



Durham
University

Wolfson Research Institute
for Health and Wellbeing

Sixth Annual ECR Conference

4th July 2023

Calman Learning Centre



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Programme

Welcome and Introduction: Jonathan Wistow		
10:00-10:05		
Session #1: Physiology and Cognition		
Thuy-vy Nguyen (Chair)		
Talks		
10:05-11:05		
10:05		Finding Links Between Experiential States and the Downregulation of High Arousal Emotions Delali Konu
10:20		Measurement of breath acetone in the detection of low carbohydrate availability following implementation of "train low" strategies Isaac Eastham
10:35		Can cognitive tests differentiate Progressive Supranuclear Palsy from Parkinson's disease? Alexis Cheviet
10:50		Social determinants of tuberculosis in a pre-conquest Mesoamerican city (Tlatelolco 1300-1521 CE) Kelly Blevins
Refreshment Break		
11.05 – 11.20		
Session #2: Performance and Physical Activity		
Andrea Lambell (Chair)		
Talks		
11.20 – 12.45		
11.20		An examination of the perspective of older autistic adults about their engagement in physical activity James Peter McLeod
11.35		Online advocacy and digitalised workplaces - are prospective barristers prepared? Zoe Maria Adlam
11.50		Investigating the causality of spatial anxiety and self-confidence on mental rotation performance through sex/gender stereotype priming and feedback Linda Arrighi
12.05		Barriers and facilitators to academic achievement and quality of school life for autistic pupils in mainstream secondary school: What do autistic young people think? Jessica Hirst
12.20		ToyBox Early Smart Start (TESS): A Program for Promoting Physical Activity Healthy Diet and Healthy Growth in Children Attending Preschool Nurseries in Qatar Rita Rizk

Lunch Break and Poster Session		
12:45– 13:30		
P1		Solo-living: A qualitative study to understand the external environmental factors that shape living-alone adults' experiences <u>Mingvao Xiong</u>
P2		Evaluation of retinoic acid receptor dual acting modulator RAR-M, NVG645 for AD in vitro <u>Yunxi Zhang</u>
P3		Infant Sleep vs. Parent Self-Esteem <u>Dorothy Angdinata</u>
P4		Stress levels and student performance: A Perceived Stress Scale perspective <u>Charmele Ayadurai</u>
P5		Understanding the Relationship Between Arithmetic and Working Memory: Does the Working Memory Measure Matter? Jessica Perry, Katie Allen, Anna Matejko
P6		Could photobiomodulation therapy (PBMT) 1068 nm be used to treat the neurological complications of COVID-19? Effects of PBMT in neuronal and glial cell lines <u>Lydia Kitchen</u>
P7		An investigation into the effect of discrete emotional episodes on the momentary decision to snack <u>Lucy Edgar</u>
P8		Are Language Skills Important for Arithmetic? Exploring the Relationship Between Phonological Processing Skills and Arithmetic Strategy Use in School-aged Children <u>Nina Jost</u> , Dr Anna Matejko
P9		Validating reported observable outcomes of Namaste Care in people with dementia through measuring biochemical, physiological, and behavioural responses to intervention <u>Nicola Kendall</u>
P10		A qualitative investigation into communication of the complex issues around subarachnoid haemorrhage between staff, patients and relatives in the critical care environment. <u>Edel McAuley</u>

Afternoon Session Introduction:		
<u>Mohi Ziyachi</u>		
13:30– 13.35		

Keynote Presentation:		
Professor Amanda Ellison		
Interdisciplinarity		
13:35 – 14:10		

Session #3: Wellbeing and Physical Health		
Charmele Ayadurai (Chair)		
Flash Talks		
14:10-14.35		
14:10		Let's listen to them: Promoting young people's involvement in addressing sexual violence <u>Janelle Rabe</u>
14:15		Dance to be happy and healthy -- Ethnographical research of Chinese square dancing <u>Shang Li</u>
14:20		Laughable Medicine: Humour, Suffering, and Dismissal in the Personal Narratives of Autistic Women <u>Julie Garg</u>
14.25		Menopausal women's embodied experiences: the moving body <u>Jo Ann Long</u>
14.30		Family's pressures and struggle with tradition: a thematic analysis of the experiences of Chinese women football fans <u>Zhuotong Wu</u>

Refreshment Break		
14:35– 15.00		

Session #4: Community Health		
Leanne Trick (Chair)		
Talks		
15.00 – 16.00		
15.00		Exploring Children's Mask Preferences in Nepal and Indonesia: A Comparative Study across Cultures <u>Sarah Njila</u>
15.15		Intervention to improve body esteem and media literacy in adolescents in rural Nicaragua <u>Fabiennes Andres</u>
15.30		What criteria should the Chinese law impose on people who wish to access Assisted Reproductive Technologies? <u>Yuxin Li</u>
15.45		An evidence-based approach to teacher mental health and wellbeing <u>Kulwinder Maude</u>



Closing Remarks, Awards and Thank You		
<u>Jonathan Wistow</u>		
16:00 – 16:30		



Early Career Researchers

At the Wolfson Research Institute for Health and Wellbeing (WRIHW) we include a focus on the importance of nurturing its early career researcher (ECR) community. Our ECR community mirrors the interdisciplinary commitment of the WRIHW, with PhD students in anthropology illuminating a brighter side to ayahuasca tourism in South America, peers in bioscience ironing out some truths about dementia, and a wide variety in-between. Improving health and wellbeing is not restricted to a particular academic discipline, and neither are we.

The main goals of the ECR committee are:

- To increase the sense of community between ECRs within the WRIHW
- To increase the visibility of ECRs within the WRIHW, and to wider audiences
- To offer ECRs within the WRIHW opportunities to develop their research, CV and understanding of what a career in research can look like

If you are interested in joining our ECR committee please contact Jonathan Wistow. If you are interested in becoming a Postgraduate Associate of the Institute please visit dur.ac.uk/research/institutes-and-centres/wolfson/ecr

The ECR Committee

Jonathan Wistow	ECR Director, Sociology Department
Leanne Trick	ECR Co-ordinator, Psychology Department
Andrea Lambell	Anthropology
Daniel Glassbrook	Sport and Exercise Sciences
Charmele Ayadurai	Business School
Mohi Ziyachi	Sociology
Thuy-vy Nguyen	Psychology
Kate Cowen	Psychology

The Early Career Researcher Conference

This conference aims to showcase the wide range of Health and Wellbeing research at Durham University and promote interdisciplinary work amongst Early Career Researchers. The conference will feature an introduction by Jonathan Wistow from our ECR Committee as well as a keynote by Professor Amanda Ellison, Executive Director of the Wolfson Research Institute for Health and Wellbeing.

There will be presentations, posters and flash talks by fellow ECRs. There will be time for questions and conversation, networking and collaboration. Prizes will be given for the best poster, the best flash talk and the best talk.

We would like to thank Daniel Glassbrook for all of his hard work and help planning this conference. We wish him every success in his new role in York.

Thank you and please enjoy!

The ECR Committee



10.15 - 11.15

Session 1: Talks

Chaired by Thuy-vy Nguyen

1

Finding Links Between Experiential States and the Downregulation of High Arousal Emotions

Delali Konu

Department of Psychology

Research shows that solitude can bring down high arousal emotions such as anger and excitement. This research raises key questions about the processes by which solitude can downregulate emotions.

One cognitive process that may influence the time that we spend alone is our ongoing thoughts. When in solitude, we are typically met with streams of ongoing thought. Research has used experience sampling of participant thought to show that the content of our daily thought is influenced by individual differences and context. Such research raises questions about how individual differences in emotion regulation after the context of a stressful event might influence our thoughts. If solitude can help with processing emotions, it is possible that our thoughts are important during this process too.

This talk will summarise a study plan designed to bridge together methodologies used in solitude and thought research. The aim of the research is to 1) further understand the conditions under which solitude may downregulate high arousal emotions and 2) understand how high arousal emotions influence thoughts during solitude.

This talk will highlight mixed methodology research when investigating the influence of experiential states on individual well-being.



Measurement of breath acetone in the detection of low carbohydrate availability following implementation of “train low” strategies.

Isaac Eastham

Department of Sport and Exercise Sciences

Enhancing the metabolism of athletes can be achieved through the manipulation of nutrition and exercise variables. Muscle biopsies are currently viewed as the ‘gold-standard’ for assessing muscle glycogen levels of athletes. However, the process of obtaining a muscle biopsy is invasive and takes a considerable time to analyse. Following research that has implemented muscle biopsies, it has been suggested that an acute reduced carbohydrate intake in conjunction with a suitable training intensity (known as “training low”) has shown to elicit conducive metabolic adaptations to increase the sustainability and production of adenosine triphosphate (ATP) to support endurance athletes.

Six key aims were identified to guide the research, which focused on the integration of chemistry and sports science equipment, identifying the most effective sequence to collect the measurements required, and comparing and understanding two breath acetone (BrAce) detectors for assessing carbohydrate availability. This thesis presented a methodological-development study to address the purpose and aims through a series of four pilot studies. The two BrAce detectors included a Cavity Enhanced Laser Induced Fluorescence (CELIF) prototype (made by the Chemistry Department at Durham University) and a Ketonix® BrAce detector, which is currently in the breath analyser market.

In addition to the BrAce detectors, other metabolic measurements included capillary blood glucose, betahydroxybutyrate and gas analysis (i.e., respiratory exchange ratio). The pilot studies concluded with an experimental pilot, which involved an endurance athlete (male, ultra-endurance, running; age: 38 years; stature: 1.76 m; body mass: 66.1 kg), who followed the agreed protocol. Taking the range of measurements sequentially rather than in parallel was the most effective, with the CELIF BrAce concentrations reflecting the values of the accompanying metabolic measures more than the Ketonix®, with the Ketonix® providing a wider variance of measurements within and between participants. The participant in the experimental trial was unable to complete the exercise protocol after following the “train low” strategies.

Overall, the agreed protocol worked effectively, with some revaluation required for elements of the equipment and protocol. The CELIF BrAce detector provided an indication that it detects carbohydrate availability more effectively than the Ketonix®. However, further refining and development is required to improve the prototype’s effectiveness of detecting low carbohydrate availability.

Can cognitive tests differentiate Progressive Supranuclear Palsy from Parkinson’s disease?

Alexis Cheviet

Department of Psychology

Progressive Supranuclear Palsy (PSP) is a neurodegenerative disease characterized by a wide range of symptoms including falls proneness, mobility difficulties, akinesia, axial rigidity, and vertical paralysis of the gaze. Owing to the large overlapping of these clinical signs with those reported in the idiopathic Parkinson’s disease (PD), PSP is often mistaken as PD, at least during the early stages of the pathology.

Existing research suggests that people with PSP have problems with visuospatial attention and short-term memory as compared to PD patients, but these factors are not routinely used during diagnosis. The present study aims to test the hypothesis that a wide range of vision-related cognitive abilities could help to discriminate PSP from PD and age-matched control (AMC) subjects. Visual attention was assessed thanks to three visual search tasks in which participant had to identify a target among distractors (differing by its colour, its orientation, or a conjunction of both). Short-term memory task consisted for the subject to recall the colour or the position of one among several objects. Additionally, we used an emotion recognition task to assess social cognition and three tests (saccades, smooth pursuit and reading) to explore the oculomotor system integrity.

Overall, PSP group performed worse in all tasks as compared to PD and AMC groups. Especially, visual search discriminated extremely well between PSP and PD patients, opening the possibility of a new diagnostic tool in clinical practice.

Social determinants of tuberculosis in a pre-conquest Mesoamerican city (Tlatelolco 1300-1521 CE)

Kelly Blevins

Department of Archaeology

Tuberculosis (TB) is a global disease that has impacted humans for millennia. Infections are caused by members of the *Mycobacterium tuberculosis* complex (MTBC), a group of genetically similar bacteria. Today, active TB prevalence is strongly associated with socioeconomic factors, such as overcrowding, poverty, and inability to access adequate nutrition. It is unclear, however, if TB had similar social determinants in pre-modern populations. When did TB become an infection of inequality, and did earlier lineages of the MTBC affect people differently?

Our previous biomolecular work (forthcoming) has shown that TB disease at Tlatelolco, a pre-conquest densely populated Mesoamerican city (1321-1500 CE), was caused by a zoonotic transmission of *M. pinnipedii*, a MTBC lineage that today affects seals and sea lions. To understand how this zoonotic form of TB impacted inhabitants of Tlatelolco, I examined skeletons for changes consistent with bone and joint TB from a residential (normal mortality) cemetery, Atenantitech (n=40), and four ceremonial centre sacrificial contexts, Grupo Norte (n=52), Paso a Desnivel (n=45), Patio Sur (n=128), and Excavation 1964 (n=55). TB was not identified in the residential cemetery, but prevalence ranged from 8% to 20% in the ceremonial centre deposits. Malnutrition co-morbidities, such as anaemia and vitamin C deficiency, were common among the 31 cases of skeletal TB.

Informed by disease co-morbidities, demography of affected individuals, and the implications of human sacrifice, I argue that the risk of developing bone and joint TB, and likely active TB, was not equally distributed across Tlatelolco social classes.

11.20 - 12.45

Session 2: Talks

Chaired by Andrea Lambell



An examination of the perspective of older autistic adults about their engagement in physical activity

James Peter McLeod

Department of Sport and Exercise Sciences

Research suggests that autistic adults are less physically active when compared to the non-autistic adults. Despite the lower levels of physical activity observed among autistic adults, it is unknown why they are predominantly inactive. To date, the majority of the research suggests that individual behaviours, perceptions and experiences, microlevel interpersonal factors and multi-levels of the environment operate in insolation to shape PA participation among autistic adults. Despite these important contributions, little is known about how individual behaviours, perceptions and experiences, microlevel interpersonal factors and multi-levels of the environment operate interdependently to shape PA participation among older autistic adults (≥45years), which serves as an impetus for this study.

In this study 8-10 older autistic adults (at least 45 years old) will be recruited to complete either two in person or online semi structured interviews. The purpose of the study was to move beyond describing the facilitators and barriers of PA participation by examining how individuals behaviours, perceptions and experiences, microlevel interpersonal factors and multi-levels of the environment operate interdependently to influence, hinder or shape PA engagement among older autistic adults.

Although the results of this study currently remain unknown, we anticipate the experiences reported by older autistic adults will align with the experiences reported by autistic children and adolescents. Commonly reported experiences among the autistic population involve sensory sensitivities, prior negative experiences (e.g., bullying and exclusion) and inadequately trained staff in physical activity spaces to account for the diverse needs of autistic people.

The findings of this study may allow us to gain a more nuanced understanding of how to design programs, interventions, supports and policies that are conducive to older autistic adults needs and preferences.

Online advocacy and digitalised workplaces - are prospective barristers prepared?

Zoe Maria Adlam

Durham Law School

From digital case management systems, such as the Common Platform used in criminal courts to the increase in remote hearings (in 2020/21 86% of family court users attended a remote hearing), prospective barristers are entering a new workplace. Yet, there is little research into whether prospective barristers are prepared for it.

This presentation answers whether the Bar Training Course (a postgraduate course providing prospective barristers with the professional skills to practice) is preparing them to conduct online advocacy and use digital workplaces. It combines a legal and business perspective to do so. The presentation begins with an initial summary of the broad themes of the research, including the digitalisation of work and the digitalisation of the legal profession. Alongside this, a PESTLE analysis demonstrates that digitalisation is impacting the Bar, providing further background as to why this research was necessary. This is then used to explain why primary research was so important to this research as online details about the course were not available to show whether the advocacy component of the course covered online advocacy or whether prospective barristers were introduced to digital workplaces. Thus, interviews with practitioners who teach on the course helped to answer these questions, showing that the Bar Course does not sufficiently prepare prospective barristers for digitalised workplaces or online advocacy. Prospective barristers are neither taught about online advocacy nor able to practice using digital workplaces due to technological limitations or negative perceptions about teaching it.

As a result, this research is keen for its findings to be shared to begin a dialogue with the Bar Standards Board and Bar Course providers to emphasise the importance of these skills. Overall, this research recommends integrating classes on remote hearings to practice online advocacy, the Bar Standards Board to allow course providers to access digital case management systems to teach prospective barristers these systems and to continually review the course content so it keeps in line with future developments.

Investigating the causality of spatial anxiety and self-confidence on mental rotation performance through sex/gender stereotype priming and feedback

Linda Arrighi

Department of Psychology

While it is accepted that the cognitive profiles of adults of different sexes/genders overlap, a recent meta-synthesis (Zell, Krizan, & Teeter, 2015) with a sample of over 10 million participants reported that the largest cognitive sex/gender difference in the psychological literature is that in mental rotation (MR) performance.

MR tests require participants to mentally rotate three-dimensional cubic figures under time restrictions. Previous studies have shown that biological and social factors such as testosterone levels and sex/gender stereotypes can contribute to cognitive sex/gender differences in MR tasks. On the other hand, recent correlational studies have proposed that spatial anxiety and self-confidence in the answers being correct may also be important mediating factors. Two experimental studies will investigate the causality of spatial anxiety and self-confidence on MR performance through sex/gender stereotype priming and feedback. In the in-person study, participants will complete a MR test after a sex/gender or neutral stereotype priming questionnaire. We predict MR performance/self-confidence to increase and decrease in the positively and negatively stereotyped groups respectively. In the online study, participants will complete a two-part MR task and self-reported questionnaires. They will receive positive, negative, or no feedback about their performance after the first half of the task - which will allow analysis of within-subjects effects as well as between-subjects effects.

We hypothesise men's MR performance/self-confidence to increase following positive feedback and women's to decrease following negative feedback. The results of the present studies will further improve our understanding of how non-binary psychological factors contribute to sex/gender differences in MR.

Barriers and facilitators to academic achievement and quality of school life for autistic pupils in mainstream secondary school: What do autistic young people think?

Jessica Hirst

Department of Psychology

Although autistic children and young people (CYP) vary considerably in their individual profiles of strengths and challenges, most autistic pupils are educated in mainstream schools.

ONS data and previous research has suggested that academic outcomes and quality of school life for autistic adolescents in mainstream schools are often lower than expected (Autistic not Weird, 2022; All Party Parliamentary Group report on Autism, 2017; Goodall, 2018; Office for National Statistics, 2017). Although a small body of literature has begun to explore the lived experiences of autistic pupils in mainstream schools, there is still a question around more specifically what the barriers and facilitators of better school outcomes are.

This study sought to ask autistic young people who were currently in a mainstream secondary school setting what they felt the barriers and facilitators might be. In this study, 14 autistic adolescents took part in semi-structured interviews using flexible communication methods, as well as engaging in a pot-sort activity (as previously used in work from Goodall, 2018). Interview data was analysed using reflexive thematic analysis (Braun and Clarke, 2006), and a number of different themes and sub-themes were developed based on the data.

The main themes which were produced were around relationships with others, the school environment and individual differences. The themes will be discussed, as well as possible future avenues for research to explore based on this data.

ToyBox Early Smart Start (TESS): A Program for Promoting Physical Activity Healthy Diet and Healthy Growth in Children Attending Preschool Nurseries in Qatar

Rita Rizk

Department of Sport and Exercise Sciences

Background: The development of healthy behaviors during the preschool years are very crucial as the behaviors established during this time have been shown to track through childhood and into adulthood.

Objectives: This study aims to develop a complex intervention to promote and improve life-style-related behaviors of 3 to 4 years old preschool children attending preschool nurseries in Qatar.

Methods: The study's program is supported by two prevailing pillars, ToyBox and Smart Start interventions. The first pillar, ToyBox intervention, is a multicomponent kindergarten-based, family-involved intervention targeting preschool children in numerous European countries. While the Smart Start intervention which serves as the second pillar is a national initiative in Qatar focused on promoting a balanced diet and regular physical activity in primary school settings. These two interventions are being modified and tailored to fit Qatar's setting. The development of the new intervention ToyBox Early Smart Start (TESS) will be guided by three key resources; guidance from the ADAPT study¹ and the MRC², and new strategies suggested by Rütten et al³ to address the intervention research challenge of sustainable change of inactive lifestyles.

Results: The translation and combination of ToyBox and Smart Start interventions behaviors are the foundation for the development of TESS. The newly designed intervention TESS is tailored for the context of Qatar and focusing on the promotion of several health-related behaviors for preschoolers attending nurseries in Qatar. The behaviors implemented in TESS embrace: water consumption, healthy breakfast and snacking, the harmful effect of sugar on health, physical activity, sleep, and the reduction or breaking up of sedentary time in preschool children in Qatar.

Conclusions: TESS is a newly designed program established from two prevailing interventions and adapted for fostering healthy growth promotion and exercise habits in preschoolers attending nurseries in Qatar.

1. The ADAPT study <https://decipher.uk.net/uncategorized/the-adapt-study/>
2. Skivington et al BMJ 2021;374: n2061
3. Rütten et al Health Promotion International 2019; 34:47-59

12.45 - 1.30

Poster Session



P1

Solo-living: A qualitative study to understand the external environmental factors that shape living-alone adults' experiences

Mingyao Xiong

Department of Psychology

Around the world, there is a rise of single-person households across age groups. Previous research focuses more on old age groups and the negative consequence of living alone, while some literature reveals that solo-living experiences can be shaped by specific components of social and physical environments.

This qualitative research recruited living-alone adults varying in ages and aimed to present a comprehensive picture of what it is like to live alone, and covers both the positives, the negatives, and even the mundane aspects of living alone. We interviewed twenty-four County Durham residents, aged between 27 to 80 years old (10 men, 13 women, 1 gender non-binary) from different SES backgrounds. Interview questions were semi-structured and specifically targeted four areas of inquires: 1) what does solitude mean to the participants and what types of activities they do alone, 2) how norms, life stages, and individual choices might shape perceptions of solitude, 3) what experiences of solitude were like during the pandemic lockdown, and 4) how the physical space where participants live might affect their living-alone experiences. We conducted the thematic analysis to identify themes from participants' reported living-alone experiences.

This poster will present seven main themes which are definitions of solitude, activities, experience in solitude, social support, physical environment, subjective norm, and the influence of lockdown. Sub-themes under each main theme will reveal general experiences and societal norms perceived by living-alone adults about their solo-living conditions and characteristics of the physical environment that hinder or support their well-being. Example quotes will also be provided in the poster to help audiences gain more sense of real solo-living experience.

P2

Evaluation of retinoic acid receptor dual acting modulator RAR-M, NVG645 for AD in vitro

Yunxi Zhang

Department of Biosciences

Neurodegenerative diseases represent a major threat to human health worldwide. Currently there are approved treatments, which provide only symptomatic relief, not curative resolution. Progress is primarily impeded by the complex aetiology of AD, hence that the pathogenesis has not been fully elucidated. Retinoids, vitamin A derived substances, appear to be essential in neuronal cells and have been implicated in AD pathogenesis.

This study explores the pharmacological mechanisms and neuroprotective properties of a lead dual genomic and non-genomic synthetic retinoid, 4-[2-(5,5,8,8-Tetramethyl-5,6,7,8-tetrahydroquinoxalin-2-ylethyl)nyl] benzoic acid (NVG645). The potential therapeutic effect of NVG645 was analysed in vitro using human SHSY5Y neurons, rat C6 glioma and human HMC3 microglia cells at an administered concentration of 1-10 nM. Histological, functional and a series of biochemical analyses were performed.

NVG645 significantly induced neurite outgrowth and dendritic branching, indicative of neuronal regeneration. Biochemical studies revealed that NVG645 significantly ameliorates neuroinflammation, suppressing cytokine release (TNF α , IL-6), and attenuates neurotoxic microglial activation. An additional protective role was identified for NVG645 against oxidative stress, where a significant reduction in peroxide sensitivity was observed. Furthermore, NVG645 elicited both senolytic (glia) and pro-autophagy effects (in both neurons and glia), and reduced peroxide-induced IL-6 release (microglia).

Overall, these neuroprotective, neuroplastic and neuro-reparative effects suggest NVG645 shows promise as a novel therapeutic strategy for the treatment of AD.

Infant Sleep vs. Parent Self-Esteem

Dorothy Angdinata

Department of Psychology

Throughout the years, research has progressed to reveal the intricate role that sleep plays in everyday life. It affects day-to-day cognitive functioning, particularly in the domains of attention and emotional control as well as long-term mental health; all of which acts as the foundations of a well-adjusted individual.

It is especially critical for parents to have sufficient sleep as it allows them to provide a nurturing, warm environment for their new infants. Yet the presence of an infant itself yields sleep challenges with the infants requiring care throughout the day and night. While the sleep schedule undergoes a transformation for the parents, the daily responsibilities remain unchanged which contributes to stress. Consequences of such may present itself as negative parenting behaviours (e.g., hostility towards child) which has previously been linked to stress.

This study aims to explore the role of sleep in parental self-competence. This will be done by measuring infant sleep quality, parent sleep quality, parent self-competence, and parent self-esteem. After collecting these data, I will conduct a regression analysis to determine the nature of the relationship behind the previously mentioned constructs.

As a whole, the literature on parental sleep is limited. Of the existing studies, there is more focus on specific sub-groups where sleep issues are unavoidable (e.g., birth complications, postnatal depression), more prone (e.g., children with autism) or just maternally. One study by Meltzer & Mindell (2007) found that the quality of typically developing children's sleep was predictive of the quality of maternal sleep which predicted poorer maternal mental state. Additionally, the role of parenting guilt which has not been extensively investigated introduces an extra layer of complication; specifically, the cognitive distortion that contributes to feelings of low self-worth.

This will be the first study to explore the relationship between parent sleep to parent self-esteem. The implications from this study may be applicable to future developmental research by paving arguments for researchers to direct their resources towards understanding the role of parental sleep. The findings of this study may be applied in the understanding of how parental self-esteem can impact child development.

Stress levels and student performance: A Perceived Stress Scale perspective

Charmeale Ayadural

Department of Finance

Studies have long highlighted the strong correlation between stress levels and university students. This highlights the weakness in the education system and the importance of student wellbeing.

This study illustrates the perceived stress level of students and whether the students felt the sense of helplessness or were able to cope, self-efficacy for the period October 2020 (7 months into the Covid-19 pandemic).

The study found weak evidence on the implication of stress levels on psychosocial functioning and student performance. Inconclusive evidence also exist of student self-efficacy's role as a moderator between helplessness and student performance. The relationship established shows a negative effect which validates the support for the importance of self-efficacy as antecedents of student academic success.

Understanding the Relationship Between Arithmetic and Working Memory: Does the Working Memory Measure Matter?

Jessica Perry, Katie Allen and Anna Matejko

Department of Psychology

The importance of verbal working memory for arithmetic skills has been highlighted in a large body of research. However, most studies measure verbal working memory using a digit span task where children need to store and manipulate a list of numbers. Since arithmetic is also number based, it is unclear whether the relationship between working memory and arithmetic might be related to the numeric nature of the working memory task.

This study aims to provide more insight into this relationship by comparing how digit span and letter span (forwards and backwards) relate to addition and subtraction skills. Because the arithmetic and digit span tasks require the manipulation and storage of numerical information, we predicted that addition and subtraction would have stronger relationships with working memory when measured by the digit span task compared to the letter span task. A correlational analysis was performed using data from 27 participants (ages 6 – 11 years, Mean Age 8.28 years) who completed all working memory and arithmetic tasks.

Our findings showed significant correlations between children's performance on the subtraction task and the letter span forwards task when controlling for age. No other correlations were significant. We also conducted two linear regressions to determine whether digit and letter span (forward and backward) predicted unique variance in children's addition and subtraction performance. None of the working memory measures predicted addition and subtraction performance, and age was the only significant predictor. Overall, these preliminary findings suggest relatively weak relationships between arithmetic and both measures of working memory, but they provide some evidence that subtraction may be more related to letter span than to digit span. Data collection for this study is ongoing, and the findings will be re-assessed once there is a larger sample of participants.

Could photobiomodulation therapy (PBMT) 1068 nm be used to treat the neurological complications of COVID-19? Effects of PBMT in neuronal and gliomal cell lines

Lydia Kitchen

Department of Biosciences

Introduction: COVID-19 can result in severe complications, such as the pro-inflammatory cytokine storm, acute respiratory distress syndrome, thrombosis or neurological issues. PBMT, using near-infrared light with the wavelength 1068 nm, could be used as a non-invasive, drug-free treatment for COVID-19. PBMT acts via the mitochondrial enzyme cytochrome c oxidase to induce inflammatory changes, cytoprotection, nitric oxide release and increase blood flow. It is hypothesised that these effects will benefit the respiratory system and other organs targeted by SARS-CoV-2, including the brain (with neurological symptoms, ranging from anosmia to stroke and delirium, becoming increasingly common.)

Methods: Human SHSY5Y neuronal and rat C6 glioma cells were stressed with SARS-CoV-2 spike peptide, lipopolysaccharides or hydrogen peroxide, and treated with 1068 nm. Responses were measured with ATP quantification assays, lactate dehydrogenase (LDH) release, immunohistochemistry for autophagy markers and immunofluorescence for ACE2 (SARS-CoV-2 receptor) and Ki-67 (proliferation marker). Statistical analysis was performed with t-tests and one-way ANOVAs (using * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ and **** $p < 0.0001$).

Results: PBMT increased ATP production (***) in neuronal cells, obeying the cytochrome c oxidase theory of activation. Starvation with serum free media reduced the number of glial and neuronal cells, and PBMT increased cell number (**** and *** respectively) back to control levels. The basis of this was explored; PBMT had no effect on the cytotoxicity marker LDH but increased the percentage of proliferating cells expressing Ki-67 in glial cells (**). Also in glial cells, PBMT reversed the S-peptide-induced redistribution of the SARS-CoV-2 receptor ACE2 to the cell membrane, which may be useful in reducing viral attachment. PBMT shows promising effects against SARS-CoV-2 infection and neurological complications.

In future experiments, techniques will be repeated with microglia to assess their response to PBMT. ATP determination and calcium imaging will be used on all cells to further understand the mitochondrial effects of 1068 nm.

An investigation into the effect of discrete emotional episodes on the momentary decision to snack

Lucy Edgar

Department of Psychology

Emotional eating has been defined as increased food intake in response to the experience of negative emotions. However, this conceptualisation is usually based on subjective measures and retrospective data, reducing its validity.

When emotions are experimentally manipulated, negative emotions have a more varied effect, with some studies finding no effect at all. Furthermore, recent experiments indicate that positive emotions can also increase food intake, potentially to a greater degree than negative emotions.

Building on these studies, the current project aims to more systematically examine the effects of different emotions on eating by (i) testing effects of induced emotions on snacking decisions on a trial-by-trial basis, (ii) using an ecologically valid/natural snacking environment (bar lab), and (iii) using different methods of emotion induction (lab-based, self-relevant quiz feedback and real-life academic assessment feedback).

My poster will outline how an online pilot study enabled design improvements for my first study, and further discuss its scientific background and methodology.

Are Language Skills Important for Arithmetic? Exploring the Relationship Between Phonological Processing Skills and Arithmetic Strategy Use in School-aged Children

Nina Jost and Anna Matejko

Department of Psychology

Language skills are not only important for reading, but they may also be important for maths. Specifically, one aspect of language that has been found to be related to both reading and maths is phonological processing (the ability to recognise and manipulate the sounds of language). However, it remains unclear how phonological processing skills are related to arithmetic strategy use in typically developing children.

Arithmetic problems can be solved in several ways, and it is important to understand what strategy children use when solving them. Some arithmetic problems are solved by retrieving the solution from memory (retrieval strategy), whereas others are solved by counting or decomposing the arithmetic problem into smaller parts (calculation strategy). Critically, retrieval strategies may be more closely related to language-mediated processes than calculation strategies.

In this preliminary analysis, we investigated the relationship between three phonological processing skills (Phonemic Awareness, Rapid Serial Naming, and Phonological Memory) and arithmetic performance and strategy use in 24 typically developing children (Years 2 and 3, ages 6-8 years). To assess arithmetic, children solved 80 single and double-digit addition and subtraction problems, and explained what strategy they used after each problem. We found rapid serial naming of letters and numbers (RAN) was positively correlated with overall accuracy on the arithmetic task, and the frequency of retrieval use. This suggests that children who took longer to name digits and letters on the RAN were also more accurate and used more retrieval strategies to solve arithmetic problems. There were no other significant correlations. Using regression analyses, we also examined whether the three phonological processing measures predicted unique variance in children's arithmetic performance and strategy use.

While we found that RAN was a significant unique predictor of arithmetic performance, none of the phonological processing measures predicted the use of retrieval strategies, counter to our predictions. The present findings indicate that some phonological processing skills may be related to individual differences in arithmetic performance, however, they are not related to arithmetic strategy use. Data collection for this study is ongoing, and the results will be revisited once there is a larger sample of participants.

Validating reported observable outcomes of Namaste Care in people with dementia through measuring biochemical, physiological, and behavioural responses to intervention

Nicola Kendall

Department of Biosciences

Currently around 55 million people are living with dementia globally. This is expected to rise to 78 million in 2030 and 139 million in 2050. Dementia was the leading cause of death in the UK in 2022 (ONS) and with no prospect of a cure, focussing on improving access to excellent dementia care options is urgent in home care and health and social care settings.

Namaste Care is a gentle, sensory approach to spending time with someone in the later stages of dementia. Activities are based on the person's likes, preferences, beliefs and life history.

Reported outcomes of Namaste Care include:

- Reduced number of falls
- Reduced number of urine and chest infection
- Reduced agitation
- People receiving Namaste Care look more relaxed and engaged
- Respite for family carers
- Relational, person focussed care
- Increase in staff and volunteer morale
- Increased carer satisfaction with services

However, the approach has yet to be widely adopted and it's efficacy is questioned by the medical profession due to a perceived lack of objective data.

This 3 phase study aims to objectively measure a person's response to a Namaste Care session using a range of biological, physiological, behavioural and observational data taken before and after a Namaste Care session over a period of 5 weeks. Results of this study can be used to inform national policy and may lead to the inclusion of namaste Care in NICE (National Institute of Clinical Excellence) guidelines.

A qualitative investigation into communication of the complex issues around subarachnoid haemorrhage between staff, patients and relatives in the critical care environment.

Edel McAuley

Department of Biosciences

Subarachnoid haemorrhage (SAH) is a devastating illness with an incidence of 8 per 100,000 UK population (Linn et al, 1996) and has a huge impact on individuals, their family and the community. SAH generally affects a greater proportion of younger people than other strokes and often has a poor outcome. Suffering a SAH or the detection of an intracranial aneurysm (ICA) causes many complex psychological effects, both on the patient and family. It is challenging to communicate information to patients and relatives about complex medical issues, particularly within the stressful critical care environment. A study by Azoulay et al, 2000 showed that half the families of intensive care unit patients experience inadequate communication with medical staff.

Our aims are to investigate what communication problems exist about this condition between staff, relatives and patients. A qualitative phenomenological approach was used for five focus groups with full ethical approval. They consisted of subjects who have had an ICA and or a SAH (affected to varying degrees) and their relatives and members of familial groups. The interviews explored how each individual felt about the diagnosis, treatment and recovery of their or their relative's condition with particular reference to the communication within the critical care environment.

The themes discussed by the groups included: perceived misinformation & information deficits. There are often mis-understandings about this condition from patients and relatives, in particular what exactly it is and significant confusion about either a SAH is a stroke or not? The use of new technology to aid information transfer would be very helpful. The concept of the MRI or CT scan as a therapeutic modality was raised by several patients and their families. There is a real need to target information to defined groups e.g. children and familial groups as the one size fits all approach is often not valid.

If these issues with communication can be recognized early, particularly in certain groups such as children and families with multiple affected members, this may help to avoid later perceived problems with quality of care (Korzik et al, 2018).

13.35 - 14.10

Keynote

Interdisciplinarity Professor Amanda Ellison

Executive Director, Wolfson Research Institute for Health
and Wellbeing



14.10 - 14.30

Session 3: Flash Talks

Chaired by Charmele Ayadurai



Let's listen to them: Promoting young people's involvement in addressing sexual violence

Janelle Rabe

Department of Sociology

"Speak out! You are not alone!" – the young people in my project had this to say to their peers about sexual violence. Young people's views are vital in effectively addressing sexual violence. However, they are rarely involved in programming and research on sexual health and sexual violence in the UK and globally.

Young people are rarely listened to, much less given a chance to lead discussions related to sex or sexual violence. There is often a stigma and a culture of silence even when young people want to learn more and do something about the issue. Following a young people-centred participatory research approach, I worked with 26 young people (13-18 years old) from a school and a youth group in North East England. Through a series of participatory workshops, I facilitated interactive and creative activities to understand their views on sexual violence and how to address it.

Emerging findings from the research project include a co-developed understanding of sexual violence and young people's recommendations for improving relationships and sex education and school responses to sexual violence. Through my presentation, I want to show the benefits of an innovative participatory approach of involving young people in understanding an issue that matters to them and the potential solutions. I aim to encourage other researchers to consider this alternative approach to research. Overall, young people's feedback on the workshops emphasised their appreciation and clamour for having safe, non-judgmental, and open spaces to discuss and learn about the issue of sexual violence together with their peers.

Dance to be happy and healthy -- Ethnographical research of Chinese square dancing

Shang Li

Department of Sociology

Square dancing is a very famous social phenomenon in China, with over 200 million participants. Square dancing activity usually involves a group of dancers, usually old women, dancing for one to two hours in the morning or evening in various parts of the city and village. It is easy to find square dancing teams throughout China and as inclusive dancing teams, people can easily join them. The physical and mental benefits of regular square dancing activity have been widely discussed by various researchers, including lowering blood sugar in diabetics, increasing the cardio-pulmonary function of older people, reducing body fat and reducing loneliness, so on. However, the gendered perspective of how women conduct square dancing activity is under-researched.

I conducted ethnographical research for over six months by joining them as a dancer for participant observation, doing semi-structured and informal interviews with the dancers. The establishment of women's identity and participant wellbeing are prominent during the research. Health and happiness are the main reasons why most dancers join the dance, although some of the dancers also report for social purpose. The reasons of keeping fit are also interesting, the dancers don't just exercise for themselves but for their family. They also think that things are better now than that when they were young, therefore, it is more worthwhile for them to keep health now.

During fieldwork, the dilemma between family responsibility and dancing activity is common to see. Although women are expected to take family responsibility or even take family as their solely source of personal value, their constant participation and regrets of not being able to dance suggest that being a dancer also becomes a very important identity for them. Besides, with different dance type choices, clothes, music and movement choice, some of the dancers challenge the traditional gender and age image, while some of the others still suffer from body shame and appearance anxiety.

Overall, the dancers report to be happy after participating. Being called "crazy" by their friends and family shows that this is where their passion is.

Laughable Medicine: Humour, Suffering, and Dismissal in the Personal Narratives of Autistic Women

Julie Garg

Department of English

While praised for being both extremely entertaining and educational, perhaps what is most significant about Scottish comedian Fern Brady's memoir, *Strong Female Character* (2023), is its persistence in drawing the reader's attention to the ways in which medicine fails autistic women.

Despite repeatedly seeking the medical advice of GP's and specialists from adolescence well into adulthood, Brady was repeatedly dismissed or misdiagnosed with various mental illnesses and unsuccessfully treated with psychiatric drugs. While her story is in many ways tragic, it is not uncommon. Because Autism Spectrum Disorder has largely been associated with men, this has meant (and undoubtedly continues to mean) that women (who typically face more pressure to mask to align with gender norms) are frequently denied the opportunity to be assessed for ASD.

The medical establishment's role in refusing to take women seriously certainly warrants further examination as made apparent in Caroline Criado Perez's *Invisible Women: Exposing Data Bias in a World Designed for Men*. Brady's narrative, seen through the context of Perez's text and research about women and autism, paints a frightening yet factual picture of the ways in which women are continually dismissed by the medical establishment. Brady's story and the stories of women who have had similar experiences ultimately possess the potential to oblige medical practitioners to take note and respond accordingly in order to address long-standing inequalities in women's medical care.

Menopausal women's embodied experiences: the moving body

Jo Ann Long

Department of Sport and Exercise Sciences

This research aims to showcase active menopausal women's experiences of physical activity whilst understanding and moving with a changing body. This research adopts a feminist perspective to explore women's thoughts, feelings, and embodied experiences of recreational sport during menopause. To date, the majority of research in relation to movement and menopause is under-theorised, typically focusing on the effect of different forms of physical activity on menopausal "symptoms", with less known about women's lived experiences, perspectives, and embodied sensations.

Aim: The aim of this research was to explore women's embodied experiences of physical activity during the menopause (including early and peri-menopause).

Methods: With the assistance of gate keepers, 35 people identifying as women, regularly physically active and menopausal, were recruited from the North East of England. Methods included semi-structured interviews (21 participants) and go-along interviews (9 participants). Creative workshops using island mapping techniques were held with a sub-sample (5 participants) to elicit women's experiences in a creative way.

Findings: Narrative analysis was used to explore their experiences. Key themes were identified in relation to (i) changes surrounding their bodies and movement (ii) challenges / barriers towards engaging in physical activity during menopause (iii) sensual experiences of moving and menopause, (iv) connections with active environments. These findings have implications for how women might be supported to initiate or sustain participation in recreational sport during menopause and will be discussed during this presentation.

Conclusion: Starting and / or maintaining physical activity throughout the menopause can bring significant challenges alongside feelings of empowerment. Greater awareness of how movement through menopause is experienced and can best be supported is needed.

Family's pressures and struggle with tradition: a thematic analysis of the experiences of Chinese women football fans

Zhuotong Wu

Department of Sport and Exercise Sciences

Football operates as a place of reproducing Connell's (1995) 'hegemonic masculinity' in most countries across the globe. Whilst the majority of studies have focused upon the importance of football for men, a growing body of work has begun to examine women's experiences as fans. However, the experiences of Chinese women fans have to date been unexplored. Chinese women spectators of men's football games have shown a growing trend in recent years, increasing from 13.4% in 2017 (iResearch, 2017) to 38% in 2021 (Deloitte, 2021). In response to this trend, our study examines the 'feminization' of football fandom in China (Pope, 2017). We also examine the barriers and potential responses for Chinese women football fans.

Using an online qualitative survey (n=165) of women fans of the Chinese Football Association Super League (the CSL) clubs, our findings examine fan perceptions of changes in the numbers of women at matches in recent years and reasons for this 'feminization'. We also examine perceptions of women as 'inauthentic' fans. Family's pressures and struggle with tradition are developed as one of the themes in the Chinese women football fans' experiences, with four sub-themes: Chinese College Entrance Exam, work competition, family hierarchy, and domestic arrangements. China is a collectivist society where family is considered the smallest significant societal unit. The enormous competitiveness of Chinese college entrance exams amplifies the traditional cultural family requirement to focus on formally scholastic work. The self-imposed demands of taking on domestic duties and competing for work as women grow up also reinforce the barriers to involvement as football fans.

In conclusion, this paper makes one contribution towards changing the dearth of research on Chinese women football fans. There is a need for further research to amplify Chinese women's voices and reduce gender inequalities in football.

15.00 - 16.00

Session 4: Talks

Chaired by Leanne Trick



Exploring Children's Mask Preferences in Nepal and Indonesia: A Comparative Study across Cultures

Sarah Nila

Department of Psychology

Air pollution has become a serious problem in many countries worldwide, with concentrations of ambient air pollutants currently often exceeding levels that are believed to substantially increase risks of acute and chronic adverse health effects in humans. The use of facemasks can offer protection against air pollutants, for both adults and for children, who are particularly vulnerable to life-long impacts. Regardless of whether masks are effective particulate filters, they will only work if children want to wear them.

We have investigated which kinds of masks children prefer and whether certain features (such as pattern, shape, strap, and colour) are more attractive to them. Focus Group Discussions were conducted in two countries, Nepal and Indonesia, which suffer from severe particulate air pollution, yet are home to different cultures, demographics, religions, socioeconomics, climates, and built environment. We presented six different masks to 116 children (67 from Nepal and 49 from Indonesia) aged 7 to 12 years and asked them to select preferred features and rank them based on how likely they would be to wear them.

Our result showed that children from both Nepal and Indonesia were more likely to choose a mask with an ear loop than a mask with a head strap. We found country differences in pattern features, i.e., children in Nepal had no clear preference whereas children in Indonesia had an overall preference for plain over patterned masks. Similarly, country differences were also found in shape feature preferences in which children in Nepal had no preference, while children in Indonesia had a preference for vertical over horizontal masks. Children in both countries placed patterned and black masks higher in the ranking, indicating they are most likely to be worn. Meanwhile, children from both countries placed golden colour masks at the bottom of the ranking, indicating the least likely mask to be worn.

Our results indicated that there are variations in mask preferences among children from different cultures. These data could be used as a tool when encouraging children to wear masks.

Intervention to improve body esteem and media literacy in adolescents in rural Nicaragua

Fabiennes Andres

Department of Psychology

Body dissatisfaction is a risk factor for eating disorders, depression and low self-esteem. School-based interventions to promote body esteem and media literacy are a cost-effective way to improve body image and foster resilience against appearance pressures across diverse socio-economic contexts. However, interventions are rarely adapted for low- and middle-income countries. In rural Nicaragua, recent improvements in media access have increased risk for body dissatisfaction and eating disorders. We therefore developed and piloted a culturally adapted intervention program to promote body esteem and media literacy.

A two-arm semi-randomized controlled pilot study was conducted on the Caribbean coast. Two schools received a four-session intervention that focused on critiquing beauty ideals, recognizing manipulated images, reducing social comparisons and resisting appearance pressures. Two schools were a waitlist control.

122 adolescents (63% girls, mean age 13.7) answered questionnaires about body satisfaction, body appreciation, media internalization/beliefs, and sociocultural pressures at baseline, one week after the intervention/control period, and provided qualitative feedback at six-weeks follow-up. Bayesian analysis was used to assess pre-post effects for boys and girls separately.

The intervention showed good acceptability and feasibility. Vulnerable girls (low body esteem and/or media literacy) showed improvements at post-test. Key learning points were retained at 6 weeks follow-up.

Our culturally adapted body image intervention is a useful and cost-effective tool to improve body esteem and media literacy in Nicaragua. These results suggest that after careful cultural adaptation, school-based body image interventions can be used in a variety of different cultural, geographical and socio-economic contexts.

What criteria should the Chinese law impose on people who wish to access Assisted Reproductive Technologies?

Yuxin Li

Durham Law School

There are three pieces of legislation regulating the use of assisted reproductive technologies (ARTs) in China: the Technical Specifications for Assisted Human Reproduction Technology, the Ethical Principles for Assisted Human Reproduction Technologies and Human Sperm Banks, and the Basic Standards and Technical Specifications for Human Sperm Banks issued by the former Ministry of Health.

Under the current national legal framework, unmarried women are not allowed to access the ARTs. In this paper, I discern support for a reform of the current legal regime based on three reasons: 1) legislative conflicts; 2) societal needs; and 3) policy reasons. I ask whether these reasons would be defensible to reform the current legal framework to grant access for ARTs to unmarried women in China.

The paper extends to the examination between the private and public interests involved and argues that the national blanket ban on unmarried women from accessing ARTs is sexist and violates reproductive rights of unmarried women. I will argue that the national legislator, which is the National People's Congress should step in and codify the current practice and the legislation made by the former Ministry of Health and provincial-level people's congresses into national laws which address the problems caused by the current problematic legal framework.

This way, it is argued, by doing a comparative analysis between the Chinese legal framework on ARTs and the respective legal regimes in the US and that in the UK, which many unmarried Chinese women have chosen for reproductive tourism to have a baby in the past. China may consider the possibility of learning from the experience of those jurisdictions in regulating ARTs, and chances how China can develop a new legal regime regulating ARTs while addressing the existing problems, its own culture, and moral values to allow unmarried women to equally and legally access the ARTs.

An evidence-based approach to teacher mental health and wellbeing

Kulwinder Maude

School of Education

The Leadership Alphabet of Disposition Development Engagement and Reflection (LADDER©) is a new approach to supporting teacher and student wellbeing. LADDER is a comprehensive model of assessment, coaching support and guided reflective practice based on cognitive behaviour therapy, and is co-produced by teachers, parents, and administrators in the US. It does not require any homework or diary keeping; thus, it does not add to existing workload. Our pilot study involving teacher trainers and coaches at Durham University, University College, London and Mendel University, Czech Republic has shown promising results.

Research evidence suggests that there is a strong correlation between working conditions, teacher wellbeing and teacher attrition (Geiger & Pivovarovova 2018; Wang et al 2015). There is a growing global concern about the rate at which teachers are leaving the profession. Teacher wellbeing and mental health is now a priority in the education policy agenda in England with the publication of the Education Staff and Wellbeing Charter in 2021. Many interventions have also been developed and tried to address teachers' mental health and wellbeing, most of which are focused on mindfulness, self-compassion, self-efficacy and emotion regulation (Hayes et al. 2020, Gold et al. 2020), and require regular practise.

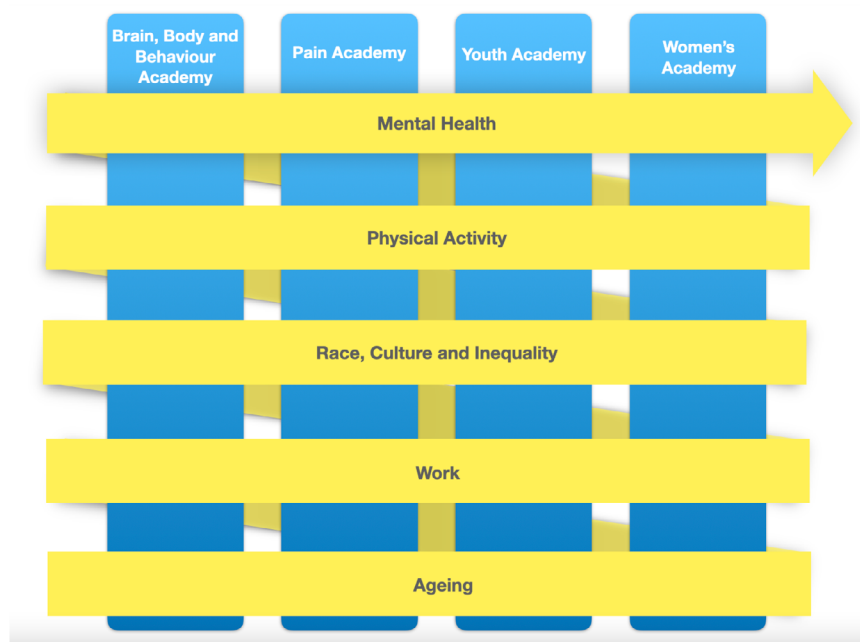
Despite these, teachers' wellbeing is now at an all-time low. Over 35% of the education workforce had a WEMWBS score of 40 or below, which indicates probable depression (Education Support 2022). One reason could be that current interventions may not be addressing the fundamental issue of teacher stress, anxiety and burnout. Another reason is that the pre-service training and induction programmes have not been adequate. According to the Teacher Wellbeing Index (Education Support 2022), 74% of teachers did not think that their initial teacher training had prepared them well to manage their own wellbeing. It has been argued that the key to better mental health and wellbeing amongst trainee and in-service teachers is a strong foundation in teacher preparation (Hulme & Wood 2022). Therefore, preparing teachers and student teachers well could help to insulate them from the adverse effects of the challenging work environment.

While teachers individually cannot change their working conditions and the culture of their work environment, they can alter the way they respond to their environment. LADDER addresses teachers' internal dispositions and habits of mind that might affect the way they manage stress.

About the Wolfson Research Institute for Health and Wellbeing

The Wolfson Research Institute for Health and Wellbeing is Durham's flagship interdisciplinary Institute tasked with delivering the Health@Durham Strategy. Established in 2001, we foster research relating to human health and wellbeing in both developed and developing countries from the individual to global scale.

We do this through our **Challenge Academies**.



Each has been carefully built to address local and global unmet need in health-related issues. Closely aligned with the Sustainable Development Goals, these Academies have the interdisciplinary approach unique to Durham University built in. In this way, each Academy can address major problems in health and wellbeing, but also be responsive to new challenges as they arise.

We help our Challenge Academies grow, fostering networking, identifying and assisting with funding opportunities, expanding their internationalisation and ensuring impact through clinical, industry or policy collaboration. This approach is central to our core ethos where our Academies address the beginning (identifying the correct question), the middle (understanding who the problem affects and how) and the end (how we can use this knowledge to create purpose built solutions that don't just help some of the people

So, what is it that we do?

When we think about the health of humanity, we often think about ill-health. Traditionally, many approaches to ill health are rooted in a biomedical model (what are the symptoms, what is wrong with the body and how do we fix it). This is central to pathogenesis (the study of how we get ill). However, we believe that salutogenesis (the study of what keeps us well) is of equal if not greater importance. We sit at the very confluence between pathogenesis and salutogenesis.

By investigating all of the factors that can affect human health, from socio-economic status, to psychosocial factors, through the environment, faith, familial structure, dependants and so many more issues, we can build a picture evidencing the role that each of these have in "the Picture of Health" of individuals, communities and societies. We can look for malleable factors and track how making small and big changes to how we live impacts our collective health and wellbeing. Further still, by understanding how our place in the world and our experience of health affects our bodies, we can begin to predict individual and societal health issues, with the ultimate aim of arresting their progress.

Finally, in cases of ill-health, we can evidence the efficacy of treatments not based merely on the biomedical model but also the socio-environmental model we have built through our understanding of people, their place, and how they live. By targeting treatments to those for whom they will work, we provide an evidence base to assist in clinical or policy decision making, improving efficacy, and process in a purpose-built manner.

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