

SCHOOL OF PSYCHOLOGY

HONOURS PSYCHOLOGY

INFORMATION FOR INTENDING STUDENTS

2017

*IMPORTANT: All dates and information in this handbook are indicative only;
provisional; and subject to change*

Program Coordinator: Dr Carolyn Semmler

An information session will be held on **Wednesday 14 September 2016, 5.30pm - 6.30pm** in Lower Napier LG29 Lecture Theatre at The University of Adelaide.

To register please email the Psychology Office: psychologyoffice@adelaide.edu.au

INTRODUCTION

Thank you for your interest in the Honours Psychology Course. In this booklet we provide you with introductory information about the course. We cover: questions about eligibility; our selection process; the structure of the course, its content and assessment, and so on. Some of the entries are extracts from the course handbook proper (this will be made available to those who are accepted into next year's course): other entries are from other University publications. We hope the contents will provide answers to the questions you might wish to ask regarding the course, but please feel free to enquire about anything you think was overlooked. We strongly encourage you to look us up on the Web - all of our current teaching is there, including more detail on the Honours course for the current year, and Supervisor interests. The web link for further information is <http://health.adelaide.edu.au/psychology/future-students/honours/>

CONTENTS

COURSE STRUCTURE	3
ELIGIBILITY	3
APPLICATIONS, THE QUOTA, SELECTION & ENROLMENT PROCEDURES	3
ASSESSMENT PROCEDURES	4
COURSE OPTIONS	5
ELECTIVE TOPIC OPTIONS FOR 2015	7
HONOURS SUPERVISORS AND THEIR RESEARCH INTERESTS	8

COURSE STRUCTURE AT THE UNIVERSITY OF ADELAIDE

Psychology is available as a one-year Honours degree. It is available to candidates who have completed a named 3-year psychology degree, a generalist undergraduate degree with a major in psychology or a graduate diploma in psychological sciences.

Students enrol in a full-time load in which they need to complete 24 units comprising of 12 units for the thesis, 6 units for 2 compulsory courses and 6-units for 2 elective choices.

Part-time enrolment is limited. Students will need to provide a letter stating grounds for part-time consideration. Students who are accepted into a part-time load need to complete all the coursework in the first year and the thesis in the second year.

Due to accreditation requirements, it is not possible to offer a combined Honours degree in Psychology and another discipline. At best, a student may engage a co-supervisor from another discipline, however the thesis must be clearly psychological in nature (and the internal supervisor from Psychology must of course agree to co-supervision with someone external to the School).

ELIGIBILITY

Eligibility requires a major in Psychology from a University whose program has been accredited by the Australian Psychology Accreditation Council (APAC).

International students apply through the International Office

<http://www.adelaide.edu.au/study/international/apply/> prior to the 19 October 2016 deadline.

International students, currently studying at the University of Adelaide, need to submit a *Change of Program* http://www.international.adelaide.edu.au/enquiries/internal_transfer/ application by 19 October.

APPLICATIONS, THE QUOTA, SELECTION & ENROLMENT PROCEDURES

Applications for entry to Honours Psychology are made directly to the School on the appropriate form, which must be lodged at any time prior to the closing date of Friday 4 November 2016.

Applications can be found on the School's website at

<http://health.adelaide.edu.au/psychology/future-students/honours/>

IT MUST BE NOTED THAT ADMISSION TO THE COURSE IS LIMITED BY A QUOTA

The criterion for selection is based on academic merit within courses of psychology. The Selection Committee ranks applications on this basis.

Entry into Honours is based strictly on the academic performance of psychology courses taken at Level II and Level III. The formula is as follows:

$$\text{Weighted Average} = (\text{Level II psych} \times 40\% \text{ weighting}) + (\text{Level III psych} \times 60\% \text{ weighting})$$

Offers are made in rank order according to the calculated weighted averages

Students applying from outside the University of Adelaide MUST supply completed transcripts in order to be considered for selection.

The selection process begins after the third-year results of local applicants are available (usually by the first week in December).

- First round offers will be emailed to prospective candidates around 9 Dec 2016. Those receiving offers MUST reply by 5pm on Wednesday 14 December 2016.
- Second round offers will be emailed around 19 December 2016 and these candidates will need to reply by 9am on 2 Jan 2017.
- Candidates receiving 3rd or 4th round offers will be informed by telephone.

Please keep your contact details for December and January up-to-date as you can miss out on an offer by not responding by the due date.

IMPORTANT! The University academic year officially begins on Monday 27 February 2017. However, the first meeting of the Honours group will be held on **23 January 2017**. Successful applicants will be advised of the time, date, and venue in their email offer. This meeting is compulsory. At the meeting the operational aspects of the honours year will be addressed, including assessment procedures, key dates, the process involved in attaining a thesis supervisors, etc.

All successful candidates are required to attend this meeting, and to consider their academic year as beginning on that date.

ASSESSMENT PROCEDURES

There are four major components:

- (i) a thesis to be submitted for examination in early October 2015
- (ii) an examination in the compulsory topic "Research Methods and Statistics"
- (iii) an examination in the compulsory topic "Current Issues in Contemporary Psychology"
- (iv) two coursework electives examinations

THESIS	50%
RESEARCH METHODS AND STATISTICS EXAMINATION	12.5%
CURRENT ISSUES EXAMINATION	12.5%
TWO EXAMINATIONS IN COURSEWORK ELECTIVES	25%

PSYCHOL 4200A / PSYCHOL 4200B HONOURS THESIS (50%)

The thesis represents an exercise for basic training in designing, conducting and duly reporting an independent research project.

Each candidate completing a research project (including those in the second year of a two-year enrolment) must attend a sequence of weekly research seminars. The research seminar series is intended to assist/guide students in doing a thesis. **This is a course requirement.** During the seminar series students present a talk on their research project. The presentations are not assessed: they are intended to provide initial experience in the design and clear but concise presentation of research material (such as is required for conference presentations). Comments from the Course Coordinator, other staff present, or students are intended to be helpful, even if they indicate problems that may require attention. In semester 2, the seminars focus on life after Honours, including Masters, PhD and employment opportunities.

As you will notice, the thesis contributes heavily to your final mark. It cannot be too strongly stressed that you **must** start work on this important product after the first meeting of the Honours group in early February. You would be well advised to start thinking about possible research topics right now

to allow for unforeseen delays that may occur. You are welcome to approach potential supervisors for initial discussions. This is particularly a major concern if your study will involve recruiting participants through outside agencies (e.g., schools) and thus requiring permission to proceed through their ethics committee as well as ours.

PSYCHOL 4201 RESEARCH METHODS AND STATISTICS (12.5%)

This topic is compulsory for all students and will be taken over 6 weeks.

PSYCHOL 4202 CURRENT ISSUES IN CONTEMPORARY PSYCHOLOGY (12.5%)

This topic is compulsory and consists of six 3-hour seminars each focusing on a cutting edge issue in psychology.

2x ELECTIVE TOPICS (12.5% EACH)

PSYCHOL 4203 Advanced Developmental Psychology
PSYCHOL 4204 Advanced Psychology in Society
PSYCHOL 4205 Organisational Psychology
PSYCHOL 4209 Mind, Brain & Behaviour

Semester 1

PSYCHOL 4200A Honours Thesis in Psychology Part 1

PSYCHOL 4201 Research Methodology & Statistics

Choose one from the following

PSYCHOL 4203 Advanced Developmental Psychology

PSYCHOL 4209 Mind, Brain & Behaviour

Semester 2

PSYCHOL 4200B Honours Thesis in Psychology Part 2

PSYCHOL 4202 Current Issues in Contemporary Psychology

Choose one from the following

PSYCHOL 4204 Advanced Psychology in Society

PSYCHOL 4208 Organisational Psychology

- Semester 1 examinations will be rostered during the official examination period.
- Semester 2 examinations will be held between 16 – 20 October 2017. **Please note these times are not during the official University Examination period.**

A more comprehensive account of the assessment requirements will be given in the Handbook to be provided to successful candidates before the year begins, consistent with University policy.

COURSE OPTIONS

In general, Research Methods and Statistics is presented in the form of two three-hour sessions (9.10am – 12pm and 2.10pm - 5.00pm) one day a week over six weeks, Current Issues in Contemporary Psychology is six three-hour sessions and the electives are presented in the form of six two-hour sessions (9.10am – 11am or 12.10pm - 2.00pm) on a given day of the week, through the first half of each Semester. The research seminars are rostered on Thursday afternoons (2.10pm – 5.00pm) through most of the teaching year. On the following pages are brief syllabus notes for electives that are available in 2017.

NOTE: The School of Psychology reserves the right to vary aspects of the coursework offerings and assessment prior to the commencement of the Honours year in 2017.

This document is for general orientating information purposes only.

ELECTIVE TOPIC OPTIONS FOR 2017

PSYCHOL 4206 Advanced Health Psychology

This course deepens and extends the student's knowledge of health psychology, especially as it applies at the level of the population. A general introduction of critical health psychology is provided and the principles and applications of health psychology are demonstrated via a series of case studies.

PSYCHOL 4204 Advanced Psychology in Society

The aim of this course of seminars is to encourage students to develop a critical perspective on the ways in which social identities are constructed and put to use in society. Discussions will concern the impact of psychological theory, research, and practice on the representation of social identities, including gender, in a number of areas, including human development, clinical, education and legal settings.

The course will also provide students with insights into modern methodological approaches used to study social identities such as gender.

PSYCHOL 4205 Organisational Psychology

The objective of this course is to develop an understanding of the theory and practice of organisational psychology in its historical context and of some of the contemporary issues important for psychologists working and conducting research in organisations. The course also covers contemporary organisational topics in organisations; the nature and role of leadership; and organisational culture and fit.

PSYCHOL 4209 Mind, Brain & Behaviour

The aim of this course is to introduce students to current topics in mind, brain and behaviour. The course content will cover fundamental questions in the study of the human mind. The specific content will vary from year to year, but may address the following questions: How do people acquire knowledge of the world? How does children's reasoning differ from that of adults? How do people make choices in a complex world? How are these processes instantiated in the brain? How can cognitive functioning go wrong?

HONOURS SUPERVISORS AND THEIR RESEARCH INTERESTS

NOTE: Availability varies from year to year.

Prof Martha Augoustinos

Room 521 Hughes Building; telephone: 8313 4627; email: martha.augoustinos@adelaide.edu.au

I am happy to discuss thesis supervision in the following areas of social psychology:

- Political discourse, rhetoric, and persuasion
- discursive studies of racism
- national identity and nationalism
- social categorisation, stereotyping and prejudice

Dr Irina Baetu

Room 514 Hughes Building; telephone: 8313 6102; email: irina.baetu@adelaide.edu.au

I study associative learning, namely how people learn to associate stimuli that regularly occur together. Our brain is particularly well equipped to detect such regularities in our environment, which is a very adaptive ability: It allows us to predict future outcomes and plan our actions.

I am particularly interested in discovering plausible mechanisms by which the brain can discover and represent relationships between events. To do so, I use associative and connectionist models that are inspired by some characteristics of the nervous system. I use these models to simulate how learning occurs not only in humans, but also in animals (during classical conditioning, for instance) and to generate novel, testable, predictions. My experiments are often designed to test the predictions of one or more theories of learning. Participants usually observe series of visual stimuli and the variable of interest is how much (or little) they learn about the relationships between the stimuli. As some people learn faster than others in certain situations, one of my goals is to discover the neural mechanisms that give rise to these individual differences.

Prof Nick Burns

Room 512 Hughes Building; telephone: 8313 3965; email: nicholas.burns@adelaide.edu.au

My laboratory undertakes research in differential psychology. Particular interests are models of intelligence and personality, especially computerised assessment of these constructs but any project involving assessment of individual differences is of interest. Recent Honours projects have included studies on: validating a computerised test of fluid ability for children; measuring inspection time in very young children; auditory inspection time in children and adults; aggression and parental attachment in adolescents; and a study of perfectionistic self-presentation amongst adolescents. I am happy to discuss any student research proposal broadly consistent with these interests.

Prof Anna Chur-Hansen

Room 414 Hughes Building; telephone 8313 5738; email: anna.churhansen@adelaide.edu.au

Professor Anna Chur-Hansen is a Registered Psychologist who has two main areas of research: Health Psychology and Health Professional Education. Her Health Psychology research involves studies of patients' and health professionals' perceptions of health and illness. She is also interested in the human-animal bond and how companion animals influence human mental and physical health. Her research into Health Professional Education includes students' and educators' perceptions of teaching and learning, including assessment methods. She is interested in discussing any projects related to these two main streams of study.

Ms Yvonne Clark

Room 728 Hughes Building; telephone: 8303 7464; email: yvonne.clark@adelaide.edu.au

My research interests are in the areas of

- Cultural and cross-cultural psychology, assessment, therapy and initiatives in relation to Australian Aboriginal people
- Child development in particular attachment and bonding, childhood sexual abuse and adolescent sexual offending (particularly in relation to Aboriginal people)
- Mental health, health, racism, lateral violence, cultural competency (in relation to Aboriginal people)

I would be happy to have a further chat about any of the above or other topics of interest that relate to Australian Aboriginal and/or Torres Strait Islander people

Prof Paul Delfabbro

Room 506 Hughes Building; telephone: 8313 4936; email: paul.delfabbro@adelaide.edu.au

My principal research interest is in the area of human learning and behaviour. I would be particularly interested in supervising projects relating to:

- The application of learning principles to human or animal behaviour.
- The psychology of gambling.
- Technology-based addictions and other cyber-behaviour.
- Risk-taking, risk perception and its correlates.
- Clinical symptomology and decision-making

I can also assist in the supervision of projects concerning the effects of child protection and placement services upon children's psychosocial well-being (but only if you work in this area and have access to young people in this situation).

Dr Linley Denson

Room 516 Hughes Building; telephone: 8313 4128; email: linley.denson@adelaide.edu.au

Research Interests include:

- Baby boomers', older people's and carers' health, cognition and lifestyle choices
- Transitions to nursing homes & retirement villages
- Intergenerational family care
- Mental health help-seeking – including cross-cultural perspectives
- Mixed methods & qualitative research: IPA, thematic analysis.

Dr Diana Dorstyn

Room 522 Hughes Building; Phone: 8313 0649; Email: diana.dorstyn@adelaide.edu.au

Lecturer, School of Psychology, University of Adelaide & Registered Clinical Psychologist

My research interest is in the broad area of adult rehabilitation psychology. I would be interested in supervising topics relating to:

- Quality of life and the concept of resilience in adults with a chronic physical illness or disability
- Impact of disability on caregivers
- Meta-analytic or systematic reviews to evaluate:
 - Effectiveness of psychological interventions (e.g. cognitive behaviour therapy vs. ACT, telepsychology);
 - Psychosocial correlates of rehabilitation outcome
 - Reliability and validity of assessment measures (e.g. depression, anxiety)

Dr Matt Dry

Room 513 Hughes Building; telephone: 8313 3856; email: matthew.dry@adelaide.edu.au

There are a number of projects that I am currently involved with which I believe would be highly suitable for an Honours thesis.

In 2015 I have a nationally funded grant investigating the factors that influence academic outcomes in tertiary education. There are at least two projects suitable for Honours that could be incorporated into this: one investigating the roles of underlying personality traits and cognitive abilities on academic success, and another investigating the factors that lead students to drop-out or fail. The first of these projects would be quantitative, whereas the second would require a mixed-methods approach combining quantitative data with qualitative data gathered from interviews, etc.

Recently I have been doing some psychopharmacological research investigating the effects of different drugs (such as alcohol, opioids etc) on cognitive functioning. While these sorts of studies can be difficult to complete within the context of an Honours year I would certainly be open to supervising the right student in the right project. An example of this research is:

Dry, M.J., Burns, N. R., Nettelbeck, T., Farquharson, A.L., White, J.M. (2012). Dose related effects of alcohol on cognitive functioning. *PLoS ONE* 7(11): e50977. doi:10.1371/journal.pone.0050977

One related project that would certainly be suitable for an Honours thesis would be an investigation of people's ability to estimate their current blood alcohol concentration (BAC). This would basically involve going out to licensed venues with a breathalyser and comparing individuals' observed and estimated blood alcohol concentrations. Previous studies have looked at BAC calibration in relation to University-aged participants, but to date no-one has investigated this in relation to wide age-range. The obvious question would be "Does BAC calibration vary as a function of drinking experience?"

Finally, I am always interested in any projects investigating performance on optimization problems such as the travelling salesman problem (TSP) and minimum spanning trees (MST-P). These problems make for nice, easy to run experiments and would be highly suitable for an honours-level project. Good examples of these sorts of projects can be found at the Journal of Problem Solving (<http://docs.lib.purdue.edu/jps/>).

Dr Clemence Due

Room 518 Hughes Building; telephone: 8313 6096; email: clemence.due@adelaide.edu.au

Clemence's research interests include:

- Refugee and migrants studies, particularly in the areas of mental health and education
- Child mental health, particularly developmental disorders and trauma
- Cross cultural psychology
- Discursive psychology

Clemence (co-supervising with Damien Riggs) is willing to supervise students with an interest in undertaking either a conversation analysis, membership category analysis, or discourse analysis of radio interviews on one of the following topics:

- 1) foster care
- 2) surrogacy
- 3) gay men and racism
- 4) refugees
- 5) fathering (including childlessness and pregnancy loss)

Students will need to be willing to transcribe the audio data, and must already have or be willing to learn the techniques of conversation analysis, membership category analysis or discourse analysis (suggested readings can be provided upon request).

Prof John Dunn

Room 709 Hughes Building; telephone 8313 8390; email john.c.dunn@adelaide.edu.au

My broad research interests are in the areas of cognitive psychology, human memory, applied decision-making, cognitive modelling, mathematical psychology, methodological issues in neuropsychology and human experimental psychology.

Current specific interests:

- State-trace analysis. This is a methodology that can be used to draw inferences about the number and nature of mental processes that underlie a set of psychological tasks or measures and is especially useful in distinguishing "single-process" from "multiple-process" accounts of phenomena. Currently, I am applying it to the remember-know paradigm, the process-dissociation procedures used in

recognition memory, and some theories of categorization but it is also relevant to any other area of psychology in which this issue is important.

- Speech-pause cycles. This involves analyses of the duration of speech and pauses in verbal discourse and how the parameters of their distributions are affected by a variety of variables including brain damage following stroke.
- Memory and language. Past research has focused on repetition priming (implicit memory), while current research has focused on semantic representations of thematic material using Latent Semantic Analysis (LSA). I am using this to investigate memory in real-world settings (eye-witness testimony) and to assess memory dysfunction in older adults suffering from mild cognitive impairment.
- Applied cognitive psychology. This interest has involved a range of different studies of dealing with applied questions. These include, distributed decision making by fire fighters, human computer interaction, and memory disorder following brain damage.

Dr Neil Kirby

Room 708 Hughes Building; telephone: 8313 5739; email: neil.kirby@adelaide.edu.au

My research interests include:

- Disability research including the assessment of support needs and quality of life of people with disabilities and their families, evaluation of quality of life for people with disabilities in institutions and in the community, and the assessment, training and behaviour management of adaptive behaviours.
- Organisational research including topics such as job satisfaction, job commitment, organizational culture and person – job fit as related to full time work, part-time work and casual work.
- Information processing research; in particular, using Inspection time and responding time paradigms to investigate the slower performance of the intellectually disabled, the elderly, children, adults with head injuries and those with psychiatric disabilities.

A/Prof Amanda LeCouteur

Room 510 Hughes Building; telephone: 8313 5557; email: amanda.lecouteur@adelaide.edu.au

Amanda LeCouteur has offered to discuss projects in the general areas of Conversation Analysis and Discursive Psychology. Such studies involve examination of talk and interaction in natural settings and typically focus on the fine detail of social interaction and the functions served by psychological descriptions; what such descriptions *accomplish* in social interactions, and how they achieve *accountability* for the speaker. Recent research has involved exploration of interaction between patients and health professionals in a variety of face-to-face and helpline settings, talk in professional coaching interactions, analysis of the on-field talk of sports professionals.

Prof Jane Mathias

Room 524 Hughes Building; telephone: 8313 5266; email: jane.mathias@adelaide.edu.au

I am happy to discuss research projects that fall into the broad area of clinical neuropsychology, which is an area of psychology that examines the cognitive, emotional and behavioural changes associated with different types of brain damage and brain dysfunction.

While research in this area often involves work with patient groups who are known to have, or are suspected of having, some form of brain damage, it may also involve an examination of the cognitive effects of a variety of different medical problems and treatments that may compromise cognitive/brain functioning (e.g. diabetes, cardiac surgery, drug abuse etc.).

It is difficult to complete a project that relies on clinical samples in an Honours year. I therefore encourage students to undertake quantitative meta-analytic studies of the clinical neuropsychological literature. Meta-analytic studies can be completed in areas where access to patient groups is limited and time constraints prevent hands-on clinical research. They are also preferable to small under-powered studies and make an extremely useful contribution to the research literature. They are, therefore, highly suited to honours projects.

Assoc. Prof Anna Ma-Wyatt

Room 511 Hughes Building; telephone: 8313 5660; email: anna.mawyatt@adelaide.edu.au

My research focuses on visual perception, and how we use vision to interact with the world. I want to understand how people track the location of objects over time and how eye and hand movements made to these locations impact on perception. I use behavioural paradigms to measure visual performance, eye and hand movements. I am happy to supervise projects within these areas, or in related areas. Recent projects include:

- How visual information about target location constrains eye-hand coordination in normally sighted observers and patients with visual field loss
- The deployment of visual attention when making rapid hand movements
- Eye movement strategies of experts and novices when performing a face matching task
- Motion perception in natural images

Dr Jane Mortimer (not available in 2017)

Dr Amy Perfors

Room 509 Hughes Building; telephone: 8313 5774; email: amy.perfors@adelaide.edu.au

I'm interested many different questions in language acquisition and cognitive science more generally. My interests in language acquisition centre on the question of what biases people bring to the task of learning language. Although some researchers argue that these biases have to be highly constrained and language-specific, I investigate the hypothesis that they might emerge out of basic constraints due to general cognitive characteristics, including a preference for simplicity, and biases in perception, memory, and attention.

My more general interests in cognitive science are mostly focused on the acquisition and nature of concepts, and how people make decisions about those concepts. As you might expect, the interaction between concept learning and language is something I'm quite fascinated by!

My current projects are focused on investigating: how our ability to hear the sounds of language affects other aspects of language learning; how the evolution of language is shaped by the structure of the world and the way we communicate; what factors affect people's tendency to regularise linguistic data; how people use their assumptions about how data was generated (e.g., from a helpful teacher, vs randomly) to form inferences about that data; and how different kinds of data (e.g., positive vs negative evidence) are useful at different times. I am fairly flexibly interested in many aspects of language and concept learning, so if you have an idea or a topic, we might be a good match even if I haven't listed it explicitly.

My experiments nowadays are performed online with adults. Sometimes they can be administered via Survey Monkey but they are usually coded up in javascript. Thus, in addition to an interest in these topics, my main requirement in an honours student is the ability to code. (You don't have to know javascript - if you know another language, it's quite easy to pick up at the level you'll need to; but if you don't know how to code, then you probably won't be able to learn it on top of all of the other honours requirements.)

My general approach often relies on a combination of computational modelling and the aforementioned human experiments. The computational modelling is largely Bayesian, which means it explores how "ideal learners" update their theories in response to new data. You don't need to know how to model: there are many interesting honours theses we can do anyway. That said, if you have any modelling interest or background, that's a bonus!

I am on fellowship right now so will not be taking many honours students, but I'm always happy to take a few if you are especially keen and a good fit to my interests.

Dr Michael Proeve

Room 727 Hughes Building; telephone: 8313 8318; email: michael.proeve@adelaide.edu.au

My current research interests are broadly in two areas. My research interests specifically include: (1) the emotions of shame, guilt, remorse and regret; (2) mindfulness and self-compassion. More generally, I am interested in broad areas of clinical and forensic psychology.

Dr Rachel Roberts

Room 523 Hughes Building; telephone: 8313 5228; email: rachel.roberts@adelaide.edu.au

I am interested in supervising projects related to my research interests which include child and adolescent health psychology including chronic illness, disability and stigma, and child and adolescent neuropsychology. However, please note that conducting research at honours level with clinical populations can be complex and many of these research areas are more suited to research at postgraduate levels. I do not have any projects in these areas 'ready to go' for an honours student.

I am interested in supervising a project in the area of prejudice and stigma in relation to people with facial differences. For children and adults with congenital craniofacial conditions differences in appearance are common and the response that they receive from the public in response to their appearance is a frequently reported concern. Previous work has shown that people with a facial difference were not afforded more personal space in a busy street in Adelaide, however I am interested in testing whether using a different way of assessing prejudice (eg in a more crowded setting) or by using an Implicit Association Test whether prejudice is present. This project would be co-supervised by Amanda Gierasch, Psychologist, Women's and Children's Hospital.

Dr Aspa Sarris

Room 718A Hughes Building, telephone: 8313 6144; email: aspa.sarris@adelaide.edu.au

I am willing to discuss the supervision of research projects in the area of organisational psychology. My primary research interests include:

- organisational culture, including the methods for assessing culture and organisational values.
- person-organisation fit in a range of work settings
- factors that affect individual and organisational well-being
- work-life balance
- individual differences (attitudes, values, personality).

Dr Carolyn Semmler

Room 507 Hughes Building; telephone: 8313 4628; email: carolyn.semmler@adelaide.edu.au

My interests are in psychology and law with a particular emphasis on eyewitness testimony. The approach I take is to apply theory (usually from basic research on memory, decision making and social influence) to understand when and why witnesses might make mistakes and how police and court procedures can be improved to avoid them. A major variable of interest to me is identification confidence but I am also interested in the other variables used by police and the courts to assess the accuracy of identifications. Below are some broad areas of investigation that I have explored. A thesis topic in any of these areas would be fine but I'm open to negotiating ideas with students.

1) The application of signal detection to eyewitness identification tests

When a witness is required to attempt to identify a suspect from a line up, they are trying to use an imperfectly stored memory trace to distinguish innocent suspects and known innocent foils from the perpetrator. Despite the seemingly simple nature of this task, we do not have a satisfying account of how witnesses do this. Recent applications of global matching memory models to this task have revealed some important factors that govern the decision process, but much more work needs to be done to provide and test a model that accounts for what we already know about eyewitness accuracy. What are the features of these models? How well will they predict eyewitness identification data? How do they need to be changed to better account for eyewitness memory performance?

2) The dynamic interaction between witnesses and interviewers

During an interview a witness may be given feedback about their responses to questions. How does this alter the accuracy, grain size and confidence of the answers? Should interviewers try to build rapport? How do the answers the witness provides impact on the interviewer's beliefs about the witnesses' memory? We would welcome enthusiastic students who want to contribute to improving the interviewing techniques used by police here, in the US and the UK.

3) The use of face matching for identification in policing and security

New technologies that use facial images to identify people have been deployed by governments and private companies around the world. Part of the process of identifying people involves human judgments combined

with information from automated biometric systems. How well do humans perform at this task? What are the markers of accuracy and what are some predictors of individual differences in face matching abilities? How do jurors deal with forensic face comparison evidence? What are some methods for improving face matching ability?

Anyone interested in these research areas should come and see me, but be prepared, I'm much more likely to supervise you if I can see that you have thought carefully about a research area, read and understood at least some of the key research and have clear answers to the following questions:

Why is the research idea you have worth investigating?

How would you manipulate the key variables of interest?

What are some possible confounds you might need to deal with in the design?

Dr Peter Strelan

Room 515 Hughes Building; telephone: 8313 5662; email: peter.strelan@adelaide.edu.au

My research interests are broadly in the area of justice and forgiveness. I have several different projects available. This year they will probably centre around the following:

1. The relation between trust and forgiveness in interpersonal relationships.
2. Revenge fantasies.
3. Why the law is an ass: When laypeople say they want justice, do they really mean revenge?

Prof Deborah Turnbull

Rm 721 Hughes Building; telephone: 8313 1229; email: deborah.turnbull@adelaide.edu.au

Professor Turnbull is offering up to two projects this year as follows:

1. Psychological health and wellbeing in middle-school students at Blackwood High;
2. Cross cultural competency in first year Psychology students;

Dr Lynn Ward

Room 517 Hughes Building; telephone: 8313 3182, email: lynn.ward@adelaide.edu.au

I am interested in supervising projects in the area of ageing; in particular, I would be pleased to discuss topics related to:

- well-being in older adults;
- exercise and health habits in older adults;
- meta-cognitive awareness in older adults;
- psychosocial development; including social and emotional functioning.

I'm also available to supervise any topic of mutual interest that can be negotiated. Some recent projects that do not concern ageing that I have supervised include:- self-efficacy and healthy eating in young adults; impact of text messaging while driving; attachment style and processing emotional information; body image in young adults; resilience in young adolescents.

Emeritus Professor

Emeritus Prof Ted Nettelbeck

Room 416 Hughes Building; telephone: 8313 3764; email: ted.nettelbeck@adelaide.edu.au

I am willing to consider any project suggested by a student but I can suggest possible research topics that may be of interest. My particular interests are the application and development of measures of timed performance. Most commonly this research has involved inspection time or reaction times, to study individual differences in basic information processing among adults and/or children; either (a) in relation to performance on tests of mental ability; (b) in association with intellectual disability; (c) in relation to childhood development or (d) to ageing. Inspection time has been measured in a number of different ways and a worthwhile Honours project might involve testing relationships among these.

Another task that has been widely used is the Coding/Digit Symbol subtest from the Wechsler scales; and there are issues around that test that could generate an Honours project.

I have frequently supervised projects relating to: (a) intellectual disability, particularly training and work-related issues; (b) cognitive abilities; (c) theories of intelligence including emotional intelligence and “noncognitive” variables drawn from investment theory; (d) cognitive ageing; (e) speeded performance; (f) the psychology of music, particularly with respect to talented performance and performance anxiety. Recent claims that “music is the key to learning language” and that “melodies presented vocally (are) remembered better than those presented instrumentally” would possibly make interesting Honours projects.

Recent Honours projects supervised have involved disability awareness training, music performance anxiety, intellectual curiosity as a personality dimension, perfectionism and cognitive skills relevant to older drivers, music training and learning a tonal language, the relevance of “flow” to sporting achievements. Recent post-graduate research supervised has been in the areas of: (a) the relevance of laboratory speed measures to an understanding of intelligence; (b) predictive markers for deviation from normal, successful ageing; (c) effects of chemotherapy on cognition; (d) nutrition and cognition; (e) testing skills of older drivers; (f) defining intellectual curiosity.

Adjunct Associate Professor

A/Prof David Panter

Chief Executive Officer, Central Adelaide Local Health Network, Margaret Graham Bldg, RAH, North Terrace

Telephone: 8222 0800; email: david.panter@health.sa.gov.au

My interests relate to issues of health and health services – in particular I am concerned with behavioural change at both organisational and individual levels; I have experience of leading large scale change in complex organisations and am keen to explore organisational learning processes; at an individual level I am concerned with system, or service design, that enable individuals to better comply with treatment and care regimes, often requiring changes in behaviour, attitudes and beliefs.

Research Fellows & External Supervisors

In addition to staff within the School, there are further possible research opportunities that vary from year to year. Sometimes an "internal" supervisor is needed in a joint supervision arrangement: the matter should be discussed with the Honours Coordinator.

Dr Reza Abdollahnejad

Email: mreza.abdollahnejad@gmail.com

My primary research interest focuses on addiction, particularly pathological gambling and substance use disorders. I am also interested in the application of cognitive behaviour therapy, dialectical behavioural therapy and acceptance commitment therapy in treatment of mental health disorders, primarily anxiety disorders, addiction, depression and personality disorders.

Dr Matthew Baldock

Centre for Automotive Safety Research, University of Adelaide

Telephone: 8313 5887; Email: matthew@casr.adelaide.edu.au

The Centre for Automotive Safety Research is an independent research group focussing on issues related to road safety. Although it is based in the Faculty of Engineering, Computer and Mathematical Sciences, CASR is a multidisciplinary team, consisting of researchers with backgrounds in engineering, psychology, health and statistics. To get an idea of the sort of work we do, consult our home page (www.casr.adelaide.edu.au).

My research has been concentrated primarily in the road user or human factor aspects of road safety, with a particular focus on older drivers and motorcyclists. My PhD thesis was concerned with the self-regulation of the driving behaviour of older drivers (i.e. the extent to which older drivers modify their driving behaviour in accordance with their driving ability). However, I would be interested in supervising suitable projects

related to any road user issue: young/novice drivers, speeding, drugs/alcohol, fatigue, driver distraction et cetera.

Dr Emily Brindal

CSIRO, Animal, Food and Health Sciences, Gate 13 Kintore Ave, Adelaide

Telephone: 8305 0633; Email: emily.brindal@csiro.au

My research interests broadly fit into the areas of health and social psychology. I am interested in applied research which investigates how people interact and the way in which social factors such as interpersonal relationships, group size and gender influence eating behaviours. I currently work developing healthy living interventions which aim to help people achieve and maintain positive behaviour change. These interventions are designed using established behavioural theories and public health messages. I also have experience using and developing information technologies (website and mobile phone) and testing how these can be used to collect data and to deliver interventions.

Dr Marcus Butavicius

Senior Human Factors Scientist, National Security & Intelligence, Surveillance & Reconnaissance Division, DSTO.

Telephone: (08) 7389 6097, Email: marcus.butavicius@dsto.defence.gov.au.

I have two main work interests at DSTO and I would be interested in supervising projects in both of them. The first research area investigates how people search for information in very large documents sets and assessing how software tools (such as document visualisation and text analysis) may help them. The second area involves research into the human aspects of cyber security, e.g., looking at what influences the security principles people apply when using computers. I also have experience in human face recognition and how people interpret the output of security screening devices and would be interested in supervising projects in these areas as well.

Dr Dragana Calic

National Security and Intelligence, Surveillance and Reconnaissance Division, Defence Science and Technology Organisation (DSTO)

Phone (0)8 7389 5517; Email: dragana.calic@dsto.defence.gov.au

As part of my work at DSTO, I conduct research and help apply psychological principles to various areas of national security, intelligence analysis, and information security. I am happy to supervise in any of these or related areas. More specific topics may include examining different aspects of social media (e.g., the use of social media in crises or other situations; how people engage and influence in interactive online settings); analysis and understanding of textual *data* shared online (e.g., developing appropriate methodologies for how to analyse different data types); and, decision making in online settings (e.g., how we use our computers for work and social purposes). I also have background in face recognition, and would be more than happy to supervise on various aspects of human face recognition (or face matching), by exploring various factors that may affect human decision making in such settings.

Dr Janine Chapman

Cancer Prevention, Flinders University and the Cancer Council of South Australia

Telephone: 7221 8472; Email: janine.chapman@flinders.edu.au

My primary areas of research are in health and social psychology, with a focus on lifestyle behaviours (such as diet, physical activity, alcohol consumption) and their role in the prevention of chronic disease.

I am interested in supervising Honours, Masters or PhD students working in the area of health psychology and / or public health communication with a focus on cancer prevention. I am particularly interested in the development and testing of novel, brief interventions to change health behaviour. I have a number of studies suitable for Honours projects in this area.

In 2015 I will additionally be co-supervising with Prof. Carlene Wilson and colleagues at Cancer Council SA / Flinders Centre for Innovation in Cancer.

More broadly, I am interested in supervising projects in the following areas:

1. The impact of expectancies (or “the placebo effect”) on physiological and psychological wellbeing. See: Crum AJ Langer EJ. Mind-Set Matters: Exercise and the Placebo Effect. Psychological Science 18(2) 165-171, 2007. [dx.doi.org/10.1111/j.1467-9280.2007.01867.x](https://doi.org/10.1111/j.1467-9280.2007.01867.x)
2. Motivating and maintaining improved health-related lifestyle choices in mid-life and older adults
3. Strategies to prevent relapse of health behaviour change
4. Workplace health interventions, particularly in relation to exercise
5. Web-based health interventions

Dr Nadia Corsini

Senior Research Officer in Cancer Control Programs at Cancer Council SA.

Telephone (08) 8291 4382 Email ncorsini@cancersa.org.au

My areas of interest are applied and health psychology with a focus on behavioural determinants of health behaviour and risk factors for cancer and obesity.

I am willing to supervise a student on a project that examines people’s understanding of the health implications of sedentary behaviour. Sedentary behaviour is “any waking behaviour characterised by an energy expenditure ≤ 1.5 METs while in a sitting or reclining position” [1]. A growing number of studies have linked high amounts of sedentary behaviour with an increased risk of cardiovascular disease, unhealthy weight gain and some cancers, and this risk is independent of the level of structured physical activity undertaken. The Australian Government recently introduced information about reducing time spent in sedentary behaviours into their physical activity guidelines. However, as this public health message is relatively new there may be confusion around this message. Currently, it is not known what people understand by it and whether they would be motivated to avoid too much sedentary behaviour. How the message is framed might influence its effectiveness. A suitable project could look at the impact of message framing on people’s understanding of the message and likelihood to motivate health behaviour.

The project will be co-supervised with Janine Chapman, Postdoctoral Research Fellow from the Flinders Centre for Innovation in Cancer janine.chapman@flinders.edu.au

1. Sedentary Behaviour Research Network (2012) App Phy Nutr Metab, 37: 540

Dr Vanessa Danthiir

Research Scientist, CSIRO Animal, Food and Health Sciences

Telephone: 8305 0605; email: vanessa.danthiir@csiro.au

My broad area of research is individual differences in cognitive abilities. My research at CSIRO focuses on investigating how nutrition/dietary factors and lifestyle factors relate to cognitive performance, cognitive decline in older adults, and mood using both cross-sectional methods as well as examining the effect of dietary interventions (e.g., nutritional supplements).

I currently supervise postgraduate students in projects examining relationships between historical diet and cognitive abilities and cognitive change in ageing, and nutrition and subjective wellbeing. I am also interested in examining relationships between physical activity and cognitive performance in older adults.

Other research interests include the factorial structure of cognitive speed, relationships between cognitive speed constructs and other cognitive abilities, and cognitive ageing.

I am happy to discuss projects in any of these or related areas.

Dr Kate Gunn

Visiting Research Fellow, School of Psychology

Cancer Council SA Post-Doctoral Research Fellow (Cancer Support), Flinders Centre for Innovation in Cancer, School of Medicine, Flinders University

Registered Clinical Psychologist

Telephone: 8291 4171, Email: kate.gunn@flinders.edu.au or kgunn@cancersa.org.au

My primary areas of research interest are in rural mental health, how best to provide psychosocial and supportive care to people affected by cancer (including carers) and more generally, the interactions between physical and mental well-being.

I would be particularly interested in discussing projects that relate to the health and mental health of rural cancer patients/ survivors (and their families) and barriers/ facilitators of help-seeking in rural communities (including testing various methods of information provision on health-services).

Projects in the areas of clinical psychology, online interventions and the well-being of older adults or farmers would also be considered.

I work closely with Professor Carlene Wilson at Cancer Council SA and at the Flinders Centre for Innovation in Cancer. We are open to using quantitative, qualitative or mixed methods and would also be pleased to speak to students who have their own research ideas in the field of cancer support.

Ms Miriam Henke

Miriam Henke Consulting, 9 Hillrise Road, Panorama

Telephone: 8277 2313 or 0403 374 69; Email: miriam@miriamhenke.com or miriam.henke@adelaide.edu.au

I am a psychologist in private practice, and also a qualified life coach. My research interests fit within the areas of health psychology, mind-body medicine, coaching psychology, and complementary and alternative medicines (CAM). My Masters thesis was a systematic review of mindfulness-based programs for fibromyalgia patients, and I recently supervised a Masters student on attitudes towards CAM and a proposed new treatment (psycho-nutritional combination therapy) for the treatment of mood disorders.

I would be interested in supervising students who are interested in similar research topics as I am, and who may like to be involved in further research into the proposed new psycho-nutritional combination therapy.

Dr Rebecca Heyer

Senior Human Scientist, National Security and Intelligence, Surveillance & Reconnaissance Division, DSTO

Telephone: 7389 4236 Email: rebecca.heyer@dsto.defence.gov.au

I work with the Biometrics Group at DSTO, a multidisciplinary team that includes four human factors specialists. The focus of my research has been on the human factors aspects of biometric (or forensic identification) technologies, with a focus on facial recognition systems. I am currently supervising postgraduate students in projects examining juror bias relating to forensic facial comparison evidence, and the impact of ageing on facial recognition performance.

In general, I am interested in supervising projects relating to the factors that impact on human performance in face matching, human-machine interaction, and bias in forensic decision making using technology. Some ideas include:

- The impact of plastic surgery on human face matching ability
- The relationship between image quality and human face matching performance
- Human face matching performance as a function of exposure time

Dr Sara Howard

Research Fellow, WISeR - Australian Workplace Innovation and Social Research Centre,

Telephone: 8313 1467; e-mail: sara.howard@adelaide.edu.au; Web: <http://www.adelaide.edu.au/wiser>

Sara has conducted research in several fields from psychology, primary health care and most currently in workplace innovation and social research.

A particular interest is health and ageing with her PhD conferred in 2007 investigating cognition (in particular working memory) and ageing. She has also managed a large randomised control trial looking at chronic disease and behaviour change in the elderly. Sara has a strong quantitative background but has experience with some qualitative and mixed method approaches.

Most recently she has been involved in projects investigating flexible work arrangements in acute care nurses and midwives and the impact of information and communication technologies in the workplace.

Sara and her colleagues currently welcome both quantitative and qualitative projects around:

- Exploring the health and well-being of older nurses, particularly mental health nurses;
- Examining the different work styles and issues for different generations within the nursing and midwifery workforce;

- Investigating how managers perceive their work life balance and their experience of flexible work arrangements in senior positions;
- Conducting case studies detailing examples of successful flexible work arrangements for nurses/midwives in the acute hospital sector; or
- Investigating the role of technology in the workplace and its impact on nurses and midwives, with particular emphasis on age differences.

Dr Daniel King

Postdoctoral Research Fellow, School of Psychology, The University of Adelaide

Email: daniel.king@adelaide.edu.au

My primary research area is the study of technology-based addictions, including online gambling, Internet use, and video game play. I am interested in the role of new digital technologies in gambling, including both monetary and non-monetary forms of gambling via the Internet and digital media, and the potential risks posed to young people by these new avenues for gambling. I am interested in supervising research that considers the psychosocial impact of social networking sites.

Research areas:

- Behavioural / Technological addictions
- Adolescent psychology

Dr Mark Mackay

Director, Complete the Picture Consulting Pty Ltd

Telephone: 0405 063 259; email: mark@completethepicture.com.au

Research Interests:

1. Health services research related, particularly relating to organisational, workforce and decision-making aspects of health service provision.
2. The use of novel means of data capture for observational studies (i.e., where the researcher watches and captures data about what they observe).
3. Modelling aspects of health service provision (e.g., to improve decisions about hospital bed use).

Workforce Related

There are a range of possible workforce-related projects that may be of interest to students. These range from smaller projects suited for honours or masters students to more in-depth studies suited for PhD studies. Workforce issues will present considerable challenges in the coming years and thus, such projects may be of interest to those seeking to work in human resource related fields.

Some of the specific projects include:

1. Validation of the observational investigation process for use in studying allied health or nursing professionals.
2. The use of observational investigation process to undertake workforce research in non-health industries.
3. Application of the observational investigation process methodology to investigate:
 - a. Health worker related issues such as the relationship between busyness and stress.
 - b. The impact of breaks or interruptions on workers, and
 - c. Novel or researcher instigated issues (though clearly being of benefit/relevance to the subject is important).

These projects are likely to suit students who have existing relationships with an organisation where such studies could be undertaken.

Observational Studies Related

Observational studies have been conducted in many areas in the past. The ability to collect data more quickly, more reliably and in greater detail using cheap off the shelf technology now exists. The approach also provides new types of data for analysis compared to observational data captured by "pen and paper". The benefits of such technology have been exploited in recent workforce studies and its use is now being

investigated in the areas of drug and alcohol research. The iPad (and other tablets) make such approaches even easier to implement.

The new approach to the collection of observational data has benefits that could be applied in many different areas of research where observational methods can be applied, such as workforce related projects, organisational change/improvement related projects, drug and alcohol studies etc. Research students may also wish to develop their own projects based upon this observational approach.

Decision-making Related

Hospital Bed Modelling, e.g.,

1. Application of the compartmental flow model across many hospitals
2. Consideration of the rate of flow of patients at different times of year for a given range of diseases (e.g., does the winter bed crisis result a decrease in patient length of stay)
3. The ramifications of using different patient length of stay measures on health policy
4. The development of Bayesian belief networks for forecasting patient length of stay.

Mr Rin Minniti

Senior Clinical Psychologist, Warinilla Clinic, Drug and Alcohol Services South Australia, 92 Osmond Tce, Norwood.

telephone: 8130 7548; email: rin.minniti@health.sa.gov.au

Drug and Alcohol Services South Australia (DASSA) can offer external supervision for Honours and Masters level students who are undertaking thesis research into drug and alcohol related issues.

DASSA is involved in a broad range of issues relating to drug and alcohol use in society from prevention through to treatment of drug and alcohol dependence. It should be noted that in relation to research on clinical issues or clinical interventions, access to DASSA's clients is strictly limited for ethical reasons.

We are happy to explore or discuss any ideas for research no matter how preliminary or tentative. We can advise on the feasibility of the idea and give the student extra leads in refining the topic. We can recommend the DASSA library as a good place to start searching for ideas. It is open to the general public Monday to Friday, 9am – 5pm, and is located towards the rear of the building at 161 Greenhill Road, Parkside.

Prof Phil Mohr

Room 716 Hughes Building; telephone: 8313 5884; email: philip.mohr@adelaide.edu.au

I conduct research into health-related decision-making and behaviour, working primarily in collaboration with CSIRO's Food Futures National Research Flagship. My interests include:

- How people make judgements about health, food, or lifestyle choices.
- Non-rational processes in decision-making and willpower.
- Implications of the above for health communication and food-labelling strategies.
- Methodological issues in public health research.

I am available for limited Honours supervision.

Dr Candice Oster

Telephone: 0413 123 930; Email: candice.oster@adelaide.edu.au

My main area of interest is health psychology, in particular the use of qualitative research techniques to explore people's experiences of health and illnesses. I have a particular interest in the application of Foucault's work on 'Technologies of the Self' and theoretical conceptualisations of place and space on these experiences.

Kathryn Parsons

Behavioural and Cognitive Scientist, National Security and Intelligence, Surveillance and Reconnaissance Division, DSTO.

Telephone: (08) 7389 7953; Email: kathryn.parsons@dsto.defence.gov.au

My area of research involves applying psychological principles to human factors and organisational problems in areas such as information security, intelligence analysis and national security. I am an organisational psychologist and Adjunct Lecturer within the School of Psychology. I am interested in supervising students in any of those areas. Below are some more specific project ideas that I would be happy to supervise.

- Exploring the issue of internet piracy, or other common rule breaking behaviours more generally. Is there a consistent reasoning or do people rationalise these behaviours in different ways?
- Assessing social identity on social networking sites (e.g., Facebook, Twitter). For example, can people's perception of factors like trust, deception and privacy be used to predict their online self-disclosure?
- Examining the role of different social engineering strategies (or psychological manipulation techniques) in phishing emails (e.g., which techniques make people more likely to click on a link in an email, and are certain people more likely to be deceived by certain techniques than others?)
- Assessing people's susceptibility to fraudulent websites. For example, which aspects of a fraudulent website are most likely to deceive people?

Dr Sinéad Quinn

Social Psychologist, CSIRO Animal, Food and Health Sciences;

Telephone: 8303 8937; email: Sinead.Quinn@csiro.au

My work at CSIRO is in the areas of social-cognitive and applied health psychology. I am interested in understanding the relationship between implicit cognitive and affective processes and subsequent biases in attitudes, attributions and decision-making relating to health.

My current research interests include understanding the psychological drivers of food choice, in particular food avoidance. In addition, I am also interested in theories of individual differences, including the concept of self-regulatory capacity, as explanations for variation seen in health attitudes and the impact of these on health behaviours. I am available to discuss supervision on a range of topics including:

- What psychological factors underpin the uptake and maintenance of health-promoting behaviours
- How and what do people consider when make decisions relating to their health (or their children's health)
- How do implicit cognitive and affective associations impact health outcomes and decisions

Dr Damien Riggs

Email: damien.riggs@adelaide.edu.au

Damien (co-supervising with Clemence Due) is willing to supervise students with an interest in undertaking either a conversation analysis, membership category analysis, or discourse analysis of radio interviews on one of the following topics:

- 1) foster care
- 2) surrogacy
- 3) gay men and racism
- 4) refugees
- 5) fathering (including childlessness and pregnancy loss)

Students will need to be willing to transcribe the audio data, and must already have or be willing to learn the techniques of conversation analysis, membership category analysis or discourse analysis (suggested readings can be provided upon request).

The Robinson Research Institute

Neuromotor Plasticity & Development (NeuroPAD)

School of Paediatrics and Reproductive Health

Robinson Research Institute, Norwich Building, 77 King William Rd, North Adelaide

PROJECT 1.

Project background

Non-invasive brain stimulation techniques such as transcranial magnetic stimulation (TMS) can be used to test the excitability and connectivity of neural circuits in the human cortex. These techniques can also be used to measure and induce plastic changes in cortical circuits that are similar to those required for learning and memory. When used in combination with state-of-the-art electroencephalography (EEG), TMS can be used to directly and non-invasively measure the excitability, connectivity, and plasticity of cortical regions involved in higher-order cognitive control, and as a result may prove useful as a diagnostic tool for various neuropsychiatric disorders (e.g., Alzheimer's disease).

Project aims

This project will examine how combined TMS-EEG measures of cortical excitability, connectivity, and plasticity relate to cognitive function in healthy adults. A secondary aim will be to explore whether allelic variants of genes implicated as risk factors for developing Alzheimer's disease (e.g., *BDNF*, *APOE*) influence these TMS-EEG measures.

Methods and techniques

State-of-the-art TMS-EEG will be used to test the excitability, connectivity, and plasticity of the human cortex, and cognitive assessments will be performed using CANTAB (Cambridge Neuropsychological Test Automated Batteries).

Project available date

Anytime

Supervisory team

A/Prof Michael Ridding

8313 7592

michael.ridding@adelaide.edu.au

Dr Mitchell Goldsworthy; Dr Nicolette Hodyl; Dr Irina Baetu

PROJECT 2.

Characterising brain function in obesity

Project Background

We have a growing population of overweight and obese children and adults in our community and while we already know the detrimental effects of obesity on the cardiovascular system, we know very little about potential detrimental effects of obesity on the brain. Neuroplasticity—the brain's ability to change both structurally and functionally in response to experience—underpins learning and memory throughout life. There is some evidence linking obesity with poor cognitive function and a higher risk of Alzheimer's disease. It is plausible that impaired neuroplasticity plays a role in the relationship between obesity and impaired cognitive function. We will use cutting-edge non-invasive brain stimulation techniques to determine whether obesity impairs neuroplasticity and characterise the functional implications of an obesity-related impairment in neuroplasticity.

Project Aims

1. To determine whether obesity is associated with impairments in neuroplasticity.
2. To characterise relationships between neuroplasticity and cognitive function in obesity.

Methods and Techniques

This project will use state-of-the-art non-invasive brain stimulation techniques to measure neuroplasticity, such as transcranial magnetic stimulation (TMS) and the Cambridge Neurocognitive Testing Automated Battery (CANTAB) to measure cognitive function.

Project Available Date

February 2015

Laboratory Location

The Neuromotor Plasticity and Development Group laboratories are located within the Robinson Research Institute, 77 King William Road, North Adelaide (opposite the Women's and Children's Hospital).

Supervisors

Dr Ann-Maree Vallence

8313 1305

Ann-maree.Vallence@adelaide.edu.au

A/Prof Michael Ridding

8313 7592

michael.ridding@adelaide.edu.au

Prof Nicholas Burns

8313 3965

nicholas.burns@adelaide.edu.au

PROJECT 3

Research Group Name:

Neuromotor Plasticity and Development (NeuroPAD)

Overview of research group area/aims:

The Neuromotor Plasticity and Development Group conducts research to determine how the functional development of the brain is altered by early life exposures (preterm birth, fetal growth restriction, maternal stress and infection) and genetic, epigenetic and postnatal environment factors. Group members also aim to translate research outcomes into interventions and treatments to improve learning, memory, cognitive and motor function in vulnerable populations, and to improve therapies for recovery from injury.

The group is focused on two main complimentary activities using techniques such as non-invasive brain stimulation and electrophysiological recordings of brain and muscle responses. The first line of work is examining how being born too soon or too small influences the development of the brain's cortex, and how this affects a child's motor and cognitive abilities, their learning and memory. We are also using genetic, epigenetic, neuroendocrine and immunological techniques to pursue these questions. The second line of work involves the development and refinement of new non-invasive brain stimulation techniques for inducing functionally beneficial neuroplasticity in targeted brain regions. We are also exploring if these techniques are useful in reducing symptoms in conditions such as stroke and Alzheimer's disease. These techniques may also prove useful in improving motor and cognitive outcomes in preterm children.

Project Title: The Development of Motor Inhibition After Preterm Birth in Humans

Project Background/Aims:

Fine motor control of human hand and finger muscles is partly reliant in the activity in a special class of neurons called interneurons in the motor cortical areas. Healthy dexterous movements are thought to rely on a balance between the relative influence of excitatory and inhibitory interneurons on motor output neurons. Inhibitory interneurons controlled by the neurotransmitter GABA are thought to enable selective activation of the muscles needed for a given movement, by gating out or "inhibiting" interference from other muscles not involved in the movement. In humans, the relative strength of these interneuronal pathways can be assessed using a non-invasive brain stimulation technique called transcranial magnetic stimulation (TMS), and recording the electrical activity in the hand muscle. We have shown in term-born healthy children, adolescents and young adults, that the inhibitory pathways reach adult levels of responsiveness before the age of 10 years. We have also shown that children and adolescents born preterm (i.e. before 37 completed weeks of gestation) have reduced excitability in the motor cortical area of the brain and a reduced ability to perform fine motor tasks with their hands. Others have shown, using other techniques and tasks, that preterm children have difficulties inhibiting unwanted actions, and gating out stimuli not relevant to the task at hand. These lines of evidence suggest that preterm birth may alter or delay the development of the inhibitory interneuronal pathways in particular.

In this study, you will learn to use TMS and electromyography techniques, as well as behavioural tests of fine motor control, to examine intracortical inhibition in the motor cortex region of adolescents and young adults who were born preterm. You will test the hypothesis that intracortical inhibition is reduced in individuals born preterm, and that this is functionally evident as reduced manual dexterity when performing fine motor tasks. In terms of the big picture, the ability to modulate the activity of these inhibitory pathways is a key feature of neuroplasticity – the key mechanism underlying learning and memory. Preterm children commonly have difficulties with learning and memory. One underlying mechanism might be abnormal development of intracortical inhibition that adversely affects neuroplasticity.

References if applicable:

Pitcher JB, Schneider LA, Burns NR, Drysdale JL, Higgins RD, Ridding MC, Nettelbeck TJ, Haslam RR, and Robinson JS. (2012). Reduced corticomotor excitability and motor skills development in children born preterm. *Journal of Physiology* 590(22): 5827 – 5844.

Pitcher JB, Riley AM, Doeltgen SC, Kurylowicz L, Rothwell JC, McAllister SM, Smith AE, Clow, A, Kennaway DJ, Ridding MC. (2012). Physiological Evidence Consistent with Reduced Neuroplasticity in Human Adolescents Born Preterm. *Journal of Neuroscience* 32(46): 16410-16416.

Gilbert DL, Isaacs KM, Augusta M, MacNeil LK, Mostofsky SH (2011). Motor cortex inhibition: A marker of ADHD behavior and motor development in children. *Neurology* 76(7): 615-621.

List of Supervisors:

Dr Julia Pitcher Assoc Prof Michael Ridding Dr Luke Schneider

Contact Person: Dr Luke Schneider Phone 8313 1307 Email luke.schneider@adelaide.edu.au

PROJECT 4

Research Group Name: NeuroPAD and the Neonatal Research Group

Project Title: Cord blood miRNA expression profiles and childhood cognitive outcomes following preterm birth

Project Background/Aims:

Neurodevelopment begins early in fetal life, with disruptions to normal maturational processes, induced by preterm birth, underlying common neurodevelopmental problems. These affect normal postnatal motor, cognitive (including learning and memory) and behavioural development. In school-aged children, poor neurodevelopment is reflected by reduced cognitive and motor performance, and poor voluntary regulation of attention, emotion and behaviour. These factors predict reduced academic and economic success in adulthood, worse health outcomes and reduced life expectancy. Even subtle alterations in brain structural development and connectivity that occur in the perinatal period can have a significant impact on health and socioeconomic outcomes persisting into adulthood. This underscores the urgent need to identify early determinants of poor neurodevelopment, so that interventions can be introduced as soon as possible, where the brain is most responsive to treatment.

During the period from very preterm birth until term equivalent age, the brain is at a stage when neuroplasticity and re-organizational capacity are at their greatest. Given the current limitations of accurately assessing future neurodevelopmental outcomes, identifying cord blood biomarkers which aid in the prediction of later cognitive, neuromotor and neurobehavioral function would be a significant step towards efficient, targeted, effective interventions implemented at a time-point where their effects are likely to be greatest.

MicroRNAs (miRs) are short, non-coding RNA segments that participate in the post-transcriptional regulation of gene expression. While no studies to date have assessed cord blood miRs in the context of neurodevelopmental outcomes, recent data suggests placental miR gene expression is critical for proper growth and neurodevelopment of the fetus. Our preliminary data shows that miR expression is measurable in cord blood, and taken together with the published literature, they show potential as having predictive power to differentiate clinical outcomes. This will be the focus of the current study, in the context of predicting neurodevelopmental outcomes.

This study will aim to link child cognitive assessment data collected at 5 years of age following preterm birth, with cord blood microRNA profiles to identify novel cord blood biomarkers that predict poor cognitive outcome.

List of Supervisors: Nicolette Hodyl, Michael Stark, Julia Pitcher

Contact Person(s): Nicolette Hodyl Phone 8313 1303 Email nicolette.hodyl@adelaide.edu.au

Prof Michael Sawyer

Head, Research and Evaluation Unit, Women's and Children's Hospital;

telephone: 8161 7207; email: michael.sawyer@adelaide.edu.au

Professor Michael Sawyer provides supervision for students who wish to focus their research on the mental health of children, adolescents or families. A wide range of opportunities exists for research projects which focus on childhood or adolescent mental health problems, psychological factors relevant to childhood and

adolescent illness, and factors influencing the use of health services by children and adolescents. Students who wish to undertake projects in the Research and Evaluation Unit should contact Professor Sawyer to discuss their ideas.

Dr Amelia Searle

Senior Research Officer, Centre for Traumatic Stress Studies, School of Population Health, University of Adelaide

Telephone: 8313 1704; email: amelia.searle@adelaide.edu.au

I am happy to discuss potential projects in the following broad areas:

- Early childhood development and mental health, particularly during the preschool and early school years; how parenting, teaching practices, and children's internal strengths are associated with mental health, school adjustment and other developmental outcomes.
- Risk and protective factors for the development of mental disorder (e.g., depression, PTSD), and the related area of resilience.
- Sleep (in both childhood and adulthood) in relation to mental health.

Research projects in these areas generally involve questionnaire completion.

Dr Camille Short

NHMRC ECR Fellow, Freemasons Foundation Centre for Men's Health

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Dr Camille Short is a behavioural scientist and research fellow at the School of Medicine, University of Adelaide. She completed her PhD in behavioural science at the University of Newcastle in 2012. After which she joined the Institute for Health and Social Science Research at Central Queensland University as a post-doctoral research fellow for two years. Her research focuses on the development and evaluation of eHealth behaviour change interventions, with particular emphasis on persuasive design features and enhancing user engagement. Her work is cross-disciplinary, incorporating evidence and theory from health, social and cognitive psychology, computer science and engineering, marketing, exercise physiology, nutrition, oncology, and public health. She has attracted over 1 million AUD in research funding and currently holds a prestigious National Health and Medical Research Council Fellowship awarded by the Australian Government

Dr Lance Storm

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Research Areas:

Anomalistic Psychology, including Parapsychology: (i) quantitative analyses of theories and constructs that attempt to explain alleged paranormal phenomena (a.k.a. psi), (ii) quantitative investigations into the psychology of paranormal belief (e.g., testing correlates of psi belief), and (iii) interpretations of alleged paranormal phenomena in academia and the wider community.

Personality and Individual Differences including Analytical (i.e., Jungian) Psychology: (i) Archetype Theory and meaningfulness, (ii) qualitative aspects of symbols, including numbers and images, and their psychological impact and relevance to various cultures, (iii) comparative studies of psychological types using various Jungian 'type' measures and other personality measures. I have supervised students in the areas of anomalistic psychology, parapsychology, typology, gambling, and symbolic meaning.

Dr Phil Tully

School of Psychology and Freemason's Foundation Centre for Men's Health, The University of Adelaide
Research Fellow and Honorary Psychologist, Cardiac Surgery Research Unit, Flinders Medical Centre

Email: phillip.tully@adelaide.edu.au

My research interests are in clinical and health psychology with a particular interest in cardiovascular diseases. I am happy to discuss all health psychology projects and some topics might include:

- Neuropsychiatric function in cardiac patients
- Association between anxiety and depression disorders with heart disease risk
- Psychological barriers to participation in cardiac-exercise rehabilitation
- Adherence to daily monitoring of fluid intake and body weight in heart failure
- Efficacy and drop-out from psychotherapy in heart failure
- Impact of Axis-I disorders on cardiovascular outcomes and survival
- Overlap in cognitive and somatic depression and anxiety symptoms in heart disease
- Application of mindfulness to cardiac patients
- Geriatric care in cardiology
- Systematic reviews and meta-analysis

There is potential for students to contribute to ongoing projects and multiple datasets over a number of hospitals. Interested students can contact me to discuss potential projects and co-supervision can be arranged. Our research unit has a strong track record of publications and collaborative work in this area between Psychology, Psychiatry and the School of Medicine at Flinders Medical Centre.

Dr Matthew Welsh

Senior Research Fellow, Australian School of Petroleum, University of Adelaide. Room 302c, Santos Engineering Building, North Terrace Campus; telephone: 8313 8024; email: matthew.welsh@adelaide.edu.au.

I am an experimental Psychologist employed in the Australian School of Petroleum. I work primarily in the area of judgement and decision making, looking at how people's decision-making differs from rational predictions. This field offers insights into how people judge probabilities and value, shedding light on areas such as gambling, investment behaviours, risk attitudes and medical reasoning.

My interests range from the low level cognitive processes that lead to biases in decision making to real world applications relevant to the petroleum industry; that is, decisions made under conditions of risk and uncertainty, where all information may not be available and where costs for gathering data are high. I would be happy to consider supervising pure or applied projects in the following areas:

- Cognitive Biases – examining the underlying causes of unconscious deviations from optimal or rational decision making.
- Motivational Biases – looking at the effect of real and perceived reward and punishment structures on decision outcomes.
- Debiasing – generating and testing mechanisms for reducing or eliminating biases.
- Heuristic Decision Making – testing the ability of simple rules (heuristics) to make fast but accurate decisions in complex and uncertain environments.
- Elicitation – comparing methods of eliciting responses from people, to determine which most accurately capture their beliefs about the world.
- Expertise and Experience - comparisons between expert and novice decision makers' susceptibility to bias and responses to debiasing and elicitation techniques.
- Individual Differences – looking at whether certain traits (cognitive, personality or decision style) make people more or less susceptible to bias or more amenable to debiasing.

Dr Michael White

- Retired public servant and part-time researcher with the Centre for Automotive Safety Research (CASR) at the University of Adelaide
- Home telephone: 8276 7081; Home email: mawhite8@bigpond.com; Mobile: 0408 559 710

After teaching at the secondary and tertiary levels for about 15 years, I was a public servant with the SA government in the fields of road safety and workplace health and safety for about 25 years.

My university-based research has been in the area of visual perception, where my main current interest is White's Illusion (which can be found on a number of Websites). The discovery of the illusion in 1979 was described in a recent Scientific American article as having "changed everything in visual science". That is because the illusion seems to implicate 'top down' rather than 'bottom up' processes in the perception of lightness (shade of grey). The illusion is still of considerable interest to vision researchers because it provides a test case for attempted explanations of lightness perception at different 'levels of processing'. Three aspects of the illusion deserve to be further explored: dotted variants; coloured variants; and individual differences in the extent to which people experience such effects.

I also have some interest in visual crowding – as it occurs in amblyopic central vision and normal peripheral vision and possibly also in dyslexia. I have written some software in Visual Basic that could be used (or modified for use) in a research project.

I realise that supervisors who do not work full-time at the University can be difficult to contact. I am happy to be contacted at any time at CASR on my mobile, or at any reasonable time at home, and I will make every attempt to be readily available.

Prof Carlene Wilson

Cancer Prevention, Flinders University and the Cancer Council of South Australia; 202 Greenhill Rd, Eastwood; telephone: 8291 4345 (Cancer Council; Monday and Tuesday) or 7221 8473 (Flinders University; Wednesday and Thursday); Email: cwilson@cancersa.org.au or Carlene.Wilson@flinders.edu.au

I am Cancer Council South Australia Chair of Cancer Prevention (Behavioural Science). My primary area of research focus is the psychological and social determinants of behavioural and food choices that impact upon weight and health. I have a particular interest in risk evaluation in decision-making and the factors that influence perceptions of risk. I have undertaken research on predictors of both sun-exposure and alcohol consumption with a particular focus on young adults and am interested in the impact of social media of health compromising behaviour. I am happy to supervise research students (Honours, Masters or PhD) who are interested in working in the broad areas of health psychology or public health communication with a particular focus on cancer.

See also the entry (above) for Prof Deborah Turnbull, who is working with Prof Wilson on a project about consumer issues relevant to large-scale participation in colorectal cancer screening using biological markers. Both Deborah and I are interested in aspects of communication that impact upon uptake and maintenance of cancer screening practices, health as a priority in people's lives and the impact of culture.

In 2015 I will additionally be working with colleagues Dr Janine Chapman, Dr Ingrid Flights and Dr Kate Gunn on:

- (1) The impact of expectancies (or "the placebo effect") on physiological and psychological wellbeing. See: Crum AJ Langer EJ. Mind-Set Matters: Exercise and the Placebo Effect. Psychological Science 18(2) 165-171, 2007. [dx.doi.org/10.1111/j.1467-9280.2007.01867.x](https://doi.org/10.1111/j.1467-9280.2007.01867.x)
- (2) Strategies required to support rural cancer patients and families during and after treatment for cancer.
- (3) The impact of social media and linked APPS on lifestyle behaviours and the associated influence of social networks.
- (4) Motivating and maintaining improved health-related lifestyle choices among middle-aged women.

Prof Tony Winefield

[School of Psychology, Social Work and Social Policy](#) UniSA Magill Campus:

Telephone: 8302 4052: Email: Anthony.Winefield@unisa.edu.au

I am willing to supervise theses in the areas of unemployment, underemployment, or occupational stress.

Dr Ian Zajac

CSIRO Preventative Health Flagship, Phone: 8313 8817, Email ian.zajac@csiro.au

I am a research psychologist at the CSIRO. My main research interests are in two broad areas and I am willing to supervise research projects which broadly relate to either of them.

- 1) Individual Differences in Cognitive Ability: I am interested in all projects related to cognitive testing as it relates to human intelligence. However, I am particularly interested in the measurement of intelligence

using alternate modalities to vision, which has been relied upon almost extensively throughout the history of intelligence testing. My PhD project involved the development of new Auditory tests of intelligence in order to improve the assessment of IQ constructs. The development of new tests - such as in the auditory modality - can potentially improve the measurement of cognitive abilities in the applied psychology setting, such as in the detection of neurodegenerative disease and learning disorders in children, for example.

2) Health Behaviour: As part of my research at the CSIRO I am interested in the determinants of successful decision making as it relates to health behaviours. I am particularly interested in exploring differences between the decision making styles of men and women, and how they might be manipulated to improve health behaviour in Australian males. Whilst I have looked primarily at cancer screening behaviour, it would be interesting to explore whether the same decision making processes are used across various domains such as healthy eating, physical exercise, smoking cessation etc.