interventions (e.g. how they deal with misbehaviour) may be more effective than internet-specific interventions (e.g. using internet filter systems) in preventing EIU. These findings are informative for the development of policies and approaches to help prevent and resolve EIU.

## SESSION C: BLUE ROOM

### Digital engagement and its association with adverse psychiatric symptoms: A longitudinal cohort study utilizing Latent Class Analysis

Ross Brannigan (Trinity College Dublin)

Carlos J. Gil-Hernández (Joint Research Centre of the European Commission)

Olivia McEvoy (Trinity College Dublin)

Frances Cronin (Royal College of Surgeons)

Debbi Stanistreet (Royal College of Surgeons)

Richard Layte (Trinity College Dublin)

#### Session C, Blue Room

**Context:** To assess the impact of digital media on psychiatric symptoms utilising a longitudinal adolescent cohort.

**Methods:** Using two waves of the GUI child cohort, age 13 (N=7527) and age 17/18 (N=6126), we used latent class analysis (LCA) to create latent groups centred around self-reported time spent online, and behaviours engaged with online. At both waves, the 4 class model suited. We used the age 17 symptoms scales of the Strengths and Difficulties Questionnaires (SDQ), parent-reported, as our outcome. Using linear regressions, we then examined the associations between our latent classes and SDQ symptoms, using moderate usage as our baseline, adjusting for baseline psychiatric symptoms, maternal education and pre-diagnosed mental disorder.

**Results:** For females, placement in the high usage group at 13 was associated with increased internalizing symptoms, whereas placement in the high usage group at 17 was associated with an increase in all symptoms. For males, placement in the high usage group at 17 was associated with increased emotional symptoms, and placement in the "low usage & behaviour engagement" group, a group reporting low time and engagement in behavioural measured, was associated with an increase in all symptoms. Finally for both sexes, placement in the "moderate usage, entertainment only" group at age 13, (no educational online engagement), was associated with increases in all symptoms except emotional symptoms.

**Conclusion:** High digital media usage is associated with increased psychiatric symptoms, with moderate usage associated with positive effects on symptoms compared to both our high usage, and low usage groups.

## SESSION D – YELLOW ROOM

### Do migration-related gaps find their roots in the period before formal schooling? A path-model of educational achievement in primary school

Stefanie Sprong (Trinity College Dublin)

Jan Skopek (Trinity College Dublin)

#### Session D, Yellow Room

**Context:** Education is key to the structural integration of immigrants and their children. While research indicates that migrant educational underachievement is a serious issue, relatively little is known about when, how and why migrant gaps develop. Hitherto, longitudinal research on skill gaps is scarce and focused mostly on the USA and UK. The current paper adds to the literature by investigating how much of the migration-related disparities found during primary school can be attributed to inequalities that already existed before school life.

**Methods:** It uses structural equation modelling and draws on Wave 3 and 5 of the Growing Up in Ireland Infant Cohort.

**Results and conclusions:** Results indicate that migration-related disparities largely find their roots in the period before formal schooling, after which they remain relatively stable or even decrease. This implies that researchers and policy makers may want to focus their efforts on the period proceeding primary school.

## SESSION D – YELLOW ROOM

### Second generation migrants in Ireland: Language and reading development

Helen Russell (ESRI)

Frances McGinnity (ESRI)

Merike Darmody (ESRI)

### Educational and occupational expectations amongst adolescents with a migration background in Ireland

Stefanie Sprong (TCD)

Camilla Devitt (TCD)

#### Session D, Yellow Room

**Context:** Due to the increase in migration to Ireland in the early 2000s there is now a growing group of children born in Ireland whose parents were born abroad. These are defined as second generation migrants. However relatively little is known about how this group is faring in cognitive, educational and other outcomes.

**Methods:** We draw on waves 1 to 5 of the GUI '08 Cohort and run a series of nested OLS models. These allow us to examine how country of birth, linguistic and ethnic background of parents influence children's English vocabulary and reading scores and to explore the role of socio-economic status, child characteristics and school characteristics in explaining these relationships. We use a lagged dependent model to explore progression over time.

**Results:** There is a declining gap in the English language skills of migrant-origin and Irish-origin children over time. At age three, 60% of migrantorigin children are in the bottom quartile on the vocabulary test. By 5, this had declined to 52% and by age 9, 26% were in the bottom quintile for reading. Linguistic background of parents is more important than country of birth or ethnic background in predicting reading scores at 9 years. Lower income accounts for some of the difference. Migrant origin children are also more likely to attend the most disadvantaged schools and this has a negative impact on test scores.

**Conclusions:** Further supports are needed for the children of migrants during primary school to ensure that they reach their full educational potential.

#### Session D, Yellow Room

**Context:** Educational and occupational aspirations and expectations are at the core of educational sociology. A large body of literature has sought to understand how they differ across migrant groups. This line of research has found that even though students of immigrant origin may face difficulties in their school career, their ambitions tend to be high, especially when accounting for their academic performance and social background. However, while the great ambition among students with a migration background is a reasonably well-known fact in more traditional countries of immigration, the expectations of students of migrant origin in more recent countries of immigration have received much less attention. The current study adds to the literature by looking at the educational and occupational expectations of Irish teens across five ethnic groups. Additionally, it explores how these expectations might translate into entry into thirdlevel education by linking them to subject level choice in secondary school.

**Methods:** We draw on the wave 2 and 3 from the Child Cohort and run four sets of logistic regression models with cluster standard errors to account for the multistage cluster sampling in the GUI, predicting age 13 educational expectations, age 17 occupational expectations, higher level math choice and higher level.

**Results and conclusions:** The results suggest that expectations and subject level choice are surprisingly similar across the groups, with no evidence of any substantial differences being found.

## SESSION E – GREEN ROOM

### Prevalence of online gambling among 20-year-olds in Ireland

Brendan Duggan (ESRI)

#### Session E, Green Room

**Context:** Gambling online is increasing in availability, popularity and share of the total gambling market, and younger people tend to be the biggest users compared to other age groups. Problem gambling tends to peak around age 30 years, while there is some evidence of higher prevalence of problem gambling among online gamblers compared to other gamblers. In Ireland, there is limited availability of nationally representative data on online gambling, and *Growing Up In Ireland* is the first opportunity to assess the phenomenon longitudinally among young adults.

**Method:** Analysing data from the '98 cohort at Wave 3 (aged 17/18) and Wave 4 (aged 20) of *Growing Up In Ireland*, the study (n=4,393) assesses prevalence of online gambling at aged 20 including key demographic variables, trajectory from Wave 3 to Wave 4, using multivariate analysis to assess sociodemographic factors, known covariates for problem gambling and antecedent risk factors for online gambling at 20 years.

**Results:** Prevalence of online gambling increased by more than 300% between Wave 3 and Wave 4. Greater online gambling at Wave 4 was independently associated with being male, smoking daily or occasionally at Wave 4 compared to those who never smoked, high screen time usage at Wave 4, online gambling at Wave 3 and having reported the occurrence of a stressful event since the age of 13.

**Conclusion:** The increased prevalence of online gambling from late adolescence to young adulthood, particularly among males, warrants further investigation to understand if this is likely to translate to an increased likelihood of problem gambling.

### Explaining the social gradient in physical activity for Irish children and adolescents

Olivia McEvoy (Trinity College Dublin)  
Richard Layte (Trinity College Dublin)

#### Session E, Green Room

**Context:** Health is socially patterned. The social gradient in non-communicable diseases is particularly pronounced. One of the causal pathways through which low socioeconomic positioning is translated into poor health is through the social patterning of harmful health behaviours. Despite this extensive evidence base for the contribution of health behaviours to social patterning of health, there is limited exploration of causes of the social patterning of deleterious health behaviours. Structuralist sociologists would suggest that individuals actions are influenced by larger social and cultural structures in society, such as family. The aim of this research is to understand the factors which explain the lower level of physical activity (PA) among young people from lower socioeconomic positioned (SEP) families compared to those from higher SEP families.

**Methods:** The research methodology is a secondary quantitative analysis of three waves from the child cohort of the *Growing Up in Ireland* survey data. Linear spline multi-level models were used. Both time-varying and time-invariant variables were used to examine the pattern and magnitude of SEP differentials

**Results:** Our fully adjusted models reduced SEP differentials for males by 57%, and for females by 64%. Adjusting for ways in which PA is built into a child's life provided the largest reduction in differentials for both sexes (49% for males, 47% for females). Home characteristics explained more of the SEP differential in PA for females (11%) compared to males (3%).

**Conclusions:** Our findings quantify the contribution home characteristics to the social patterning of physical activity, for males and females.

## SESSION E – GREEN ROOM

### Decomposing maternal education differentials in BMI trajectories between ages 9 and 17/8: Findings from Growing Up in Ireland

Frances M Cronin (Royal College of Surgeons)  
Sanna Nivakoski (Royal College of Surgeons)  
Olivia McEvoy, (Trinity College Dublin)  
Ross Brannigan, (Trinity College Dublin)  
Richard Layte, (Trinity College Dublin)  
Debbi Stanistreet (Royal College of Surgeons)

#### Session E, Green Room

**Context:** Recent studies in high-income countries describe an increase in overweight and obesity (OWO) among children of families of low socioeconomic position (SEP). We examined the role perinatal factors and/or child and adolescent life-style choices play in these SEP differentials found in BMI trajectories of childhood BMI.

**Methods:** We used data from the first three waves of the Growing up in Ireland (Child cohort) study, initiated in 2008 at age 9, and followed up at age 13 and 17/18 years, and specifically those children and their biological mothers for whom measured weight and height were available. Linear spline multi-level models were estimated to examine factors associated with child BMI trajectories.

**Results:** Mothers of low SEP had higher average BMIs than mothers of highest SEP ( $p<0.001$ ), and this pattern was replicated for the children ( $p<0.001$ ). For male children, unadjusted models indicated perinatal factors reduced the SEP differential by 57%, while the fully adjusted model reduced it by 99.2%. Compared to males, females SEP differential at baseline was almost 2.5 times higher and models accounted for significantly less of the differential. The biggest reduction for females was also found for perinatal factors (29%), the fully adjusted model reduced the baseline differential by 50%.

**Conclusions:** For both sexes, a relatively small effect for explaining SEP differentials was found for diet and physical activity with each explaining only a fraction of the differential. While sexes were patterned differently, for both sexes the biggest effects were seen for perinatal factors (including breastfeeding) and maternal BMI.

## SESSION F – BLUE ROOM

### The effect of school composition and ethos on student learning outcomes

Ryan Alberto Gibbons (Trinity College Dublin)

Richard Layte (Trinity College Dublin)

#### Session F, Blue Room

**Context:** Differentials in educational outcomes across socio-economic groups continue to exist despite increasing educational attainment across all groups. There is a well developed literature on the role schools play in shaping these inequalities, yet such literature largely addresses the topic from the perspective of a general school effect. Less is known about how schools differ one from another, and how within-school effects affect the performance of children, net of social background characteristics. This paper attempts to make a contribution toward addressing this question.

**Methods:** Propensity Score Matching techniques are used to statistically adjust for a child's propensity to select into a certain school type, enabling school effects to be disentangled from social background characteristics.

**Results and conclusions:** We identify that school composition effects exist. Furthermore, school composition effects appear to be partly moderated by differences in school ethos, as measured by school strictness and teacher-student relations. Implications of our findings are discussed.

## SESSION F – BLUE ROOM

### An exploration of the mathematics outcomes of 9-year-old children in multigrade classrooms in small schools

Breed Murphy (Marino Institute of Education)

Aisling Leavy (Mary Immaculate College)

Amy Erbe Healy (Mary Immaculate College)

#### Session F, Blue Room

**Context:** Previous studies comparing children's academic outcomes in single grade classes and multigrade classes have presented conflicting findings and few studies have specifically focused on exploring mathematics attainment. This study aims to build a series of models based on Bronfenbrenner's Process, Person, Context, Time model through which a range of influencing factors on mathematics outcomes of children in multi-grade classes in small schools can be examined.

**Methods:** This study analyses the data of 7,109 children from the '98 cohort of Growing Up in Ireland. Children's mathematics outcomes are measured using the Drumcondra Mathematics Assessment scores. Initially, the analysis examines mathematics outcomes among 9-year old children in multigrade classes in small schools and their single grade counterparts. Subsequently, a series of multilevel models are constructed to investigate the influence of individual characteristics, contextual factors and proximal processes on mathematics outcomes.

**Results:** Overall, the mean scores of children in both classroom types appear similar. Within multigrade classes, when scores are organised in quintiles, differences emerge between boys' scores and girls' scores. While some factors, for example reading attainment or having a learning disability are significant predictors of attainment in both classroom types, other factors such self-efficacy is a significant predictor in single grade classes but not in multigrade classes.

**Conclusions:** While no significant differences in mathematics attainment were detected across both classroom types overall, the varying influences of predictors between school types suggests the potential to target particular factors and groups as a mechanism to support children to achieve better mathematics outcomes.

### Educational inequality: does it span three generations?

Emer Smyth (ESRI)

#### Session F, Blue Room

**Context:** The extent to which educational inequality spans multiple generations has been receiving increasing attention internationally, with a good deal of debate about whether grandparental education and/or social class influences grandchildren's educational outcomes. GUI data offer the opportunity to explore this issue in Ireland, an interesting case-study given the largescale educational expansion between the generations of grandparents and parents of the cohort members.

**Methods:** This presentation draws on information collected at the 17/18-year-old wave on the social class and educational levels of both sets of grandparents as well as on their levels of financial strain. Multivariate analyses are used to examine the relationship between grandparental background and the young person's educational outcomes (in terms of educational expectations and exam performance), and whether this is mediated by parental education and social class.

**Results and conclusions:** Young people with more advantaged grandparents tend to achieve higher grades in the Junior Certificate and are more likely to intend to go on to higher education. Preliminary analyses indicate that this relationship is mostly mediated by parental education. However, a modest direct effect of grandparental education is found on both sets of outcomes, indicating some degree of the transmission of (dis)advantage across three generations. Further analyses will unpack the extent to which this relationship holds when intergenerational social class and financial strain are taken into account.

## SESSION G – YELLOW ROOM

### Three dimensions of economic well-being and the effects on child behaviour

Ryan Alberto Gibbons (Trinity College Dublin)

Yekaterina Chzhen (Trinity College Dublin)

#### Session G, Yellow Room

**Context:** Previous research has identified an association between economic well-being and children's internalised and externalised behavioural difficulties. However, such research has been limited by its cross-sectional nature, or its narrow focus on predominantly financial aspects of economic well-being (e.g. the Family Stress Model). Furthermore, even in studies that have attempted to utilise longitudinal data to test multi-dimensional measures of economic well-being, the lack of variation in key indicator variables over time has necessitated that adoption of less robust measures.

**Methods:** This paper attempts to overcome these shortcomings by exploiting data from the GUI Child Cohort (Wave 1 - Wave 3) which covers a period of large economic fluctuation, making a robust fixed effects analysis feasible. It uses three different measures of economic well-being (subjective financial strain, material deprivation, income) to explore how distinct forms of economic well-being affect child behaviour differently.

**Results and conclusions:** The results suggest that family income is not related to behavioural difficulties, whereas subjective financial strain is. Material deprivation is predictive of externalised behavioural difficulties in boys, but not in girls. Implications for future research are discussed.

### Parental mediators of socio-economic achievement gap in early childhood: Simultaneous investigation of Investment and Stress Models in Ireland

Berçem Demirel (Trinity College Dublin)  
Siobhan Scarlett (Trinity College Dublin)

#### Session G, Yellow Room

**Context:** Despite policy efforts to reduce socioeconomic inequality in education, the disparity can be traced back to cognitive abilities in early childhood. The potential role of familial sources in reducing the disadvantage has attracted much attention in research and policy. This study investigates the parental mediators of the relationship between socioeconomic status (SES) and child cognitive outcomes to reveal the comparative impact of parent investment and parenting behaviour, while conceptualising these two as potential outcomes of the complex environment of poverty.

**Results:** Two structural equation modelling analyses were conducted on GUI sample of 5 year-olds ( $N = 9,001$ ) to test the hypothesised pathways from SES to child language ability and nonverbal reasoning ability to study the direct and/or indirect effects of material hardship, neighbourhood factors, parenting stress, parent investment and parenting behaviour. Parent investment pathway was found to mediate the relationship to a great extent, whereas parenting behaviour did not predict language ability and weakly predicted nonverbal reasoning ability. As opposed to the strong direct effect of SES on parent investment, the effect of SES on parenting behaviour was weak and indirect through the mediation of parenting stress, the direct effect of which was quite strong.

**Conclusions:** Findings suggest that addressing income-dependent resources that children are deprived of might be more influential in narrowing the academic disparity, instead of focusing on what might be considered as "cost-free" parenting behaviour.

## SESSION G – YELLOW ROOM

Poverty dynamics and child well-being: Evidence from the “Growing Up in Ireland” study

Mengxuan Li (Trinity College Dublin)  
Yekaterina Chzhen (Trinity College Dublin)

### Session G, Yellow Room

**Context:** This paper studies the relationship between poverty dynamics and child well-being in Ireland. A large multidisciplinary literature has documented the association between household income and children's outcomes within a range of well-being indicators, including cognitive ability, education, and social and behavioural development. The academic debate has largely acknowledged the negative impacts of poverty on children's average cognitive and non-cognitive outcomes. However, the channels of impact are not fully understood.

**Methods:** The study uses nationally representative longitudinal data for the '08 cohort from the “Growing Up in Ireland” study, drawing on the Family Stress Model (FSM) and the Family Investment Model (FIM). Using dynamic structural equation models. It clarifies the mechanisms through which household resources, the home learning environment and parental mental health impact child outcomes.

**Result:** Children living in persistently income-poor households were more than twice as likely to have a low cognitive ability test score and a high emotional and behavioural difficulties score at age 9. Experiencing poverty at age 3 had particularly long-lasting effects. Children's cognitive ability test scores at age 9 were strongly associated with their prior test scores (at ages 3 and 5) and past parental investments, but not with parental stress. Meanwhile, persistent poverty was associated with poorer socio-emotional and behavioural functioning in children via parental stress and depression.

**Conclusion:** Children living in persistent poverty have worse outcomes at age 9. Poverty in early childhood (age 3) is associated with both current and later (age 5 and age 9) abilities both directly and indirectly.

## SESSION H – GREEN ROOM

Tracking physical activity from adolescence to early adulthood: Decline and the impact of the COVID-19 pandemic

Eoin McNamara (ESRI)

### Session H, Green Room

**Context:** The transition from adolescence to early adulthood is often characterized by reduced levels of physical activity, leading to increased risk of associated non-communicable diseases. Further, the onset of the COVID-19 pandemic has potentially inhibited people's ability to enjoy active pursuits. This study aims to track activity levels in a large cohort of Irish children from age 9 to 22; identifying key factors associated with reduced physical activity.

**Methods:** Longitudinal self-report physical activity data were gathered from Cohort '98 of *Growing Up in Ireland* across four main waves of fieldwork (at 9, 13, 17/18 and 20 years). Time spent in moderate-to-vigorous physical activity (MVPA-mins/wk) was calculated, and changes in activity levels over time were calculated. A special COVID-19 survey was conducted (at 22 years) to explore the impact of the pandemic on young adults' lifestyle.

**Results:** There was an overall decline in physical activity of 111 MVPA-mins/wk from age 9 to 20. Declining activity was linked to key socio-demographic, environmental and health characteristics. The COVID-19 survey highlighted numerous negative health behaviours associated with the pandemic, including reduced physical exercise and time spent outdoors, and increased screen-time.

**Conclusion:** The young adults of Cohort '98 have experienced a significant reduction in their physical activity levels from childhood through adolescence and into early adulthood. Key predictors of this reduction have been identified and could be used to inform policy to address this issue. The pandemic has negatively impacted the health behaviours of many young adults in the short-term, the long-term impact warrants future exploration.

## SESSION H – GREEN ROOM

### Impacts of the COVID-19 pandemic on those with disabilities: Findings from Growing Up in Ireland

Adam Nolan (ESRI)

#### Session H, Green Room

**Context:** Throughout the COVID-19 pandemic, researchers, healthcare professionals, and advocacy groups have expressed concern that the pandemic may be disproportionately impacting those with pre-existing disabilities. This study aims to explore similarities and differences in how young adults with and without disabilities experienced the pandemic in a nationally representative cohort.

**Methods:** This paper uses longitudinal self-report disability status from the young adults of Wave 4 of Cohort '98, in conjunction with questions on the physical and mental health from the special *Growing Up in Ireland* COVID-19 Survey. Descriptive analysis is used to compare pandemic experiences between those with a disability, those with a mental illness, and those with neither a disability nor a mental illness.

**Results:** Descriptive analyses reveal that respondents who reported a disability at Wave 4 were more likely to have increased vulnerability to developing severe COVID-19 disease, and to have reduced access to both medical and mental health services. Young Adults with a mental illness were less satisfied with life, less optimistic for the future, and scored higher on the CES-D, a measure of depression, when compared to those without a disability.

**Conclusion:** These findings are in line with both Irish and International literature, which suggests that the COVID-19 pandemic is disproportionately impacting those with a disability. Additional exploration into the causes of these inequalities, as well as protective factors for young adults with a disability, can help inform policy and prepare for future service disruptions and restrictions.

### Adaptations to a Cohort Study in response to the COVID-19 pandemic: Insights from Growing Up in Ireland

Lisa Kelly (ESRI)  
Eoin McNamara (ESRI)

#### Session H, Green Room

The *Growing Up in Ireland* traces the development of two cohorts of young people, through the collection of data every 2-4 years. Traditionally, data collection has been conducted face-to-face. However, the COVID-19 pandemic and associated restrictions meant that substantial adaptation had to be made to fieldwork (due to take place in summer 2020 and 2021) to ensure that fieldwork continued without disruption to the study schedule. This presentation outlines some of the key adaptations to the methodology and questionnaire content.

Previously, fieldwork has taken place in the study child's family home; an interviewer visited the home and administered paper- and laptop-based questionnaires. The interviewer conducted cognitive tests with the study child, also taking physical measurements. However, this methodology was incompatible with the onset of COVID-19 and the successive restrictions limiting movement and social engagements.

As a result, immediate adaptations to the study design were necessary for the pilot fieldwork of the 13-year wave in June-July 2020. Interview mode was changed to a mix of telephone and online questionnaires. Essential ancillary tasks had to be adapted, including remote interviewer-training. Questions on the impact COVID-19 had to be added to the survey. It was not possible to conduct cognitive tests or physical measurements.

In addition, a special COVID-19 survey was administered online in December 2020, allowing for the collection of contemporary data on participants' pandemic experiences. Adaptations from the pilot were carried through to the main phase of 13-year fieldwork, currently ongoing, and may inform the study design at future waves.

## SESSION I – BLUE ROOM

### Internalising and externalising problems connected with bullying and victimisation during childhood: A longitudinal study

**Giulio D'Urso** (University College Dublin)  
**Jennifer Symonds** (University College Dublin)

#### Session I, Blue Room

**Context:** Children's experiences of bullying and victimisation in childhood can be connected to their internalising (e.g., anxiety, loneliness) and externalising (e.g., aggression) tendencies. However, the developmental associations between internalising and externalising problems across time, and how these cascades connect to childhood bullying and victimisation, is not well understood. The aim of this study is to investigate how internalizing and externalizing problems relate to each other in the course of development from infancy to middle childhood and how these problems might connect with victimisation and bullying for boys and girls in middle childhood.

**Method:** Our secondary data analysis of the Growing Up in Ireland Infant Cohort comprised a sample of 11,134 participants studied longitudinally at 9 months, 3 years, 5 years, 7/8 years and 9 years old (50.6% male).

**Results:** Using structural equation modelling, we identified that girls' internalizing problems predicted their externalizing problems over time. However, the same pattern was not identified for boys. We also found that social disadvantage predicted internalizing and externalizing problems more strongly for girls than for boys. Both genders were more likely to be victimized if they had higher levels of internalizing and externalizing problems across time. Other individual factors including vocabulary ability predicted bullying in childhood.

**Conclusion:** The study highlights the importance of monitoring internalizing and externalizing problems, using a developmental cascade perspective, to prevent episodes of victimization and bullying among children.

### Contextual family factors in the longitudinal relationship between paternal depression and child internalising

**Stephen O'Rourke** (Trinity College Dublin)  
**Charlotte Wilson** (University College Dublin)

#### Session I, Blue Room

**Context:** Internalising symptoms in children and adolescents are increasing, leading to poorer psychological health, including an increased risk of future internalising. While research has shown that father's psychological distress is associated with adolescent psychological distress, there remains relatively little research in this area. This present study was an evaluation of a proposed model to predict child outcomes longitudinally, in which adolescent irritability and paternal influences were acknowledged. Other factors incorporated into the model were variables which are known to influence child internalising.

**Methods:** Secondary analysis was carried out on the Child Cohort of the Growing Up in Ireland dataset, a nationally representative longitudinal study of children in Ireland. Two-parent households in which the father acted as secondary caregiver ( $N = 4,587$ ) were analysed.

**Results:** The proposed model proved significant in predicting child outcomes over time, accounting for between 18.5% and 28.5% of the variance in child outcomes. Furthermore, while paternal depression did not directly impact on child internalising longitudinally, fatherchild conflict, mother-child conflict, and maternal depression were significant in predicting child outcomes.

**Conclusions:** Higher levels conflict and interpersonal disagreement with parents predicts higher levels of child internalising longitudinally. Further implications for the model are discussed.

## SESSION I – BLUE ROOM

**What is important for getting on in life – money, looks, who you know or your own effort? The beliefs of 20-year-olds**

**Aisling Murray (ESRI)**

### **Session I, Blue Room**

**Context:** The power of an individual's agency to influence the trajectory of their own lives and outcomes is central to theories of development such as Bronfenbrenner's bio-ecological model and the life-course perspective of Elder and colleagues. Early adulthood, at age 20, is arguably a particularly potent time for agency as individuals are legally, as well as socially, recognised as having responsibility for their actions and decisions.

**Method:** This paper uses a new set of items in the GUI survey at age 20 on the young adult's beliefs about what is important to 'get on in life'. Example items were 'your own effort', 'support from family', and 'luck'. The extent to which the individual believes these factors are influential may in turn reflect beliefs in their own agency.

**Results:** In an initially descriptive analysis, the relative influence of each factor is described. One's 'own effort' was almost universally accepted as important for getting on in life with over half of 20-year-olds giving it the highest possible importance rating (10 out of 10; median also 10). The lowest rated was 'luck' with a median score of 5. There was evidence of differences by family social class and/or gender for some but not all factors: for example, 'money' was rated as more influential by those in middle/lower class groups compared to the highest (professional) class while women rated 'education' as more influential than did men.

**Conclusions:** This first-stage analysis points to individual differences in beliefs about factors that influence life outcomes.



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