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# 8<sup>th</sup> SHS Annual Doctoral Research Conference

10<sup>th</sup> - 11<sup>th</sup> November 2021



# Welcome to the 8<sup>th</sup> Annual Doctoral Research Conference at the School of Health Sciences

Doctoral research is one of the most taxing and yet rewarding activities anyone undertakes in their academic career. This will be the eighth year of the School of Health Sciences Doctoral Research Conference. It is designed to provide an opportunity for our MPhil and PhD students to learn and practise the art of dissemination. The conference also aims to facilitate the exchange of research ideas between students, staff members and external partners.

Many research studies by our MPhil and PhD students have the potential to make a significant impact on policy and professional practice. This will contribute to our significant achievement in the latest Research Excellence Framework

(REF 2014) where 100% of the School's research impact was judged as world leading or internationally excellent.

It is clear from the range and depth of work presented that our doctoral students play an important role in building a research community within the School and help to strengthen our links with the health professions and sector industries. Our students are therefore key to the School's research reputation and impact.

Professor Debra Salmon  
**Dean, School of Health Sciences,  
City, University of London**



Congratulations to all doctoral researchers who are presenting during the 8th Annual Doctoral Research Conference within the School of Health Sciences. It is particularly pleasing to see the wide range of topics and methods being presented, with research covering mixed methods, ethnographic, exploratory, development of research technology, scoping and systematic reviews all being addressed.

The doctoral journey can often seem challenging and long, but also motivating and rewarding. Participation in events such as this Doctoral Conference is an important part of the process to demonstrate your achievements, develop friendships and collaborations, and see examples of work at different stages of the

journey. Although you are often working in different fields to other researchers, many of the strategies to progress through the research process are very similar, so this is an excellent opportunity to learn from each other.

The quality and breadth of topics being explored during your PhDs is truly inspiring and I have no doubt that each of you takes away something new from participation in the Conference.

Professor Leanne Aitken

**Associate Dean, Research, Enterprise  
and Global Engagement, School of Health  
Sciences**

# Conference programme

## 10<sup>th</sup> - 11<sup>th</sup> November 2021

### Day 1: 10<sup>th</sup> November 2021

09.15 – 09.30	Welcome from Dean (SHS) Professor Debra Salmon
	Session 1: Mixed methods research
09.30 – 10.15	Oral presentations
10.15 – 10.25	Break
	Session 2: Other research-tech/computer based measurements
10.25 – 11.25	Oral presentations Ethnographic approach research
11.25 – 11.55	Oral presentations
11.55 – 12.05	Break
	Session 3:
12.05 – 12.20	datablitz presentations
12.20 – 13.00	Career discussion Alumni

# Day 2: 11<sup>th</sup> November 2021

## Session 4: Qualitative research

09.00 – 10.00 Oral presentations

10.00 – 10.10 Break

## Session 5: Systematic reviews

10.10 – 11.10 Oral presentations

11.10 – 11.30 datablitz presentations

11.30 – 11.40 Break

## Session 6:

11.40 – 11.55 Oral presentation

## Other research-tech/computer based measurements

11.55 – 12.40 Oral presentations

12.40 – 12.55 datablitz presentations

12.55 – 13.05 Closing remarks

Dr Madeline Cruice



# Schedule for oral presentations

Day 1 (10th November 2021)  
Session 1: Mixed methods research

09:30 – 09:45

**Emily SKELTON**

Supervisors: Professor Susan Ayers, Dr Christina Malamateniou and Professor Mary Rutherford (External)

Bonding with babies in the womb: Understanding expectant parents' experiences of imaging in pregnancy, and its potential effect on prenatal bonding

09:45 – 10:00

**Jalana LAZAR**

Supervisors: Professor Christine McCourt and Dr Ellinor Olander

A cross-sectional survey of midwives' experiences of facilitating group antenatal care in the United States & the Netherlands

10:00 – 10:15

**Salma WILSON**

Supervisors: Dr Irene Ctori, Dr Catherine Suttle, Dr Rakhee Shah and Dr Miriam Conway

Investigation of current guidelines for prescribing spectacles to children using a modified Delphi approach and the AGREE II tool

Oral Presentations – Session 2  
Other research-tech/computer based measurements

10:25 – 10:40

**C. Vijay Reena DURAI**

Supervisors: Professor John Barbur, Dr Marisa Rodriguez Carmona, Dr Shrikant Bharadwaj and Dr Amitha Vikram

Binocular summation of luminance flicker: Effect of interocular difference in retinal illuminance

10:40 – 10:55

**Rebecca SUMALINI CHAKRAM**

Supervisors: Dr Ahalya Subramanian, Dr Miriam Conway, Dr PremNandhini Satgunam (External) and Dr Lokesh Lingappa (External)  
Collaborator: Dr Stephanie Campbell

How repeatable are tests of visual functions in children with cerebral visual impairment?

10:55 – 11:10	<p><b>Rohit DHAKAL</b> Supervisors: Professor John G Lawrenson, Dr Byki Huntjens, Dr Rakhee Shah and Dr Pavan K Verkicharla (External)</p> <p>Spectral composition of an ambient light varies with different locations, time of a day, and seasons: a potential factor to impact myopia</p>
11:10 – 11:25	<p><b>Bethany HIGGINS</b> Supervisors: Professor David Crabb and Dr Alison Binns</p> <p>Novel computer-based assessments for assessing performance in visually-guided tasks in people with age-related macular degeneration</p>

## Ethnographic approach research

11:25 – 11:40	<p><b>Haddijatou CEESAY</b> Supervisors: Dr Jessie Cooper and Dr Susan Bradley</p> <p>Young People’s Sexual and Reproductive Health Education in The Gambia: An Ethnographic Study</p>
11:40 – 11:55	<p><b>Jessica BROCK</b> Supervisors: Professor Corinna Hawkes and Dr Grace Lucas</p> <p>Developing policies with children and young people to create healthier food environments: an ethnographic study</p>

## Oral Presentations – Session 3 Data Blitz

12:05 – 12:10	<p><b>Cherie MORGAN</b> Supervisors: Dr Jessica Jones Nielsen and Professor Rose McCabe</p> <p>Exploring the link between self harm and autistic traits – a mixed methods design and analysis</p>
12:10 – 12:15	<p><b>Tracey BOWDEN</b> Supervisors: Professor Leanne Aitken, Dr Catherine Hurt and Professor Julie Sanders</p> <p>Predictors of cognitive dysfunction after cardiac surgery: a systematic review</p>
12:15 – 12:20	<p><b>Jacqueline MILLER</b> Supervisors: Dr Jane Chudleigh, Dr Katherine Curtis-Tyler and Dr Annegret Dahlmann-Noor</p> <p>Exploring the paediatric eye and vision research experiences, of children and young people, parents and research staff: a systematic review</p>

Day 2 (11th November 2021)  
Session 4: Qualitative research

09:00 – 09:15	<b>Marie C. HILL</b> Supervisors: Professor Leanne Aitken, Professor Debra Salmon and Dr June Chudleigh How practice nurses engage with parents during their consultations about the MMR vaccine: a qualitative study
09:15 – 09:30	<b>Vivian HOLMES</b> Supervisors: Professor Angela Harden and Professor Christine McCourt Understanding the experience of group antenatal care for women with a raised body mass index: a multi-method study
09:30 – 09:45	<b>Amy DELICATE</b> Supervisors: Professor Susan Ayers and Dr Sarah McMullen (External) The impact of birth trauma on the couple relationship and related support requirements
09:45 – 10:00	<b>Aparna RAMACHANDRAN</b> Supervisors: Dr Shashi Hirani, Professor Katerina Hilari and Dr Ruth Epstein How do singers cope with voice problems? A qualitative exploration of the perceptions of Western Classical and Carnatic singers, singing teachers and Speech and Language Therapists (SLT)

Session 5: Systematic reviews – Oral Presentations

10:10 – 10:25	<b>Elizabeth DUDENEY</b> Supervisors: Professor Susan Ayers, Professor Rose McCabe and Dr Rose Coates Measures of suicidality in perinatal populations: A systematic review
10:25 – 10:40	<b>Aneta ZARSKA</b> Supervisors: Professor Rose McCabe, Dr Kirsten Barnicot and Dr Mary Lavelle A Systematic Review of Training Interventions for Emergency Department Providers and Psychosocial Interventions delivered by Emergency Department Providers for Patients who self-harm
10:40 – 10:55	<b>Sevil SAVI-KARAYOL</b> Supervisors: Professor Nicola Botting and Professor Gary Morgan Language Development in Looked-after Children: A Scoping Review
10:55 – 11:10	<b>Niamh DEVANE</b> Supervisors: Professor Katerina Hilari, Professor Jane Marshall and Professor Stephanie Wilsom The use of virtual reality in the rehabilitation of aphasia: a systematic review

## Data Blitz

11:10 – 11:15

**Oliver MATIAS**

Supervisors: Professor Rose McCabe and Dr Kirsten Barnicot

The effectiveness of psychosocial interventions for self-harm in males compared to females: a systematic review and meta-analysis

11:15 – 11:20

**JESSICA BROCK**

Supervisors: Professor Corinna Hawkes and Dr Grace Lucas

Children and young people's participation in developing policies to create healthier food environments: a systematic scoping review

11:20 – 11:25

**FREYA SPARKS**

Supervisors: Professor Katerina Hilari, Dr Lucy Dipper and Dr Margaret Coffey (External)

A systematic review of tracheoesophageal voice therapy in post laryngectomy rehabilitation: preliminary findings

11:30 – 11:35

**ELIZABETH WALTERS**

Supervisors: Professor Angela Harden, Prof Gail Findlay (External) and Dr Katherine Curtis-Tyler

Embedding Community Development in Local Systems: A scoping review protocol

## Session 6

11:40 – 11:55

**Martina CURTIN**

Supervisors: Professor Gary Morgan, Professor Ros Herman and Dr Madeline Cruice

Developing and Testing the EPID Tool: Early Parent Interaction in Deafness

## Other research-tech/computer based measurements

11:55 – 12:10

**Preetam KUMAR**

Supervisors: Dr Christopher C. Hull, Dr Peter Campbell and Dr Shrikant R. Bharadwaj

Perception of suprathreshold contrast in keratoconus

12:10 – 12:25

**Preetirupa DEVI**

Supervisors: Professor Joshua A. Solomon, Professor Christopher Tyler and Dr Shrikant R. Bharadwaj

One-eyed individuals are better at performing depth-related tasks than binocular individuals viewing monocularly

12:25 – 12:40

**Abbie MORAN**

Supervisors: Professor Lucy Henry and Professor David Messer

The impact of Developmental Language Disorder on Phonological Encoding

## Data Blitz

12:40 – 12:45

**BANDAR ALEISSA**

Supervisors: Dr Charitini Stavropoulou and Dr Kyriaki Giorgakoudi

Cost utility analysis of using circulating tumour DNA (ctDNA) to guide adjuvant chemotherapy decisions in patients with high-risk stage II and stage III colorectal cancer (CRC) following curative surgery.

12:45 – 12:50

**DEBORAH BOTT**

Supervisors: Dr Peter Campbell and Dr Ahalya Subramanian,  
Professor John Lawrenson and Professor Dave Edgar

Investigating the feasibility and acceptability of using a chatbot to improve adherence to glaucoma medication

12:50 – 12:55

**ANNA HARVEY**

Supervisors: Professor Lucy Henry, Professor Nicola Botting and Dr Helen Spicer-Cain

Everyday narrative skills in autistic adolescents: a pilot study

# Oral presentation abstracts



## Jessica BROCK

### Developing policies with children and young people to create healthier food environments: an ethnographic study

**Background:** Children and young people (CYP) are growing up in more unhealthy food environments (FEs) than ever before, as shown by the increased availability, accessibility and promotion of energy-rich, nutrient poor, highly processed foods. Unhealthy FEs are considered an important factor in the swift and concerning rise of childhood obesity (1). Whilst food policies are instrumental in creating healthier FEs for all, CYP are rarely involved or participate in developing policies to create healthier FEs, despite the need of these policies to reflect the realities of CYP's lives. This study explores how CYP have been involved in the development of policies/actions to create healthier FEs within the UK, and importantly, how CYPs input is integrated into the actions developed.

**Methods:** The study used an ethnographic approach to collect data on three cases in London where CYP had been involved in the process of developing actions to create healthier FEs. Data was collected through non-participant observation of sessions, workshops and meetings, and through documents distributed before, during and after sessions. The data was analysed using reflexive thematic analysis.

**Results:** CYP have limited opportunities for direct involvement in developing actions; CYP were involved directly in one case by co-creating policy ideas with academic researchers. CYP were more likely to be involved indirectly in developing actions, by being asked to provide perspectives on preconceived actions that market researchers had suggested. Three themes were developed regarding the barriers limiting CYPs direct involvement and input more generally: maintaining traditional power dynamics, high level of technical knowledge required and group dynamics limiting engagement. Three themes were generated regarding facilitators promoting CYPs direct involvement and input more

generally: authenticity to reflect CYPs ideas, empowering CYP to take the lead, and group dynamics promoting input. Future research is required to understand CYPs involvement in communicating these actions to stakeholders.

### References

1. Higher Level Panel of Experts on Food Security and Nutrition. 2017. Nutrition and food systems: a report on by the high level panel of experts on Food Security and Nutrition. Food and Agriculture Organisation of the United Nations: Rome, Italy.

## Haddijatou CEESAY

### Young People's Sexual and Reproductive Health Education in The Gambia: An Ethnographic Study

**Background:** Access to education and information around SRH is currently a problem for young people in The Gambia (DHS, 2013), and due to this, the The Gambia is introducing a new curriculum. There are still certain gaps to be filled, for example, little is known about how this curriculum will play out in everyday educational settings. To have a better perspective of comprehensive sexuality education in The Gambia, it is important to understand its design, how it is going to be implemented and experienced and whether it reflects the reality of what is going on with young people.

**Aims and Objectives Research aim(s):** To explore the creation, design and perceptions of the creation of the SRH (sexual and reproductive health) curriculum in The Gambia Objectives:

- To explore the creation and design of the SRH education curriculum for public and private schools in The Gambia
- To understand the perceptions held about the curriculum by the SRH educators

**Methods:** The project will take an ethnographic methodological approach to better understand the education young people receive around SRH in The Gambia, and how this education is developed and delivered. The study will use a combination of semi-structured interviews with key

informants, observations of stakeholder meetings and events, and an analysis of relevant SRH curriculum documents.

**Results:** Participants identified a need for quality SRH education that is age and content, and context appropriate. There is still stigma attached to SRH due to cultural and religious views on sex, which makes it difficult to teach SRH education that is more than just abstinence-only. Research Outcomes The findings from this research will facilitate improving young people's comprehensive sexuality education in The Gambia.

### Rebecca SUMALINI CHAKRAM

**How repeatable are tests of visual functions in children with cerebral visual impairment?**

**Background:** Cerebral visual impairment (CVI) is one of the rising causes of visual impairment in children globally. Children with CVI can additionally have developmental delays in motor, communication and cognition. Location/extent of brain damage, seizures and overall development can contribute to the variability in these children. Quantifying their visual functions with clinical tools having good repeatability is therefore important. In this study, we aimed to determine the clinical utility and repeatability indices of grating acuity and contrast sensitivity tests in children with CVI (grating acuity: Teller acuity cards (TAC), Peekaboo Vision app (PV); contrast sensitivity: Hiding Heidi cards (HH) and Ohio contrast cards (OCC)).

**Methods:** A cross-sectional, prospective study was carried out on 98 children with CVI (mean age: 2.97±1.97 years; range: 7 months to 7 years; males=66) visiting a paediatric neurology clinic in Hyderabad, India. The tests were administered in randomized sequence and testing time was recorded. Retest was done on 25 children with average duration of 3.5 months.

**Results:** Significantly different acuities were obtained with PV and TAC ( $p < 0.01$ , 95% limits of agreement (LoA): -1.05 to 0.51 logMAR). Teller acuity cards (CR:0.33) had better repeatability when compared to PV (CR:0.83). Testing time with both acuity tests was found to be comparable ( $p = 0.12$ ). Significantly different

contrast sensitivities were obtained with HH and OCC ( $p < 0.01$ , 95% LoA: -0.38 to 0.52 logCS). Ohio contrast cards (CR:0.22) had better repeatability when compared to HH (CR:0.38). Significantly lesser time was taken to administer HH compared to OCC ( $p = 0.01$ ).

**Conclusions:** Repeatability was found to be better for TAC and OCC in measuring grating acuity and contrast sensitivity respectively. Differences in thresholding paradigms, number of cards and testing stimulus could be the possible reasons for different values across the tests. Larger sample is needed to establish the repeatability of these tests in children with CVI.

### Martina CURTIN

**Developing and Testing the EPID Tool: Early Parent Interaction in Deafness**

**Introduction:** Infants and toddlers learn about the world mostly through social interactions and particularly through interactions with their parents [1]. Despite early identification and advancements in cochlear implant and hearing aid technology, delays in language skills in deaf children continue to exist. Good quality parental interaction is a key predictor for the successful development of deaf children's language [2]. This work reports on the first steps of a four-phase, NIHR-funded study to co-produce a deaf-specific clinical assessment tool in parent-child interaction (PCI) for Speech and Language Therapists (SLTs) and Teachers of the Deaf (ToDs) to use with parents and deaf children aged 0-3. Co-production and service-user involvement: A user group of hearing parents of deaf children and a steering group of hearing and deaf expert SLTs, TODs, academics and charity employees consult and collaborate with the researcher on each phase.

**Methods:** 1. A systematic review (SR) to identify which parent behaviours are assessed, how they assessed and which link to deaf children's language scores. 2. National survey (and follow-up focus groups) to understand professional practice in the assessment of PCI. 3. An e-delphi study using results from (1) and (2) to gain consensus on the core content of the EPID tool. 4. Preliminary psychometric testing of the tool for its acceptability, reliability,

and its usefulness in identifying targets for intervention. Results: We will share results from phases 1 and 2 above.

**Conclusions:** Findings so far tells us how researchers and professionals conduct PCI assessments and which skills they assess. These findings will form the core content of the EPID tool.

**Contribution to new knowledge:** This is the first work of its kind in deafness to focus on developing an evidence-based assessment that aims to appraise parents' communication skills.

### References:

1. Chen, C. H., Castellanos, I., Yu, C., & Houston, D. M. (2019). Parental Linguistic Input and Its Relation to Toddlers' Visual Attention in Joint Object Play: A Comparison Between Children with Normal Hearing and Children With Hearing Loss. *Infancy : the official journal of the International Society on Infant Studies*, 24(4), 589–612. <https://doi.org/10.1111/inf.12291>
2. Yoshinaga-Itano, C. (2003). From screening to early identification and intervention: Discovering predictors to successful outcomes for children with significant hearing loss. *Journal of Deaf Studies and Deaf Education*, 8, pp 11–30.

### Amy DELICATE

The impact of birth trauma on the couple relationship and related support requirements

**Background:** Ongoing distress following a traumatic birth experience, commonly known as birth trauma, can affect parents on an individual level and impact upon the relationship with their infant and partner. The present study aimed to explore the lived experience of parents with regards to the impact of birth trauma on their couple relationship. Furthermore, the role of support was investigated in terms of how couples deal with the impact; where they obtain support; how effective this support is perceived; and what would facilitate more acceptable birth trauma support for couples.

**Method:** Due to a limited body of evidence on the topic, to enable deep understanding of the lived experience of the impact of birth trauma the present study used a qualitative approach. The study used semi-structured interviews and recruited participants using avenues such as social media support groups and parent organisations. Data was managed in NVivo and analysed using framework analysis.

**Results:** Participants (n=19) were recruited to the study in 2021, 8 women and 8 men. All had received their perinatal care in England, were part of a heterosexual marriage, and the sample was prominently well educated and of white, British background. Framework analysis reported 3 overarching themes of; Relationships Tested; Understanding Trauma; and Emotional Support. Sub-themes further detailing positive and negative aspects of the experience of birth trauma and requirements for support.

**Discussion and Conclusions:** It is clear from the findings of the study that birth trauma can impact the couple relationship and this can be experienced as positive or negative. Likewise, current support available for birth trauma is perceived as beneficial for some, but inadequate by others. Findings highlight potential support improvements which are pertinent to perinatal services and professionals.

### Niamh DEVANE

The use of virtual reality in the rehabilitation of aphasia: a systematic review

**Background:** Virtual reality (VR) technologies are employed in healthcare to increase intensity and dose and to provide ecologically valid practice by simulating real situations.

**Aim:** This review describes how VR is being used in the rehabilitation of aphasia (acquired language impairment) and cognitive-communication disorders. Using the International Classification of disability and Functioning (ICF) framework it documents communication intervention studies that aim to effect change in impairment, activity, and life participation. Quality of life, which is not included the ICF, is also explored. The

forms of VR being used, the rationale for their employment and the changes demonstrated are documented.

**Methods:** Eight databases were searched using search terms based on the concepts: aphasia, rehabilitation and virtual worlds. Search results were double coded. Completeness of treatment reporting was explored using a widely accepted framework (TIDieR). Risk of bias measures were used.

**Results:** Thirteen studies meeting the review criteria were found involving 197 adults with aphasia. No articles were found of empirical research investigating the use of VR to rehabilitate the language of people with cognitive-communication disorders. The results show VR is being used predominantly to treat language tasks in the impairment domain of the ICF. There are four forms of VR described in the literature: virtual clinicians, a multi-user virtual world, a virtual table with objects to manipulate and virtual functional scenarios. Authors cite accessibility, intensity and ecological validity as a rationale for employing VR. Discussion Few studies exploited the creative opportunities of VR. There is a unique opportunity in using multi-user virtual spaces for functional communication rehabilitation. However, language impairment was the primary outcome measure for all but two studies. There is a need for more high quality studies and the adoption of the core outcome set for aphasia research in future studies to allow for meta-analysis.

## Rohit DHAKAL

**Spectral composition of an ambient light varies with different locations, time of a day, and seasons: a potential factor to impact myopia**

**Purpose:** We aimed to investigate the variation in visible electromagnetic spectrum of an ambient light in different a) outdoor/indoor locations, b) time of a day, and c) seasons.

**Methods:** The spectral irradiance (SPD) was recorded using a hand-held spectrometer in three outdoor ('open playground-OPG', 'under shade of big tree-UST' and 'canopy-

CAN'), and three indoor locations ('room with multiple large windows-RMW', 'closed room-C-Room', and 'closed corridor-C-Corr') across five different time points (3-hours intervals between 6:30 to 18:30 clock-hours) during summer and non-summer season. The distribution of SPD across spectrum was further assessed as short (380-500nm), middle (505-565nm) and long wavelength (625-780nm).

**Results:** The overall median(Q1,Q3) SPD (W/nm/m2) across three outdoor locations [0.11(0.09,0.12)] was 153 times higher than that of indoor locations [0.0007(0.0001,0.001)]. Among outdoor locations, SPD was always recorded highest in the OPG [0.27(0.21,0.28)], followed by UST [0.083(0.074,0.09)] and CAN [0.014(0.012,0.015)] irrespective of different time points in a day, whereas, in indoor locations, RMW always recorded highest SPD [0.023(0.015,0.028)]. The overall median SPD was highest in the mid-day [0.19(0.17,0.21)], which gradually decreased during morning and evening hours, with significant differences in SPDs between seasons [0.096(0.08,0.10) vs. 0.084(0.071,0.094),  $P < 0.01$ ]. SPD and percentage composition of middle wavelength was significantly ( $P < 0.01$ ) higher than short and long wavelength in all the six locations (mean difference of 5-13%/4-8% against shorter/longer wavelengths respectively at outdoors).

**Conclusion:** Spectral irradiance varied with different locations, time of a day, and seasons. Further studies are warranted to understand implications of such variation across locations in myopiogenesis and control.

## Elizabeth DUDENEY

**Measures of suicidality in perinatal populations: A systematic review**

**Background:** Suicide is a leading cause of death for perinatal women. Identifying women at risk of suicide during this time is critical. Research on the validity and/or reliability of measures assessing suicidality in perinatal women is limited. This review sought to identify and evaluate the psychometric properties of suicidality measures validated in perinatal populations.

**Methods:** Nine electronic databases were systematically searched from inception to March 2020, following PRISMA guidelines. Additional articles were identified through citation tracking of key papers. Study quality was assessed using an adapted tool, and a narrative synthesis was conducted to review the psychometric evidence of included measures.

**(Emerging) Results:** Psychometric data were reported for nine suicidality measures, across 31 studies. Twelve studies reported both validity and reliability data, ten reported more than one type of validity, eight validated more than one measure and five only reported reliability. All measures primarily screened for depression, with either an item or subscale assessing a construct of suicidality. Four measures were specifically developed for perinatal women, but of these, only two were validated in more than one study. The Postpartum Depression Screening Scale (PDSS), suicidal thoughts subscale (SUI), was validated most frequently (14 studies), followed by item-10 of the Edinburgh Postnatal Depression Scale (EPDS, nine studies). The PDSS, SUI, showed content, concurrent, construct, discriminant, predictive and cross-cultural validity in perinatal populations. It is yet to be validated against a clinical interview for suicidality.

**Limitations:** Methodological differences and variability between the measures (e.g., suicidality construct assessed, number of items used and administration) precluded the scope for direct comparisons.

**Conclusion:** Further validation of suicidality measures is needed in perinatal women. Screening for suicidality in the context of depression may not detect all cases. The development of a measure specifically assessing suicidality in perinatal women may be warranted.

### C. Vijay Reena DURAI

#### Binocular summation of luminance flicker: Effect of interocular difference in retinal illuminance

**Purpose:** Binocular contrast summation in the spatial domain fails with increasing interocular differences in retinal illuminance. This study determined if a similar pattern existed for binocular summation of luminance flicker with induced interocular differences in retinal illuminance.

**Methods:** Monocular and binocular flicker modulation thresholds (FMT's) for cone-enhanced stimuli were measured using the Flicker Plus test in fovea and four parafoveal locations (50) using adaptive staircases in 8 visually-normal observers (24–28yrs) for 7 levels of interocular differences in retinal illuminance between 10% and 80% at a baseline retinal illuminance of 923Td over 7mm pupil diameter. These interocular differences were achieved by attenuating target luminance to one eye using appropriate neutral density filters. Binocular summation ratios (BSR's) were calculated as the ratio of better eye's monocular threshold to the binocular threshold.

**Results:** Foveal and parafoveal FMT's increased monotonically with a reduction in retinal illuminance in one eye (for monocular viewing) and with interocular differences in retinal illuminance (for binocular viewing). This change was statistically significant for retinal illuminances <460Td in the eye with the neutral density filter ( $p=0.001$ ). Binocular FMT's (2.28 – 4.28%) were significantly smaller than the corresponding monocular FMT's (4.04 – 7.62%) for all retinal illuminances ( $p=0.001$ ). The resultant BSR's were significantly larger for interocular differences in retinal illuminance between 10 and 50% (mean $\pm$ 1SD: 1.70 $\pm$ 0.21) than those  $\geq$ 60% (1.26 $\pm$ 0.04).

**Conclusions:** Binocular summation of luminance flicker appears relatively immune to interocular differences in retinal illuminance. The extent of binocular summation does, however, reduce with increasing interocular differences in retinal illuminance

## Bethany HIGGINS

### Novel computer-based assessments for assessing performance in visually-guided tasks in people with age-related macular degeneration

**Purpose:** To test the hypothesis that the performance in novel computer-based tasks of everyday visual function worsens with disease severity in people with non-neovascular age-related macular degeneration (AMD).

**Methods:** Participants with and without non-neovascular AMD ( $\geq 60$  years, minimum logMAR binocular visual acuity 0.7) performed a series of standard visual function tests and two novel computer-based tasks. In a visual search task, participants had to locate an image of a single real-world object within an array of 49 distractor images. Next, in a series of simulated dynamic driving scenes, participants were asked to identify one or two approaching real-world road signs and then select these road signs from four options. Outcome measures were median response times and total correct responses.

**Results:** Forty-nine participants had no macular disease ( $n = 11$ ), early/intermediate AMD ( $n = 16$ ) or geographic atrophy ( $n = 22$ ). Groups were age-similar with median (interquartile range) logMAR visual acuity of 0.00 (-0.08, 0.12), 0.13 (-0.08, 0.70) and 0.32 (0.12, 0.70) respectively. Median (interquartile range) visual search response times were 1.9 (1.0, 2.4), 1.8 (1.1, 3.7) and 2.4 (1.2, 6.0) seconds respectively. Median (interquartile range) road sign response times (single road signs) were 1.2 (0.4, 1.7), 1.5 (0.9, 2.8) and 1.8 (1.0, 5.5) seconds respectively. Median (interquartile range) road sign response times (double road signs) were 1.7 (0.7, 2.4), 2.3 (1.2, 3.1) and 2.5 (1.7, 6) seconds respectively. Participants with geographic atrophy recorded slower response times in all tasks and over 50% performed outside the normative limit for task performance. There were no significant differences between groups in total correct responses across all tasks.

**Conclusions:** In a novel computer-based assessment, people with increasing severity of AMD take longer to perform visual search of everyday objects and take longer to identify

road signs than those with no AMD. These novel assessments could be useful as patient-relevant, secondary outcomes for clinical trials.

## Marie C. HILL

### How practice nurses engage with parents during their consultations about the MMR vaccine: a qualitative study

**Aim:** We aimed to understand practice nurses' perceptions about how they engage with parents during consultations concerning the measles, mumps and rubella (MMR) vaccine.

**Background:** The incidence of measles is increasing globally. Immunisation is recognised as the most significant intervention to influence global health in modern times, although many factors are known to adversely affect immunisation uptake. Practice nurses are a key member of the primary care team responsible for delivering immunisation. However, little is known how practice nurses perceive this role.

**Methods:** Semi-structured interviews were undertaken with 15 practice nurses in England using a qualitative descriptive approach. Diversity in terms of years of experience and range of geographical practice settings were sought. These interviews were recorded, transcribed verbatim and open-coded using qualitative content analysis to manage, analyse and identify themes.

**Findings:** Three themes were derived from the data: engaging with parents, the informed practice nurse and dealing with parental concerns: strategies to promote MMR uptake. During their consultations, practice nurses encountered parents who held strong opinions about the MMR vaccine and perceived this to be related to the parents' socio-demographic background. Practice nurses sought to provide parents with tailored and accurate sources of information to apprise their immunisation decision-making about the MMR vaccine

## Vivian HOLMES

### Understanding the experience of group antenatal care for women with a raised body mass index: a multi-method study

**Background:** Research has shown that for women with a raised BMI, their experiences of standard antenatal care are often poor, and women feel stigmatized due to their weight status (Jones and Jomeen, 2017; Smith and Lavender, 2011). Furthermore, the current literature base focuses heavily on the experiences of white middle-class women. Little is known about the experience of women with a raised BMI with marginalised identities utilising group antenatal care. This doctoral project is a nested qualitative study within the REACH pregnancy programme trial aiming to generate high-quality evidence on potential improvements in group antenatal care access and care satisfaction for pregnant women living in impoverished and/or ethnically diverse areas.

**Aims and Objectives:** This doctoral project aims to explore whether the pregnancy experience for women with a raised BMI is improved by receiving group antenatal care.

**Methods:** Participant observations of the pregnancy circles, narrative interviews with women who participated in the pregnancy circles, and semi structured interviews with midwives who facilitated pregnancy circles.

**Preliminary findings:** Four themes developed from the participant observations were: midwives' personal bias reflects societal stigma; needs and safety of women with a raised BMI are not prioritised; women with a raised BMI may benefit from peer support in group setting, and women with a raised BMI may benefit from collaborative working practices amongst midwives. Data from interviews have not yet been analysed.

## Preetham KUMAR

### Perception of suprathreshold contrast in keratoconus

**Purpose:** Threshold level spatial vision is known to be reduced in keratoconus. However, suprathreshold performance has rarely been investigated. Using the well-known contrast constancy paradigm, this study hypothesized that suprathreshold contrast matches for keratoconics will show deficiencies that may be predicted from the pattern of loss in their contrast sensitivity function (CSF).

**Methods:** Apparent contrast matches were determined at 10% and 50% contrast in five unilateral keratoconic cases (24 – 29yrs) and 10 age-matched controls using an adaptive staircase procedure with 8 reversals. The match was determined between a “standard” Gabor grating, with spatial frequency corresponding to the peak of the subject's CSF, and “test” gratings with frequencies at one-third, one-half, twice or three times that of the standard grating.

**Results:** For both suprathreshold contrast levels, the matching contrasts of test gratings were within  $\pm 20\%$  of the contrast of the standard grating for spatial frequencies greater than the standard grating ( $p=0.12$  for both). In comparison, the contrast matches were significantly higher ( $\sim 40 - 60\%$ ) for spatial frequencies lower than the standard grating ( $p<0.05$  for both frequencies). Similar pattern was observed in controls. At threshold, cases showed significantly deteriorated CSF (mean $\pm$ 1SD area under CSF:  $1.25\pm 0.37$  log units), relative to controls ( $2.23\pm 0.24$  log units) ( $p<0.001$ ).

**Conclusion:** Suprathreshold contrast perception appears to remain unaltered in keratoconus for spatial frequencies higher than the peak of the CSF, even though contrast thresholds at these frequencies were significantly deteriorated. In comparison, suprathreshold contrast losses may be seen in both keratoconics and controls for lower than peak spatial frequencies.

Jalana LAZAR

## A cross-sectional survey of midwives' experiences of facilitating group antenatal care in the United States & the Netherlands

**Background:** Group antenatal care (GANC) has been shown to be a safe and satisfying alternative care model for women and families that may also address disparities in maternity care (Byerley and Haas, 2017). Global expansion of this midwife-led model has been recommended and is underway on five continents (World Health Organization, 2016). Less is known about the experience of the midwives facilitating GANC, particularly outside of a research context. Midwives in the United States and the Netherlands have over a decade of experience integrating GANC into normal care. Given the existing workforce related challenges currently facing midwives (staff shortages, stress and burnout), it is essential that midwives who have worked in this model are able to contribute their experiences of GANC to the global policy development and discourse.

**Aims & Objectives:** To describe the type and nature of midwives' experiences facilitating GANC and to determine any effect on their midwifery role perception.

**Methodology & Methods:** A mixed methods research design was applied to this cross-sectional survey. A self-administered online survey was designed and distributed through the American College of Nurse Midwives and the GANC organization of the Netherlands (Centeringzorg). Eligible responses were analyzed with descriptive statistics and content analysis.

**Preliminary Findings:** Eligible midwife respondents from the U.S. ( $n=125$ ) stated GANC provided them more time to get to know women and provide quality antenatal care than in standard antenatal care. Two thirds (66%) of respondents found facilitating GANC more satisfying for them. Just over half (51%) stated that providing this model of care involved more work. Data collection in the Netherlands remains underway.

**Conclusion:** Facilitating GANC may be professionally and personally satisfying for midwives. Further research is needed to understand workload implications for facilitating midwives.

Abbie Moran

## The impact of Developmental Language Disorder on Phonological Encoding

**Background:** Phonological encoding is the process of generating a verbal label for visually presented stimuli. According to Baddeley's Working Memory model (2010) this occurs in the Phonological Loop, and the presence of phonological encoding can be tested using the Phonological Similarity Effect (PSE), where children, after seeing a set of nameable pictures, have to recall the stimuli without any verbal cues. Children with typically developing language show poorer recall of pictures with rhyming names compared to pictures with non-rhyming names even when the task is non-verbal (Henry, Messer, Luger-Klein, & Crane, 2012) indicating use of inner speech. DLD is associated with difficulties with both phonological skills and working memory and therefore a delay or significant difference in the use of phonological encoding is to be expected. However, little research exists looking at specifically at use of phonological encoding in this population.

**Method:** This study aims to recruit 120 participants: Sixty children with Developmental Language Disorder (thirty aged 6-7 years and thirty aged 9-10 years) and sixty age and non-verbal IQ matched children with typical language development. Participants will complete a simple computer-based picture recall task with two conditions (rhyming or non-rhyming). Participants will then be asked to repeat part of this task and select which, if any, memory strategy they used (Visual rehearsal; Verbal rehearsal, cumulative or complete; Verbal naming; or none), by tapping the appropriate illustration. In addition, data will be collected of each child's reaction time; speech rate; silent reading ability; expressive vocabulary and automatic naming.

**Results:** Preliminary data analyses will be presented, the results of the PSE test of the DLD groups of children. This will include i) the presence or absence of PSE in children with DLD; and ii) developmental change between younger and older age groups.

**Conclusion:** It is hoped the outcome of this research will identify differences and potential therapeutic targets to remediate the impact of working memory difficulties in children with DLD.

**References:**

1. Baddeley, A. (2010). Working memory. *Current Biology*, 20(4), R136-R140.
2. Henry, L. A., Messer, D., Luger-Klein, S., & Crane, L. (2012). Phonological, visual, and semantic coding strategies and children's short-term memory span. *The Quarterly Journal of Experimental Psychology*, 65(10), 2033-2053.

**Aparna Ramachandran**

**How do singers cope with voice problems? A qualitative exploration of the perceptions of Western Classical and Carnatic singers, singing teachers and Speech and Language Therapists (SLT)**

**Background and aims:** Singers are 'elite vocal performers' whose livelihood depends on optimal functioning of their voices. Since singers frequently encounter voice problems, it becomes essential to explore how they manage these voice problems. This is referred to as coping, which can have an impact on their vocation, well-being and quality of life. An adequately adapted coping method can help in management and prevention of health problems. Despite the implications of coping on vocal health, it is a relatively unexplored area, particularly in singers. This study aimed to explore beliefs and perceptions of singers, singing teachers and SLTs (specialised in voice disorders) regarding voice related coping in classical singers.

**Methods:** A qualitative analytic methodology was adopted, and semi-structured interviews were used to gather rich and descriptive data. Interview guides were used to obtain

relevant information. Nineteen purposively selected participants were interviewed across 3 groups-singers, singing teachers and SLTs who were associated with either the Western Classical or Carnatic genre. Framework analysis was adopted to analyse data using NVivo software.

**Results:** Eleven themes were identified which explored the various coping mechanisms adopted by singers, factors affecting coping choices and how these choices impacted a singer. Additionally, perceptions of SLTs regarding coping assessment and its use during intervention were analysed. Comparison between two singing groups revealed differences in perceptions implying the role of culture and genre in coping (eg: reliance on religion by Carnatic singers to cope with a voice problem). Similarly, comparisons between groups (singers, singing teachers and SLTs) highlighted similarities and differences in how coping is viewed by these groups (eg: what is considered adaptive/maladaptive).

**Conclusion:** This study explored perceptions and beliefs surrounding voice related coping which is beneficial in understanding its role in the onset, development and maintenance of voice problems which will inform voice assessment and management.

**Sevil Savi-Karayol**

**Language Development in Looked-after Children: A Scoping Review**

**Background:** The literature reports that language and communication development difficulties in looked-after children (LAC) are more prevalent compared to the general population (Krier, Green, and Kruger, 2018; McCool and Stevens, 2011). Also, their language development difficulties can go undetected (Cross, 2004). This scoping review aimed to identify and synthesize evidence on language development in LAC as part of my PhD.

**Methods:** A systematic search was undertaken using comprehensive search terms in six electronic databases to identify which research has explored language

development in LAC. Structured review methods were utilised to select the quantity, types, sources, article distribution and assessment of these research studies. Searches were conducted for both materials published and unpublished between 1989 and 2020. Findings were summarised and synthesised according to a set of emerging themes.

**Results:** Thirty-two articles (23 quantitative, 4 randomized control trials, 2 cross-sectional studies, 1 meta-analysis, 1 case study, and 1 systematic review) were included in the final analysis. Twenty-one (66%) considered language development and or difficulties, 5 (15%) language impairments in LAC and 6 (19%) language intervention strategies. The majority of the studies were within-subject design and predominantly rely on a single project that have not been replicated. The most common finding was, as a group, LAC are more prone to language developmental difficulties. Caution is required in interpreting these findings, however, because some studies had limitations regarding design, sample size, and test materials. Another significant finding was that experiencing maltreatment and adversity has a negative impact on language development.

**Conclusion:** Presently, the strength and scope of the evidence base for the investigation of language and communication development difficulties in the LAC population is scarce. Thus, it was difficult to draw firm conclusions or profiles for their language needs. Nevertheless, the substantial existing evidence corroborates the assumption that language development of LAC is disrupted. Language development in this group is likely to be influenced by many factors and can be overlooked due to their individual circumstances. Therefore, the scoping review highlights several directions for future research which will be followed up in the PhD.

#### References:

1. Cross, M., 2004, *Children with Emotional and Behavioural Difficulties and Communication Problems: There Is Always a Reason* (London: Jessica Kingsley).

2. Krier, J., Green, T. and Kruger, A., 2018. Youths in foster care with language delays: Prevalence, causes, and interventions. *Psychology in the Schools*, 55(5), pp.523-538.
3. McCool, S., & Stevens, I. C. (2011). Identifying speech, language and communication needs among children and young people in residential care. *International Journal of Language and Communications Disorders*, 46, 665-674.

#### Emily Skelton

#### **Bonding with babies in the womb: Understanding expectant parents' experiences of imaging in pregnancy, and its potential effect on prenatal bonding**

**Background:** Prenatal bonding is the emotional connection parents form to their unborn child. Routine ultrasound imaging during pregnancy is thought to facilitate the bonding process for mothers, however research evaluating the effect of imaging on the paternal-fetal relationship is sparse. In addition, there is an increasing use of advancing technologies to acquire highly detailed fetal images (e.g. 3 and 4-dimensional ultrasound and magnetic resonance imaging), yet their effect on the developing bond is not well understood, particularly in the context of fetal anomaly. This project aims to explore how expectant parents experience pregnancy imaging, and how this may impact prenatal bonding.

**Methods:** Using a mixed-methods study design, quantitative data will be collected from parents of 100 uncomplicated pregnancies having fetal imaging (50 ultrasound, 50 MRI) via an online questionnaire to measure prenatal bonding before and after the imaging examination. Thematic analysis of up to 30 semi-structured interviews of parents having fetal imaging (15 uncomplicated pregnancies, 15 pregnancies with fetal anomaly) will also be conducted to provide a detailed perspective into expectant parents' experiences of scans during pregnancy.

**Discussion:** Data analyses will examine whether prenatal bonding changes after imaging, and how this may differ (or not) between mothers and fathers, and imaging

modalities. As part of this project, a systematic review of relevant literature highlighted the importance of parent-centred care in positively enhancing parent experiences of fetal imaging and supporting parent-fetal bonding. Thus, the findings will also contribute to the development of evidence-based recommendations to further support imaging professionals in providing parent-centred care during fetal imaging examinations.

**Contribution:** A deeper appreciation of parents' experiences of fetal imaging and the subsequent impact on prenatal bonding will help to guide the successful integration of advanced imaging technologies, and educate imaging professionals to support parents' needs during pregnancy scans and facilitate quality parent-fetal bonding.

### Salma Wilson

**Investigation of current guidelines for prescribing spectacles to children using a modified Delphi approach and the AGREE II tool.**

**Purpose:** This study aimed to identify clinical guidelines on prescribing refractive error correction in children and evaluate the overall quality using the Appraisal of Guidelines for REsearch and Evaluation II (AGREE II) Tool. Subsequently, gain consensus amongst a panel of experts on critically appraised guidelines using a modified Delphi methodology.

**Methods:** A comprehensive search was undertaken using databases and professional websites. The appraisal of the eligible guidelines was undertaken using the AGREE II tool. The high-quality guidelines were then scrutinised via a modified Delphi technique which used ten members forming an expert panel consisting exclusively of a sub-specialist optometrist, ophthalmologist, and orthoptists. There were three rounds consisting of statements needing scoring using a 9-point Likert scale with a free-text option for any additional suggestions.

**Results:** Five guidelines were identified which varied substantially in quality. The AGREE II tool identified only one guideline to be of high quality. There was a 100% response rate to all three rounds of the Delphi technique. The Delphi technique demonstrated that several statements were appropriate prescribing recommendations, and disagreements were also obtained on other statements where adjustments were necessary to the guideline.

**Conclusion:** There is significant scope for improving the current guidelines for prescribing refractive error in children. The modified Delphi technique application has highlighted gaps where further work is required to help professionals prescribe refractive errors in children.

### Aneta Zarska

**A Systematic Review of Training Interventions for Emergency Department Providers and Psychosocial Interventions Delivered by Emergency Department Providers for Patients who self-harm**

**Objectives:** People who self-harm frequently present to the emergency department (ED) and are treated by generalist healthcare staff with no specialist mental health training. We systematically reviewed (i) training interventions for generalist ED providers and (ii) psychosocial interventions delivered by generalist ED providers for people who self-harm.

**Method:** Searches were conducted in PubMed, MEDLINE, PsycINFO, CINAHL and the Cochrane Central Register for Controlled Trials. No limitations were placed regarding study design/country. Four independent reviewers completed study selection, data extraction and quality assessment. Narrative synthesis was conducted.

**Results:** Sixteen studies from high-income countries were included. Nine evaluated training interventions for generalist ED providers (n=1587), which were of moderate (50%) methodological quality. Seven studies evaluated psychosocial interventions for adults who self-harm (n=3905), which were

of good (75%) methodological quality. Only two randomized controlled trials (RCTs) were identified. Training interventions were consistently linked with pre-post improvements in staff knowledge, and less consistently with improvement in skills, attitudes, and confidence. Patient-level interventions involving common suicide prevention strategies - safety planning and follow-up contact - were consistently linked to pre-post reductions in suicide attempts across studies and shown to be superior to usual treatment in a single RCT. Effects on treatment engagement and psychiatric admissions were unclear.

**Conclusions:** There is a clear need for further RCTs to improve the evidence base for ED generalist providers managing patients with self-harm. Evidence supports potential benefits of training for improving staff knowledge, attitudes, and skills, and of safety planning and follow-up contact for reducing repeat suicide attempts. Key words: Suicide, self-harm, emergency department, psychosocial interventions, staff education.

# Data Blitz presentations

## Bandar ALEISSA

**Cost utility analysis of using circulating tumour DNA (ctDNA) to guide adjuvant chemotherapy decisions in patients with high-risk stage II and stage III colorectal cancer (CRC) following curative surgery.**

**Background:** There has been growing evidence that ctDNA testing can identify patients who are at high risk of cancer recurrence, and are likely to benefit from adjuvant chemotherapy following curative surgery in patients with stage II and III CRC and thereby reduce disutility and utilisation of unnecessary and toxic chemotherapy. **Objective:** To assess the cost-effectiveness of implementing ctDNA testing in managing patients with high-risk stage II and III CRC following surgery from the NHS and PSSRU perspective.

**Methods:** I performed a cost-utility analysis and developed a decision-tree model to compare the incremental costs and QALYs of using ctDNA testing, compared with standard of care alone over a five-year time horizon. Series of one-way deterministic sensitivity analyses on key parameters, and probabilistic Monte Carlo simulations of 5,000 iterations were conducted to investigate parameter uncertainty.

**Results:** ctDNA testing resulted in an overall 11.43% decrease in chemotherapy utilisation with savings of £47.5 million, and 1,935 less cases of chemotherapy-induced adverse events with savings of £10 million. Base-case incremental cost-effectiveness ratio (ICER) was £27,830 per QALY. Deterministic sensitivity analyses revealed results were most sensitive to cost of ctDNA testing, followed by probabilities of ctDNA being detectable and survival estimates. Results

were moderately sensitive to utility of adverse events and rates of adverse events. Monte Carlo simulations results showed that ctDNA was cost-effective 51.4% (95% CI: 50.2 – 52.6%) at a cost-effectiveness threshold of £20,000/QALY and 53.5% (9% CI: 52% – 55%) at a threshold of £30,000/QALY.

**Conclusions:** ctDNA testing in patients with high-risk stage II and III CRC reduced chemotherapy utilisation and improved outcomes, and can potentially be cost-effective if testing costs are reduced and clearly define, and clinical evidence and data on the clinical utility of ctDNA and detectability following surgery is more precise.

## Deborah BOTT

**Investigating the feasibility and acceptability of using a chatbot to improve adherence to glaucoma medication**

**Background:** Glaucoma is the leading cause of preventable blindness in the UK. It is frequently treated with lifelong daily eyedrops. Non-compliance with eyedrop medication is a global issue and can hasten vision loss (Erras et al., 2021). In 2013 the UK Sight Loss and Vision Priority Setting Partnership established key priorities for research within glaucoma. One priority was to investigate the link between treatment adherence and glaucoma progression and how adherence can be enhanced. Chatbots, a modern type of software technology, are already used within the healthcare setting to remind patients to take their medication (PR Distribution, 2017). However, there is a lack of evidence investigating their potential benefits in glaucoma patients. This project will address this unmet need.

**Method:** A scoping literature review will identify what types of technology have been used to improve medication adherence and what factors facilitate or impede compliance. A survey of glaucoma patients and eyecare professionals will be conducted to understand their opinions and knowledge surrounding the use of technology to improve medication adherence. An intervention randomised control study will investigate the effectiveness of a chatbot intervention in improving glaucoma medication adherence. Sixty glaucoma patients will be randomised into two groups, either fast-track arm (receive chatbot at start of study) or delayed intervention arm (receive chatbot 12 weeks into study). Adherence will be measured objectively and subjectively at the start of the trial, at 12 and 24 weeks. Semi-structured interviews following the study will ascertain opinions on the use of a chatbot. Recruitment retention rates will be investigated, together with the outcome measures and acceptability and feasibility of the chatbot intervention. Findings from this research will ultimately benefit glaucoma patients by providing evidence for future randomised trials into the usefulness of using chatbots to improve adherence to glaucoma medication.

## References:

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## Tracey BOWDEN

### Predictors of cognitive dysfunction after cardiac surgery: a systematic review

**Aims:** Postoperative cognitive dysfunction (POCD) is often experienced by cardiac surgery patients; however, it is not known if some groups of patients experience this more frequently or severely than others. POCD is a decline in cognitive function from baseline performance measured with

neuropsychological tests before and after surgery<sup>1</sup>. Manifestations include memory impairment, loss of concentration, short attention span, and personality changes. The aim of this systematic review was to identify preoperative and postoperative predictors of cognitive dysfunction in adults following cardiac surgery.

**Methods and Results:** Eight bibliographic databases were searched (January 2005 to March 2021) in relation to cardiac surgery and cognition. Studies including adult patients who had undergone open cardiac surgery and using a validated measurement of cognitive function were included. Full-text review for inclusion, quality assessment, and data extraction were undertaken independently by two authors. A total of 2870 papers were identified, of which 36 papers met the inclusion criteria and were included in the review. The majority were prospective observational studies [n = 28 (75.7%)]. In total, 61 independent predictors (45 preoperative and 16 postoperative) were identified as significant in at least one study; advancing age and education level appear important. Age has emerged as the most common predictor of cognitive outcome.

**Conclusion:** Although a number of predictors of POCD have been identified, they have inconsistently been reported as significantly affecting cognitive outcome. Consistent with previous research, our findings indicate that older patients and those with lower educational levels should be prioritized when developing and trialling interventions to improve cognitive function. These findings are less than surprising if we consider the methodological shortcomings of included studies. It is evident that further high-quality research exploring predictors of POCD is required.

## References:

1. Berger M, Terrando N, Smith SK, Browndyke JN, Newman MF, Mathew JP, Terrando N. Neurocognitive Function after Cardiac Surgery: From Phenotypes to Mechanisms. *Anesthesiology* 2018;129(4):829-851.

## Children and young people's participation in developing policies to create healthier food environments: a systematic scoping review

**Background:** Childhood obesity has increased in prevalence globally and is a public health concern. Evidence suggests that a shift to unhealthy food environments (FEs), characterised by energy-dense, nutrient poor, processed foods, is somewhat responsible (1). These unhealthy FEs are failing to promote the health of children and young people (CYP); especially those who live in disadvantages communities where unhealthy FEs are most prevalent. To solve this problem, policies should be developed with the CYP most affected, so that the policies are tailored to the realities of CYP's lives. Until now, no review has explored how CYP have been involved in developing policies to create healthier FEs. **Aim:** The aim of this research was to systematically map how CYP have participated in generating policies/actions to create healthier FEs to date within the current literature.

**Methods:** A systematic scoping review was conducted; a comprehensive literature search within health, social science and grey literature databases resulted in a total of 3390 articles; 17 articles published between 2007-2020 were included for the review. The target population was CYP aged between 0-24 years.

**Results:** Findings suggest CYP have been involved in generating FE actions at a local (community/school) level, although not in the UK. Whilst the description around CYP's level of involvement in the process of generating FE actions remains fairly limited, CYP are regularly involved in the dissemination of FE actions to stakeholders. Actions co-created with CYP appear to have high rates of translation into practice; in ten studies, at least one action that CYP suggested was implemented. Within the studies, it appeared that where power and decision making was shared with CYP, actions CYP suggested were more likely to be implemented. This calls for further research to explore the process of involving CYP in generating and communicating FE actions.

## References

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## Preetirupa DEVI

### One-eyed individuals are better at performing depth-related tasks than binocular individuals viewing monocularly

**Aim:** Individuals with only one functional eye (uniocular) are devoid of binocular cues to depth. We wondered how well these individuals could compensate for this absence. Could they perform depth-related tasks as well as binocular individuals? Did they perform better than binocular individuals who were forced to use just one eye?

**Methods:** Controls (n=5; 26 – 42 yrs) and cases (n=5; 19 – 22 yrs) with uniocularly ranging from 12 – 252 months, randomly played two “buzz-wire” games thrice: one with the wire arranged in depth along the transverse plane and another with the wire arranged along the fronto-parallel plane. Both games were played with and without a head restraint and under binocular and monocular viewing condition in case of controls.

**Results:** On the basis of a preliminary analysis of 2 controls and 2 cases, the total time taken by controls under binocular viewing: 56.87sec (4.27sec); mean number of errors: 1.45(0.41); mean duration of error: 0.20sec (0.10xsec) was lesser than monocular viewing [79.99sec (5.49 sec), 14.70 (1.34) and 3.35sec (1.18 sec), respectively] ( $p < 0.05$  for all). Task duration of cases [39.1 sec (2.84 sec)] was comparable to binocular ( $p < 0.01$ ) but significantly better than monocular viewing ( $p < 0.01$ ) of controls. Total number of errors of cases [10.54 (0.58)] was significantly higher than binocular ( $p < 0.01$ ), than monocular viewing ( $p < 0.01$ ) of controls. Results were comparable with and without the head restraint ( $p > 0.05$ ).

**Conclusions:** From the relatively inferior performances of binocular individuals who were forced to use one eye, we conclude that unocular individuals can indeed compensate for their loss of binocular cues to depth. Nonetheless, the two groups of individuals adopt different strategies, with the unocular individuals sacrificing accuracy for speed in a task requiring depth perception.

### Anna HARVEY

#### Everyday narrative skills in autistic adolescents: a pilot study

**Background and Aims:** Narrative skills are essential for the social development and academic success of children and young people (CYP). Previous studies into how narrative skills are affected in autism have produced a complex set of findings, with conflicting evidence about various aspects of narrative competence across a range of experimental tasks. However, there is evidence that autistic CYP tend to have difficulties with global structure and coherence in spoken narrative accounts. There is a lack of published research into how narrative skills are used to recount events in everyday situations, with most previous studies focusing on ‘storybook’ narratives. Further research is needed to understand the challenges that autistic CYP may face in their daily life, and to inform new ways of supporting their functional communication skills. The present pilot study (N=8) was carried out to establish the feasibility of the planned methodology for the author’s PhD research project.

**Methods and Procedures:** Participants aged 11-15 years (ASD= 4; TD= 4) were assessed online. Groups were matched on age, non-verbal cognitive ability, and receptive and expressive language skills. Spoken narratives were elicited using two short video clips and scored for overall structure and coherence. Participant feedback on assessment materials and procedures was obtained through semi-structured interviews.

**Outcomes and Results:** No significant group differences in narrative ability were found. Participant feedback indicated that the

materials and procedures used for assessment were generally suitable for all participants, with only minor adjustments made to the methodology for the main phase of the project.

**Conclusions and Implications:** These pilot findings are in line with some previous literature demonstrating minimal or no differences in narrative skill between autistic and typically developing CYP when groups are closely matched on cognitive and linguistic abilities. Participant feedback indicated that remote/online assessment can be an appropriate method for conducting research with adolescents both with and without a diagnosis of autism.

### Oliver MATIAS

#### The effectiveness of psychosocial interventions for self-harm in males compared to females: a systematic review and meta-analysis

**Background:** Men are three times more likely to die by suicide in the UK than females and those who deliberately self-harm (SH) have been found to have >16 times greater odds of death by suicide. The National Institute for Health and Care Excellence (NICE) recommend offering psychological interventions to patients in the management of SH but it has been said that such therapies may not be appropriate or helpful for men. There is limited investigation of sex differences in the treatment of mental health disorders, however; including SH. Hence, in a recently updated Cochrane review on psychosocial interventions for SH in adults, data were analysed by sex in only 10/76 trials, of which ‘largely indicated benefits for females, but not males’ (p.69)1.

**Methods:** We are combining and updating two Cochrane reviews on [psychosocial] interventions for SH in adults<sup>1</sup> and in children and adolescents<sup>2</sup> but, specifically, we are going to look at outcomes by sex by conducting meta-analyses for males and females separately. We are contacting authors for 92 trials directly to request data by sex (which is rarely reported in the published papers) and will analyse this using RevMan 5 software.

**Results:** The primary outcome will be occurrence of repeat SH for males and females separately and the primary end-point will be post-intervention. Secondary outcomes will include all other relevant outcomes that we are able to obtain data for (for males and females separately) and secondary end-points will be all other time-points that we are able to obtain outcomes for.

**Discussion:** As men are three times more likely than women to die by suicide in the UK, it is particularly important to establish whether psychological (e.g. psychosocial) interventions (that NICE recommends offering to patients in the management of SH) are effective in this patient group or not.

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### Jacqueline MILLER

Exploring the paediatric eye and vision research experiences, of children and young people, parents and research staff: a systematic review.

**Background:** Patient ‘experience’ reflects a key measure of quality in health care (Department of Health, 2008); experiences of research participation are equally important. For children and young people (CYP) with eye and vision conditions, research offers potential innovations in diagnosis, prevention, safe and effective treatments and cures. However, little is known about the experiences this young population have during research participation. We conducted a systematic review of existing literature; our primary outcome was to understand what

CYP, their parents or research staff perceive to support or hinder a positive experience. Secondary outcomes explored whether participation experiences were perceived to have any positive or adverse effects, and if any interventions to improve paediatric ophthalmic research experiences had previously been developed or used.

**Methods:** In July 2020 we ran a sensitive search of the evidence in MEDLINE, Embase, CINAHL, Web of Science, NICE evidence and The Cochrane Library (CDSR and CENTRAL). We also searched key journals by hand and ran focussed searches in grey literature databases and Google Scholar. The National Institute for Health Research (NIHR) Participant in Research Experience Survey (PRES) in 2019, identified ‘five domains’ pivotal to shaping positive research experiences. We used these as an ‘a priori’ framework and conducted a ‘best fit’ synthesis.

**Results:** Our search yielded 13,020 papers; two studies were eligible. These two evaluated experiences of parents and staff; CYP were not consulted directly. No studies were identified addressing our secondary objectives. Synthesis confirmed parents’ experiences were shaped by staff characteristics, information provision, trial processes/organisation as well as personal motivations; concurring with the PRES ‘five domains’, but also generating additional dimensions in the last two domains.

**Conclusions:** Currently the evidence base is very limited and importantly does not include the voice of CYP. Further research involving CYP could expose a unique perspective to inform future improvements.

### Cherie MORGAN

Exploring the link between self harm and autistic traits – a mixed methods design and analysis

**Background:** Recent research has suggested that people with ASC are more likely to self-harm, attempt suicide and die by suicide (Hirvikoski et al., 2016, Takara and Kondo, 2014 and Richards et al., 2019). The aim of this

study is to investigate if there is a prevalence of autistic traits in people who self-harm. The study will set out to examine the links between self-harm and autistic traits as well as exploring the experiences of this group and gain a better understanding of the links. This could be crucial knowledge to clinicians engaging with people at risk of suicide and to enable the people self-harming a chance of better understanding their difficulties and how best to achieve a better quality of life.

**Research questions:** Quantitative strand: 1. Are people who self-harm/attempt suicide more likely to have traits of ASC compared to the general population? Qualitative strand: 2. How does this identified group make sense of their experiences? Integrating the quantitative and qualitative strands: 3. How does the integration and analysis of the information gathered from question 1 and 2 inform theory and clinical practice? For the quantitative part, the study hypothesises that people who self-harm/attempt suicide have higher AQ scores compared to the general population (compared using data from Ruzich et al., 2015).

**Method:** Quan: questionnaire which include the AQ10 – look at cut-off scores. (N=200) Qual: semi structured interview with 7 participants who scored above cut-off on the AQ10 Current status: all data collected and analysis underway. Hoping to be able to share the data by the time of the conference.

## Freya SPARKS

### A systematic review of tracheoesophageal voice therapy in post laryngectomy rehabilitation: preliminary findings

**Introduction:** Following total laryngectomy, surgical voice restoration is held as the gold standard for re-establishing communication via tracheoesophageal voice. Yet beyond insertion of a voice prosthesis to elicit voice production, there is suboptimal clinical knowledge of how to rehabilitate tracheoesophageal voice. This systematic review will identify and assess the quality and effectiveness of behavioural interventions for tracheoesophageal voice therapy.

**Methods:** A search of seven databases and manual searches was conducted in June/July 2021. Records will be independently screened by two reviewers against inclusion/exclusion criteria. Eligible studies will be assessed for quality using the PEDro, ROBIN-T and CASP critical appraisal tools. A data extraction tool will be developed to document key data. The review protocol has been registered with PROSPERO and will be reported in accordance with PRISMA guidelines.

**Results:** Descriptive statistics will be used to describe participants and key aspects of the studies. We anticipate a narrative synthesis given the heterogeneity of the studies. The synthesis will report on details of the interventions, population characteristics; and measurement of outcomes across ICF domains, well-being and quality of life. Data permitting a meta-analysis will be performed.

**Conclusions:** This review will provide valuable information to clinicians on the under-researched area of tracheoesophageal voice therapy and appraise the effectiveness of existing therapy approaches. The findings of the review will form part of the VITAL project, which centres on the development of a novel Voice Therapy Approach for People with Laryngectomy.

## Elizabeth WALTERS

### Embedding Community Development in Local Systems: A scoping review protocol

**Introduction:** Community development is a process which brings people together to take action on what's important to them. The approach generates positive changes such as improving health and reducing inequalities. However, funding for community development is usually provided on a short term basis while long term investment is required. A way to address this issue would be by embedding community development within local systems, such as local authorities, housing associations, CCGs and other community organisations. This scoping review will explore community development approaches which have been embedded within local systems, or approaches which are attempting to become embedded within local systems.

**Research Questions:** 1. How much literature is available reporting on community development that has become or is becoming embedded within a local system? 2. What are the key characteristics of this literature?

**Inclusion criteria:** The scoping review shall consider studies which focus on neighbourhood based community development approaches which have been, or are attempting to become, embedded within local systems. Studies will be considered if they are in English language and there are no restrictions on publication date.

**Methods:** The scoping review will follow the Joanna Briggs Institute methodology for scoping reviews, following a three-step research strategy: (1) Identifying key words for a search of MEDLINE and PsycINFO, (2) conducting a full search of chosen academic databases and grey literature locations, (3) handsearching the reference list of included studies for further literature. Additionally, known professionals in the field will be contacted and asked for literature. Two researchers will be involved in the data extraction process. Extracted data will be presented in tabular format which reflects the review questions.

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