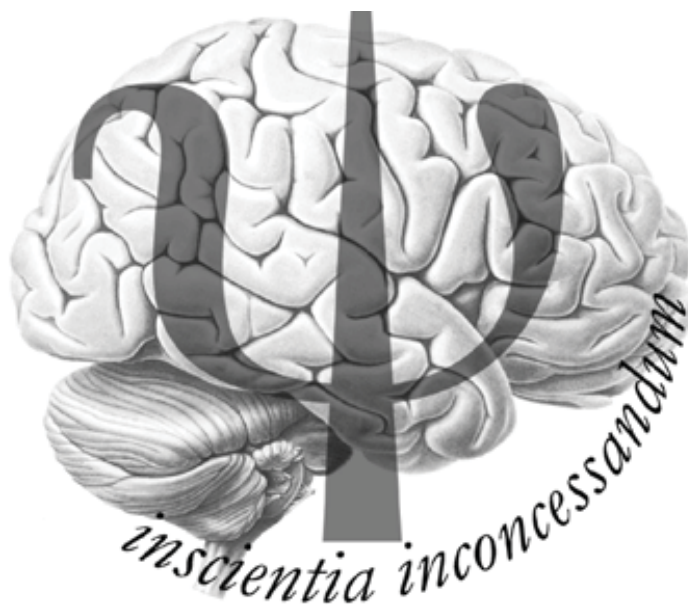


# PSYCOLLOQUY

## 2015

Department of Psychology  
University of Otago



19 November 2015  
Main Common Room  
University College

UNIVERSITY  
of  
OTAGO



Te Whare Wānanga o Ōtāgo  
NEW ZEALAND

# *Welcome to Psycolloquy 2015*

*This year we are pleased to have Drs Julien Gross and Emily Macleod give the keynote address titled*

## ***Testing the Salvation Army's Bridge Programme Model of Addiction Treatment. And where a Psychology degree can take you...***

*In 2011, the University of Otago entered into a partnership with The Salvation Army New Zealand, Fiji & Tonga Territory to examine the services that The Salvation Army provides through its nationwide social programmes. The Salvation Army prioritised an evaluation of their Bridge Programme Model of Treatment for harmful substance abuse as the starting point for the partnership.*

*The presenters will discuss the evaluation and the recommendations that came out of the evaluation that The Salvation Army will use to guide the future direction of the Bridge Programme.*

*In addition, there will be presentations of research by students from within the Department of Psychology and a prize for the best student presentation.*

# Psych colloquy 2015 Committee

Julien Gross

Karen Tustin

## Special thanks to

Michael Colombo

Cara Duffy

Department of Psychology Technicians

# Psych colloquy 2015

8.30 am BREAKFAST

---

9.00 am **Millie Johnston**

Examining the underlying mechanisms of the differential outcomes effect in pigeons using electrophysiology

9.15 am **Polly Chen**

Voluntary eye movement control deficits in aging brains: Consideration of neuromodulation as an effective therapeutic strategy

9.30 am **Rebecca Harding**

Counting sheep: Can poor sleep in children affect their maths?

9.45 am **Kate Brookie**

Can an apple a day keep the psychologist away? The role of fruit and vegetable consumption in psychological well-being of young adults

10.00 am **Shannon Westgate**

A trip down memory lane: Adults' recall of significant past events and the role of speculation

10.15 am **Ashley Hinten**

Four out of five ain't bad: Consistency of results and helper's behaviour in children's social evaluations

---

10.30 am MORNING TEA

---

11.00 am KEYNOTE ADDRESS

***Drs Julien Gross and Emily Macleod***

Testing the Salvation Army's Bridge Programme Model of Addiction Treatment. And where a Psychology degree can take you...

---

12.15 pm LUNCH

---

2.00 pm **Charmaine Strickland**

What a peer wants: Perspective-taking in adults

2.15 pm **Marea Colombo**

Adult use of Theory of Mind with in-group and out-group members

2.30 pm **Renee Hu**

Behaviour in bad taste: The association between perceived control and intergroup discrimination

2.45 pm **Hester Roberts**

Deception: How do we feel about it, and how do we detect it?

3.00 pm **Saleh Moradi**

Flourishing is not enough for a positive world: The underexplored role of morality in positive psychology

3.15 pm **Carrie Clifford**

“That made me really sad...”: The effect of mood induction on children’s reports of emotional events

3.30 pm **Kimberley Wake**

Does difficulty recalling childhood memories affect how we evaluate our childhood?

---

3.45 pm AFTERNOON TEA and STUDENT PRIZE PRESENTATION

---

*We would like to thank the  
Department of Psychology for supporting  
Psycolloquy 2015 -  
the Department’s presentation day for students’ research*

---

# KEYNOTE ADDRESS

## Testing the Salvation Army's Bridge Programme Model of Addiction Treatment. And where a Psychology degree can take you ....

***J. Gross<sup>1</sup>, T. Patterson<sup>2</sup>, R. Egan<sup>3</sup>, C. Cameron<sup>3</sup>, L. Hobbs<sup>2</sup>,  
and E. Macleod<sup>2</sup>***

*Departments of <sup>1</sup>Psychology, <sup>2</sup>Psychological Medicine, and  
<sup>3</sup>Preventive & Social Medicine, University of Otago*

In 2011, the University of Otago entered into a partnership with The Salvation Army New Zealand, Fiji & Tonga Territory to examine the services that The Salvation Army provides through its nationwide social programmes. The Salvation Army prioritised an evaluation of their Bridge Programme Model of Treatment for harmful substance abuse as the starting point for the partnership. The Salvation Army wanted measures of outcomes that would reveal the strengths and the weaknesses of the programme and identify what could be improved on.

The study began in November 2013 and took place over a 12-month period. We collected client data on entry to the Bridge Programme, at end of treatment, and at a 3-month follow-up period, when clients were back in the community. We measured substance use as well as health, social and vocational functioning, quality of life, and criminality. We also examined the role of spirituality in treatment outcome.

Participants who completed a therapeutic dose of treatment (n = 225) had significant reductions in substance use, and significant improvement in physical and mental health, family and social functioning, spiritual well-being, and quality of life. There was also a reduction in criminal activity and in negative consequences related to substance use. Importantly, all of these improvements were maintained at follow-up.

These findings provide evidence for the effectiveness of the Bridge Programme Model of Treatment. The presenters will discuss the evaluation and the recommendations that came out of the evaluation that The Salvation Army will use to guide the future direction of the Bridge Programme.

# Examining the underlying mechanisms of the differential outcomes effect in pigeons using electrophysiology

***M. Johnston, C. Anderson, D. Yuan, and M. Colombo***

*Department of Psychology, University of Otago*

When the rewards associated with the various stimuli of a match-to-sample task (MTS) differ from one another, animals are able to perform the task with much higher accuracy. This effect is known as the differential outcomes (DO) effect. Although the underlying mechanisms behind the DO effect remain largely unknown, there are currently two theories that are thought to account for it. The first is enhanced discriminability where DO enhances the discriminability between the sample stimuli, effectively making them easier to remember. The second is expectancy theory where rather than remembering the sample, the DO makes it easier for the subjects to remember the expected reward throughout the delay period of the MTS task. In the present study we examined which theory can best account for the DO effect using electrophysiology. Four pigeons were trained on a MTS task with food and no-food serving as the DO. Neuronal recordings were taken from the nidopallium caudolaterale (NCL), which codes reward, and the entopallium (ENTO), which codes visual information. In NCL we found sustained delay activity during rewarded trials only, indicating the pigeons were coding the upcoming reward and using expectancy theory. In ENTO, we found sustained delay activity during both rewarded and non-rewarded trials, suggesting the pigeons were also coding the sample stimuli and thus also using enhanced discriminability. Therefore it appears that a combination of both expectancy theory and enhanced discriminability provides the best account for the DO effect.

# **Voluntary eye movement control deficits in aging brains: Consideration of neuromodulation as an effective therapeutic strategy**

***P. L. Chen and L. Machado***

*Department of Psychology, University of Otago*

Reflexive eye movements, which are triggered by sudden changes in our visual environment, occur so automatically that we are often unaware of the movements. Consequently, voluntary control over reflexive eye movements involves considerable effort that depends critically on inhibition. In healthy aging, the processes underlying voluntary eye movement control have been found to be more adversely affected than reflexive processes, indicating less resiliency of top-down control mechanisms to age-related deterioration. Due to the sensitivity of voluntary eye movement control to aging and the importance of effective eye movement control for daily activities, it is highly valuable to understand the nature of age-related changes and the neural mechanisms that underpin them. In this review, we focus primarily on the antisaccade task due to its assessment of two key control functions that decline with adult aging: Reflexive eye movement inhibition and voluntary eye movement generation. With an ultimate view toward facilitating development of therapeutic strategies, we systematically review the neuroanatomy underpinning declines in eye movement control with adult aging and natural mechanisms that kick in to compensate for such declines. We also explore the potential of non-invasive brain stimulation to counteract aging deficits by optimising remaining neural resources and exploiting natural compensatory mechanisms. Given the evidence that anodal tDCS may be able to boost these compensatory mechanisms and benefit non-oculomotor cognitive performance, we put forward this neuromodulation technique as a potential therapeutic strategy for improving voluntary eye movement control in older adults.



# Counting sheep: Can poor sleep in children affect their maths?

***R. Harding<sup>1</sup>, B. Galland<sup>1</sup>, C. Lobb<sup>1</sup>, R. Luo<sup>1</sup>, A. Gill<sup>1</sup>,  
and E. Schaughency<sup>2</sup>***

*<sup>1</sup>Department of Women's and Children's Health, Dunedin School of Medicine*

*<sup>2</sup>Department of Psychology, University of Otago*

Sleep-disordered breathing (SDB) causes sleep disturbance and is linked with negative developmental progress in children in behavioural, cognitive, and academic domains. We investigate the associations between SDB, self-regulation, and the academic domain of numeracy in age eight children. SDB was measured through a combination of parent reported history of symptoms and physical examination of features related to SDB. Health and demographic information was provided by parent-completed questionnaires, alongside ratings of attentional and behavioural regulation. Ratings of general learning problems and overall teacher judgements for academic progress in mathematics were provided by teachers. Both parents and teachers rated self-management and communication skills. Researchers administered numeracy tasks assessing addition and subtraction facts, computation, and application. Preliminary analyses (n=154) show a significant negative correlation with SDB symptoms and the academic domain of numeracy ( $r=-0.24$ ,  $p=0.005$ ). Given that self-regulation skills are predictors of achievement, and that self-regulation skills make significant contributions to predicting SDB symptoms ( $\beta= 0.02$  to  $0.26$ ,  $p=0.028$  to  $<0.001$ ), we then explored whether these self-regulation skills mediated the links between SDB and numeracy performance. The results may point to the need to screen for potential sleep difficulties when exploring possible barriers to children's behavioural and learning progress, with referral for further evaluation and possible intervention as appropriate.

# Can an apple a day keep the psychologist away? The role of fruit and vegetable consumption in psychological well-being of young adults

***K. Brookie<sup>1</sup>, A. Carr<sup>2</sup>, M. Vissers<sup>2</sup>, and T. Conner<sup>1</sup>***

*<sup>1</sup>Department of Psychology, University of Otago*

*<sup>2</sup>Centre for Free Radical Research, University of Otago, Christchurch Campus*

Research has highlighted the link between what we eat and its potential to influence the way we feel. The physical benefits of fruit and vegetable (FV) consumption are well established, and more recently, evidence suggests your 5+ a day could promote psychological health too. There is growing evidence for a 'food-mood' relationship, in which greater FV consumption is associated with indicators of wellbeing, such as life satisfaction and reduced depression. The current project is a randomised control trial (RCT) investigating whether increased consumption of FV in young adults can improve psychological well-being across a two week period. This RCT tests, (a) the effectiveness of both FV supplementation and a mobile-phone based Ecological Momentary Intervention (EMI) compared to control, and (b) whether increases in FV consumption are associated with improvements in psychological well-being. The results showed that participants in both experimental conditions had significantly greater daily FV consumption compared to control participants; however, only participants to whom we gave FV showed increased well-being over the two-week period. Furthermore, these improvements in well-being were mediated by increases in serum carotenoids in the blood. These results suggest that short-term changes in psychological well-being may be achieved through FV supplementation, but are better accomplished by giving people foods higher in carotenoids including carrots.

# **A trip down memory lane: Adults' recall of significant past events and the role of speculation**

***S. Westgate, E. Gallagher, J. Gross, R. Zajac, and H. Hayne***

*Department of Psychology, University of Otago*

When presented in Court, historical claims of sexual abuse often contain highly detailed descriptions including information about the weather, people's clothing, and what both the alleged victim and others thought, said, and felt during the event in question. Given that the delay between the alleged event and a trial can sometimes span decades, it is prudent to question the veracity of some of those details. In the present study, we used an experimental analogue to examine the detail contained in adults' retrospective reports of important events in their lives. In Experiment 1, we asked adults to recall 4 events—their first day of school, their first kiss, their loss of virginity, and their first day of university. The results suggest that adults are limited in their ability to recall the specific details of past experiences. The longer ago the event occurred, the more difficulty participants had in answering the particularisation questions, and the less information they provided in their responses. In Experiment 2, adults were interviewed about the same events, but they were specifically asked to describe what could have happened for those details that they could not remember (i.e., speculate). When participants were interviewed again, 6-8 weeks later, we found that some of this speculation was repeated, either as speculation, or as fact. Taken together, the results of these experiments suggest that speculation may partly account for the highly detailed descriptions commonly contained in historical claims of sexual abuse.

# Four out of five ain't bad: Consistency of results and helper's behaviour in children's social evaluations

*A. E. Hinten and D. Scarf*

*Department of Psychology, University of Otago*

Adult humans easily predict and evaluate others' moral behaviour. Studying infants' evaluations provides insight into human moral foundations. Researchers have used the hill paradigm during which a climber struggles to reach a hill's summit and on alternating trials a helper pushes them to the top and a hinderer pushes them to the bottom. Infants' eye gaze results are inconsistent in regards to whether they look longer at subsequent helper or hinderer approaches. Hence the hill paradigm was replicated for experiment one. Additionally, the infants' statistical learning abilities were examined in experiment two based on the idea individuals are not entirely 'good' or 'evil' by manipulating the helper's helping consistency. Both experiments involved ten alternating helper and hinderer trials before both characters were approached once by the climber. In experiment two the helper actually hindered on their first trial (e.g., helped 4/5 trials). Tobii Studio 3.2.0 and a Tobii T60XL eye-tracker were used to record the infants' gazes during stimuli presentation, and they were verbally asked who they thought the climber would befriend and why. Results indicated infants looked equally long at the helper and hinderer when shown side-by-side. They also looked longer at whichever character was being approached regardless of their role. Furthermore, they were not more likely to report the climber would befriend their helper. We were unable to replicate prior studies or find evidence of statistical learning. There are multiple possible explanations for this. First, previous interpretations were not mutually exclusive and could be occurring simultaneously washing out any effects. Second, infants claimed "it's good to be friends" reflecting forgiveness norms. Third, a positivity bias made infants overly optimistic about interactions with antisocial individuals. Fourth and most likely, a lab effect could be at play where subtle methodological procedures are not reported and hence hard to replicate.

# What a peer wants: Perspective-taking in adults

***C. Strickland, T. Murachver, D. O'Hare, and T. Ruffman***

*Department of Psychology, University of Otago*

Adults without disorders affecting social reasoning have been shown to act egocentrically when tested with sensitive measures, perhaps due to the ease of accessibility of their own knowledge. We first sought to find out if this egocentrism for accessible information also affects people's predictions of others' desires. Undergraduate students were asked to listen to music samples and answer questions reflecting their own knowledge or liking for each song. They were then asked to estimate their peers' knowledge or liking for the songs. All participants underestimated the percentage of peers who would like or recognise a song (a false uniqueness effect). They also tended to give higher estimates when they liked or knew the song themselves than when they did not (a false consensus effect). This indicated a degree of egocentricity for both knowledge and desire. We were also interested in factors that may make egocentric behaviour more or less likely. Existing research has shown that cultural values may affect the degree to which adults act egocentrically. We found that priming participants to think about themselves as interdependent or independent beings did not affect their estimates of the proportion of peers who would know or like a song. However, the size of the false consensus effect increased with increasing trait vertical individualism. This suggests that cultural effects on perspective-taking may be better attributed to practice at taking another's perspective rather than to one's short-term mind-set.

# Adult use of Theory of Mind with in-group and out-group members

***M. Colombo and J. Halberstadt***

*Department of Psychology, University of Otago*

Although Theory of Mind (ToM) is primarily studied in children, recent studies have found that there is still considerable individual variability even in adults' performance on some ToM and perspective taking tasks. These individual differences do not necessarily reflect difference in adults' understanding of others' minds, but their ability or motivation to use that knowledge. One factor that may affect adults' motivation to use their ToM is whether they are using it with an in-group or out-group member. In the present study, we assessed whether individuals will use their ToM abilities in a game of Paper, Scissors, Rock more frequently with a member of their in-group (same gender) or out-group (different gender). Participants were randomly assigned to play Paper, Scissor, Rock against a male or a female competitor (computer simulated). Before participants chose a sign, they were told that "research has shown that most people choose scissors on their first turn," and that their opponent had been given the same tip. An analysis of participants' justifications for their choices showed that they used ToM more when they were playing against an out-group member than against an in-group member. These results indicate that participants may have been more motivated to use ToM when they played Rock, Paper, Scissors against an out-group member.

# Behaviour in bad taste: The association between perceived control and intergroup discrimination

*Q. Hu and J. Hunter*

*Department of Psychology, University of Otago*

Previous empirical studies have emphasised the role of self-esteem on intergroup discrimination, which may lead to the ignorance of other possible motives. The present study was designed to investigate the link between perceived control and intergroup discrimination. 95 New Zealanders played a computer animated ball-tossing (cyberball) game during which they received inclusion, ostracism, or no feedback from other ingroup members. And then they were given the opportunity to show intergroup discrimination through the allocation of hot sauce to an ingroup member (i.e., New Zealander) and an outgroup member (i.e., American). Participants' perceived control was measured three times (before the feedback manipulation, after feedback manipulation and then again following the completion of hot sauce allocation task) during the experiment by using scale questions. The result indicated that being ostracised by ingroup members led to decreased levels of perceived control and enhanced patterns of intergroup discrimination. Following the display of intergroup discrimination, ostracised participants experienced an increased sense of perceived control. Moreover, a positive correlation was found between the degree of intergroup discrimination expressed and increased levels of perceived control. The current research provided evidence on the role of perceived control as both motive and consequence of intergroup discrimination, which sheds light on the importance of perceived control when interpreting intergroup discriminated behaviour.

# Deception: How do we feel about it, and how do we detect it?

***H. Roberts and T. Ruffman***

*Department of Psychology, University of Otago*

The subjective experience of lying has been broadly theorized in deception research, with preference to the idea that humans feel either fear, guilt, or excitement (Ekman, 1985). Yet there is little in the way of empirical evidence to support these claims. Experiment 1 is the first study to experimentally validate how humans feel when they lie. Participants were interviewed on four controversial opinions they felt strongly about, voicing stances that are consistent with, and opposing to their true opinions. These interviews were video-recorded for Experiment 2. Results found that when having to lie, participants felt greater negative emotions and lower levels of happiness compared to telling the truth. The results are consistent with Ekman's theories, and the negatively-oriented moral stance towards deceiving others. Experiment 2 took inspiration from the considerable inability to accurately detect lies from truths. On average, the ability to detect lies sits at 54% (DePaulo et al., 2003). Here, a subset of videos from Experiment 1 and a Deception Detection Questionnaire were administered to understand how participants made lie-truth judgments. Results found that not only did accuracy rates remain at 54%, judges' personal point of view and speakers' perceived confidence were greatly relied upon in guiding lie-truth judgments. That is, while participants believed that observed deceitful cues determined their lie-truth judgments, ultimately cognitive biases and demeanour influenced their decisions.



# Flourishing is not enough for a positive world: The underexplored role of morality in Positive Psychology

***S. Moradi<sup>1,4</sup>, D. Garcia<sup>1,2</sup>, N. Van Quaquebeke<sup>3</sup>, and J.A. Hunter<sup>4</sup>***

*<sup>1</sup>Network for Empowerment and Well-Being, Gothenburg, Sweden*

*<sup>2</sup>Blekinge Centre of Competence, Blekinge, Sweden*

*<sup>3</sup>Kühne Logistics University, Hamburg, Germany*

*<sup>4</sup>Department of Psychology, University of Otago*

Much of the recent theoretical pieces on flourishing have adopted the PERMA model. According to this model, people will flourish by nurturing Positive emotions, Engagement, Relationships, Meaning, and Accomplishment (PERMA) as what they choose for their own sake. A weakness of this model, however, is that it neglects the impact of morality. To address this issue, moral centrality, i.e., the degree to which morality is central to an individual's identity, has been proposed as an indicator of morality among flourishing individuals. This study investigates the role of moral centrality as a moderator in the relation between flourishing, egoism and cheating behavior. 153 participants took part in the study on individual well-being and numeracy skills in return for one dollar, with the ability to earn up to 50 cents extra rewards based on their performance. In a cross-sectional design, participants solved 5 math problems, earning 10 cents per problem (with four opportunities to cheat). Next, they reported their flourishing, moral centrality and egoism. Our results showed that moral centrality significantly moderates the relation between flourishing and egoism. Further analysis suggested the interaction effects were only significant for high levels of moral centrality. Moreover, the interaction of flourishing and moral centrality predicts cheating behavior through egoism. We conclude that high moral centrality is essential for a flourishing person to show less egoism, and subsequently not to engage with immoral behaviors, e.g., cheating.

# **“That made me really sad...”: The effect of mood induction on children’s reports of emotional events**

***C. Clifford, W. Zhang, J. Gross, and H. Hayne***

*Department of Psychology, University of Otago*

In the present experiment, we investigated the impact of mood on 7- to 8-year-olds’ reports of personally-experienced, emotionally-laden events. Consistent with Bower’s Mood Dependent Memory (MDM) hypothesis, we predicted that when children’s current mood (i.e., happy or sad) matched the emotional valence of the event they were describing, they would report more information about that event. To test this prediction, we induced a positive, negative or neutral mood and then asked children to describe a happy or sad event. We found that the mood-induction procedure was very effective in inducing the target moods and that children reported events that they rated as being emotionally significant. Although children reported a large amount of information about both happy and sad events, there was no effect of mood induction on the amount reported for either emotion. Future research with larger sample sizes will be required to fully understand the role of mood in children’s reports. These findings have important theoretical implications for memory development and important practical implications for clinical interviews and children’s eyewitness testimony.

# Does difficulty recalling childhood memories affect how we evaluate our childhood?

***K. Wake, B. Cardwell, and R. Zajac***

*Department of Psychology, University of Otago*

The ease with which information can be brought to mind can exert a considerable influence on subsequent judgements. For example, if you find it difficult to recall examples of your own assertive behaviour, you may be more likely to conclude that you are an unassertive person. We are interested in how these *ease of retrieval* effects apply to how people remember childhood. Research suggests that experiencing difficulty recalling childhood events leads people to believe there are large parts of their childhood they cannot remember. We wanted to know whether people's perceptions of childhood happiness were susceptible to similar effects. That is, if people have difficulty recalling positive (or negative) childhood memories, are they more likely to conclude that their childhood was particularly negative (or positive)? And are these effects moderated by individuals' beliefs about how memory works? To answer these questions, we asked participants (N = 112) to complete an adapted version of the Beliefs About Memory Scale (Garry, Loftus, & Brown, 1994). We then asked them to recall events that occurred to them before the age of 10 years, manipulating the number (three or eight) and valence (positive or negative) of these events. Finally, participants rated how happy their childhood was and how well they could remember it. As expected, participants who were asked to recall eight memories reported remembering their childhood more poorly than those asked to recall three memories. However, perceptions of childhood happiness were not susceptible to ease of retrieval effects.

**Department of Psychology  
University of Otago, PO Box 56  
Dunedin 9054, New Zealand  
Tel: 64 3 479 7644, Fax: 64 3 479 8335  
Email: [psychology@otago.ac.nz](mailto:psychology@otago.ac.nz)  
Web: [otago.ac.nz/psychology](http://otago.ac.nz/psychology)  
Facebook: [facebook.com/PsychologyatOtago](https://facebook.com/PsychologyatOtago)**