



Psycolloquy *2025*

Annual Research Symposium

Te Tari Whakamātau Hinekaro - Department of Psychology

December 3rd & 4th 2025

William James Building, Room 2.03



Guest Speakers

Dr Colin Groot-Remmers

Amsterdam University Medical Centre

Dr Jack Scott

*Te Tari Whakamātau Hinekaro - Department of Psychology,
Ōtākou Whakaihu Waka - University of Otago*

Dr Usman Afzali

*Mātai Wairuataka – Religion, Ōtākou Whakaihu Waka -
University of Otago*

Dr Celia Lie

*Te Tari Whakamātau Hinekaro - Department of Psychology,
Ōtākou Whakaihu Waka - University of Otago*

Organiser: Dr Owen Jones

Special thanks to: Denise Botting

Wednesday December 3rd

Morning session

09:45am **Welcome and opening karakia**

10:00am **Dr Colin Groot-Remmers**
Exploring Heterogeneity in Alzheimer's Disease

10:30am **Ella McLeod**
Exploring the Relationship Between Perception and Anxiety

11:00am **Morning tea**

11:15am **Selena De Weyer**
Exploring the Influence of a Calcium-Channel Blocker in a Frontotemporal Dementia Mouse Model

11:30am **Frances Cunliffe**
Mental Health Clinician Perspectives on Diagnosing Personality Disorder in Adolescence: A Story Completion Survey

12:00pm **Lunch break**

Afternoon session

1:00pm

Dr Jack Scott

Brain-Based Biomarkers of Cognition in a Longitudinal ADHD Study

1:30pm

Phoebe Campbell

Integrating the Neurodiversity Paradigm, Stigma Theories, and Social Identity Theories into an Autism Cultural Competency Training Programme

2:00pm

Afternoon tea

2:15pm

Farzane Lal Khakpoor

Ethnicity on the Brain: Modality-Dependent Bias in Predictive Neuroimaging Models of Cognition

2:30pm

Janelle Tinker

Portrayals of Unhealthy Relationship Behaviours on TikTok: A Window to Psychological Abuse?

3:00pm

Closing karakia

Thursday December 4th

Morning session

09:45am **Opening karakia**

10:00am **Dr Usman Afzali**
The Human Side of Research: Lessons from
the Muslim Diversity Study

10:30am **James Bowman**
Free Speech and Censorship at the
University of Otago

11:00am **Break & morning tea**

11:15am **Jordan Rogers**
Identifying and Defining Experiences of
Obligation Among Aotearoa Transgender
and Nonbinary Youth

11:30am **Chris Linton**
Exploring Māori Centred Aftercare Services
for Men

12:00pm **Lunch break**

Afternoon session

1:00pm

Dr Celia Lie

Neurodiverse Student Experiences at the
University of Otago

1:30pm

Kseniia Konopkina

MRI-Based Prediction of Cognitive
Functioning: Unpacking Between-Individual
Differences and Longitudinal Change

2:00pm

**Closing words and karakia
followed by afternoon tea**

Abstracts (in alphabetical order by speaker)

The Human Side of Research: Lessons from the Muslim Diversity Study.

Dr Usman Afzali

When we talk about research, we usually focus on methods, findings, and statistics. But research also has a very human side — the people who take part, the research assistants who make it possible, and the communities who might benefit from it. In this talk, I'll share some reflections from leading the Muslim Diversity Study, a project that looks at the experiences and wellbeing of Muslims in Aotearoa New Zealand.

Instead of walking through data or results, I want to focus on what I've learned from participants, the feedback we've had from communities, and the insights I've gained from working with a large team of research assistants. I'll also share why I personally find the project fulfilling, what makes it worth doing, and what it has taught me about the social impact of research.

My hope is that this talk gives a different perspective on what research can mean — not just as a technical process, but as something that can connect us, challenge us, and even inspire us.

Free Speech and Censorship at the University of Otago

James Bowman & Prof. Jamin Halberstadt

In the early 2020s, research from the United States and the United Kingdom, in particular surveys from the Heterodox Academy organisation, suggested speech, made with the intention of free and open inquiry, was becoming “chilled”. Students, in particular politically right-leaning students, reported exaggerated discomfort when asked to imagine giving their views on a controversial topic, like Race and Gender. In 2022, Jamin Halberstadt and colleagues replicated a Heterodox Academy survey but on New Zealand campuses: Their findings were eerily similar. The following research is a development of that replication, with updated topics that have been rated by ‘controversy’, by both students and staff, and ‘yes/no’ answers to free speech abstractions taken from the statement made the University of Otago last year, like ‘A University should not restrict debate or deliberation simply because the ideas put forth are thought by some to be offensive, unwise, immoral, or wrong-headed.’

Integrating the Neurodiversity Paradigm, Stigma Theories, and
Social Identity Theories into an Autism Cultural Competency
Training Programme

Phoebe Campbell, A/Prof. Brigit Mirfin-Veitch, Dr Charlene
Rapsey & Prof. Gareth Treharne

There's a pressing need for training programmes to support non-autistic people in engaging respectfully with autistic people. During this talk, Phoebe will outline how an autism cultural competency training programme could reduce stigma, promote inclusion, and support more insightful relationships between autistic and non-autistic people. In this context, cultural competency relates to increasing non-autistic people's understanding of autistic culture – including autistic people's shared identities, communication preferences, and behavioural styles. Additionally, Phoebe will summarise her PhD project, which involves critically integrating the neurodiversity paradigm, stigma theories and social identity theory to explore how an autism cultural competency training programme could be developed. The three stages of the project will be introduced. The first stage will involve qualitative interviews with autistic people whose lived experiences and insights will be considered alongside the previously mentioned theoretical frameworks to develop the autism cultural competency training programme in the second stage. The third stage will then involve pilot testing and evaluation of the training programme with non-autistic people. Overall, autism cultural competence interventions have huge potential to increase autism acceptance and decrease autism stigma through community-led and neuroaffirming theoretical approaches.

Mental health clinician perspectives on diagnosing personality disorder in adolescence: A story completion survey

Frances J. Cunliffe, Prof. G. J. Treharne, Prof. M. Sellbom & Assoc.
Prof. G. Newton-Howes

Borderline personality disorder (BPD) traditionally conceptualized and currently classified in the DSM-5 remains contested due to debate about validity and reliability as well as the documented stigma associated with the label. The application of a BPD diagnosis in adolescents is even more complex, with strong arguments for and against diagnosis. Proponents for diagnosis argue that withholding the label can lead to a myriad of iatrogenic harms including misdiagnosis, delays in treatment, and receiving treatment that is either incorrect or potentially harmful. Those who argue against diagnosis are concerned about over-pathologizing normal adolescent turmoil, developmental instability of personality, biased diagnosis of particular groups, and stigma, particularly in the healthcare system. The thesis is centred on understanding how adolescents presenting with personality disorder are currently formulated, diagnosed, and treated by psychiatrists and clinical psychologists in Aotearoa New Zealand. In Study 1, 14 clinical psychologists, 8 psychiatrists and 2 psychiatry registrars completed a Story Completion survey responding to two hypothetical scenarios about an adolescent client with BPD features. Preliminary themes will be summarized. A brief overview of Studies 2 and 3, interviews with clinicians and those with lived experience of a diagnosis of BPD during adolescence, will also be included.

Exploring the influence of a calcium-channel blocker in a frontotemporal dementia mouse model

Selena De Weyer, Dist. Prof. Cliff Abraham & Dr Owen Jones

Dementia is a harrowing issue, not only for those with the condition but also for those around them. Dementia is an umbrella term that encompasses diseases such as Alzheimer's and frontotemporal dementia. Symptoms include deficits in memory, executive function, apathy, and language. As there is no known treatment, the disease advances further, ultimately leading to death. Dementia is most prominent in older generations, which is set to expand due to a growing and ageing population. As of 2019, there were over 50 million cases worldwide, and this number is predicted to triple by 2050. Reducing exposure to risk factors can contribute to fewer cases. Still, when 32 of the 57 million cases in 2019 are in the high socio-demographic index quintile, improved air quality is not going to be enough. Instead of targeting lifestyle factors, we hypothesise that reducing L-type calcium channel activation will prevent an accumulation of toxic hyperphosphorylated tau tangles. In tauopathies (including frontotemporal dementia and Alzheimer's Disease), tau proteins detach, float freely, and become seeds that trigger a positive feedback cycle. By adding the L-type calcium channel blocker nimodipine to the drinking water of mice that model frontotemporal dementia, we aim to prevent this overactivation of the channel and halt a step in the feedback loop. If this proves to be an effective treatment for frontotemporal dementia, it could have great implications for other tauopathies. Nimodipine is cheap and FDA-approved as a heart medication, making it a suitable drug for practical use.

Exploring Heterogeneity in Alzheimer's Disease

Dr Colin Groot-Remmers

Dementia is a clinical syndrome with many possible underlying causes, each marked by distinct pathologies and clinical phenotypes. The most common, and well-known, cause of dementia is Alzheimer's disease, but even among individuals with this disease there exists striking heterogeneity that affects accuracy of diagnoses and prognosis in the clinic. In this talk, I will explore three major axes of variation in Alzheimer's disease: cognitive phenotypes, brain atrophy patterns, and patterns of tau pathology. I will outline these dimensions of heterogeneity, methodologies to detect inter-individual differences, and how studying heterogeneity can be used to 1) tailor diagnoses, 2) personalize prognoses and 3) determine who benefits from emerging treatments. My aim is to show you how embracing and mapping heterogeneity, rather than treating Alzheimer's as a uniform entity, can lead to improved dementia care and research.

MRI-Based Prediction of Cognitive Functioning: Unpacking Between-Individual Differences and Longitudinal Change

Kseniia Konopkina, Dr Narun Pat

Machine learning models trained on brain MRI can predict cognitive functioning, especially when combining multiple imaging modalities. Yet it remains unclear whether these markers capture between-person differences or can also detect within-person changes over time. This distinction is crucial for practical applications: between-person markers aid diagnosis or risk assessment, whereas within-person markers enable monitoring of cognitive change or treatment response. Using longitudinal data from the Dallas Lifespan Brain Study ($n = 451$, aged 21–90, up to three sessions over five years), we trained out-of-sample predictive models on 37 neuroimaging phenotypes spanning structural MRI, diffusion imaging, functional connectivity, task-based fMRI, and arterial spin labelling. Diffusion and structural MRI achieved the highest predictive performance (correlation ≈ 0.57 – 0.64). Stacking across modalities improved accuracy, with multimodal stacking reaching $r = 0.73$. Linear mixed-effects models showed MRI explained up to 54% of total cognitive variance, mostly between-person. The multimodal model captured 59.9% between-person and 7.7% within-person variance. Commonality analysis indicated 77.3% overlap with age, though MRI still added unique variance beyond age. Thus, MRI-based markers reliably track stable individual differences in cognitive ability, but their ability to detect longitudinal cognitive change remains limited.

Ethnicity on the Brain: Modality-Dependent Bias in Predictive Neuroimaging Models of Cognition

Farzane Lal Khakpoor & Dr Narun Pat

Predictive models using MRI are transforming neuroscience and mental health research. But do they generalize equitably across ethnic groups? Using the Adolescent Brain Cognitive Development (ABCD) study, we evaluated 92 MRI phenotypes (81 unimodal, 11 multimodal) to predict NIH Toolbox cognition scores in White and African American adolescents.

Our findings indicate that bias exists and is modality-specific. Models trained on one ethnicity performed best within that group, and majority-White models favored White participants. Training on equal-sized White and African American subsamples reduced disparities without accuracy loss. Structural MRI exhibited the greatest bias, whereas task-based phenotypes were the most equitable. Stronger brain–cognition associations generalized more equitably, but multimodal stacking—despite enhancing prediction—did not improve fairness. Increasing African American representation improved generalizability up to a 50:50 balance point, with further oversampling yielding no additional benefit.

These results highlight embedded biases in neuroimaging pipelines (e.g., European-normed templates) and underscore that predictive robustness does not guarantee equity. For psychological science and clinical application, inclusive data composition and modality-aware modeling are essential to advance fair, generalizable brain–behavior research.

Neurodiverse Student Experiences at the University of Otago

Dr Celia Lie, Phoebe Campbell, Dr Rebecca Bird, Prof. Gareth Treharne

Neurodiversity is an umbrella term that has gained popularity for its positive reframing of neurodevelopmental differences, such as dyslexia, autism, and ADHD. Although an increasing number of neurodivergent students are enrolling in tertiary studies, they are also more likely to withdraw when compared to their non-neurodivergent peers (McDowall & Kiseleva, 2024). Studies of neurodiverse student experiences in tertiary education have found that students commonly report fear of stigma and labelling, a reluctance to disclose or seek help, experiences of rigid teaching approaches, and a lack of staff awareness and understanding of neurodiversity (e.g., Clouder et al., 2020). These experiences have negative impacts on their overall experiences of tertiary education, as well as measures of general wellbeing. Many of these studies have focused on Northern American and British tertiary education systems, whereas the experiences of neurodivergent students at tertiary institutions in Aotearoa New Zealand remains largely under-researched. The aim of this study was to understand the current experiences of neurodivergent students at the University of Otago. Neurodivergent students across campus were invited to participate in an anonymous online survey. Participants (N = 147) were asked a series of questions about disclosure and help-seeking, reasonable accommodations, staff knowledge and attitudes towards neurodiversity, teaching and learning approaches, and measures of stigma and wellbeing. A comparison sample of non-neurodivergent participants (N = 109) completed a shortened version of the same survey. This talk will present preliminary findings from the surveys, as well as suggestions for future research and strategies aiming to improve neurodiverse student experiences at the University of Otago.

Exploring Māori Centred Aftercare Services for Men

Chris Linton, Dr Hitaua Arahanga-Doyle & Prof. Gareth Treharne

Mirroring the impacts of colonisation globally, Māori men are disproportionately represented within the criminal justice system in Aotearoa New Zealand. An underexplored component of these inequities is the rehabilitation, aftercare, and reintegration processes faced by these men. This research aimed to evaluate an aftercare (outpatient) service integrating Māori perspectives into the service to support men with a substance use diagnosis and offending histories. The study employed a mixed-methods approach featuring wānanga (culturally grounded discussions) with kaimahi (staff) and tāngata whaiora (people seeking wellbeing, service users) alongside quantitative surveys with the tāngata whaiora assessing wellbeing (Hua Oranga), self-control (Brief Self-Control Scale), and gang distancing. Thematic analysis revealed kaimahi prioritised an individualised approach, tailoring support to individual needs while fostering autonomy and relationships. Tāngata whaiora reported the service as mana-enhancing (affirming self-worth) through culturally safe practices like whanaungatanga (relationship-building) and manaakitanga (care). The results from the surveys showed that tāngata whaiora demonstrated high holistic wellbeing (Hua Oranga), with the strongest scores in taha hinengaro (mental health). Taha wairua (spiritual wellbeing) illustrated the strongest correlation with overall wellbeing and self-control, underscoring its centrality to recovery. Participants displayed moderate self-control and active gang distancing, particularly among non-affiliated individuals. Findings demonstrate that embedding Māori values (e.g., cultural connection, self-determination) in aftercare services effectively promotes recovery and overall well-being. This underscores the critical need for culturally grounded mental health frameworks in Indigenous contexts.

Exploring the Relationship Between Perception and Anxiety

Ella McLeod, Prof. Bruce Russell & A/Prof. Olivia Harrison

Dysfunctional perceptual processing appears to be a key component for many mental health disorders, including anxiety (Khalsa et al., 2018). Specifically, many individuals with anxiety demonstrate altered breathing-related interoceptive (relating to the perception and integration of internal sensory information) and visual-related exteroceptive processing (Garfinkel et al., 2016; Harrison, Garfinkel, et al., 2021; Rouault et al., 2018; Sussman et al., 2016). While research has begun to explore the association between anxiety and dysfunctional perception, limited research has explored how common interventions for anxiety (such as exercise) alter perceptual abilities, and whether these changes are associated with alleviated anxiety symptoms.

As the experience of anxiety continues to increase (Javaid et al., 2023; Oakley-Browne et al., 2006), it becomes increasingly important to find interventions that meet the needs of tāngata whaiora (health seekers). Understanding how perception is influenced, both by the severity of anxiety and interventions for anxiety, may be the next step for developing individualised and effective treatment plans. Here we explore how anxiety is related to breathing-related interoception and visual-related exteroception, how exercise influences perception, and finally, how alterations in perception are associated with alleviated anxiety.

Identifying and Defining Experiences of 'Obligation' among
Transgender and Nonbinary Youth Living in Aotearoa New
Zealand: A Focus Group Study

Jordan Rogers, Prof. Gareth Treharne

Transgender and nonbinary (TGNB) individuals are a community who experience inequities across health and social domains when compared to cisgender individuals. Past research has suggested that the pressures and expectations that this community experience may be contributing to poorer overall wellbeing but does not discuss experiences of obligation to oneself or to others. The current research project aims to expand on understandings of pressures and expectations by defining experiences of obligation within the TGNB community. Seven focus groups were conducted with 24 TGNB people and analysed using reflexive thematic analysis. Four themes were identified to describe the experiences of obligation for TGNB people as well as aspects of life that reinforce obligations. Theme 1 covers the obligation to be a 'good' trans person including two subthemes of being 'good' by meeting everyone's expectations and being 'good' by being polite and palatable. The second and third themes describe obligations relating to fulfilling multiple roles and being required to be the expert on TGNB topics. The fourth theme covers the obligation to accept conflicting narratives including two subthemes describing passive narrative acceptance and active narrative control. These findings highlight the specific experiences of obligation for TGNB people, which adds to foundational knowledge about the lived experience of TGNB community members with the hope of informing meaningful interventions and support services for this community.

Brain-Based Biomarkers of Cognition in a Longitudinal ADHD Study.

Dr Jack Scott & Dr Narun Pat

ADHD affects 6-8% of children globally and is associated with negative wellbeing impacts. ADHD is also heterogeneous, and this extends to cognitive abilities. Capturing patterns in brain data that provide cognitive biomarkers is a promising avenue for better characterising the disorder. Our lab employs machine learning on large-scale neuroimaging data for this task. My work this year has focused on developing biomarkers of cognition in a large longitudinal ADHD neuroimaging dataset, tracing cognitive changes across childhood and adolescence, and exploring dynamic fMRI measures. We created biomarkers using traditional machine learning from structural and resting-state functional MRI that predict cognition and trace longitudinal changes in cognitive ability. These biomarkers also capture the relationship between hyperactivity symptoms and cognition. More recently, I explored brain states (patterns of activation across the fMRI timeseries) by leveraging clustering algorithms and Hidden Markov Models to examine state transitions, occupancy, and mean dwell time. Mean dwell time in two of four states declined with age for control participants but not for ADHD, suggesting delayed maturational brain dynamics. We also found significant correlation between time spent in an uncommon, high-metabolic brain state and hyperactivity symptoms. These findings contribute to our understanding of ADHD and build towards AI-based tools.

Portrayals of Unhealthy Relationship Behaviours on TikTok: A Window to Psychological Abuse?

Janelle Tinker, Prof. Gareth Treharne, & Dr Amanda Clifford

Romantic relationships play a central role in emerging adulthood. Limited experience, however, can hinder young adults' ability to recognise psychological abuse, particularly when manipulative relationship behaviours are framed as passion or love. Social media platforms like TikTok have become influential spaces where young people share personal experiences and seek relationship advice. However, these platforms can also oversimplify relationship dynamics, glamorise unhealthy relationship behaviours, and normalise unrealistic relationship standards. The aim of this study (study one of a PhD) is to explore how "unhealthy" relationship behaviours are portrayed on TikTok and the psychological consequences creators describe. A sample of around 100 TikTok videos will be collected using the following search terms: "love-bombing", "red flag", "gaslighting", "situationship" and "is my relationship unhealthy?", alongside naturalistic follow-on videos that play immediately after videos found from searches. Videos will be analysed using reflexive thematic analysis with inductive coding. Preliminary findings will be presented and linked to ongoing studies. Study two will employ a mixed-methods survey with university-aged participants to examine the prevalence and impact of psychologically abusive behaviours in their romantic relationships. Study three will involve qualitative interviews with either university-aged individuals or practitioners to further explore psychologically abusive relationship behaviours.