School of Health Sciences Research Projects

Maternal and Child Health Research

1. Feeding children neurodisability: professional and parental constructions of risk
2. Midwives and Health Visitors: A study of their working relationships

Public Health Research

3. Precision tinted lenses and coloured overlays for alleviation of pattern glare
5. A randomised controlled trial evaluating the effect of Vitamin D supplementation on retinal structure and function in age related macular degeneration (AMD)

Applied Vision Research

6. Learning to see better
7. Macular pigment spatial profiles and foveal architecture in age related macular degeneration
8. Limiting factors in Evidence-Based Optometry
9. Neural bases of visual dysfunctions & their therapeutic recovery in amblyopia: neuroimaging studies
10. Dietary intake of carotenoids amongst ethnicities living in the UK
11. Does vision screening improve the quality of life in children?
12. Contextual effects on appearance and discrimination
13. Corneal biomechanical changes and intraocular pressure measurement in a corneal model

Language and Communication Sciences Research

14. The impact of a narrative-based language intervention on developing a theory of mind in deaf children
15. Exploring the effectiveness of explicit intervention in enhancing the expressive language of school-age children with primary language impairments
16. Use of gender-neutral personal pronouns in English and German
17. Enhancing vocabulary in mainstream secondary school students with language and communication difficulties
18. Improving working memory in children and adolescents with language difficulties
19. Personal storytelling by people with aphasia: an evaluation of a novel intervention
20. An evaluation of interactive therapy approach to targeting young children's vocabulary skills
21. Developing vocabulary, phonological and pre-reading skills in young deaf children
22. Improving access to social media for people with aphasia

Mental Health Research

23. Clinicians’ responses to depression: examining the relationships between attitudes, knowledge and clinical behaviour in the recognition and management of depression
24. Recovery-focused care planning and coordination in inpatient mental health care settings
A high proportion of children with neurodisability (e.g. cerebral palsy; CP) have feeding difficulties making it difficult to achieve an adequate nutritional intake by mouth (Reilly et al 1996) with implications for their growth and development. Children with severe CP are often described as ‘malnourished’ (ie children’s mean weight before surgery in one clinical study was –2.84 standard deviation score) (Craig et al 2006). This can present an ethical dilemma for both parents and clinicians regarding the feeding management of children, particularly where parents are opposed to surgery for a gastrostomy feeding tube. Estimates of oral aspiration (where food and secretions are transported into the airway) range from 31% to 97% in this population (Gisel and Patrick, 1988) and may lead to respiratory complications, including frequent chest infections and pneumonia (Heine et al, 1995). The risk of harm from oral aspiration however is contested (Cass et al, 2005) as some children are able to protect their airways for reasons that are poorly understood. Although videofluoroscopy (VFSS) is regarded as the “gold standard” for detecting oral aspiration (Furia et al, 2000) the results of such tests can be disregarded by caregivers/clinicians (Craig et al 2003) due to a lack of consensus on a) what constitutes a clinically safe swallow and the role of VFSS and; ii) advice for children to be nil-by-mouth which is deemed controversial. Ideas about risk have been further developed drawing on the sociology of risk literature by Dr Craig, based on her doctoral work, in relation to who owns and manages the risks associated with dysphagia and oral feeding in different organisational settings and the clinical care pathway (see Craig & Higgs, 2012). This work has highlighted the discursive construction of risk across three contexts:

i) Conflicts over interpretation of risk between clinicians and parents/young people and the safety of oral feeding

ii) Interprofessional constructions of risk and conflict (for example, disagreements about the need for a gastrostomy and the safety of oral feeding within the multidisciplinary team).

iii) Risk and conflict across multiple caring contexts for example, concerns about the safety of oral feeding involving surrogate feeders in community settings (eg. schools, residential establishments).

Research proposals are invited in any area of neurodisability and feeding which may advance our understanding of the above scenarios. Enquiries should be made to Dr Gill Craig: gill.craig.1@city.ac.uk

References

Recommended Skills / Prior Learning

1. A background in the social sciences or speech and language therapy, preferably with experience of conducting research in a clinical or community setting.
2. Experience with/interest in qualitative, discursive approaches and the sociology/psychology of risk; and,
3. Proven ability to communicate with young people using communication aids or other method (if conducting research with non-verbal children/young people)
**Proposed by:**

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<td>Professor Rosamund Bryar</td>
<td>Dr Ellinor Olander</td>
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**Proposed Title**

Midwives and Health Visitors: A study of their working relationships.

**Brief Description**

Midwives and health visitors are key health professionals in the antenatal and postnatal care of women, their children and families. The roles of these practitioners are central to the delivery to families of the Healthy Child Programme (DH and DSF, 2009) and therefore communication between midwives and health visitors, working with the same families, is critical in providing continuity. Midwives and health visitors support women, for example in initiation and continuation of breast feeding, in identification and interventions concerning antenatal and postnatal depression, attachment and many other areas. Over the past 20 years there has been a significant reduction in the numbers of health visitors and changes in the organisation of health visiting teams (DH, 2011; National Nursing Research Unit, 2013) which has impacted on the relationships and communication between midwives and health visitors. The Health Visitor Implementation Plan (DH, 2011) is delivering an additional 4,200 health visitors into practice by March 2015 and this increase is enabling health visiting services to re-establish health visitor contact with women in the antenatal period.

The aim of this study is to examine the relationships between midwives and health visitors and the barriers and facilitators to communication between the two groups.

The work involved in this PhD might include some of the following:

- Literature review of communication and relationships between the two groups; this review would include commentary, opinion pieces, grey literature etc. to help expose practitioners, women's and other health professionals experiences of the relationship
- Qualitative study of the views of midwives, health visitors, women/service users, other health professionals
- Mapping of current services provided by midwives and health visitors
- Mapping of current communication points and mechanisms in the antenatal and postnatal periods
- Development of interventions to enhance communication
- Application or development of tools to measure communication

**References**


**Recommended Skills / Prior Learning**

1. Practitioner with a background in health visiting or midwifery
2. Experience in undertaking literature searches
3. Skills in interviewing
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<td>Amanda Burls</td>
<td>John Lawrenson</td>
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Research Centre: Public Health Research

Proposed Title: Precision tinted lenses and coloured overlays for alleviation of pattern glare

Brief Description: Ocular discomfort is sometimes encountered when viewing certain types of environmental stimuli, for example repetitive striped patterns or written words. The magnitude of these effects will vary according to individual susceptibility and the characteristics of the pattern, most notably, its spatial frequency and contrast level. Discomfort when viewing particular patterns is termed ‘pattern glare’ and can lead to symptoms of eyestrain, headaches and reading difficulties.

Pattern glare is associated with a range of neurological conditions including: migraine, photosensitive epilepsy, autism, dyslexia and multiple sclerosis. Visual discomfort associated with pattern glare has been reported to be reduced with the use of colour, such as covering the uncomfortable visual stimuli or displays with a coloured overlay, wearing tinted glasses, or using different coloured computer screen backgrounds. These interventions are widely recommended for sufferers despite the lack of clear evidence for their effectiveness.

The aim of this study is to conduct a systematic review of the effectiveness of precision tinted lenses and coloured overlays for the alleviation of visual stress in a variety of conditions with a view to informing the design and conduct of a clinical trial. The design and conduct of the trial with be undertaken with public and patient involvement and the trial will be run online (using the ThinkWell online trials infrastructure [www.iThinkWell.org](http://www.iThinkWell.org)) with participant self-recruitment and the use of validated Patient-Reported Outcome Measures.

Recommended Skills / Prior Learning:
1. Optometry and/or
2. Ophthalmology and/or
3. Psychology and/or
4. Health research methods and/or
5. Clinical trial or systematic review methods
**SCHOOL OF HEALTH SCIENCES**  
**PhD RESEARCH PROJECT PROPOSAL**

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**Proposed Title**  
An evaluation of self-refraction and the use of self-adjustable spectacles in presbyopia

**Brief Description**  
Presbyopia, a refractive error impairing the near vision of older people, affects 1 billion people globally. In low and middle income countries 94% of visual impairment from presbyopia is uncorrected. A deficit of trained personnel and resources means programmes mainly focus on correcting refractive error in children.

Self-refraction using self-adjustable spectacles offers two main benefits:
- A quick method for determining refractive error without trained personnel
- Immediately available ready-made pair of spectacles (up to +6.00 diopters)  

Self-refraction has been compared in trials to conventional refraction in children and pre-presbyopic adults in developing countries. However, it has not been evaluated in the treatment of presbyopia. This project will:
1. Compare outcomes between adjustable spectacles and conventional methods in presbyopes
2. Investigate tolerance to the mismatch in inter-pupillary distance for presbyopic corrections
3. Qualitatively evaluate the cosmetic appeal and experience of using self-adjusted spectacles

Presbyopes attending for routine refraction will be recruited and self-refraction will be carried out for each eye using an appropriate near target. Near visual acuity will be measured and the power of each lens will then be calculated using a lensometer. Lens powers and near visual acuities will be compared to the conventional determination of refractive error carried out by an optometrist (masked to the results of the self-refraction).

A randomised crossover trial of conventional versus self-adjusted spectacles will be carried out and the performance of each correction and patient preferences will be evaluated by questionnaires and qualitative research methods.

**Recommended Skills**  
Experience in one or more of the following: Optometry; Ophthalmology; Psychology; Health Research Methods; Qualitative Research Methods.
**Proposed Title**

A randomised controlled trial evaluating the effect of Vitamin D supplementation on retinal structure and function in age-related macular degeneration (AMD)

**Brief Description**

Age-related Macular Degeneration (AMD) is responsible for more than half of all cases of sight impairment in the UK (Bunce et al. 2010). There is a growing body of evidence to suggest that defective immune regulation is a key feature in the development of AMD. In recent years it has become apparent that vitamin D plays an important role in the regulation of both the innate and adaptive immune responses, and there is substantial evidence to implicate vitamin D in the development of AMD (e.g. Millen et al., 2011; Seddon et al., 2011). Furthermore, in aged mice, a reduction in retinal inflammation and improvement in visual function is seen after only 6 weeks of vitamin D administration (Lee et al. 2011). However, although the prevalence of vitamin D deficiency is high in the UK population aged over 65 years, no robust trial has been conducted to evaluate the effect of supplementation on retinal structure and function in people with early AMD.

This double masked randomised controlled trial aims to assess the impact of vitamin D supplementation over 12 months, compared with placebo control, on sensitive functional (electrophysiology, dark adaptation, colour vision) and structural (retinal thickness, AMD grade) outcomes.

Participants: Participants with early AMD in one or both eyes recruited from hospital clinics, the Fight for Sight Eye Clinic, and local Optometric practice.

Intervention: Participants will be randomly assigned to receive either high dose vitamin D (2000IU/day) or a matching placebo control tablet.

Importance of research: The number of people in the UK affected by sight loss as a result of advanced AMD is predicted to reach 300,000 by 2020. Advanced AMD is associated with vision loss, depression, social isolation, and falls and is an unsustainable economic burden on the NHS. Hence, there is a pressing need to evaluate potential therapeutic interventions which may impede the progression of early AMD.

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<th><strong>Recommended Skills / Prior Learning</strong></th>
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<tr>
<td>1. Basic understanding of techniques for the assessment of retinal structure and visual function</td>
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<td>2. Ability to communicate well with elderly patient cohort</td>
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<td>3. Experience of working with patients in a clinical environment</td>
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Perceptual learning (PL) is an improvement in vision following vision training, and has been shown in people with normal vision to improve visual function to above normal levels. Vision training of this kind may help to improve vision in amblyopia (“lazy eye”), which occurs in 2 to 3% of the general population. While most previous studies have shown that amblyopia can be treated successfully during childhood, but not in adulthood, perceptual learning studies suggest that it is possible to treat amblyopia in adults. However, the extent to which perceptual learning is beneficial compared with more conventional treatment (patching the better eye) is not clear, since both patching and training are used together during perceptual learning. In addition, specific types of visual stimuli are thought to be particularly effective for perceptual learning, but the extent to which those stimuli are needed for perceptual learning is not clear. The present study investigates these questions by:

1. Measuring vision before and after perceptual learning with different stimulus formats, in adults with normal vision and with amblyopia, using psychophysical techniques;
2. Comparing vision changes between amblyopic adults undergoing perceptual learning and those undergoing more conventional patching treatment;
3. Measuring changes in visual system function using functional magnetic resonance imaging (fMRI), to determine at what locations in the visual brain these changes occur.
Proposed by: 1st supervisor 2nd supervisor

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<th>Name</th>
<th>Dr Byki Huntjens</th>
<th>Prof David Crabb</th>
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Research Centre  | Applied Vision Research | Applied Vision Research |

Proposed Title   | Macular pigment spatial profiles and foveal architecture in age related macular degeneration |

**Brief Description**

Age related macular degeneration (AMD) is the leading cause of sight loss in the elderly. Macular pigment protects the central retina by shielding it from the damaging effects of high-energy blue light. Reduced levels of macular pigment optical density (MPOD) have been found in Caucasians and this hints at reason why this ethnic group are far more likely to have AMD than those of African or Hispanic descent.

Recently, we reported that MPOD varies significantly amongst visually healthy individuals of different ethnicities (Huntjens et al., IOVS in press). MP spatial profiles typically shows a single peak decaying exponentially, although deviations from this have been observed. We reported significant differences in the prevalence of non-exponential MP profiles in South Asian compared to White subjects. Since it has been suggested that the prevalence of AMD is reduced in South Asians compared to Whites, we hypothesise that the spatial distribution of MP may contribute to the type and progression of AMD. If verified, this finding would have important consequences for health service delivery for AMD; for example, leading to better targeted screening programmes for AMD.

This project will involve a collaboration with clinical colleagues at Guy’s and St Thomas' Hospital in London. We will recruit large numbers of patients with varying types and stages of AMD for a longitudinal prospective cohort study with the aim to investigate variations in MPOD distributions over time. State-of-the-art equipment will be used to measure MPOD spatial profiles and foveal architecture objectively using Optical Coherence Tomography.

**Recommended Skills / Prior Learning**

1. Optometrist
2. Background knowledge of and/or experience with OCT
**SCHOOL OF HEALTH SCIENCES**  
**PhD RESEARCH PROJECT PROPOSAL**

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<td>Name</td>
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**Proposed Title**  
Limiting Factors in Evidence-Based Optometry

**Brief Description**

It is now widely accepted that evidence-based practice (EBP) is an important part of any area of health care, and has been embraced by a range of allied health areas including nursing, dentistry, occupational therapy, speech therapy, physiotherapy and clinical psychology. In optometry, the importance of EBP for the profession and for patient care has been emphasised by high profile practitioners and profession leaders.

Despite this, our research indicates that optometrists use low level evidence such as information acquired from undergraduate or postgraduate education and that in general optometrists do not use the best available evidence when making clinical decisions and recommendations. In order to address this situation, it is important to identify the related factors and to design solutions that will facilitate evidence-based practice in optometry. Possible factors include a lack of education relevant to EBP, barriers to EBP such as time, and a lack of acceptance of a need for EBP in health care. Each of these would have different but related solutions.

The aims of this research are to identify barriers to EBP in UK optometrists, and to design and test potential solutions. In particular, the research will explore strategies that address barriers including web-based tools and case-based scenarios that have the potential to facilitate and teach evidence-based clinical decision-making.

**Recommended Skills / Prior Learning**

1. Optometry and/or  
2. Ophthalmology and/or  
3. Psychology
**SCHOOL OF HEALTH SCIENCES**  
**PhD RESEARCH PROJECT PROPOSAL**

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<td>Name</td>
<td>Dr Simon Grant &amp; Dr Catherine Suttle</td>
<td>Prof Christopher Tyler</td>
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<td>Proposed Title</td>
<td><strong>Neural Bases of Visual Dysfunctions &amp; their Therapeutic Recovery in Amblyopia: Neuroimaging studies</strong></td>
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**Brief Description**

Amblyopia (aka ‘lazy eye’) commonly (prevalence ~3%) results from childhood uni-ocular squint or image degradation. Affected people suffer a range of visual dysfunctions, including reduced central – especially foveal – acuity in their amblyopic/lazy eye; poor binocular depth (3D) perception; and impaired eye-hand coordination. Prior neuroimaging studies have consistently shown reduced responses to the amblyopic eye in visual cortex. Indeed, both conventional (patching the better eye) and active training (e.g., ‘perceptual learning’) therapies which can partially rectify the various visual deficits are believed to operate by tapping into cortical neuroplasticity mechanisms that persist into adult life.

The precise neural bases of the visual deficits in amblyopia, however, remain poorly understood. For example, the extent to which reduced amblyopic eye responses are due to loss of anatomical input or to functional suppression and the differential involvements of primary visual (V1, striate) cortex compared to higher (extrastriate) areas – including those in parietal cortex mediating eye-hand coordination – in the different visual dysfunctions have yet to be established. Moreover, neither the responses of amblyopic cortex to restricted foveal or 3D stimuli nor the bases of ‘recovery’ following treatment have ever been investigated.

We aim to examine these issues using higher-than-normal resolution fMRI retinotopic mapping of binocular, better eye and amblyopic eye (with and without suppressing stimuli in the other eye) responses in foveal versus more peripheral visual representations in V1, neighbouring extrastriate areas and in parietal regions-of-interest. Adult patients with different psychophysiologically-defined amblyopia severities will be scanned (in collaboration with Prof M Sereno, UCL/Birkbeck) before and after randomly-assigned conventional or active training therapies to determine the neural correlates of their visual dysfunctions (e.g., compared to control subjects) and the neuromechanisms of any recovery effects, the latter of which should significantly inform future evidence-based treatment regimes.

**Recommended Skills / Prior Learning**

1. Background: Optometry, Medicine, Neuroscience, Psychology, Physics
2. Software: Freesurfer, SPM, MATLAB, Psychophysics Toolbox
SCHOOL OF HEALTH SCIENCES
PhD RESEARCH PROJECT PROPOSAL

Proposed by: 1st supervisor 2nd supervisor
Name Dr Byki Huntjens Dr Alison Binns
Research Centre Applied Vision Research Applied Vision Research
Proposed Title Dietary intake of carotenoids amongst ethnicities living in the UK

Brief Description

Macular pigment (MP) in the retina is positively correlated with its constituent carotenoids lutein and zeaxanthin in the diet and serum. It has been proposed that significant differences in MP levels between ethnic groups are most likely due to the levels of dietary intake of these carotenoids. However, central MP optical density (MPOD) levels of UK-based South Asian subjects (Huntjens et al., IOVS in press) were considerably lower when compared to South Indian subjects living in Mumbai (Raman et al., 2011). We hypothesise that the traditional South Asian diet, which typically consists of a diet rich in carotenoids, may be altered after migration particularly in the young or second generation Asians. The long-term effect of this nutritional impact could have large consequences on future health services, by causing increased prevalence of eye diseases such as diabetic retinopathy and age related macular degeneration.

Food frequency questionnaires estimate daily intake of nutrients, and are fundamental to any large-scale epidemiological study. However, these questionnaires do not take into account ethnicity and migration from the country of origin. The University of Aberdeen has designed a research food questionnaire to estimate the intake of carotenoids by Caucasians living in the UK. Considering the diverse demography of the UK, the design of ethnic-dependent questionnaires is essential to understand the role of nutrition in the treatment and management of eye diseases such as age related macular degeneration.

In collaboration with the Scottish Collaborative Group at the University of Aberdeen, we will design and validate supplement questionnaires to investigate the dietary carotenoid intake for the main ethnic groups living in the UK.

Recommended Skills / Prior Learning
1. Background in human nutrition and/or food composition
2. Basic understanding of food coding
3. Experience in using/designing food frequency questionnaires
**SCHOOL OF HEALTH SCIENCES**

**PhD RESEARCH PROJECT PROPOSAL**

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<td>Dr Miriam Conway &amp; Dr Ahalya Subramanian</td>
<td>Professor Ron Douglas</td>
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<td>Proposed Title</td>
<td>Does vision screening improve quality of life in children?</td>
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Approximately 19%[^1] of school aged children have an uncorrected visual problem which has the ability to reduce academic performance and lifelong learning[^2]. Although there is anecdotal evidence supporting the benefits of correcting vision through the provision of glasses it is not clear whether this leads to an improvement in quality of life and academic achievement. Many schools do not implement a vision screening programme due to insufficient resources. There is now growing evidence to suggest that there is an increasing number of children in British schools who have undetected vision problems which could have an impact on their learning. Research also suggests that there is a correlation between socioeconomic status[^3] and visual problems in children although the impact of ethnicity is yet to be ascertained. The main aims of this study are:

1. Provide evidence to support the need for implementing vision screening in all schools including the beneficial effects of screening on improving quality of life.

2. Investigate if there is a link between socio economic status, ethnicity and the uptake of eye tests and suggest a way to reduce inequalities if a link is found.

**References**


**Recommended Skills / Prior Learning**

1. Qualified Optometrist/Orthoptist
2. Interest in paediatric eye testing
3. GOC/HPC registered
SCHOOL OF HEALTH SCIENCES  
PhD RESEARCH PROJECT PROPOSAL

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<td>Michael J Morgan</td>
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<td>Proposed Title</td>
<td>Contextual Effects on Appearance and Discrimination</td>
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<td>Brief Description</td>
<td>A grey picture seems darker when viewed against a white background than it does when viewed against a black background. This is a particularly well-known contextual effect. What remains unknown is whether people can be trained to compensate for effects such as this, and make veridical judgments regarding the luminosity of differently surrounded greys. This research project will focus not only this question (and the analogous questions for other contextual effects), but also the deeper question of whether observers have access to distinct mechanisms (by definition limited by different sources of internal noise) when making judgments about appearances and the physical reality of the stimuli giving rise to those appearances.</td>
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<td>1. Some familiarity with Mathematics</td>
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<td>Prof Chris Hull</td>
<td>Hon Visiting Prof John Marshall</td>
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Research Centre: Centre for Applied Vision Research

Proposed Title: Corneal biomechanical changes and intraocular pressure measurement in a corneal model

Brief Description: Over 100,000 refractive surgery procedures are performed each year in the UK with LASIK and LASEK remaining the most common treatments. A majority of these treatments will be for myopia, a risk factor for developing primary open-angle glaucoma. A number of studies have reported an underestimation of intraocular pressure (IOP) following kerato-refractive surgery that increases with increasing IOP. This suggests that there could be changes in the corneal biomechanical properties since the deformation of the cornea during applanation is determined by the load from the tonometer, the intraocular pressure and the intrinsic properties of the cornea. An approach to this problem would be to assume that the changes in the intrinsic corneal properties are related to the ablation depth, central corneal thickness or radius of curvature. However, various studies investigating these factors have failed to produce definitive evidence either in vivo or through the generation of models to predict post-operative IOP. As a result gaining a measure of true IOP in post kerato-refractive surgery eyes is problematic and requires greater understanding of the biomechanical changes in the cornea.

This project proposes to use in vitro corneal models where true IOP pressure can be measured and controlled and on which laser refractive surgery can be performed. Corneal biomechanical properties will be measured using a radial shearing interferometer. The corneal model and interferometer were developed in Prof Marshall’s lab and have been described previously (Knox-Cartwright et al., 2011). Further measurements will be made on central corneal thickness, applanation tonometry, non-contact tonometry and corneal shape properties. The primary aim of the project is to determine changes in corneal biomechanical properties that can better link measured IOP to true IOP. The benefit, once clinical studies have confirmed the findings, would be more accurate monitoring of IOP in post kerato-refractive surgery patients.

Recommended Skills / Prior Learning

1. An understanding of corneal biomechanics with reference to kerato-refractive surgery
2. Good mathematical skills to understand the literature in this area
3. A desire to carry out a wet-lab based research project
SCHOOL OF HEALTH SCIENCES
PhD RESEARCH PROJECT PROPOSAL

Proposed by: 1st supervisor 2nd supervisor
Name Gary Morgan Ros Herman

Research Centre Language and Communication Science

Proposed Title The impact of a narrative-based language intervention on developing a theory of mind in deaf children

Brief Description Abstract: According to previous research (Meristo et al., 2012; Schick et al., 2007), young deaf children have significant delays in acquiring a theory of mind (ToM) and language appears to be a critical factor in children’s ability to reason about the mind. Language-based interventions, delivered to typically developing children, have provided evidence that language and conversation play a role in children’s understanding of mind. However, to date, there is no research published on the effectiveness of a language-based intervention on ToM development in deaf children. The current study aims to implement a narrative-based language intervention and evaluate its effectiveness in enhancing ToM development in deaf preschoolers aged 4-5. The intervention, based on a training study by Ornaghi et al., (2011), encourages the active use of language in the context of group conversations elicited by narratives enriched with mental-state words. The research design will be quasi-experimental with pre- and post-intervention assessments. ToM outcomes will be systematically evaluated and compared to a partial intervention control group. The research design will be quasi-experimental given that such a design is often used in education to test the effectiveness of a program and offers the benefit of comparison between groups. The basic structure of a quasi-experimental evaluation involves examining the impact of an intervention by taking measurements before and after it is implemented (Ary et al., 2010). Therefore, the training study will be conducted in three phases: pre-test, training and post-test. The training/intervention, between the pre- and post-test stages, will be of 12 months of duration.

Recommended Skills / Prior Learning
1. Degree in Psychology or related
2. Deafness experience
3. Testing children
Proposed by: 

1st supervisor: Victoria Joffe 
2nd supervisor: Natalie Hasson

Research Centre: Centre for Language and Communication Sciences Research

Proposed Title: Exploring the effectiveness of explicit intervention in enhancing the expressive language of school-age children with primary language impairments.

Brief Description: Approximately 7% of school-aged children have speech, language, and communication difficulties which impact on educational attainment (Law, Garrett and Nye 2004). The use of meta-cognitive therapy has been identified by speech and language therapists as a frequent therapy choice for this group (Law et al, 2008). However, this term is used inconsistently across studies without any specified or evidence-based protocol. Recent approaches to intervention for receptive language disorders using an explicit technique of shape coding (Ebbels et al 2014) have demonstrated good outcomes, and Ebbels describes the need for effective interventions to explicitly teach rules of language.

The current study aims to investigate the effectiveness of an explicitly mediated metacognitive intervention to enhance the expressive grammatical skills of a group of language impaired children of 7-11 years of age.

The first study proposed is a randomised control intervention study to teach a novel language structure to three groups of typically developing children: one group receiving traditional intervention methods; the second, learning the structure using both traditional and the specified explicit method, and the third, a no-treatment control group. The second study, dependent on the results of the first, aims to target 3 groups of children with language impairment in a similar design. Intervention will consist of weekly sessions delivered by an SLT, for 8-12 weeks. A longer term follow up will also be included to explore generalisation and maintenance of targeted and non-targeted language.

It is hypothesised that the experimental intervention, which maximises the individual’s independent problem solving skills, and targets metalinguistic knowledge alongside practice of language structures, would enable increased generalisation to learning of non-targeted language structures.

References:


Recommended Skills / Prior Learning:

1. Experience in working with children with speech, language and communication needs
2. Experience conducting and evaluating language interventions
3. Understanding of and some experience in methodological design and analysis in intervention research
Proposed by:  
1st supervisor  
Dr Lia Litosseliti  
2nd supervisor  
tbc  

Name  
Research Centre  
Language and Communication Sciences Research  

Propose Title  
Use of gender-neutral personal pronouns in English and German  

Brief Description  
Awareness of individuals in society who cannot or do not identify themselves according to binary categories of sex and/or gender is increasing in the disciplines of medicine, psychology and sociology; however, at present there is no comprehensive academic study of how the English and German languages are responding to these developments. The research proposed will fill this gap by investigating the ways in which individuals who do not define themselves as binary-sexed and/or binary-gendered are referred to in current discourse. This will therefore provide a solid contribution to the shift away from the study of differences between “female speech” and “male speech” in the field of language and gender – a practice that arguably intensifies gender polarisation and biological essentialism – and towards the concept of gender, and indeed sex, as performative identities, shaped through discourse.

The proposed project will identify and analyse which pronouns are used in the wider speech community of spoken (British) English and spoken German for the purpose of subverting binary sex and gender identities, and how far these proposals translate into practice in speech: who uses gender-neutral pronouns, in reference to whom, and with what effects? Data will be collected through a) online research of discussion forums, blogs and other sites on which gender-neutral pronouns for English or German are proposed and b) recorded group discussions with English and German speakers. Data will be analysed based on critical discourse analysis and critical gender and language methodological approaches.

Recommended Skills / Prior Learning  
1. Background in Linguistics or related disciplines  
2. Knowledge of gender and language literature  
3. Understanding of discourse analysis
Proposed by:  
1st supervisor:  
Name: Victoria Joffe  
2nd supervisor:  
To be confirmed  

Research Centre: Language and Communication Sciences Research  

Proposed Title: Enhancing Vocabulary in Mainstream Secondary School Students with Language and Communication Difficulties  

Brief Description: Vocabulary knowledge has been shown to be fundamental to academic success. (Snowling et al 2007). Acquiring new vocabulary is challenging for children with speech, language and communication needs (SLCN), and these difficulties have been shown to be pervasive and long term (Clegg et al 1999).

Many children with SLCN are educated in mainstream schools (Lindsay et al 2005), with specialist support at secondary age limited (Bercow 2008). There is an urgent need to build a stronger evidence base for language intervention in the secondary school context.

The proposed research aims to investigate the effectiveness of an integrated phonological and semantic vocabulary intervention with mainstream secondary school students, aged 11-16 years, across two different service delivery models: vocabulary intervention delivered in a whole-class setting or in small groups.

The study will be a randomised control intervention study, comparing the vocabulary intervention under two conditions: whole class and small group sessions. The children will be randomly divided into four groups – two experimental groups: 1) an experimental group receiving the intervention in class by the teacher, and 2) a second group receiving the intervention in a small group; and two control groups, 3) a control class receiving typical education and 4) a control group receiving general language stimulation in pull-out small groups.

A mixed methods approach will be used with children’s knowledge of target and control words, at pre- and post-intervention, and at a longer term follow-up, as the quantitative outcome measure; and a qualitative analysis of errors made and of the perspectives of participants regarding the best environment for word learning. Correlational relationships between word learning, language ability and general school attainment will also be measured.

References

Recommended Skills / Prior Learning
1. Experience in working with older children with speech, language and communication needs in a secondary school context
2. Experience conducting and evaluating vocabulary interventions
3. Understanding of and some experience in methodological design and analysis of intervention research
Proposed Title: Improving working memory in children and adolescents with language difficulties

Brief Description

The purpose of this PhD will be to design, implement, and assess working memory training interventions that vary in language demands, with children/adolescents who have language difficulties. The theoretical underpinning for this research project will be the working memory model (Baddeley, 2000), and the interventions will be based around improving working memory skills for which ‘executive’ input is critical, i.e., the ability to both process and store information concurrently.

Three strands of previous research provide the theoretical and practical rationale for this project. Firstly, children with specific language impairment have poor working memory skills, in particular, verbal short-term memory and executive-loaded working memory (e.g. Bishop, North & Donlan, 1996; Gathercole & Baddeley, 1990; Henry, Messer & Nash, 2012). Secondly, working memory training interventions with typical children have produced significant improvements in executive-loaded working memory, with some additional benefits for academic skills (e.g. Henry, Messer & Nash, 2013; Holmes, Gathercole & Dunning, 2009). Thirdly, relationships between working memory and language have been identified in typically developing children. In particular, Daneman and Merikle (1996) argued that the association between working memory capacity and language comprehension ability is particularly strong.

This project will involve developing and implementing working memory training programmes which differ in language demands, and assessing them with children/adolescents who have language difficulties. The key question will be, can we improve the working memory skills of children/adolescents with language difficulties? Further, will we see concomitant improvements in language (and reading) comprehension that have real educational benefits? The successful candidate will be expected to show knowledge about how to design randomised controlled trials (e.g. Melby-Lervag & Hulme, 2012), and an appreciation of the key principles underlying successful training interventions (e.g. Diamond, 2013).

Recommended Skills / Prior Learning

1. A good Masters degree in Speech and Language Therapy, Psychology, or a related discipline
2. An excellent grasp of quantitative statistical procedures and experimental design
3. Knowledge, expertise and ideally experience of administering standardised language, working memory and/or ability tests to children and/or adolescents
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<th>Proposed by:</th>
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<tr>
<td>Name</td>
<td>Madeline Cruice</td>
<td>Lucy Dipper</td>
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<td>Research Centre</td>
<td>Language Communication Sciences Research</td>
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<td>Proposed Title</td>
<td>Personal storytelling by people with aphasia: An evaluation of a novel intervention</td>
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<td>Brief Description</td>
<td>This PhD project will explore the impact of a personal storytelling intervention on communication, identity and wellbeing, in people with aphasia. The overall goal of the personal storytelling project is for each participant with aphasia to experience telling their story successfully, which will entail each person learning multiple skills to create a multimedia digital story; practising and improving their communication skills by sharing and re-sharing their stories; and developing social relationships through participation in the project. People with aphasia will have the opportunity to develop a relationship with their volunteer ‘story-buddy’, who will learn specific communication skills for communicating with people with aphasia. Essential to the achievement of the project, there will be opportunities for people with aphasia to connect with the wider London community by exhibiting their stories. This proof of concept study uses a quasi-experimental design with a waitlist control group. The intervention will involve clinical assessment, interviews and observational methods which will require quantitative (within and between subjects) and qualitative analysis. The storytelling project offers several additional opportunities for PhD research that can be negotiated with project supervisors. These include analysing change and outcomes for people with aphasia; exploring the impact of facilitators and barriers experienced during the project; and investigating the outcomes and impact of the intervention for different stakeholders (e.g. people with aphasia, story buddies, the general public).</td>
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| Recommended Skills / Prior Learning | 1. Speech and Language Therapy and/or relevant background in Linguistics or Psychology  
2. Correlational and predictive statistical analysis skills (or willingness to learn this, training will be provided)  
3. Interviewing and qualitative analysis skills (as above) |
**Proposed Title**
An evaluation of an interactive therapy approach to targeting young children’s vocabulary skills.

**Brief Description**
Typically developing children are able to establish a link between new words they hear and their referent (e.g. object/picture) with a limited number of exposures. They can do this within ‘best-case-scenario’ situations, where the word is presented in isolation with the referent, and the child ‘fast-maps’ the new representation (Dollaghan, 1987). They can also do it when they are required to pick out a new word from a stream of words (e.g. a narrative description or dialogue) presented alongside a stream of referents (e.g. a composite picture or video content). The latter skill is referred to as ‘Quick Incidental Learning’. Children with language impairments are equally able to make an inference that a new/novel word refers to a novel item (Dollaghan, 1987) when presented in a ‘best-case-scenario’. They are however less able to pick out and understand new words from narrative or dialogue (Rice et al., 1994).

The proposed research would involve developing and evaluating a therapy programme to improve young children’s vocabulary skills. The therapy would consist of two steps. The first step would take advantage of the fact that children with language impairments (like typically developing children) are able to ‘fast-map’ in a best-case-scenario. Vocabulary will be presented in a way which will allow children to actively establish a new fast-mapped representation for the words and use the words expressively. The second step would involve reinforcing the representation with additional dialogue using the target vocabulary item within a conversational context, again giving the child a chance to use the word expressively, as well as to hear it being used in context.

The research could be carried out as a ‘between group’ study with an intervention and control group. The control group would be exposed to the same vocabulary items, but without using the first step of the therapy approach. Alternatively a series of experimental single cases could be carried out. This design would involve taking baseline measures, as well as targeting some vocabulary items using the specific therapy approach and other words without using the first step of the therapy approach.

Analysis would be mainly quantitative, although a qualitative analysis of individual children’s pattern of responses will also be possible.

**Recommended Skills / Prior Learning**
1. Speech and Language Therapy or Psychology
2. Understanding of basic statistics/research methods
**Proposed Title**

Developing vocabulary, phonological and pre-reading skills in young deaf children

**Brief Description**

Spoken language has become increasingly attainable for deaf children in recent years. This is mainly due to earlier identification of childhood deafness, and subsequent earlier intervention with either cochlear implants or sophisticated digital hearing aids. These both offer much better auditory access than previously available. However, despite these advances, there is evidence that many deaf children continue to have delayed language development, with consequences for literacy and academic achievement. A recently completed national research project at City University London by Herman, Roy & Kyle (2013) looked at reading and dyslexia in a large group of oral deaf children aged 10-11 years. Although some children were reading at age level, half were found to have significant delays in vocabulary, literacy and phonological skills in comparison with typically developing hearing children.

There is widespread agreement that intervention should be early in order to prevent problems later in life. The aim of this studentship is to (1) explore the existing research literature on the acquisition of early vocabulary, phonological and pre-reading skills in deaf children, and (2) design and evaluate an intervention suitable for young deaf children between 1 and 2 years of age. It is envisaged that the intervention content will focus primarily on vocabulary acquisition and the development of effective vocabulary learning strategies to support later development. The intervention will additionally highlight the development of early phonological awareness skills known to be predictors of reading such as rhyme. It is anticipated that the intervention will involve training parents in effective adult-child book related interactions. A range of adult and child interaction and language behaviours will be used as outcome measures.

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<tr>
<td>1. Relevant degree (i.e. Speech and Language Therapy or Psychology)</td>
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<td>2. Previous experience with deaf children</td>
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<td>3. Competence in British Sign Language (BSL)</td>
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## Proposed by:

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<tr>
<td><strong>Name</strong></td>
<td><strong>Name</strong></td>
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<tr>
<td>Dr Katerina Hilari</td>
<td>Dr Madeline Cruice</td>
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| Research Centre | Centre of Language and Communication Science | Centre of Language and Communication Science |

| Proposed Title | Improving access to social media for people with aphasia |

### Brief Description

**Background:** Stroke is the leading cause of adult disability in the Western world and the social consequences of having a stroke can be severe, especially for people with aphasia. Aphasia is a language disorder that affects all aspects of communication, including reading and writing. People with aphasia lose contact with friends and the wider social network (Cruice et al., 2006; Northcott & Hilari, 2011). This can be detrimental to their quality of life as perceived social support is associated with mental health outcomes, both in the general population (Pinquart & Sorensen, 2000; Teo et al., 2013), and the chronically ill (Post & van Leeuwen, 2012). Improving access to social media is one way of enabling people with stroke and aphasia stay in touch with friends and family and maintain or improve aspects of their social support systems. For example, studies have shown that self-disclosure through blogging can increase perceived social support (Baker & Moore, 2008) and subjective wellbeing (Ko & Kuo, 2009).

**Proposed research:** The suggested project will involve developing and evaluating a training programme to help people with aphasia access and use social media sites. The project will comprise two stages. A) In stage one, a consultation with users will be undertaken to inform the development of the training programme. This may entail focus groups with key stakeholders, including people with aphasia who use social media and others who don’t but wish to, in order to explore what helps and what hinders access to social media. Moreover, the potential of assistive technologies (voice recognition software, text-to-speech software) to facilitate access to social media will be evaluated for use with people with aphasia. Lastly, selection criteria for participants and outcome measures will be determined. B) In stage two, a small group (n=10-12) of people with aphasia will be offered the training programme and their outcomes will be compared to a delayed-training/waiting-list control group (n=10). We estimate that the training will be 6 weeks long and participants will be seen twice a week. The two groups will be assessed twice before training (6 weeks apart), immediately after training (or nothing for the control group), and 3 months later to see if any improvements made are maintained.

### Recommended Skills / Prior Learning

1. Speech and Language Therapy degree or related discipline, e.g. Psychology, Clinical Linguistics
2. Excellent interpersonal and communication skills
3. Basic quantitative and qualitative research methods skills
4. Interest in social media and willingness to work with assistive technologies
Proposed by: 1st supervisor 2nd supervisor
Name: Dr Mark Haddad Dr Mark Haddad TBA

Research Centre: Centre for Mental Health Research

Proposed Title
Clinicians' responses to depression: examining the relationships between attitudes, knowledge and clinical behaviour in the recognition and management of depression.

Brief Description
Depression is a common mental health problem, with a community prevalence of around 4%. It is a major cause of suffering and disrupted function and accounts for 12% of all years lived with disability globally: the largest proportion of non-fatal disease burden. The majority of people who present with depression are managed within primary care settings; however many studies indicate that there is substantial variability in the initial recognition of this problem as well as in the approaches to management offered and utilised.

A number of inter-related factors are likely to influence a person's help seeking for depression and its recognition by health professionals and the therapeutic responses offered. Previous studies have indicated that clinicians' knowledge and attitudes are important factors associated with a willingness to explore symptoms, the ability to recognise depression, and the types of therapeutic management decisions that are considered.

This project seeks to build on earlier studies that have examined health professionals' approaches to depression and the influence of attitudes, professional background and training. It aims to develop and test the effects of interventions to enhance clinician knowledge and facilitate attitude change.

This investigation will involve several related phases:
The refinement and testing of specific measures of clinicians' knowledge and attitudes;
The development and modelling of approaches to facilitate changes in clinicians' responses to depression.
An evaluation of the effects of an intervention on clinician and patient outcomes, employing a quasi-experimental or randomised design.
Analysis will be mainly quantitative, although a qualitative analysis of clinicians' or participants' responses will also be possible.

References:


Recommended Skills / Prior Learning
1. A background in the health and social sciences, preferably with experience of conducting research in a clinical setting.
2. Experience of quantitative research methods within health sciences.
3. Proven ability to communicate with health professionals and patients.
Proposed by:  
1st supervisor  
Name: Professor Alan Simpson  
2nd supervisor  
Name: Prof Alan Simpson  
TBA

Research Centre: Centre for Mental Health Research

**Proposed Title**
Recovery-focused care planning and coordination in inpatient mental health care settings.

**Brief Description**

In 2011/12 in England, 101,424 people who accessed mental health services spent some time in hospital (over 7 million days in total), with around 42% admitted under a section of the Mental Health Act (Information Centre 2013). Every year around 45,000 men and women are detained in hospital for assessment and treatment under the Mental Health Act 1983 and at any one time there are about 16,000 detained patients and a further 4,000 subject to community treatment orders (CTOs) (CQC 2013). Such vast numbers require considerable planning and coordination to ensure effective care is delivered consistently.

However, serious concerns have been identified in relation to care planning, patient involvement and consent to treatment, including for those patients detained under the Mental Health Act (CQC 2013, Gould 2012). Further evidence is needed to develop care planning interventions that embed dignity, recovery and participation for all people using inpatient mental health care.

This proposed study aims to complement and build on an on-going study of care planning and coordination in community settings to provide a whole systems response to the challenges faced in providing collaborative, recovery-focused care planning whilst directly responding to the questions of how to embed dignity, recovery and participation in inpatient practice when people are subject to compulsory care and treatment.

This investigation will involve a mixed methods approach including:

- questionnaire surveys of acute inpatient staff, service users that currently or have recently used inpatient mental health services and their informal carers;
- semi-structured interviews with service users, carers and staff to investigate experiences of care planning processes and how to improve them in line with a recovery and personalised focus;

**References:**


**Recommended Skills / Prior Learning**

1. A background in the health and social sciences, preferably with experience of conducting research in a clinical setting.
2. Experience of quantitative and/or qualitative research methods within health sciences.
3. Proven ability to communicate with health professionals and service users.