Wednesday June 24

9:00 am – 12:00 pm

Workshop **Room: Oak Bay 1**

Effect Size and Introduction to Meta-Analysis

Siegfried L. Sporer

The aim of this workshop is to enable participants to calculate effect sizes for experimental and correlational designs and to introduce them to the principles of how to conduct a meta-analysis. Bring a laptop to get hands-on experience. Participants will learn to calculate effect sizes with a spreadsheet made available online beforehand for registered users. Participants learn the basic steps in conducting a meta-analysis and will be sensitized to the importance of assessing published meta-analyses critically.

Contents

- How to formulate a research question and hypotheses in meta-analysis
- Literature search (with PsychInfo and SSCI)
- Calculation of effect sizes (d, r, OR) with Excel (calculated in workshop use content available beforehand)
- Steps in preparing a meta-analysis (coding sheet, inter-coder reliability)
- Introduction to principles of Fixed-effects and Random-effects models
- Introduction to principles of moderator analyses and meta-regression
- Critically reading and interpreting meta-analyses (publication bias)

Prerequisites

Well-grounded knowledge of statistical techniques (ANOVA (t-, F-test, chi2, correlation, (multiple) regression)

Recommended reading

Cummings, G. (2012). Understanding the new statistics. New York: Routledge/Taylor & Francis.
Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis*. Thousand Oaks, CA: Sage Publications.
Sporer, S. L., & Cohn, L. D. (2011). *Meta-analysis*. In B. D. Rosenfeld, & S. D. Penrod (Eds.), Research methods in forensic psychology (pp. 43-62). New York: Wiley.

Presenter Biography

Prof. Sporer received his B.A. from the University of Colorado and his M.A. and Ph.D. from the University of New Hampshire. He is now Prof. of Social Psychology and Psychology and Law at the University of Giessen, Germany, after teaching at the University of Aberdeen, Scotland. Originally trained in social psycholoogy, his research interests expanded to basic research on facial recognition and its application to person identifications in criminal proceedings. He has also been interested in meta-memory, as well as various aspects of deception and its detection. In recent years, he has specialized in meta-analysis, primarily in the psychology and law area. He has published an introductory book chapter on meta-analysis, more than half a dozen meta-analyses, and is currently preparing six additional meta-analyses with colleagues around the globe for publication. Prof. Sporer has taught courses and workshops on meta-analysis to audiences with different levels of expertise, from Master's students to Ph.D. candidates to professionals at the American Psychology-Law Society.

12:00 pm – 1:00 pm

Lunch (not provided)

1:00 pm – 4:00 pm

Workshop **Room: Oak Bay 1**

A Graphic User Interface for Bayesian Hypothesis Testing

E. J. Wagenmakers, Richard D. Morey, and Jonathan Love

Bayesian hypothesis testing presents an attractive alternative to p-value hypothesis testing. The most prominent advantages of Bayesian hypothesis testing include (1) ability to quantify evidence in favor of the null hypothesis; (2) ability to quantify evidence in favor of the alternative hypothesis; and (3) ability to monitor and update evidence as the data come in. Despite these practical advantages, Bayesian hypothesis testing is still relatively rare. An important impediment to the widespread use of Bayesian tests is arguably the lack of user-friendly software for the run-of-the-mill statistical problems that confront psychologists for almost every experiment: the t-test, ANOVA, correlation, regression, and contingency tables.

In this workshop Eric-Jan Wagenmakers, Richard Morey, and Jonathon Love introduce JASP, an open-source, user-friendly "point and click" GUI that allows the user to carry out both classical and Bayesian hypothesis tests for standard statistical problems. Not only is JASP a fresh and innovative statistical software in its own right, JASP enables easy Bayesian analysis via Morey and Rouder's powerful BayesFactor software, but without users having to know R.

This three-hour workshop will provide attendees with a friendly, gentle introduction to the theory behind Bayesian hypothesis testing, and will illustrate the possibilities of of JASP using concrete examples. At the end of this workshop, participants should be able to carry out statistical analyses in JASP, interpret the output, and report the results.

Presenter Biographies

Eric-Jan Wagenmakers is Professor of Psychology at the University of Amsterdam. He studied with Raaijmakers at Amsterdam and earned his PhD in 2000 and then did postdoctoral studies with Roger Ratcliff and with Han van der Maas and Peter Molenaar. E.J.'s primary interests are in Bayesian inference, models of decision making, and the interaction between quantitative modeling and cognitive neuroscience. He co-authored with Michael Lee a book on Bayesian modeling (published in 2013 by Cambridge).

Richard D. Morey is an Associate Professor of Psychometrics and Statistics in the Faculty of Behavioural and Social Sciences at the University of Groningen; as of 1 January, he takes up a Senior Lectureship in Psychology at Cardiff University. He earned a PhD in psychology and a Master's degree in statistics with Jeffrey Rouder and Paul Speckman at the University of Missouri. His interests are three-fold: Bayesian cognitive modelling, Bayesian statistical inference, and the cognition of statistical evidence. He is the author of the BayesFactor software for statistical inference, which allows Bayesian analysis of common research designs in the social and behavioural sciences.

Jonathon Love is a Software Developer and Researcher at the University of Amsterdam. He completed his studies with Andrew Heathcote at the University Newcastle, Australia, and has over 15 years experience in software development. Jonathon's interests are promoting the use of liberated (free and open source) software in science and developing software which bridges the gap between methodologists and applied researchers. He is the lead developer of the JASP project.

4:00 pm – 4:30 pm

30-minute Break

4:30 pm – 5:00 pm

Opening Remarks **Theatre**

First Peoples' Welcoming Ceremony

5:00 pm – 6:00 pm

Keynote **Theatre**

Cognitive Neuroscience of Applied Memory
Marcia K. Johnson

The abstract will go here.

6:00 – 7:30 pm

Poster Session 1 **Lobby**

1-1. How well do police assess the accuracy of eyewitness identification decisions?
Mario J. Baldassari, D. Stephen Lindsay, & C.A. Elizabeth Brimacombe

We examined the impact of participant-witnesses' (PW) lineup identification decisions on participant-investigators' (PI) assessments of suspect guilt. Each PI worked with four PWs, each of whom saw a different crime video. For each crime, the PI selected a suspect from a database based on the PW's description, estimated the probability that the suspect was the culprit (p(S=C)), administered a lineup to the PW, and then re-estimated p(S=C). In previous studies using student PIs, eyewitness evidence substantially influenced PIs regardless of the accuracy of the witness. We present data from experienced police officer PIs as well new student PIs.

1-2. Testimony accuracy and communication processes of English-as-a-second language eyewitnesses
Meredith Allison, Cecily Basquin, Jennifer Gerwing, & C.A. Elizabeth Brimacombe

We investigated the communication processes of 17 pairs of English-speaking police officers and English-as-a-Second Language eyewitnesses. Eyewitnesses viewed a video of a mock theft and were later interviewed while being videotaped. Eyewitnesses provided more accurate details during free-recall questioning than during cued recall. All but one eyewitness contributed one or more inaccurate statements about the perpetrator; almost two thirds contributed one or more inaccurate statements about his vehicle. Eyewitnesses punctuated their testimonies with negative qualifiers, particularly during the identification phase. Eyewitness misunderstandings and their relationship to testimony errors will be discussed.

1-3. Making average songs sing: Contrast effects on music playlist ratings
Glen E. Bodner, Renee B. Matsalla, & Cody Tousignant

How does the order of songs in a music playlist influence their evaluation? We selected high, average, and low rated samples of Australian pop songs. Participants rated song samples presented in one of two playlist orders: high-average-low or low-average-high. Average song samples were liked more following low (vs. high) rated song samples (a contrast effect). Rating of the overall playlist ratings was also higher for the low-average-high playlist order. The contrast effect replicated when playlist quality was varied by omitting the last sample type. Implications for accounts of evaluative judgments, and for music marketing, are discussed.

1-4. The Beauty gets more attention than the Beast

Anna Maslany, Rebecca Stanczyk, Ashlee Ko, & Peter Graf

Attention to stimuli is determined by intrinsic attractiveness (positive valence) or repulsiveness (negative valence). The dominant theory suggests that attentional scope is broadened by attractive stimuli and narrowed by repulsive stimuli. We showed undergraduates picture sequences, with all pictures in a sequence from the same valence group, but valence group (extremely positive, positive, neutral, negative and extremely negative) varied across sequences. To assess attentional scope, after each sequence, participants completed Erikson flanker trials. We expected more flanker interference following the positive than negative picture sequences. Results provide partial support for the theory, but not for pictures with extreme valence values.

1-5. Testing the process-specific hypothesis of face processing

Allison Campbell & James Tanaka

Different cognitive strategies are recruited for the perception of faces than non-face objects. These differences argue that faces are processed by distinct cognitive operations. An alternative hypothesis is that extensive experience with faces underlie these encoding differences. We examine this hypothesis by testing inversion effects for Budgerigar bird experts who specialize in the recognition of individual birds and novices. Budgerigar experts were significantly impaired in their recognition of inverted Budgerigar images relative to novices. The Budgerigar inversion effect is similar to inversion effect that most people show for faces. These results suggest extensive experience in a domain recruit processes that are specific to domains of expertise.

1-6. The influence of haptic imagery and price information on perceived ownership

Sayo Iseki & Shinji Kitagami

Merely touching an object results in an increase in buyer's perceived ownership of the object. When touch is unavailable, an individual's perceived ownership of an object can be increased with haptic imagery. Haptic imagery has a similar effect on perceived ownership as does physical touch, but only when one's eyes are closed. In the present study, we examined whether the price of an object could impact this effect. Results showed that the price information impacted this effect of haptic imagery on perceived ownership. The implications of this finding for future research and practice were then discussed.

1-7. Interpolated testing can enhance or impair new learning: The importance of task switch frequency

Sara D. Davis & Jason C.K. Chan

Testing often potentiates new learning, but testing can impair new learning when test trials and new learning trials are intermixed. Chan and Davis (2014) showed that test-enhanced new learning occurs only when test trials and new learning trials are presented in separate blocks. In the current experiment, we examined whether the frequency with which participants must alternate between retrieval and encoding of new information determines whether testing enhances or impairs new learning. A remarkably consistent relation emerged, such that more frequent switches between encoding and retrieval led to greater test-impaired new learning.

1-8. When perspective shifts during autobiographical retrieval alter the phenomenology and content of later memory

Peggy L. St. Jacques, Alexis Carpenter, & Daniel L. Schacter

The perspective of autobiographical memories influences the way the personal past is retrieved, but how these retrieval-induced effects lead to long-term changes in memories is unknown. We examined whether shifting perspective (e.g., 1st person to 3rd person perspective) during retrieval altered subsequent memories. Preliminary results suggest that shifting from a 1st to a 3rd person perspective during retrieval led to a reduction in emotional intensity and reliving ratings, as well as the proportion of internal narrative content (e.g., 1st person referents, physical sensations, etc.) in later memory. Thus, the way that we retrieve the personal past can restructure later memories.

1-9. Bringing it close: Examining perceived frequency of proximally placed objects

Mona Zhu & Evan F. Risko

Organizing one's workspace such that objects are laid out based on their frequency of use can improve efficiency. Here we ask a related question: can the structure of an individual's workspace affect their perception of the frequency of object use? In the current study, participants used two coloured pens equally – one placed near the participant and the other further away – and were asked to judge how often each pen was used. Results reveal that participants perceived more proximally-placed pens as being used more frequently than their more distal counterparts. Implications of this study for workplace design will be discussed.

1-10. Does evidence that witnesses are using metacognitive monitoring and control affect mock jurors' evaluations of witness credibility?

Melissa Kavetski & **Jacqueline Evans**

The current study examined the effects of delay between the time of the crime and the testimony and "I don't remember" responses on mock jurors' ratings of witness credibility. Results indicate witnesses who respond to a question with, "I don't remember" are rated as less credible than witnesses who do not respond with, "I don't remember". Additionally, when there was a delay between the crime and the testimony, "I don't remember" responses may have less of an impact on credibility ratings. This supports the idea that jurors may use a witness's calibration as a tool for assessing credibility.

1-11. Ripple effect: How gang evidence can bias juror's memory

Alma Olaguez, Mitchell L. Eisen, Satchel Pratt, Gabrielle Aroz, & Nicole Virgen

Two experiments were conducted to examine the ripple effect of gang testimony on jurors' memory for the evidence. Participants viewed a simulated trial where clear reasonable doubt was established and the presence of gang evidence was manipulated (Exp1 Robbery; Exp2 Murder). Across experiments, in the no-gang condition, only one person out of 249 voted guilty after deliberations. However, when gang evidence was presented, guilty verdicts increased dramatically (Robbery = 10%, Murder = 19%). The majority of participants who voted guilty noted that the defendant's prior criminal history played a role in their decision; however no evidence of this was offered.

1-12. Does the suggestive interviewer lead the witness to false identifications? The impact on show-ups and repeated interviews

Yui Fukushima, Hiroshi Miura, & Yukio Itsukushima

How suggestive interviewing affects the performance of eyewitness identification using show-up and repeated interview procedures was explored. In both suggestive and control conditions, all eyewitnesses were shown a single person photograph who was not a culprit. The result showed that in the suggestive condition the eyewitnesses did make more false positive identifications than those who did in the control condition. As for the effects of repeated photo presentations, the eyewitnesses in the both conditions had strong tendency to maintain original identification judgments. These results teach us that a fair interviewing method must be used in any real criminal investigation.

1-13. Imagining the future self: How age influences our future self images

Sinué Salgado, Dorthe Berntsen, & Clare Rathbone

This study examines the impact of age on the quantitative features of future selves. A representative sample of the Danish population from different age-groups generated images of up to eight future selves which were dated and rated for vividness, positivity and emotional intensity. There were significant differences across age-groups on all ratings of the future selves. Positive correlations with age were found for vividness and emotional intensity, whereas positivity and distance from present correlated negatively. There was no correlation between age and number of selves generated. The findings are discussed in a life span developmental perspective.

1-14. Ageing, memory, and cognitive variability: Identifying individuals at risk for Alzheimer's disease

Thomas Morris, Jennifer Batchelor, & Melissa Slavin

Memory impairments typically characterise early Alzheimer's disease (AD) and often form the basis of diagnosis. However, such impairments are not always observed. One explanation is that conventional methods of central tendency can obscure detection of at-risk individuals. We examined the use of cognitive discrepancy analysis (CDA), an intraindividual method of examining memory and other cognitive task performance, in identifying individuals at-risk for AD (carriers of the APOE ε4 allele). We found that CDA, unlike central tendency methods, significantly differentiated ε4 carriers from controls. We suggest that intraindividual cognitive profiles, as well as single task performance, should be considered in diagnosis.

1-15. Remembering events: Reconsolidation and misinformation on declarative memory

John Dema-ala, Elisabeth Kreykenbohm, Dawn-Leah McDonald, Bertrand Sager, Daniel Bernstein, Jason Chan, and David Froc

The effects of interrupting declarative memory reconsolidation in humans have stimulated much debate on the status of the original memory trace – and whether it remains intact or has been overwritten after an individual has been provided with misinformation. In a follow-up study to a series of experiments by Chan and LaPaglia (2013), a noninvasive retrieval-relearning technique is used to impair declarative memory for visual events by attempting to induce reconsolidation-associated amnesia. An explicit recognition test was used to evaluate the stability of the original memory trace after experimental manipulation. Results, complications, and implications are discussed within.

1-16. Change detection and food packaging: Assessing the attentional effectiveness of Front-of-Pack nutrition labels

Qiwan Shi & Richard Wright

This study is an examination of the extent to which consumers notice nutrition labeling on food product packages when making purchase decisions. We used a change-detection task involving flickering images to determine the parts of packages that study participants paid the most attention to. Our results showed that different colour-codings affect the noticeability of nutrition labeling on food packaging. The implications of this research are potentially important for the food industry, and may guide our understanding of which types of nutrition labels are most noticeable and most effective.

1-17. Differences among trauma memories and the relationship between rehearsal and recall

Chelsea J. Melton, Ariel Luna, Christina A. Byrne, & Ira E. Hyman, Jr.

Participants provided narratives and ratings of their worst and positive life events. They then completed a packet of questionnaires including a stress survey, the Posttraumatic Stress Disorder Checklist (PCL) and the Beck Depression Inventory (BDI). For this poster, we will focus on comparisons within trauma types. Specifically, we have found several differences in how people rated different types of traumatic events. Overall, sexual assault and child abuse were rated differently than other trauma types. The differences in memories of different traumatic experiences may reflect differences in rehearsal, particularly the nature of rehearsal.

1-18. Change-blindness in a driving simulator: A test of motorcycle conspicuity
Bertrand Sager & Thomas M. Spalek

Motorcyclists are often involved in right-of-way collisions where the driver of a car "looked but failed to see" the motorcycle before turning left across the motorcyclist's path. Motorcycle safety research assumes that this is due to a lack of motorcycle conspicuity but this assumption has not been empirically tested. Two change-blindness experiments conducted while participants drove in a driving-simulator revealed that motorcycles are detected at least as often as cars in busy traffic environments. These results are inconsistent with the hypothesis that motorcycles are difficult to perceive, and instead suggest that future research should focus on driver judgement and attention.

1-19. Survival utility, false memory, and risky decision-making
Michael P. Toglia & Sarah J. Beard

Rating words for survival relevance increases veridical memory and false memory alike. This exploratory study addressed survival processing's effects on memory and risky decision-making. Participants studied DRM lists, made decisions, and completed a recognition test. Decisions were either survival-related or unrelated. Surprisingly, survival-related questions elicited riskier decisions. Processing type did not affect risk-taking nor memory accuracy. Liberal response bias led to higher accuracy than a conservative response bias, which may be adaptive. Results challenge survival processing advantages and suggest future research identifying survival -induced reductions in risk-taking. We contextualize the findings within theories that incorporate both true and false memory.

Thursday June 25

8:30 am – 10:00 am

Paper Session **Room: Theatre**

Relations between Trauma, Emotion, and the Accuracy and Distortions of Autobiographical Memory

Ageing and long-term memory: Results from a 10-year longitudinal study of flashbulb memories for the 9/11 attacks on the United States
Robert Meksin & **William Hirst**

A 10-Year Longitudinal Study of Flashbulb Memories for the 9/11 Attacks allowed us to contrast both flashbulb memory consistency and event memory accuracy in those above and below the age of 65 at the time of the attack. The older group did not differ on either measure in the first three years, but by year 10, a marked decline occurred in the older group, both for flashbulb and event memories. The findings are discussed in terms of the effects of ageing on well-consolidated memories.

The Estonia ferry disaster: Survivors' memory reports of a life threatening event
Emma Roos af Hjelmsäter, Lisa Öhman, & Pär Anders Granhag

This archival study examined eyewitness reports from a real-life, extremely stressful event; the sinking of the passenger ferry Estonia in 1994. The preliminary results suggest that there were some aspects that most survivors reported about, while other aspects were rarely reported. There were also noticeable differences between information from different senses. In all, there were both similarities and diversities in what and how the survivors reported about the event. The majority of diversities were due to omissions, and few false memories were found in this material. The results will be discussed in relation to eyewitness psychology and trauma memory.

The effects of traumatic life events on autobiographical memory specificity
Ingrid Flor

Previous studies emphasized the link between deficits in autobiographical memory (AM) and post-traumatic stress disorder (PTSD) and depression. This study examines the effect of traumatic life experience on AM specificity in the absence of PTSD and depression. Statistical analysis revealed a significant negative correlation between the number of traumatic events and AM specificity for this non-clinical group and a significant correlation between number of traumatic life experiences and over-general memory scores for positive and negative cue words, but no correlation with neutral cue words. The findings suggest that the number of traumatic life events is a predictor of psychological disorders.

The role of emotional arousal and valence in shaping autobiographical memory
Adam R. Congleton & Dorthe Berntsen

Research on autobiographical memory has shown that the amount of emotional arousal and valence people

experience during an event has significant impact on their later memory. However, it is often difficult to examine what happens when people initially experience events, as these events typically occur outside the laboratory. Here we will present recent research that utilizes a computer-based event simulation paradigm to control the emotional arousal and valence people experience during the encoding of an event. The results demonstrate the complex influence that arousal and valence have on what information people remember and on the accuracy of their memory.

Number of memories and ease of retrieval influence judgments about regret

Robert B. Michael, Gabriel Braniff, Maryanne Garry, & Elizabeth F. Loftus

Do you have many regrets? To answer that question, you might search your memory for evidence. But your answer might instead depend on how easy remembering feels, because the ease of remembering can quickly indicate how many experiences we have had. Do people rely on this feeling when thinking about regrets? We asked people to remember easy or difficult numbers of regrets, and then to rate how much regret they had. We found that people relied on both number and ease, suggesting that when we think about how many regrets we have, what matters most is quantity and missed opportunity.

Paper Session — Room: Esquimalt

Evaluations of the Meaning of Lineup Performance

Is ROC analysis a tool that should replace probative analysis in studying lineups?
Avraham Levi

In comparing two methods to detect the presence of a tumor, radiologists can be shown the results from methods used on patients. Their confidence judgments, a proxy for accuracy, create graphs of correct vs. mistaken identifications, enabling comparing the methods in differentiating the sick from the healthy. Lineup research is very different. Researchers create two distinct lineups. In target-present lineups, witnesses differentiate between the target and the foils. In target-absent lineups, witnesses cannot even differentiate between the innocent suspect and the foils. They have seen none of them. Eyewitness ROC curves are thus very similar to probative analysis.

The forgotten benefit of sequential lineups: Decision-times as a system variable
Siegfried L. Sporer

The "sequential superiority effect" has led to the adoption of sequential lineups in many places. To our knowledge, all laboratory studies have used photo lineups only. One week after a staged event, we compared live simultaneous with live/photo/video sequential lineups, using target-present and target-absent lineups (N = 150). Using within-witness comparisons of choosers in sequential lineups, false choices took significantly longer than rejection times of previously shown foils, d = 0.53. Furthermore, ratings of verbal and nonverbal behaviors of the videotaped decision processes significantly discriminated between correct and incorrect choices in both simultaneous and sequential lineups.

An ROC analysis of the diagnostic values of neutral and biased lineup instructions in discriminating between the presence and absence of a guilty suspect in a lineup
Yonatan Goshen-Gottstein & Liat Groner

We applied an ROC analysis to examine the diagnostic value of different lineup instructions in discriminating between the presence and absence of a guilty suspect. Lineup instruction differed in their stance regarding the possibility that the suspect does not appear in the lineup. We ran 900 participants, randomly divided between the instruction conditions. Participants viewed a video of a theft, and were subsequently presented with a six-person lineup. Our study provides the first ROC analysis of lineup instructions, and examined neutral, negative-bias and positive-bias instructions relating to the possibility that the suspect does not appear in the lineup.

Testing applied lineup theory using metacognitions: The relationship between memory strength, decision strategy, and identification accuracy
Jamal Mansour, Jessica da Costa, Jennifer L. Beaudry, & R. C. L. Lindsay

Applied lineup theory suggests that the stronger an eyewitness' memory for the crime is, the more likely it is that they will employ an effective a strategy when making a lineup decision. Metacognitions are a mechanism through which such a relationship may function. We questioned participant-eyewitnesses about their memory and their decision-making strategies. Memory strength and decision strategy did not interact; rather they affected identification accuracy similarly. Belief in one's ability to make an accurate lineup decision partially mediated the relationship between memory strength and accuracy. Metacognitions may be a useful avenue to explore in advancing lineup procedures.

The confidence-accuracy relationship in identity verification settings: Base rates, task orientation and the positive-negative asymmetry
Carolyn Semmler, Rachel Stephens, & James D. Sauer

In decision-making contexts such as identity verification or eyewitness identification, the objectively "correct" decision is unknown. Consequently, research has focused on independent markers of accuracy, such as confidence judgements. However, different confidence-accuracy (CA) relationships have been observed for positive and negative decisions, with positive decisions producing

stronger CA calibration than negative decisions. These experiments tested whether the positive-negative decision asymmetry extends to a face matching task. Overall, differences in CA calibration between positive and negative decisions were less severe for face matching (compared with recognition or eyewitness identification), but there was over-confidence for match and under-confidence for non-match decisions.

Paper Session Room: Oak Bay 1

Cognitive Biases, Hindsight Bias, Processing of Discrepant Information

Identifying the causes of auditory hindsight bias: Fluency misattributions and biased memory constructions

Philip A. Higham, Greg J. Neil, & **Daniel M. Bernstein**

Overestimating our ability to predict outcomes after knowing they've occurred is called hindsight bias (HB). HB has been demonstrated with both hypothetical (estimate outcome likelihoods for a naïve peer) and memory (recall own previous naïve estimates) designs. In four experiments, we compared auditory HB between these designs: Participants judged/recalled the audibility of muffled words either knowing their identities or not. We observed HB with both designs, but by focusing on whether HB interacted with a semantic priming manipulation, we determined that fluency misattributions and reconstructive memory errors were responsible for auditory HB in the hypothetical and memory designs, respectively.

The role of executive function in hindsight bias

Patricia I. Coburn, Katheryn E. Morrison, & Daniel M. Bernstein

To examine the role of executive function and hindsight bias (HB), we assigned participants to a specific distraction condition (no distraction, general attention, inhibition, switching, or working memory). Participants completed hindsight tasks (verbal, auditory, and visual), first without outcome knowledge (baseline condition), and then with outcome knowledge (hindsight condition). Participants completed the baseline condition without distraction and completed the hindsight condition while simultaneously tapping according to their distraction condition. We observed HB on all tasks; however, we observed no effect of distraction on any of the tasks. Results suggest that HB does not rely on inhibition, switching, or working memory.

The curious case of climate change: The role of epistemic emotions and epistemic cognition when learning contradictory content

Krista R. Muis, Marianne Chevrier, Gregory Trevors, Ivana Di Leo, & Cynthia Psaradellis

We examined the role of epistemic emotions in mediating relations between epistemic cognition, learning strategies, and achievement. In Study 1, students reported their epistemic beliefs, read contradictory texts, and reported the emotions they experienced and strategies implemented during learning. For Study 2, a think-aloud protocol was used to capture epistemic cognition and self-regulatory processes. For both studies, path analyses revealed that epistemic beliefs predicted epistemic emotions, which predicted the types of learning strategies students used. Emotions also mediated relations between epistemic beliefs and learning strategies. Finally, learning strategies predicted achievement and mediated relations between epistemic emotions and learning outcomes.

Myth busters: A classroom intervention to correct misconceptions about psychology

Andrew C. Butler, Sharda Umanath, Patrick O. Dolan, Ruthann C. Thomas, & Elizabeth J. Marsh

People often hold misconceptions about how the universe works. This study investigated: 1) the durability of change produced by the refutation method, a common intervention for correcting misconceptions; 2) whether practicing retrieving the correct information increases the efficacy of this method. Introductory psychology students received daily "Myth Busters" presentations that debunked misconceptions using the refutation method. For some myths, they took weekly quizzes to practice retrieving the correct information that refuted the misconception. The refutation method reduced students' belief in the myths; additional retrieval practice substantially increased retention of correct information and reduced the likelihood of reverting to the misconception.

No, you did that! Source errors in action memory

Nicholas Lange, Timothy J. Hollins, & Patric Bach

In three experiments (N=117) we used a novel paradigm (the 'YMCA' task) to investigate the mirror neuron account of the observation inflation effect (Lindner, Echterhoff, Davidson & Brand, 2010). As well as replicating the effect, we showed disowning of performed actions when retrieving observed actions. Despite contrary predictions, with concurrent load tasks availability of observed actions is not consistently decreased, while monitoring is consistently worse when actions were encoded under motor load. A basic divided attention account, consistent with the source monitoring framework, offers a better explanation of the source confusion in our data than the mirror neuron network account.

Paper Session Room: Oak Bay 2

Interviewing: Eliciting Quality and Quantity for Investigators

Why eyewitnesses of crime withhold coarse-grain information from memory reports
Nicole McCallum, Neil Brewer, & Nathan Weber

Eyewitnesses frequently withhold coarse-grain (general) information from their memory reports. Predicting that eyewitnesses behave this way because they perceive coarse-grain information to be uninformative, we developed and tested a perceived informativeness measure with results indicating that perceptions of uninformativeness significantly predicted eyewitness coarse-grain withholding. Perceived informativeness was then manipulated across a series of experiments to alter perceptions of the informativeness of coarse-grain details and increase eyewitness reporting of this type of information. Results confirmed the correlational link between perceptions of uninformativeness and coarse-grain information withholding but demonstrated the difficulty associated with changing these perceptions and altering this behaviour.

How do eyewitnesses use linguistic qualifiers and grain size to regulate their reports during the cognitive interview?
Elizabeth Fontaine & Carolyn Semmler

We used a naturalistic paradigm to test Ackerman and Goldsmith's (2008) dual-criterion model for metacognitive control and instructional demands during an interview. Specifically, we manipulated demands for detailed (informativeness instruction) and accurate ("do-not-guess" instruction) accounts and expected to induce unsatisficed-knowledge and satisficed-knowledge states, respectively. Linguistic qualifiers were expected to be used more often to communicate an unsaticficed state. Results suggest the informativeness instruction elicits finer-grained testimony without loss of accuracy and the "do-not-guess" instruction does little more when demand for detail is present. Qualifiers appear to be communicated in lieu of finer-grained responses when the informativeness instruction is absent.

The effects of social comparative feedback on grain size and confidence in eyewitness reports
Joanne Rechdan, James Sauer, Lorraine Hope, Melanie Sauerland, & James Ost

Social interaction can affect eyewitness reports and, more broadly, individuals' metacognitive processes. We investigated how social comparative feedback affects the metacognitive processes underlying the strategic regulation of eyewitness memory reports. In Study 1, participants received negative, positive, or no feedback about a co-witness's performance on a recall task. Participants exposed to negative or positive feedback reported more fine grain details than those in the control group. Selection of fine grain responses was positively correlated with participants' confidence in the accuracy of their answers. The effect of more salient, self-relevant feedback was examined in Study 2.

The police don't know, but the witness does: Using metamemory to identify questions with and without correct answers
Karlos Luna & Beatriz Martín-Luengo

Can witnesses metamemory identify whether a given question has been presented with the correct answer as alternative or without it? Participants watched a video about a bank robbery, and, after a filler task, answered questions with and without correct response following the plurality and the report options. Results showed that participants selected plural answers and the withhold option more often when the correct answer was not presented. Participants also rated consistently with higher confidence the questions presented with correct answer than without. This research highlights the many benefits associated with giving witnesses control over their memory report.

The effects of witness fatigue on misinformation
Tanjeem Azad, Carla L. MacLean, & D. Stephen Lindsay

Are witnesses who are fatigued more likely to recall misinformation than witnesses who are not fatigued? Does fatigue affect participants' subjective experience of remembering? We recruited participants from the Canadian Nurses Association to explore this issue. Fatigued and non-fatigued nurses viewed a simulated industrial incident, were exposed to misinformation about aspects of the incident, and then completed a memory test. Fatigue did not increase susceptibility to misinformation; however, people low on fatigue reported subjective experiences of remembering both misinformation and accurate information whereas people high on fatigue generally appeared to be more uncertain in their subjective ratings of their memory.

Paper Session — Room: Saanich 1

Social Factors in Remembering, Forgetting, and Decision Making

Trust, sociopolitical attitudes and beliefs about climate change.
Sven van de Wetering & Kenneth Muir

The present study examines the hypothesis that people who distrust strangers and the government, and who also lack of a sense of collective efficacy, will tend to deny the existence of climate change and other environmental problems. The study included questionnaire measures of belief in climate science, political cynicism, political efficacy, collective efficacy, generalized trust, the new ecological paradigm, social dominance orientation, and right-wing authoritarianism. The primary hypothesis is not supported, but there are a number of other interesting intercorrelations among the variables, including several that involve social dominance orientation.

Positive and negative effects of gender expertise on memory
Ainat Pansky & Yaniv Oren

In this study, we examined the role of differential knowledge or familiarity between the genders across domains, which we term gender expertise, in accounting for differences in memory performance. Our findings show that congruity between one's gender and the gender orientation of an item enhanced true memory for studied items, but alsoincreased false memory. Our findings demonstrate the role of gender expertise in accounting for gender differences in memory performance. From an applied perspective, these findings suggest that gender expertise may yield eyewitness accounts that are superior in terms of memory quantity yet inferior in terms of errors.

Fostering mnemonic convergence: The role of relational motives and social presence in eliciting socially shared retrieval-induced forgetting
Martin Fagin & William Hirst

The role of relational motives and social presence on the ability of collaborative remembering to induce forgetting was investigated. In Experiment 1, participants received a communication in text format, with and without a photograph of the communicator. In Experiment 2, participants received a similar communication as an audio-recording, again with and without a photograph of the communicator. They also saw a video version. In Experiment 3, participants received an audio communication told in the first- or third-person. Results showed that relational motives elicited socially shared retrieval-induced forgetting (SSRIF) in listeners only when the social presence of the communicator was established.

Applying episodic simulation to social decision-making: Evidence of a visuospatial mechanism enhancing prosociality
Brendan Gaesser & Liane Young

What cognitive mechanisms can be leveraged to facilitate prosocial decision-making? Recent studies suggest that episodic simulation could be applied in a social context to increase intentions to help others in need. Here, we provide insight into the visuospatial nature of episodic simulation in enhancing prosocial intent using behavioral and neuroimaging methods. These data open a new direction for applied research in episodic simulation, revealing social consequences for vividly imagining the spatial context of a helping episode.

10:00 am – 10:20 am

20-minute Break

10:20 am – 11:50 am

Symposium — Room: Theatre

Bayesian data analysis in applied cognitive contexts

Eric-Jan Wagenmakers & Richard D. Morey

The advantages of Bayesian data analysis have become increasingly obvious. In both theoretical and applied contexts, researchers wish to attach probabilities to parameters and hypotheses; they wish to quantify evidence for and against the hypotheses at hand; they wish to incorporate substantive knowledge in the analysis process; they wish to respect all of the uncertainty on every level of a multi-level analysis; and they want to make good decisions in the face of uncertainty. This symposium brings together five experts in applied Bayesian analyses to showcase the advantages that a Bayesian approach to data analysis can bring.

Cognitive models, Bayesian methods, and the wisdom of the crowd
Michael D. Lee

Bayesian methods allow for cognitive models to be applied to data in powerful and flexible ways. In this talk, we demonstrate some of this power and flexibility in the context of the "wisdom of the crowd" phenomenon. We show how cognitive models can help aggregate behavioral data from sets of people who have differences in their

underlying knowledge and decision-making processes. In applications including probability estimation, the prediction of rankings, and adaptive decision-making, we show that Bayesian methods allow group answers to be inferred that perform better than the vast majority of individuals.

Accuracy in a new light: A Bayesian approach to logistic regression analysis of binomial data
Farouk S. Nathoo & Michael E. J. Masson

Analyzing data at the level of individual trials is becoming more common, but this approach assumes observations are drawn from continuous distributions. Accuracy and error data, however, come from discrete binary distributions. We describe a solution based on methods for Bayesian analysis of logistic/probit mixed models for repeated-measure designs. We consider hypothesis testing using Bayes factors and we extend the framework developed by Rouder et al. (2012) to the analysis of binomial data. As part of this technique we are also able to generate posterior probability distributions of effect sizes.

The color-sharing bonus: redundancies boost visual working memory capacity partly via strategic rehearsal
Candice Morey & Richard D. Morey

Repetition in a display boosts memory for its elements, possibly because perceptual organization reduces information load or perhaps because repetition captures attention. We tested recognition memory for abstract displays that varied in the amount of color repetition while tracking eye movements. Estimated memory capacity was always higher when repeated colors were tested. With full attention, this bonus spilled over to the unique colors too. Participants tended to glance earlier at repeated colors during stimulus presentation but looked more at unique colors during the retention interval. This suggests that the color-sharing bonus reflects efficient perceptual organization and possibly strategic attention allocation.

Interference in memory
Amy H. Criss, William Aue, & Jack Wilson

Errors in episodic memory are often attributed to interference, confusion due to information other than the target memory. The source of this interference has been a point of debate for decades. Recently, such debates have centered on the relative contributions of item information and context information. In this talk, we present data from multiple memory tasks, episodic and semantic, and use Bayesian techniques to evaluate the interference during study and test.

Bayesian analyses of memory deficits in patients with Dissociative Identity Disorder
Eric-Jan Wagenmakers

Patients with Dissociative Identity Disorder (DID) often report impaired memory for events experienced by other personalities. In order to assess whether or not DID patients simulate memory impairment, Huntjens et al. (2006) carried out a potentially diagnostic experiment featuring healthy participants who were either never shown the study materials (i.e., Amnesiacs) or who were told to simulate impairment (i.e., Malingerers). We re-analyze their data using Bayesian methods and find that the performance of DID-patients is about as similar to that of Amnesiacs as it is to that of Malingerers, and that the DID patients may well constitute a separate group.

Symposium — Room: Esquimalt

Novel perspectives on the reminiscence bump and the organization of autobiographical memory
Steve M. J. Janssen

People tend to recall more personal events from adolescence and early adulthood than from other lifetime periods, a finding commonly known as the reminiscence bump. Long-standing explanations have suggested that events from the reminiscence bump are more novel, emotional, important or vivid, but studies using cue words to elicit the memories have not found support for these claims. In the symposium, four alternative explanations will be discussed, offering novel perspectives on the reminiscence bump in the distribution of autobiographical memory. Understanding what causes the reminiscence bump and thus how autobiographical memory is organized has important theoretical and applied implications.

The youth bias in Denmark: Findings across gender, age, and education level
Jonathan Koppel & Dorthe Berntsen

The youth bias refers to the tendency to favor early adulthood when making inferences about the distribution of important public events across the lifespan. It represents one of several aspects in which early adulthood has a special status in human cognition. However, the youth bias has only been tested in U.S. samples, and its generalizability across different demographic groups likewise remains unclear. In the current study, we therefore tested whether the youth bias extends to Denmark and whether it holds across different gender, age and education levels. We found that it both extends to Denmark and holds across demographic groups.

The reminiscence bump as a function of script-guided retrieval
Sami Gülgöz & Berivan Ece

Accounts explaining reminiscence bump generally focus on the time of encoding of the events. The exception is the life script account, which focuses on retrieval. In two studies, we found that the reminiscence bump disappeared, both when participants were prevented using the 10 most common events in their reports and when

these events were later removed from the reports. We also addressed the chronological guidance strategy in the retrieval of events and found that, when participants were prevented from reporting the most common events, the chronological order was significantly lower than when they were allowed to report all events.

The bumps in Trinidadian life: Reminiscence bumps for positive and negative life events

Sideeka Ali, Nicole Alea, & Blaine Marcano

The existence and content of the reminiscence bump in a Trinidadian sample was examined. The cue-word technique elicited memories that were coded as positive or negative, life-scripted (e.g., marriage), unusual (e.g., traumatic event), or ordinary (e.g., beach day) events. Unexpectedly, two reminiscence bumps were found: one between 6 and 15 years and another in the mid-twenties, for both positive and negative events. The early bump was mostly ordinary events, and the later bump unusual events, regardless of valence. Life-scripted events were uncommon, and only in the early negative bump. The life-story account and cultural considerations are used to interpret findings.

The cognitive abilities account for the reminiscence bump in the temporal distribution of autobiographical memory

Steve M. J. Janssen

Long-standing explanations have suggested that events from the reminiscence bump are more emotional, important or positive, but studies using cue words have not found support for these claims. An alternative account postulates that cognitive abilities function optimally in adolescence and early adulthood, which may cause more memories to be stored in those periods. It was recently shown that cognitive abilities are indeed related to autobiographical memory performance. When this finding is combined with previous findings that cognitive abilities function optimally in adolescence and early adulthood, they suggest that the cognitive abilities account is a promising explanation for the reminiscence bump.

The reminiscence bump, the self, brain development and evolution

Martin A. Conway

Various theoretical explanations have been advanced to explain the reminiscence bump. In the light of new data, some previous explanations now appear untenable, but others have fared better. Here I consider explanations in terms of development of the self, maturation of the brain in late adolescence and early adulthood and a novel evolutionary account. The latter explanation argues that the period of about 10 to 25 years represents a period in which many events of evolutionary significance occur and that these events are encoded in a privileged way.

Symposium — Room: Oak Bay 1

Collaborative remembering in applied settings: New findings, implications, challenges and solutions

Annelies Vredeveldt

People remember together in many contexts. This symposium brings together researchers from around the world who are investigating the implications of collaborative remembering in applied contexts. Presenters will address costs of collaboration (factors underlying memory conformity), as well as benefits (cross-cuing, error pruning, post-collaborative recall). We also reflect upon methodological challenges faced by collaborative-memory researchers, and propose ways to take into account variability in group performance and select appropriate comparison groups, especially in applied settings. The presenters look forward to discussing the theoretical and practical implications of their research with the audience.

Examining factors underlying memory conformity

Fiona Gabbert, Alessandra Caso, & Diego Nardi

Findings from memory conformity research suggest that people often selectively use other people's memory as source of additional information to complete their own. We examined this using a standard memory conformity paradigm where dyads encoded slightly different versions of the same stimuli. In a 2 (partner: friend, stranger) x 2 (perceived encoding duration: half the time as partner, twice the time as partner) mixed design (partner as within subjects variable), we found that participants conformed more to friends than strangers. Furthermore, in a surprise memory test about the joint discussion, participants remembered more details previously reported by friends than strangers.

Conformity of low self-esteem witnesses to their co-witness partners

Kazuo Mori, Tomoka Tainaka, & Tomoko Miyoshi

We examined how self-esteem would affect memory conformity in female university students using the witness conformity paradigm. Twenty-four pairs of Japanese university students participated in the MORI co-witness experiment. First, the participants answered question items in the Self-Esteem questionnaires. Then, they watched a video event in the MORI paradigm. After watching the video, they recalled what they observed in a collaborative way. We classified the participants into Low

Self-Esteem and High Self-Esteem groups according to their answering patterns in the questionnaires. Their memory performances showed that Low Self-Esteem participants conformed to others more frequently than those with High Self-Esteem.

Acknowledge, repeat, rephrase, elaborate: Witnesses can help each other remember more

Annelies Vredeveldt, Alieke Hildebrandt, Sabrina de Haseth, & Peter J. van Koppen

After much research on harmful consequences of co-witness discussion, we were the first to examine whether, and how, witnesses can help each other remember more. Couples who had known each other for 31 years on average participated in one individual and one collaborative interview about a violent scene in a theatre play. Adding a collaborative interview resulted in a substantial amount of new information that was significantly more accurate than initially reported information. Analysis of collaborative retrieval strategies revealed that couples who actively acknowledged, repeated, rephrased, and elaborated upon each other's statements remembered more than couples with less effective strategies.

"Scaling up" in collaborative recall: From individual, to group, to collective

Amanda J. Barnier, Celia B. Harris, Thomas Morris, & John Sutton

Basic and applied collaborative recall research increasingly bridges the gap between individual memory and group/collective memory as we explore what people bring to a group and what being in a group offers them. Yet major challenges remain in "scaling up" cognitive psychology methods and measures from one to two, one to three or one to many. We propose solutions for three related challenges: (1) choosing the appropriate comparison group for collaborating groups (individual vs nominal, within vs between), (2) stark individual differences "underneath" group level effects, and (3) integrating individual and group level measures of people's cognitive strengths and weaknesses.

Groups as the difference between rather than the sum of their parts: Accounting for cognitive variability in collaborating groups

Thomas Morris & Amanda J. Barnier

Conventional methods of characterising cognition often involve analyses of central tendency, where individual performance is inferred from group performance. In the collaborative recall literature, collaborative versus nominal group scoring assumes similar cognitive profiles and memory performance within and across groups and their members. But this approach can mask heterogeneous cognitive profiles and the true nature of performance within groups, especially given the variable abilities and expertise of individuals. We introduce and apply discrepancy analysis, a method often used in clinical research to account for cognitive variability, as an alternative means to characterise collaborative remembering of long married older adult couples.

Symposium — Room: Oak Bay 2

New advances in the field of eyewitness memory

Henry Otgaar

In the present symposium, we have assembled recent and novel work into the field of eyewitness memory. Specifically, key experts working in the domain of eyewitness memory will present their latest work. Basically, in the current symposium, we will combine two related research lines in which experimentation will be presented about factors that deteriorate or facilitate eyewitness memory. Presentations will include work about false memory developmental reversal effects, eyewitness memory for repeated events in children and adults, testing effects and susceptibility to misinformation, and the effect of eye-closure on eyewitness memory.

When young children are better eyewitnesses than older children and adults: Developmental reversals in susceptibility to misinformation

Henry Otgaar, Mark L. Howe, & Tom Smeets

A common perception in the legal psychological field is that young children are poorer witnesses than older children and adults because of their increased susceptibility to misinformation. We show in two experiments that this developmental trend in suggestion-induced false memories can change when participants focus on the meaning of an event. We presented children and adults with a video of a robbery containing associatively-related details. They then received misinformation preserving the meaning of the event. One day later, participants received a recognition test. We found that the usual trend in suggestion-induced false memories was attenuated or even reversed.

Can children recall an instance of a repeated event if it was different from the others?

Deborah A. Connolly, Heidi M. Gordon, Dayna Gomes, & Heather L. Price

In Experiments 1 and 2, 167 8-year-olds participated in one or four magic shows. A deviation occurred during the target show. Children reported more accurate information about the target show when a deviation occurred. Repeated experience did not improve memory for the deviation. Experiment 3 manipulated type of deviation (continuous or discrete). Children (146 6-11-year-olds) participated in four shows and answered questions about each instance. Younger, children's recall of all instances improved when a continuous deviation occurred.

Implications for how deviations are represented in memory, as well as forensic applications of the findings, are discussed.

Adult eyewitness memory for a single versus a repeated traumatic event

Amina Memon, Tjeu Theunissen, & Thomas Meyer; presented by **Camille Weinsheimer**

Reports from eyewitnesses of multiple, similar emotional events may differ from reports from individuals who witnessed only a single event. To test this, we had participants (N=65) view a video of a road traffic accident. Half of them additionally saw two similar aversive films. All participants then filled out the Self-Administered Interview (SAI) twice on the target video. Participants who saw multiple similar films were less accurate in recalling details from the target video than participants in the control condition. These results indicate that eyewitnesses who have witnessed multiple, repeated events may be less reliable in their reports than eyewitnesses who have witnessed a single event.

Does rapport-building boost the eyewitness eyeclosure effect in closed questioning?

Robert A. Nash, Alena Nash, Aimee Morris, & Siobhan L. Smith

Witnesses' ability to correctly recall events can be enhanced when they close their eyes. Yet closing one's eyes in front of strangers could create social discomfort, which can sometimes impair memory reports. We explored whether initially building interviewer/witness rapport might enhance the subsequent benefits of eyeclosure. Participants observed a filmed event and, afterwards, half engaged in basic rapport-building with an interviewer. All participants then answered closed questions about the event, and half closed their eyes throughout this questioning phase. Our data suggest that rapport moderates the subjective experience of eyeclosure, but not necessarily the memory benefits.

The impact of testing on the formation of false memories in different ages

Nathalie Brackmann, Henry Otgaar, Melanie Sauerland, & Mark L. Howe

Interviews frequently occur after witnessing an event and before being confronted with post-event misinformation. The effect of testing on the vulnerability to misinformation is however not clear. Whereas testing might inoculate against false memory production, it might also enhance suggestibility. We hypothesized that type of processing (meaning-based or item-specific) could account for increases or decreases in false memory rates. 7/8-, 11/12-, 14/15-year-olds and adults (n=220) watched a stimulus film, were tested and subsequently misled about the content. Our processing hypothesis could not account for the diverging false memory rates, but the classical misinformation and testing effects were replicated.

Symposium — Room: Saanich 1

Gender in autobiographical memory: The roles of emotion, identity, and culture

Azriel Grysman

Understanding gender in autobiographical memory requires a rich confluence of methods and approaches, due to various influences on the development and expression of gender in the autobiographical memory context. A deep understanding of gender in autobiographical memory requires theoretically motivated studies from multiple perspectives to tease apart varied influences on memory narratives. In presenting five studies in this symposium that vary substantially in methodology, we intend to open a productive conversation on how researchers can better integrate findings and theories regarding gender, identity, emotion, and culture, especially, but not exclusively, for how they pertain to narrative research.

Mental time travel in Scandinavia and the Middle East: Societies with differential gender norms

Christina Lundsgaard Ottsen & Dorthe Berntsen

Mental time travel is the ability to recall past events and imagine future events. Here, 124 Middle Easterners and 128 Scandinavians recalled important past events and imagined important future events. These societies present a unique opportunity to examine effects of culture and gender. Main effects of time orientation largely replicated previous findings. However, Middle Easterners generated more life script events than Scandinavians, and interactions indicated that they were also more future-oriented. Effects of gender were mainly found in the Middle East, but across cultures women rated future events as more central to identity, while men generated more distant future events.

The intersection of personal and master narratives in narrative identity: The case of gender

Kate C. McLean, Hannah Shucard, & Moin Syed

This study examined how emerging adults negotiate with contemporary master narratives about gender as they construct their own identities. Participants were 254 college-going emerging adults who provided personal memory narratives about gender roles. Narratives were coded for endorsement or resistance of master narratives about gender roles and for the degree of personal meaning in the narratives. Most participants (75%) resisted the traditional master narrative, though in different ways, and those who narrated resistance scored higher on measures of identity exploration. These results underscore the importance of examining how personal and master narratives do or not align in personal identity development.

Intergenerational narratives and gender in autobiographical memory
Natalie Merrill & Robyn Fivush

Intergenerational narratives that children know about their parents' childhood provide frameworks for personal and familial identity. Specifically, how gender is expressed in personal and intergenerational narratives during adolescence and emerging adulthood informs how gender identity is narratively constructed. Across three datasets, we examine emotional content as a component of gendered narrative expression. For adolescents, females express more emotion than males, and both express more emotion in maternal than paternal narratives. For emerging adults, females express more emotion than males in transgression narratives but not self-defining narratives. Both intergenerational and personal narratives are developmentally dynamic in ways that inform gender identity.

Gendered emotion processing: Insights from Event-Related Potentials (ERPs)
Patricia J. Bauer

In autobiographical narratives describing the events and experiences of their lives, women exhibit greater emotion, relative to men. To inform the neural processes involved in recollection of emotional events, we measured event-related potentials (ERPs) as women and men retrieved positive, negative, and neutral autobiographical memories elicited by neutral cue words. Across gender groups, differential processing of positive and negative, relative to neutral autobiographical memories was apparent. Women showed enhanced processing of negative memories relative to men. The findings are consistent with behavioral data as well as sex differences in the prevalence of mood disorders such as depression.

Content, context, and the construction of gendered autobiographical memories
Azriel Grysman

When gender differences are apparent in autobiographical memory, women report more emotional, detailed, relational, and vivid memories. Data collected online and in a traditional campus environment highlight gender norms as a potential explanatory variable for why gender differences emerge so inconsistently. Gender norms mediate gender differences on some variables and capture unique variance on others, depending on participant demographics and data collection methodology both in terms of how memories are elicited and how dependent variables are measured. Greater attention to these variables can deepen an understanding of when and why gender differences in autobiographical memory emerge.

11:50 am – 12:05 pm

15-minute Break

12:05 pm – 1:15 pm

Lunch (*those attending WICS have the option of ordering bag lunches*)

WICS Panel Discussion — Room: Saanich 1

Women in Cognitive Science Presents Time Management
Suparna Rajaram & Maryanne Garry

In this panel discussion, we will address specific themes of academic life in which time management plays a crucial—and sometimes perhaps a hidden—role in success. A mix of junior and senior faculty, both men and women, will share the range of experience that we ourselves have as scientists, faculty, and administrators. We also want to engage the audience in discussion, and give people a forum ask the questions that are most on their minds. WICS encourages both women and men to attend its meetings.

Should I Attend That Conference or Spend That Time Writing?
Jessecae Marsh

Balancing Family and Career
Andrew Butler

Balancing Research, Teaching and Service
Deryn Strange

Making Time to Write
Dan Bernstein

1:15 pm – 1:25 pm

10-minute Break

1:25 pm – 2:55 pm

Symposium **Room: Theatre**

Methodological issues of studying memory with a diary method

Lia Kvavilashvili

Diary method is becoming increasingly popular among researchers studying everyday memory and cognition. Although it is convenient for studying phenomena that are difficult to capture and measure in the laboratory (e.g., involuntary memories, everyday memory failures), there are several unanswered questions about types of diaries used, compliance rates, and the validity of findings. This symposium focuses on a diary method used to study involuntary autobiographical memories and everyday memory failures and presents latest research that compares the effectiveness of smartphone and paper diaries, single entry vs. multiple entry diaries and the length of diary keeping period (short vs. long).

Diary studies of involuntary autobiographical memories: Do different diary methods lead to the same outcomes?
John H. Mace

Involuntary autobiographical memories are spontaneous recollections of the past that occur normally in everyday cognition. In addition to eliciting such memories in the laboratory, researchers have studied them as they occur naturally in everyday life. In natural settings, two diary recording methods have been used, record all (where participants record every involuntary memory that they experience), or record some (where participants record one or two per day regardless of the number they may experience). This study compared these two methods to see if and where they differ in outcomes, and if and where they do not differ in outcomes.

Characteristics of involuntary autobiographical memories: Comparing data from single- and multiple-entry diaries and experimental method
Krystian Barzykowski

Research on Involuntary Autobiographical Memories (IAMs) is based primarily on a structured diary method. A single-entry envelope method, which requires recording only one memory, has also been used. It is perceived as more convenient for participants, and there is no risk of affecting cognitive processes by multiple entries. The main goal of the study was to compare characteristics of IAMs recorded with a standard one-week diary, single-entry envelope method and laboratory procedure (Schlagman & Kvavilashvili, 2008). Results showed that IAMs collected by the envelope method were rated as more vivid, lively and detailed than IAMs recorded by other methods.

Effects of diary type (paper vs. smartphone) and study length (7 days vs. 1 day) on the number and characteristics of recorded involuntary autobiographical memories
Andrew Laughland & Lia Kvavilashvili

Involuntary autobiographical memories (IAMs) have typically been studied with paper diaries, kept over several days. Two studies examined the use of an electronic diary installed on the participant's own smartphone, and compared the number and qualities of IAMs recorded with those recorded in a paper diary. In Study 1, diaries were kept for seven days and in Study 2 – for one day. In both studies, more memories were recorded in paper than e-diaries. For both paper and electronic diaries, more memories were recorded pro rata in 1-day than in a 7-day period.

Recording everyday memory failures: Effects of age and length of recording (28 vs. 7 days)
Lia Kvavilashvili, Andrew Laughland, & Agnieszka Niedwienska

Most research on everyday memory functioning is based on questionnaire data. Very few studies have asked participants to record their memory failures in a diary as and when they occur in everyday life. In this study we examined memory failures in healthy young and older participants who kept a diary for either 7 or 28 days. In line with several questionnaire studies, no age effects were obtained in the number of recorded failures. More memory failures were recorded pro rata in 7- than 28-day diaries, in line with our findings from 1- vs. 7-day diary study of involuntary autobiographical memories.

Discussion
Lia Kvavilashvili

The discussant will provide a brief 10-minute summary of the main findings presented at the symposium, outline future directions and will facilitate the question and answering session.

Paper Session — Room: Esquimalt

Interviewing: Types of Questioning Procedures

What is rapport? Questions of measurement and definition
Kate Houston, Melissa B. Russano, & Elijah P. Ricks

Although an oft-cited concept and a buzz word in interrogation research, "rapport" is difficult to measure and define in concrete terms. In spite of this, researchers find that rapport-based interrogations facilitate increase memory retrieval. The present paper presents an experiment which set-out to measure rapport in a triadic interview – one involving an interpreter, an interviewer and an interviewee. The paper will discuss the difficultly with finding a rapport measure and the conflicting data that resulted. The paper aims to open a discussion about the critical concept of rapport and the need for more systematic research on this concept.

The effect of alcohol intoxication on metamemory
Jacqueline Evans, Nadja Screiber Compo, Rolando Carol, Pamela Pimentel, Michelle Pena, Katherine Hoogesteyn, Michael Powell, Howard Holness, Kenneth Furton, & Stefan Rose

The influence of intoxication on metamemory is a neglected research area, despite the fact that understanding the extent to which the intoxicated are able to effectively monitor their knowledge and respond accordingly will be critical in developing evidence-based guidelines on whether it is appropriate to interview intoxicated witnesses. In the current study participants (n = 221) were assigned to a control, placebo, or alcohol group and completed a metacognition task involving answering general knowledge questions, first in an open-ended format, and later in a multiple choice format. Results suggest alcohol may disrupt metamemory.

The free-recall accuracy advantage: A consequence of more effective retrieval or superior regulation of memory reporting?
Stacey Taylor-Aldridge & Nathan Weber

The National Institute of Justice recommends the use of free-recall style questioning when interviewing witnesses, as it produces more accurate reports than a closed questioning style. In one experiment (N = 80), with question type manipulated within-subjects, we used an externalised free-recall technique to assess whether this accuracy advantage results from more effective regulation of memory reporting. Consistent with this idea, we found better monitoring (i.e., Type-2 Signal Detection Theory discrimination) for free-recall compared to closed questions. Understanding the basis of superior monitoring in free-recall, may allow the development of techniques that improve the quality of responding to closed questions.

Methods of witness-generation of cues in an interview context
Rebecca L. Wheeler, Fiona Gabbert, & Tim Valentine

Research has suggested witness-generated cues facilitate more recall than other-generated cues within interviews (Gabbert et al., 2014). The current research compared various potential methods of cue generation. Participants viewed a live event then completed a free-recall statement. Retrieval cues were either witness-generated (3 conditions) or other-generated. Preliminary analyses suggest use of witness-generated keyword cues or concept maps led to significantly more location and object details being accurately recalled compared to the use of other-generated cues. These results are consistent with those of Gabbert et al. (2014) and suggest that concept maps may be a viable means of obtaining witness-generated cues.

Preserving eyewitness memory: Examining the validity of the Self-Administered Interview in Japan
Hiroshi Miura & Kayo Matsuo

Self-Administered Interview (SAI) is a questionnaire to collect eyewitness memory developed in England. It consists of several sections to report about incident by words or pictures. To examine the validity of the SAI in Japan, 180 Japanese participants watched a simulated crime video and provided information about the video in one of three ways: SAI, Cognitive Interview, or free recall. Number of recalled items was greater in the SAI condition than the other conditions. Recall in the SAI sketch section seemed to be a great contribution to the overall results. The effect of sketch and cultural differences will be discussed.

Paper Session — Room: Oak Bay 1

Recalling Repeated Events: Laboratory and Life

How to measure recollections of repeated events?
Rebecca M. Willén, Pär Anders Granhag, Leif A. Strömwall, & Ronald R. Fisher

We investigated how two measures of memory specificity, number of events and amount of detail, were influenced by interviewees' age, number of experienced events, interviewer, perceived unpleasantness, and memory rehearsal. Transcribed narratives consisting of 70.000 utterances from 95 dental patients were studied. The two measures were affected differently for all five factors, e.g. number of experienced events positively influenced number of events recalled but had no effect on amount of detail. Measurement issues related to memory specificity and repeated events are discussed as well as the importance of sharing research material to make future investigations more comparable across studies.

Breaking script: Exploring how post-event information and deviation type affects memory for a specific instance of a repeated-event

Patricia I. Coburn, Kristin Chong, Carla L. MacLean, & Deborah A. Connolly

To investigate memory for a single instance of a repeated event, participants experienced 5 food-tasting instances. For half of the participants, instance 3 was conducted in a different room by a different RA (discrete deviation). After all instances were complete, half of the participants received post-event information (PEI) that the researcher conducting instance 3 was on probation. Deviation resulted in more accurate responses on all instances. In experiment 2 the instance 3 RA behaved unprofessionally throughout. This created a continuous deviation which was now also linked to PEI. Deviation and PEI resulted in more accurate responses to the target instance.

Remembering schematic repeated events: Minor changes of content and order differentially affect recall

Eva Rubinova, James Ost, Hartmut Blank, & Ryan Fitzgerald

To investigate how adult participants remember schematic as well as exceptional instances of repeated events, we carried out an experiment using a word-list method. Participants in four conditions saw four word-lists with either the same structure throughout, or with a change of content, change in the order of presentation, or a change of both content and order introduced in the last list. Recall was measured after one minute, ten minutes, one day, one week, and one month. Changing part of the content increased recall whereas changing the order decreased recall. These changes also consistently affected recall for the whole sequence.

Event representation: Effects of time and post-event review

Elaine H. Niven, Marcia K. Wolters, & Robert H. Logie

Emphasis is often placed on rapid loss of access to episodic detail in memory over time. However, previous studies have also suggested that event detail maintenance can be consistent over months (Wynn & Logie, 1998). Following an event during which participants took photographs to document their experience, recall was assessed for changes in episodic detail over three different time frames (day/week/month). The impact of photograph viewing during post-event review was also investigated. While recall data indicated reduction in proportion of episodic detail about an event beyond the immediate past, an effect of time and photograph viewing was less evident.

Identifying qualities that predict accurate recall of autobiographical memory

Stephanie A. Berger

Autobiographical memory is assumed to be generally accurate despite its malleability. However, accuracy is rarely measured. This study replicates and extends a study measuring recall accuracy for verifiable details of autobiographical memory – grades earned in a current course. Higher earned grades and more rehearsal of grades predicted recall accuracy, replicating the prior study. In addition, grades that were immediately rated as subjectively satisfying were more likely to be accurately recalled several weeks later than unsatisfying grades. Results show that recall accuracy of autobiographical memory can be measured consistently and that both objective and subjective qualities of memories predict recall accuracy.

Paper Session — Room: Oak Bay 2

Control of Thought: Metamemory, Metacognition, and Mind-Wandering

Memory and metamemory in recognition: Does social influence matter?

Katarzyna Zawadzka, Aleksandra Krogulska, Philip A. Higham, & Maciej Hanczakowski

We investigated memorial and metamemorial aspects of adhering to social cues in recognition tests. On some test trials, participants were presented with social cues regarding the status (old or new) of the to-be-rated word, while on other trials no cue was presented. Our results demonstrate that old/new memory decisions were influenced by external social cues, independent of the reliability of these cues. Metacognitive decisions in the form of “don’t know” responses, report/withhold decisions, and confidence ratings, on the other hand, were unaffected by external cues. We discuss the implications of these results for theories of metamemory.

Metacognitive control over study under auditory distraction

Maciej Hanczakowski, C. Philip Beaman, & Dylan M. Jones

Auditory distraction applied at encoding robustly impairs later memory performance. To date, this auditory distraction effect has been investigated with the experimental procedures that minimized participants’ control over their own mnemonic processes. We investigated whether participants given such control would be able to minimize the harmful effects of auditory distraction. Specifically, we investigated whether participants would try to compensate for distraction by lengthening study. We found that participants did not try to compensate but instead curtailed study under distraction. Shorter study times under distraction exacerbated the auditory distraction effect in a free recall test.

Academic performance and metamemory for adolescent videogame users: A reanalysis of the 2009 Programme for International Student Assessment Data
Aaron Drummond & James D. Sauer

Despite widespread suggestions that video-gaming negatively affects academic achievement, the evidence is inconclusive. Reanalysis of 192,000 students in 22 countries using multilevel modelling showed that differences in adolescent academic achievement in science, mathematics and reading were negligible across different frequencies of videogame use. Poorer metamemory was evident for students who played videogames daily compared to lower usage frequencies, however this difference was objectively small. Contrary to previous research, videogame use appears to have little impact on adolescent academic achievement, but may be associated with slightly poorer metamemory. Possible reasons for this discrepancy and implications for adolescent videogame use are discussed.

Are you mind-wandering, or is your mind on task? The effect of probe framing on mind-wandering reports
Yana Weinstein & Henry De Lima

We compared two methods of probing participants for mind-wandering during reading. Participants read a transcript of a TED talk and reported mind-wandering with a clicker device. During the 20-minute reading task, 10 probes were displayed at a variable interval of 75-135 seconds. Participants were either probed with a statement endorsing mind-wandering ("My mind was on something other than the text") or attention ("My mind was on the text"). Those probed to endorse mind-wandering reported significantly more mind-wandering (41%) than those probed to endorse attention (27% mind-wandering). Our results suggest that the way mind-wandering probes are framed can affect mind-wandering reports.

Mind-wandering during a video lecture and its effect on learning: The roles of individual differences and note-taking
Akira Miyake, Bridget A. Smeekens, Claudia C. von Bastian, John Lurquin, Nicholas P. Carruth, Natalie Phillips, & Michael J. Kane

Two hundred participants watched a realistic 50-min statistics video lecture while taking notes or not. Participants' learning (posttest performance) was significantly predicted by their mind-wandering frequency during the lecture, which, in turn, was predicted by their prior math background and their media multitasking tendency. Although there was no main effect of note-taking on learning or mind-wandering, note-taking significantly moderated the impacts of two individual differences variables (pretest scores & self-efficacy) on mind-wandering. These results highlight the negative impact of mind-wandering on learning and suggest that mind-wandering may be a key mediator between learners' individual characteristics and learning outcomes.

Symposium — Room: Saanich 1

Why we believe more than disbelieve: an error or a smart move?
Chris N. H. Street

Whether it is lie detection, (false) memory recall, or learning and education, deciding what to believe is important. There is a general tendency towards believing over disbelieving, which we refer to as the 'truth bias'. Is the bias maladaptive, reflecting an error in judgment, or is it functional, a reflection of a smart judgment process? This symposium considers a variety of novel theoretical approaches to this question, drawn from various fields, each of which takes a different perspective of the bias. Our intent is to stimulate debate at a time where theory regarding the truth bias is beginning to emerge.

Spinozan minds: Neural and psychophysiological evidence toward Gilbert's models of belief
Erik W. Asp

In the early 1990s Daniel Gilbert presented two opposing psychological models of belief and doubt: the Cartesian model (belief is subsequent and separate from comprehension) and the Spinozan model (belief and comprehension are the same process). We have found that damage (via strokes and tumor resections) to specific brain regions tends to increase credulity to explicitly labeled false information. Skin conductance data confirms that damage produces credulity, not simply a guessing bias. Of the lesion patients studied, no one showed a dissociation between comprehension and belief. Implications for the truth bias and age-related increases in credulity are discussed.

Truth-bias: Who is biased, subjects or deception researchers?
Timothy R. Levine & Kim Serota

Research finds that people are poor lie detectors and that people are truth-biased. Both conclusions, however, are experimental artifacts of unrepresentative research designs. Recent research on the prevalence of deception outside the lab suggests that the responses of research subjects in deception experiments more closely approximate actual rates of deception than do experimental designs. Current findings document that manipulating base-rates to reflect actual base-rates improves accuracy rates. Judgments under representative base-rates are no biased toward truth. Prior research on truth-bias tells us more about the biases of researchers creating the research designs than the ability of everyday folks.

Truth bias: A smart judgment in a low-diagnostic world

Chris N. H. Street, Walter F. Bischof, Miguel A. Vadillo, & Alan Kingstone

People make for poor lie detectors. They fair no better than a coin flip, and are biased to take what others say at face value. I argue this pessimistic view is outdated. Instead, it is more fruitful to begin from the understanding that there are no perfect cues to deception, and so the task is riddled with uncertainty. To deal with that uncertainty, I suggest people rely on their understanding of the current context to make an informed guess, which evidences as a bias. I present data and a computational model supporting this smart lie detector position.

Intuitive judgments of truth

Norbert Schwarz & **Eryn Newman**

To evaluate truth, people rely on a subset of five criteria: Is it compatible with other things I believe? Is it internally consistent? Does it tell a plausible story? Does it come from a credible source? Are there many supporting arguments? Do others think so as well? Each criterion can be evaluated by drawing on relevant details (an effortful analytic strategy) or by attending to ease of processing (a less effortful intuitive strategy). Throughout, high processing fluency results in an affirmative answer and facilitates acceptance of the statement as true with important implications for the acceptance and correction of misinformation.

Discussion

The four speakers will present contrasting accounts of how we come to believe others. This discussant will take questions from the audience and encourage a lively debate around the similarities and dissimilarities in the theories, and future research directions that can distinguish between them. During the symposium, the audience will be encouraged to tweet questions. Chris Street will chair the discussion.

2:55 pm – 3:15 pm

20-minute Break

3:15 pm – 4:45 pm

Symposium Room: Theatre

Applied cognitive approaches to discerning truth and deception

Christian Meissner

This symposium describes several distinct lines of research assessing cognitive approaches to lie detection. Studies explore the cognitive and memory processes associated with lying, the various strategies that liars engage in this context, the cues to deception most likely to distinguish high-stakes lying, the impact of lying on memory for actual experiences, and strategic approaches to interviewing developed to exploit the cognitive processes that distinguish liars and truth tellers.

Sounding the knell: Lies about crime are positively hard to tell

Stephen Porter & Alysha Baker

Although deception is a common element of human social interaction, most people “flip a coin” when attempting to discriminate liars from truth-tellers. However, psychological science has revealed cues that are reliably associated with emotional deception - particularly high-stakes lies - and are communicated through both verbal and non-verbal channels. First, this presentation will highlight our understanding of the linguistic and non-verbal cues that can be capitalized on while trying to detect lies from truths. Second, we document recent avenues of research focused on the divergence of direct and indirect methods of lie detection.

Interviewing to detect deception: Inconsistency in answering central and peripheral questions across repeated interviews as a deception cue

Jaume Masip, **Iris Blandón-Gitlin**, Carmen Herrero, Izaskun Ibabe, & María del Carmen Martínez

We present a new interviewing procedure to detect deception. Participants either committed a mock crime or performed several tasks with an experimenter. Then they had to convince an interviewer they had performed these tasks and not the theft. The interview contained focused central and peripheral questions, and was repeated twice with one week in between. Results revealed that guilty suspects prepared more about central than peripheral details and their answers were less consistent across interviews than innocent suspects' answers. Also, whereas among guilty suspects consistency was lower in answering central than peripheral questions, no such difference emerged among innocent suspects.

Can credibility criteria be rated reliably? A meta-analysis of criteria-based content analysis

Siegfried L. Sporer, Valerie Hauch, Jaume Masip, & Iris Blandón-Gitlin

We meta-analytically synthesized research on inter-rater reliability of Criteria-based Content Analysis (CBCA). CBCA is the main component of Statement Validity

Assessment (SVA), a forensic procedure used worldwide to evaluate whether statements (e.g., of sexual abuse) are based on experienced or fabricated events. CBCA contains 19 verbal content criteria which have frequently been adapted for research on detection of deception. A total of k = 82 hypothesis tests on several inter-rater reliability indices revealed consistent findings. Adequate to high inter-rater reliabilities were found for 17 CBCA criteria as measured with various indices (except Cohen's kappa). Two criteria (unstructured production and superfluous details) showed inadequate reliabilities. Meta-regression analyses on Pearson's r resulted in significant moderators for: research paradigm, intensity of rater training, and the frequency of occurrence (base rates) for some CBCA criteria. Implications for legal practice and future research on SVA and CBCA are discussed.

The influence of lying on memory

Sean Lane, Rachiel Dianiska, & Daniella Cash

Research on lying has focused primarily on whether the products of lie construction (e.g., nonverbal behavior) might be used to catch liars. These same constructive processes can also influence liars' memories for the occasions when they lied, as well as memories of their original experience. In this talk, we discuss a series of studies that reveal that the way people lie or tell the truth about a previous experience influences the accuracy with which they can later remember what they did. Our findings have implications for understanding the processes underlying lying, and for professionals who must discriminate liars from truth-tellers.

Strategic approaches to lying: Understanding their impact on psychological processes

Stephen Michael, Christian Meissner, & Kyle Susa

Two studies examined the strategies implemented by liars, the relationships between these strategies and key psychological processes involved in deception, and the implications of these associations for judgments of credibility. Study 1 observed variation in the strategies that liars employed consistent with several prominent cognitive theories of deception, including systematic differences in the memory processes relied upon [primarily gist (i.e., novel lies), primarily verbatim (i.e., displacements), or a combination of the two]. Study 2 compared the ability of observers to detect differences in lies based upon gist vs. verbatim traces, finding higher detection accuracy for novel lies than displacements. The implications of these findings for lie detection will be discussed.

Paper Session — Room: Esquimalt

False Memory, False Belief, and Nonbelieved Memories

True or false memory? Evidence that naïve observers struggle to identify rich false memories of emotional and criminal events, particularly for audio-only accounts

Julia Shaw

Two studies examined whether naïve observers could differentiate between accounts by individuals describing rich true and false memories of emotional and criminal events. To test the potential role of cognitive load on accuracy, observers were either provided regular videos, muted videos, or audio-only accounts. In all video conditions participants only scored minimally different from the level of chance at identifying false memories. In the audio-only condition, accuracy was significantly impaired. Comparative evaluations were overall less accurate than absolute judgments, and self-reported cues used to make evaluations proved uninformative. Implications for memory researchers and legal scholars are discussed.

Self-generated versus other-provided lies: The effect of lying on memory in a mock crime paradigm

Donna Li & Richard I. Kemp

Few studies have examined the impact of deception on a liar's memory for the truth. In this experiment, we investigated the effect of lying by manipulating the type of lie told. Participants committed a mock crime prior to an interview where they either told the truth, lied by generating their own details, lied by repeating details provided by the experimenter, or were not interviewed at all. Lying was found to have a detrimental effect on recall for the original event, but the type of lie moderated this effect. Implications for deception detection and eyewitness testimony will be discussed.

Lying leads to false memories

Eric J. Rindal & Maria S. Zaragoza

The present study sought to assess the memorial consequences of lying. Participants were asked to fabricate lies about details never shown during an eyewitness event. After a retention interval they were tested using a yes/no recognition test. While participants were successfully able to reject both their own lies and those of a yolked partner at a short retention interval (1 week), they falsely assented to their own fabricated details more often than those of a yolked partner at longer retention intervals (4 weeks). These results provide evidence that over time self-generated lies may be mistaken for truth.

The consequences of not believing: Do non-believed memories result in memory omissions?

Andrew Clark, Lorraine Hope, Henry Otgaar, James Ost, & James Sauer

Non-believed memories are a phenomenon whereby people continue to report having a memory for an event they no longer believe occurred. Our research examines the consequences of non-believed memories and, drawing on Koriat and Goldsmith (1996), explores whether non-believed memories result in people withholding or omitting memories of past experiences. In two studies, we induced memory omissions and asked participants to rate belief

and memory strength. The results of Study 1 suggest that when omissions occurred, there was no dissociation between belief and memory. Using a confederate, Study 2 examined the extent to which non-believed memories are a social phenomenon.

A deeper understanding of the specificity of the emotion congruency effect on false memory production
Cassandra E. Bland, Mark L. Howe, & Lauren Knott

False memories have been shown to increase for material where the emotional content is similar to that of the general mood of the person at the time of encoding. Rather than use a nonspecific negative mood induction, we induced fear, anger, and sadness, and examined whether mood congruency effects were found for false memories using the DRM paradigm. Results confirmed our prediction that congruency effects occur for specific negative emotions. Moreover, we demonstrated that the effect of specific emotions on false memory production is quantitatively different depending on the type of emotion.

Paper Session — Room: Oak Bay 1

Comprehension, Evaluation of Evidence, Legal Safeguards

Canadian mock-jurors' understanding of judge's instructions and the concept of proof beyond a reasonable doubt
Michelle I. Bertrand, Richard Jochelson, & Rod C. L. Lindsay

Participants (N = 344) completed an online study investigating Canadian legal concepts. They read a homicide scenario, pattern jury instructions, and charges specific to either manslaughter, second-degree murder, or first-degree murder, and then answered questions regarding their understanding of the jury instructions and the concept of proof beyond a reasonable doubt (PBRD). Results indicate (1) that there are gaps in the understanding of Canadian jury instructions as 76.2% of participants indicated less than full comprehension of instructions, and (2) that that thresholds for PBRD are dynamic versus static and are affected by the severity of charge.

The text matters: Eye movements reflect the cognitive processing of interrogation rights
Kyle C. Scherr, Stephen J. Agauas, & Jane Ashby

Research has found that interrogation warnings differ in their text characteristics, but has yet to empirically determine the influence of these text characteristic differences on suspects' ability to process and comprehend their rights. Examining this idea is important, especially for vulnerable populations (e.g., innocents, juveniles, the intellectually impaired). Using a novel approach, juvenile participants' eye movements were monitored as they read different versions of Miranda warnings in order to investigate the relationship among text characteristics, processing difficulty, and comprehension problems. Results indicated that text characteristics were related to processing difficulties and eye movement outcomes were strongly correlated with comprehension abilities.

Protecting courts against bad science: Do legal safeguards moderate the impact of poor quality expert evidence in cases involving identification from CCTV?
Richard I. Kemp & Helen Dimitrios

Prosecutors sometimes rely on "facial mapping" evidence to identify an offender from CCTV images. This evidence has been criticised, but rather than excluding it many courts rely on legal safeguards to protect against undue influence of the evidence. We describe three experiments designed to assess these safeguards. Results showed that judicial warnings and limits to the language used by experts did not reduce identification errors, but the inclusion of evidence from a defence expert offered some protection to innocent defendants. Our results show that courts need to be more willing to exclude poor quality expert evidence.

Mock-juror decisions and the influence of confession inconsistencies
Glenys A. Holt & Matthew A. Palmer

Although inconsistencies in eyewitness testimony have been shown to influence juror decisions, anecdotal evidence suggests that inconsistencies in confession evidence do not exert similar influence. A series of experiments investigated whether different types of inconsistencies present in a confession transcript would influence juror verdicts. While factual errors reduced the number of guilty verdicts awarded, inconsistencies in the form of self-contradictions did not have the same effect. Additionally, jurors who read an inconsistent confession were better able to generate alternative reasons for why the suspect confessed, indicating a greater dedication of cognitive resources to the task than anecdotal evidence would imply.

The role of jury deliberation instructions on collaborative memory and jury decision making
Kerri Goodwin, Christopher J. Normile, & Syndney A. Boone

A collaborative inhibition paradigm (Harris et al., 2012) was adapted for use within the context of a juror memory procedure developed by Pritchard and Keenan (1999) in order to examine collaborative memory within the context of jury deliberations. Groups viewed a criminal trial and either deliberated with turn-taking or consensus-building collaboration instructions, or were tested individually. Results showed that collaboration led to better memory for some trial details, and seemingly fewer Guilty verdicts. Implications for collaborative memory are discussed.

Symposium Room: Oak Bay 2

Time keeps on slippin', slippin', slippin': the psychological construction of temporality in memory

Susan Bluck & Monisha Pasupathi

From the outside, lives appear to unfold across chronological time. Events are ordered in a fixed, linear, unidirectional manner marked and measured by the calendar and the clock. Internal psychological time, however, is not experienced this way. The focus of this symposium is to further understand the human experience of time. How is time represented in memory? Are some ways of experiencing time more adaptive? The talks in this symposium suggest that humans mentally construct psychological time, flexibly and artfully combining past, present and future. Individuals flexibly remember time depending on the type of event recalled, integrate the remembered past to guide the present, shift events back and forward in time to regulate social relations, and sometimes experience their own lifetime as embedded in historical time. While chronological time is increasingly used to organize human activity, psychological time is equally important in understanding how humans slip through the moments, days, and years of their lives.

Time stood still: Remembering a brush with death

Susan Bluck, Hsiao-Wen Liao, & Chelsea Fordham

Future time perspective is often viewed as a sign of positive well-being and may moderate the anxiety felt when remembering stressful events. This may not hold true, however, for events in which time is experienced as about to stop (i.e., a brush with death). In one study, longer future time perspective was associated with lower anxiety after recalling a stressful academic event, but not after recalling a stressful brush with death. In a second study, content analysis of brush with death narratives was used to descriptively analyze how psychological time is represented in memory.

When mental time travel modifies the past

Peggy St. Jacques & Daniel L. Schacter

Mental time travel allows us to re-experience the sense of self in past time and to project ourselves into the future. However, this flexible characteristic of episodic memory can sometimes lead to changes- and even distortions- in memory. In this talk, I will describe a series of studies that examine how re-experiencing the sense of self in time can modify memories and I will touch upon some of the neural mechanisms that support the integration of the present with the past. This research suggests that mental time travel allows us to integrate the present with the past and may be an adaptive process that maintains the future relevancy of memories.

The times of our lives: How beliefs and goals shape our construction of time

Anne E. Wilson, Kassandra Cortes, Scott Leith, & Sarah Williams

People's psychological sense of time - how close or distant an event seems subjectively - is often quite distinct from their representations of clock or calendar time. People's beliefs and motivations can influence their perceptions of time in ways that in turn alter the conclusions they draw about the pertinence of the past on present judgments. I consider the role of psychological time in relationship partners' construction of their relational history. Friends and romantic partners recalled interpersonal transgressions or kindnesses committed by their partner, and reported calendar time and how long ago the event felt. Subjective (but not calendar) time shifted on the basis of event valence (kindnesses seemed closer than transgressions), but this effect was moderated by relationship satisfaction, and insecure attachment style. In turn, greater subjective distance was linked to lower perceived importance of the event, less rumination, and greater subsequent relationship satisfaction.

Autobiographical memory, collective memory & time

Norman Brown

It has long been recognized that time judgments have both implicit and explicit aspects and that the latter is easier to study than the former (Friedman, 1993). In this talk, I briefly review the evidence that establishes the prevalence of date reconstruction and argue that dating protocols can be used to investigate memory organization. I then describe a project, the Living-in-History project, that has used dating protocols (a) to demonstrate the existence of personal and public temporal frames, and (b) to determine when people rely on the public frame. Finally, I consider the implications of these findings for an understanding of collective memory ("When do people live in history?").

Discussant and Panel Questions

Monisha Pasupathi

The final slot in the symposium will be allotted to the Discussant. Additional time will also be set aside for Q&A for all presenters.

Symposium **Room: Saanich 1**

Environmental psychology
Robert Gifford

4:45 pm – 5:00 pm

15-minute Break

5:00 pm – 6:00 pm

Keynote **Theatre**

Cognitive Forensics
Itiel Dror

In many domains experts are called upon to provide research and analysis. Their expert judgment and decision making is often regarded as error-free, or at least as being objective and impartial. Drawing from the field of criminal justice, I will present research and evidence from real casework that many different types of psychological contaminations affect experts, including fingerprinting and DNA forensic laboratory decision making. I will articulate the psychological mechanisms by which forensic and other experts make biased and erroneous decisions. This research can help identify such weaknesses and provide practical ways to mitigate them. This new area of “Cognitive Forensics” deals with a wide scope of cognitive issues in forensic science that have been ignored for decades.

6:00 pm – 7:30 pm

Poster Session 2 Lobby

2-1. Dating of nonbelieved memories

Kendra Nespoli & Alan Scoboria

Recently Scoboria, Memon, Garwylowicz and Clark (2015) examined the dating of nonbelieved memories (NBMs) across the adult lifespan (N = 138, age range 18 to 72). This study extends their findings by examining a combined dataset that includes 845 nonbelieved memory reports. While the events depicted in NBMs were dated across the lifespan, a majority of NBMs were dated between early childhood (about age 4-5) and early adolescence. Relationships between age at the time of the event, age at the time of loss of the memory, current age, metacognitive ratings, and memory characteristics ratings associated with the events are explored.

2-2. Influences of vowel and tone change on young Mandarin-speakers' learning of novel words

Weiyi Ma, Peng Zhou, Liqun Gao, & Stephen Crain

Studies on Indo-European languages suggest that segments constrain word recognition more efficiently than suprasegmental information. This study addresses this issue by focusing on 3-year-old monolingual speakers of Mandarin Chinese, a tonal language, which relies on both segmental and tonal information in distinguishing word identity. We examined the influence of tone and vowel change on the children's learning of novel words. Results showed that children looked at the target image longer than the distractor when the word was correctly pronounced and when it was mispronounced with tone change, but not when it was mispronounced with vowel change.

2-3. Psychological distance as mediator between autobiographical remembering and interpretation bias

Sezin Öner & Sami Gülgöz

We investigated whether there exists a systematic mechanism underlying the influence of autobiographical remembering on subsequent behavior and specifically focused on the role of rehearsal patterns on information processing subsequent to remembering. Participants reported memories associated with an important goal, either a goal that was blocked (they could not achieve) or an achieved goal. Findings indicated that, in addition to the content, psychological distance as well as affective change over time had unique roles on the memory-related changes in behavior. Overall, distinct mechanisms associated with involuntary and voluntary remembering will be discussed considering the self-regulatory function of autobiographical remembering.

2-4. How do negative mood and dysphoria affect hindsight bias?

Julia Groß & Ute J. Bayen

People seem to overestimate their prior knowledge of facts or events, once the actual facts or events are known. This hindsight bias may depend on a person's affective state. 123 Nondysphoric (BDI≤13) participants were assigned to induced negative or neutral mood; 19 dysphoric (BDI>13) participants received no mood induction. All participants generated and recalled estimates to 60 knowledge questions. During recall, correct answers appeared for half the items. All three groups showed hindsight bias; however, dysphoria and induced mood differentially affected recollection and reconstruction processes that underlie hindsight bias. Implications are being discussed.

2-5. Effects of anatomical dolls on Taiwanese children's recall of a repeated event

Huan Huan Zhang & Yee-San Teoh

The aim of this ongoing cross-sectional study is to examine the possible effects of anatomical dolls on young children's recall of a repeated, novel event involving innocuous bodily contact. Eighty Taiwanese first-graders are interviewed following their individual participation in a series of repeated target events. They will either be interviewed in the 'best-practice' verbal condition with or without the use of dolls (the verbal interview procedure utilizes the NICHD investigative interview protocol), or in the 'real-world-practice' condition designed to mimic the use of dolls in real-world practice.

2-6. The effects of repetition on counterintuitive events

Danielle Polage

Previous research suggests that repeated statements are considered more plausible than novel statements. In this study, participants read stories of varying intuitiveness and later rated those stories on several variables. Results showed a significant effect of exposure at all levels of intuitiveness; even participants who were previously exposed to extremely counterintuitive stories rated them as more plausible and truthful than participants who read those stories for the first time. Ratings of plausibility and truthfulness increased with exposure. These results could be applied to psychology and law topics, the spread of religious beliefs, and even belief in the paranormal.

2-7. Improving the enhanced cognitive interview accuracy: Accounting for witnesses certainty and perception of motivation

Pedro B. Albuquerque, Rui Paulo, & Ray Bull

Enhanced Cognitive Interview research has mainly focused on increasing report size. No study has evaluated if witnesses' spontaneous judgments of 'uncertainty' and motivation perception could affect report accuracy. With that purpose, 44 students watched a robbery video and were interviewed with the ECI or a Structured Interview. Motivation was assessed and information was classified

as ‘certainties’ or ‘uncertainties’. The ECI elicited more information without compromising accuracy. ‘Uncertainties’ were less accurate than ‘certainties’, their exclusion raised overall, ECI, and SI accuracy, and highly motivated participants had better accuracy. Accounting for witnesses’ motivation and ‘uncertainties’ are time-saving procedures to effectively increase accuracy.

2-8. Benefits of the spacing effect in memory impaired individuals with medial prefrontal cortex vs. medial temporal lobe lesions

Alice S. N. Kim, Audrey Wong Kee You, Patrick S. R. Davidson, Melody Wiseheart, & R. Shayna Rosenbaum

The spacing effect refers to enhanced memory for repeated items when other items are interposed between repetitions. Although the effect is robust, the brain regions that support it remain unclear. Guided by past neuroimaging research, we investigated the possible benefits of spacing on free recall and recognition in memory-impaired patients with lesions to medial prefrontal cortex (MPFC) vs. medial temporal lobe (MTL). Preliminary findings indicate that patients with lesions to MPFC show similar performance to healthy age-matched controls in benefiting from spacing. However, in contrast to past studies, patients with MTL lesions were not found to benefit from spacing.

2-9. The credibility ratings of eyewitness testimony during deliberation

Yasuyuki Nabata & Ritsuko Nabata

How lay citizens rate the credibility of eyewitness testimony during the deliberation was investigated. Participants were asked to rate the credibility of eyewitness testimonies before and after the deliberation. In addition, they were required to return a verdict. The results indicated that participants did not change their verdict before and after the deliberation. However, participants regulated their credibility ratings of eyewitness testimony according to the verdict of the deliberation. These results are discussed in relation to cognitive dissonance theory.

2-10. Inducing preference reversals in aesthetic choices

Zorry Belchev & Glen E. Bodner

We developed a novel paradigm for rapidly inducing preference reversals in aesthetic choices. Participants decided which of two average-beauty paintings was more beautiful. We then paired the painting they chose with higher-beauty paintings, and also paired the painting they did not choose with lower-beauty paintings. When the same average-beauty pair was presented again only a few trials later, these contrast manipulations led to significantly more preference reversals relative to a control condition, and also to larger shifts in relative preference. The ability to engineer preference reversals has potentially important applications in domains ranging from advertising to behaviour modification to economics.

2-11. Positive life story chapters predict self-concept clarity and self-esteem

Kristina Steiner, David B. Pillemer, & Dorthe Thomsen

The present study investigated whether recalling life chapters is associated with self-concept clarity and self esteem. Participants described five important life chapters, five important specific memories, or facts about five US Presidents. They also completed the Self-Concept Clarity scale (SCC) and the Rosenberg Self Esteem scale (RSE). There were no main effects of memory condition on SCC or RSE scores. Participants in the life chapter recall condition who rated their chapters as more positive had higher SCC and RSE scores. In contrast, emotion ratings provided by participants in the specific memory recall condition were unrelated to SCC and RSE scores.

2-12. Environmental retrieval support in dementia: Object-cued recall improves autobiographical memory retrieval in Alzheimer’s disease patients

Marie Kirk & Dorthe Berntsen

The present study examines whether is it possible to circumvent the executive dysfunction associated with Alzheimer’s disease by manipulating the sensory richness and concreteness of the memory cues (objects versus their verbal referents) at the time of autobiographical memory retrieval in a sample of Alzheimer’s disease patients. Results demonstrate that Alzheimer’s disease patients retrieve significantly more autobiographical memories when cued by concrete objects as compared to their verbal referents, which suggest that strong, distinctive and sufficient cueing diminishes the impact of executive dysfunction in Alzheimer’s disease, thus allowing successful AM retrieval as indexed by a high autobiographical memory frequency.

2-13. Does intention to learn the locations facilitate eyewitness memory for cars?

Masanobu Takahashi, Atsuo Kawaguchi, & Shinji Kitagami

We investigated how accurately people can remember the locations in which the cars were presented. All participants were shown a series of photographs portraying different cars located in one of two (Experiment 1) and various locations (Experiment 2). One group of participants, in the car-only control group, was instructed to remember each of the cars. Those in the car-location group were instructed to remember both the cars and the relevant locations. Across two experiments, participants had much better recognition memory for the cars themselves than for the locations. The intention to learn the location improves the memory for the source.

2-14. What eye-tracking reveals about 20 month-olds’ encoding process in an elicited imitation study

Trine Sonne, Osman S. Kingo, & Peter Krøjgaard

By means of eye-tracking we investigated the encoding process of 20-month-old infants participating in an elicited imitation task. Sixty-eight infants were shown video demonstrations of 3-step sequences while being eye-

tracked, whereas 22 infants provided bauene measures. Subsequently the infants in the test group were tested on their ability to reproduce the demonstrated sequences, both immediately and after two-weeks. Our main interest was whether looking behaviour could predict performance. The results were rather puzzling: Overall looking time correlated negatively (or not at all) with memory performance, whereas pupil dilation data correlated positively with some of the behavioural data.

2-15. Factors that influence perceived cognitive control during childbirth and the effect on the infant and mother's well-being

Alina Benischek & Erica Woodin

We examined how perceived sense of cognitive control during pregnancy and child birth influences postpartum mental health of the mother. The cognitive and social risk factors associated with cognitive control were examined. Low perceived partner support, prenatal anxiety symptoms and associated cognitive difficulties were associated with low perceived control for the mother during labour and delivery. Mental stress and low perceived control were associated with postpartum PTSD, postpartum depression symptoms, and an increase in attentional and emotional behavioral concerns in the child.

2-16. Remembering and imagining: How does episodic counterfactual thinking fit in?

Müge Özbek Akcay, Annette Bohn, & Dorthe Berntsen

Mental time travel (MTT) is the ability to mentally represent personal events in subjective time. Many studies examined similarities and differences between MTT into the past and future. The extent to which episodic counterfactuals have similar properties to episodic memories and episodic future simulations has been understudied. Here, phenomenological characteristics and centrality of important episodic memories, counterfactuals, and future thoughts at different time points were compared. Episodic counterfactuals resembled memories by having lower ratings on valence, centrality, and importance, compared with future events. They resembled future thoughts by having lower ratings on imagery, vividness, pre/living, and specificity, compared with memories.

2-17. An examination of lifestories among patients with schizophrenia

Tine Holm, Dorthe Kirkegaard Thomsen, & Vibeke Fuglsang Bliksted

Lack of self-continuity is a defining feature in schizophrenia, which involves the experience that the past self is not meaningfully connected to the present self. Self-continuity may be established through the life story. In this study-in-progress we examine whether patients with schizophrenia have less coherent life stories compared to healthy controls. 30 patients and 30 matched controls describe and rate up to 10 life story chapters and 3 self-defining memories (SDMs). We expect that patients will have less chronologically organized chapters and that they will rate degree of self-continuity and causal coherence lower for both SDMs and life story chapters.

2-18. Narrative meaning-making, attachment, and health outcome

Matthew Graci & Robyn Fivush

Understanding how people turn episodes in time into subjectively meaningful experiences can shed light on adaptive meaning-making processes. Bridging attachment theory and narrative meaning-making may elucidate how individuals distinctively narrate traumatic memories and whether such expression matters for health. Single trauma narratives from 224 college participants were coded along dimensions related to attachment theory, exploration and support-seeking. Attachment style, personality traits, posttraumatic growth, and posttraumatic stress were also measured. Higher narrative exploration predicted higher growth and higher support-seeking predicted lower stress, after controlling for personality traits and attachment. Our findings indicate narrative processes matter for health beyond more dispositional factors.

2-19. Reciprocity threat as a predictor of policy attitudes

Karissa N. Wall

How can more progressive policy attitudes towards the poor be produced? Past literature shows that qualitatively distinct threat perceptions associated with specific groups generate emotions which predict policy attitudes better than measures of general prejudice. The present study seeks to reduce reciprocity threat – the threat perceived when someone takes more from group resources than they give back – by depicting a poor target who agrees to participate in a social program described either to promote positive mental well-being (non-reciprocity-based outcome), or to get participants off of welfare (reciprocity-based outcome). Results will be discussed in light of their theoretical and practical implications.

2-20. Fluency and change blindness: Does disfluency attenuate change blindness?

Shinji Kitagami, Sho Ishihara, Tomoyo Takahashi, & Kenji Ikeda

The present study examined how fluency affects subjective judgments (i.e., self-efficacy) and cognitive operation (i.e., detection time) in terms of visual short-term memory using a change detection task. In the experiment, fluency was manipulated by stimulus contrast levels. First, the participants were asked to assess their self-efficacy, and they completed a change detection task. The results showed that self-efficacy was higher in the fluent condition than in the disfluent condition, but detection time did not have this tendency. Thus, there was the discrepancy between self-efficacy judgments and cognitive operations. We discussed these results in terms of fluency theory.

2-21. The relationship between memory complaints, metamemory, memory performance and personality variables in healthy older adults

Katya T. Numbers, Amanda J. Barnier, Celia Harris, Thomas Morris, & Greg Savage

Older adults often perceive their memory ability as declining with age, despite performing normally on standardized memory tests. One explanation could be that non-cognitive features underlie, at least in part, this perception. We examined the relationship between memory complaining, metamemory, memory performance, and personality variables in a large sample of healthy older adults. We found memory complaining was better predicted by metamemory and personality variables than memory performance. We suggest personality variables—such as a tendency toward anxiety and rumination—may impact on some older adults' perceptions of their memories, leading them to discount their memories to an undue degree.

2-22. Autobiographical memory and well-being in aging: the central role of the self

Clare J. Rathbone, Emily a. Holmes, & Judi A. Ellis

This study investigated the relationships between episodic autobiographical memory, semantic self-images, and well-being in two age groups. Thirty-two older and 32 younger adults completed measures of well-being, and generated episodic autobiographical memories and semantic self-images (e.g. I am optimistic). Results showed that the emotional valence of semantic self-images, but not episodic autobiographical memories, was highly correlated with well-being, particularly in older adults. In contrast, well-being in older adults was unrelated to performance in standardised memory tasks. These results highlight the role of semantic self-images in well-being, and have implications for the development of therapeutic interventions for well-being in aging.

2-23. If you run after two hares, you will catch neither : Severe capacity limitation of internal attention in visual working memory

Masae Takeno, Taiji Ueno, & Shinji Kitagami

Human memory has a severe capacity limitation. Then, once we accidentally witness an incident, we should select which information to maintain for subsequent report. Thus, it is crucial to investigate how many items we can pay retrospective attention. In this study, participants remembered the color-shape combination of 4 objects. After encoding, no/one/two spatial cue(s) was presented to tell which item(s) to pay more retrospective attention (prioritization). When one item was retrospectively cued, accuracy for that item was higher than when no item was prioritized (control). However this cuing effect completely disappeared when two items were retrospectively prioritized.

2-24. Remembering pictures affects boundary extension

Megumi Nishiyama & Jun Kawaguchi

Boundary extension is regarded as the misremembering the view beyond the boundary of the original image. Here, we investigated whether remembering pictures affects boundary extension. The experiment consisted of three phases: a study, remembering and test phase. In the study phase, participants memorized pairs of pictures and cues. In the remembering phase, one half of the studied cues were presented and participants were asked to remember the corresponding images. Results showed that the remembered images elicited greater boundary extension than did the control images in the test phase, indicating that the reconstructive nature of remembering can contribute to boundary extension.

2-25. The relevance of 'Memory Sensitivity' and its implications for everyday functioning

Enrico Toffalini & Cesare Cornoldi

Memory Sensitivity (MS) is defined as 'the tendency of individuals to pay particular attention and accord particular value to their autobiographical memory' (Cornoldi, De Beni, & Helstrup, 2007). In the present work we will review recent findings of our lab on MS and its implications for everyday functioning. In particular, we will present results suggesting that MS may have a critical protective role for psychological well-being under particular conditions of increased vulnerability, such as being in old age or facing an existential threat such as having a child ill with cancer.

2-26. Can we increase culprit identifications in large lineups by dropping the warning?

Avraham Levi

This poster tested the effect of omitting the warning that the culprit may not be in the lineup in an 84-person lineup on identifications in target-present lineups and mistaken choices in target-absent ones. Witnesses viewed a two-minute video, and four screens of 12 photos at least an hour later. Omitting the warning had no effect on identifications, but it caused a large increase in mistaken choices. The warning should not be omitted for large lineups. The 84-person lineup has been validated as providing a reasonable number of real identifications, and minimizing mistaken ones.

2-27. Evidence for identifications based on partial memory in six-person lineups

Avraham Levi

The hypothesis that some witnesses viewing six-person lineups use their partial memory of targets to discount lineup members, thus falsely increasing identifications, was tested. Participants viewed a six- or 48-person target present lineup, with or without warning them that the target might not be present. No difference was found on the total identifications in six-person lineups between witnesses who received a warning or did not, but witnesses without very high confidence who did not receive a warning identified the target more. After discounting lineup

members, six-person lineup members were left with fewer members to choose from.

2-28. The past and future in children with anxiety disorders

Stine Breum Ramsgaard, Annette Bohn, & Mikael Thastum

In the present study 25 children diagnosed with anxiety disorders wrote their life stories, imagined their futures, generated cultural life scripts and filled out CALIS, SMFQ and SCAS-C for anxiety and mood. Replicating earlier findings in non-clinical samples, past life stories were longer than future life stories and contained more negative events and fewer life script events. Different from previous findings in non-clinical samples, past life stories were more coherent than future life stories. Furthermore, children with higher levels of anxiety had less coherent past life stories and integrated fewer negative events in their past life stories.

2-29. Knowing me, knowing you: a study of self and close other life story knowledge

Katherine Panattoni & Dorthe Kirkegaard Thomsen

Despite the recent proliferation of life story research, little attention has focused on our knowledge of others' life stories. Based on trait and schema research that perceptions of close others are influenced by one's own personality, the present study expects to find 1) correlations on agency and communion themes and redemption and contamination sequences between one's own life story and that of a romantic partner's, and 2) higher positivity - via redemption sequences - in one's own life story. Methodologically, participants (N=80) describe life story episodes for themselves and romantic partners, which are later quantitatively coded.

2-30. Self-event connections in life stories, subjective well-being, and age

Rikke Amalie Agergaard Jensen, Dorthe Kirkegaard Thomsen, & Maja O'Connor

We examined how self-event connections in the life story relate to subjective well-being (SWB). Self-event connections address change or stability in the self. 259 adults (aged 20-76) described up to ten chapters and specific memories, rated these on positive/negative self-event connections and completed measures of SWB and personality traits. Positive self-event connections were related to higher SWB, while negative self-event connections were related to lower SWB. Only negative self-change connections predicted SWB beyond personality traits. Compared with younger adults, older adults scored higher on positive self-stability connections, but lower on negative self-stability connections and negative self-change connections.

2-31. Can perception and memory tests predict real-world medication error rates?

Scott R. Schroeder, Meghan M. Salomon, William L. Galanter, Gordon D. Schiff, Allen J. Vaida, Michael J. Gaunt, & Bruce L. Lambert

Clinicians sometimes confuse similarly named medications (e.g., hydroxyzine and hydralazine), leading to potentially harmful errors. These errors are thought to be caused by lapses in perception and memory. We consider whether the error rate of a drug name on perception and memory tests can predict that drug name's real-world error rate. Evidence that cognitive tests predict real-world error rates would indicate that cognitive tests can be used as a screening procedure to identify proposed drug names that are confusable and should not be approved to enter the market. By using an effective screening test, dangerous medication errors can be prevented.

2-32. Lateralized processing of emotional images: The existence of a right hemisphere memory bias

Ella Moeck, Melanie Takarangi, & Nicole Thomas

The right hemisphere of the brain is primarily responsible for visuospatial and emotional processing, particularly of negative emotions. Considering these roles, it is possible that the right hemisphere is involved in the development of Post Traumatic Stress Disorder. In the present research, we investigated the existence of a right hemisphere memory bias for recognizing negative, compared to neutral, images, presented for less than 500ms. Although there was no effect for recognition, subjects were most confident in their answers for negative images processed in the right hemisphere. This result is consistent with the aforementioned role of the right hemisphere.

2-33. Negative emotional stimuli and the boundary restriction phenomenon

Deanne Green, Melanie Takarangi, Deryn Strange, & Sasha Quayum

Memory errors occur frequently. Boundary extension, a tendency to remember scenes as having extended peripheral detail, is a robust example. More recent research has demonstrated that negative or traumatic content triggers the opposite phenomenon: boundary restriction. However, it is unclear whether boundary restriction is a genuine or spurious phenomenon. In the current research, we investigated whether or not boundary restriction is merely a moderation of boundary extension, and tested the conditions that induce boundary restriction. Our data indicate that boundary restriction and boundary extension errors are independent phenomena, dependent on picture valence.

2-34. Cultural life scripts across the life span

Azriel Grysman, Sarah Dimakis, & Gina Vargas

We explore the events that adults anticipate after age, given that the most important and positive cultural life script (LS) events occur between ages 11-30. American adults age 40+ nominated seven future events expected

for a typical person of their age. Responses yielded an outline of a LS for middle and older adults, including original LS events, new events, and attending others' normative LS events. Positivity was associated with LS events of relatives and events expected to occur soonest, suggesting a shift in how the LS helps maintain a positive future outlook and serve as a platform for meaning.

2-35. Challenging the past: The effects of disconfirmatory social feedback on autobiographical memory

Lauren Wysman & Alan Scoboria

This study examined participants' self-reported experiences of having someone else challenge their memories, with a specific focus on the characteristics and outcomes of these challenges (i.e., maintain vs. reduce belief in occurrence; publicly agree vs. disagree). Participants' (N = 320) narrative responses were collected online and coded with particular attention to choices to maintain versus revise belief in the memory. The types of challenges reported, the self-reported outcomes of the social challenge, and quantitative data will be presented. Implications of the data and ongoing follow-up studies with special populations (i.e., survivors of intimate partner violence) will be discussed.

2-36. Challenging the memories of others

Fiona Dyshniku & Alan Scoboria

A natural extension of recent advances in the literature on the experience of challenges to vivid memories is to study the motivations for deliberately initiating a challenge to another person's memory and the strategies used to accomplish this. Participants (N = 300) described a time that they chose to challenge another person's memory and answered related questions. Distinct motivations for challenging memories are described. Results will be discussed in the context of research on the motivation to maintain a positive self-view versus motivation to maintain the relationship with the person whose memory was challenged.

Friday June 26

8:30 am – 10:00 am

Paper Session **Room: Theatre**

Assessment of Behaviour to Detect Truth and Lying

The truth bias is not automatic: It is an informed guess

Chris N. H. Street, Alan Kingstone, & Daniel C. Richardson

People are biased to believe information rather than disbelieve it. The "Spinozan" account claims this "truth bias" is unintentional and uncontrollable. An alternative account might claim the truth bias is an attempt to make a guess when the person is uncertain by relying on prior knowledge. In three lie detection experiments we show that the Spinozan effect is only found if people are forced to make a guess. When they are not forced to guess, there is no bias to believe. We conclude that the truth bias reflects a smart guess under uncertainty.

Translating theory into practice: Evaluating a cognitive lie detection training workshop

Aldert Vrij, Sharon Leal, Samantha Mann, Zarah Vernham, & Femke Brankaert

A training workshop utilising the most up to date research in cognitive lie detection was designed and evaluated. For this evaluation, 27 experienced police detectives each interviewed one mock-suspect (a truth teller or liar) before training and another mock-suspect (a truth teller or liar) after training. The police detectives were free to interview the mock-suspect in any way they felt appropriate but were asked to try to incorporate (some of) the taught techniques in the post-training interviews. Trainees' ability to distinguish truth tellers from liars improved, and so did the percentage of appropriate questions they asked.

Re-defining scientific content analysis operationally: First promising results

Siegfried L. Sporer

Scientific Content Analysis (SCAN) is a frequently used lie detection "tool". Content elements as indicators of lies (or truths) are marked in written statements but there is little evidence for SCAN's reliability or validity. We developed 36 precise operational definitions of "RSCAN" items. Accounts of 54 true and 54 invented significant life events were rated each by a total of six raters which improved inter-coder reliabilities compared to previous studies. Significant differences for some items emerged but sometimes opposite to predictions by SCAN practitioners. Effect sizes and classification accuracies were promising. Similarities to other content approaches are noted.

How do cognitive variables predict an individual's ability to detect deceptive emails?

Helen Jones, John Towse, Nicholas Race, T. Harrison

Some estimates suggest online fraud generates an annual global cost of over US$100bn. Much of this can be

attributed to risky decisions which users make online; yet psychology hasn't contributed to understanding this phenomenon to the extent one might imagine. We analyse whether, and why, some users demonstrate higher vulnerability to online fraud, with particular focus on phishing emails. Incorporating a number of cognitive variables, including working memory, self-control, inhibition, and decision time, we describe a psychological profile of the most vulnerable users. Future research will incorporate these findings into training techniques to improve users' ability to detect deceptive emails.

You can't hide your telephone lies: Providing a model statement as an aid to detect deception in insurance telephone calls

Sharon Leal, Aldert Vrij, Lara Warmelink, Zarah Vernham, & Ronald P. Fisher

Insurance telephone operators interviewed truth telling and lying 'mock claimants'. These operators classified correctly only 50% of claims. The task was difficult, claimants' said little and truthful and deceptive statements did not differ in CBCA quality or plausibility. In a second, laboratory experiment, some participants were exposed to a 'model statement' of detailed, truthful account. The word count, quality and plausibility of the participants' accounts were compared with participants who were not given this example. Participants who had the model statement provided longer statements and truth tellers obtained higher CBCA scores and sounded more plausible than liars. Providing a model statement can enhance truth/lie detection accuracy in insurance claims and other interview settings.

Paper Session — Room: Esquimalt

What are the Cognitive Bases of Lineup Choices?

Centrality bias in eyewitness identification decisions

Matthew A. Palmer, James D. Sauer, & Glenys A. Holt

We investigate a centrality bias in eyewitness identification decisions. A re-analysis of data from several large-scale experiments shows that innocent lineup members are more likely to be chosen if placed in a central position rather than an outer position in the lineup. We show that this effect is pronounced when eyewitnesses guess in their responses to lineups (Experiment 1) and occurs regardless of whether witnesses think the lineup photos were arranged deliberately or randomly (Experiment 2). Importantly, the centrality bias can be undermined by presenting lineup photos in an array that does not have a clear center (Experiment 3).

Effects of lineup size and additional poses on identification accuracy

Natalie Kalmet, Andrew Smith, & R. C. L. Lindsay

The current experiment extends previous research investigating how lineup size and number of poses affect correct and incorrect suspect identifications. Each participant (N = 182) saw four targets (via 3s video clips) and made decisions regarding the presence or absence of the targets in subsequent lineups. Lineup size (6, 12, 24) and number of poses (1, 2, 3) were between-subjects factors. Lineup size decreased correct identifications rates, though adding poses did not prevent this drop. Choosing rates did not significantly differ by condition, though both target-present filler identifications and rejections did appear to increase as lineup size increased.

Compliance vs. contamination: Understanding the misinformation effect in an eyewitness identification task

Jennifer L. Beaudry & Amy Bradfield Douglas

We extended the misinformation effect to an eyewitness identification paradigm by presenting eyewitnesses (N = 119) with misinformation about a target-absent lineup member. We manipulated the source (high- vs. low-power) and plausibility of the misinformation (plausible vs. implausible lineup member). Source and plausibility independently influenced witnesses' selections. More witnesses selected the misinformation lineup member when a high-power (cf. low-power) source presented the misinformation and when the misinformation was plausible (cf. implausible). After a demand characteristics warning witnesses made a second identification decision. Similar results emerged from the second lineup, suggesting that the misinformation contaminated their memory for the perpetrator.

Misinterpreting eyewitness expressions of confidence: The featural justification effect

Chad Dodson & David Dobolyi

When eyewitnesses provide a verbal expression of confidence about a lineup identification, such as "I'm pretty sure it's him," how do we know that police, jurors and others will interpret this expression of confidence in the way that was intended by the eyewitness? And, how is this perception of the meaning influenced by justifications of the level of confidence, such as when eyewitnesses say, "I remember his chin"? Until now, the answers to these questions have been unknown, as there has been no research on how others interpret the intended meaning of eyewitness confidence.

Understanding confidence judgments in lineup decisions through manipulations of target-filler similarity

Ruth Horry & Neil Brewer

Our theoretical understanding of eyewitness identification confidence is underdeveloped. In seven experiments, we investigated the influence of similarity relationships between lineup members on confidence judgments. In each experiment, participants studied a series of digitally-created faces and completed 64 "mini-lineups", providing confidence judgments for each identification decision. We manipulated the degree to which each filler resembled the

target (or target-replacement). The results showed that confidence judgments for positive identifications were influenced by the average similarity of the fillers to the target, even after controlling for response latency. For negative decisions, confidence was unrelated to the similarity relationships in the lineup.

Symposium

Room: Oak Bay 1

The trouble with photos

Kimberly Wade & Brittany A. Cardwell

Photographs influence our beliefs, memories and judgements. This symposium combines research that demonstrates some troubling, but intriguing, new effects of photos on memory and cognition. Papers 1-2 examine how photos shape people's judgments about their own knowledge and the benefits of health-related products. Papers 3-4 examine the effects of photos on decisions about past and future events. Paper 5 investigates the extent to which people can distinguish between authentic and doctored photos. The findings highlight the power of photos to influence memory and cognition in a broad range of contexts and advance our understanding of the mechanisms involved.

Photos increase feelings of understanding

Brittany A. Cardwell, D. Stephen Lindsay, & Maryanne Garry

To what extent do photos influence how people evaluate their own knowledge? For example, how much do photos affect how people think they understand processes? To answer this question, we had people rate how well they understood several processes (such as how rainbows form). Sometimes processes appeared with a related photo (a photo of a rainbow); sometimes processes appeared alone. People thought they understood processes better when they appeared with photos. This pattern fits with the idea that photos make it relatively easy to access thoughts and images, an experience people interpret as evidence they know or understand related information.

When is an image a health claim? Packaging imagery promotes false recollection of written claims

Robert A. Nash, Naomi A. Klepacz, M. Bernadette Egan, Charo Hodgkins, & Monique M. Raats

Legislation in many countries specifies that images on food packaging can qualify as 'health claims', insofar that they could imply health benefits. In three experiments, subjects saw fictional product packages accompanied by various written claims. Some packages contained incidental images that implied health-functions (e.g., a brain image), and some contained no image. In a subsequent memory test, subjects often recognized health claims that—despite being implied by the images—were not truly presented. These findings confirm that images can lead people to implicitly infer health benefits of products; the spontaneity of these inferences suggests that they could be highly pervasive.

Photos produce a rosiness bias when people make judgments about future events

Tanjeem Azad, Eryn J. Newman, Maryanne Garry, & D. Stephen Lindsay

We asked people to judge the truth of claims that commodities would increase [or decrease] in price in the future. Half the time, subjects saw a tangentially related photo paired with the claim. Experiments 1 and 2 showed a rosiness bias: photos led people to believe positive, but not negative claims. Experiment 3 showed the rosiness bias for distant future claims. Experiment 4 extended the rosiness bias to self-relevant claims about the future. For judgments about commodities in the past photos increased truth ratings of both positive and negative claims. Collectively, our findings suggest a rose-coloured bias for positive future events.

False memory formation is enhanced when photos are perceived as relevant but not specific to suggested events

Joanna Hessen-Kayfitz, Alan Scoboria, & Kendra Nespoli

Prior studies indicate that suggesting events using photos from the relevant lifetime period produce more false memories than suggestions that include photos that depict the event. However, this may be due to differences in the photographs or differences in the time-frame to which photos are attributed. A balloon ride was suggested using a standard memory implantation procedure, and included: 1) a photo of the participant and a parent labeled as taken during that lifetime period; 2) the identical photo labeled as taken during the event; or, 3) no photo. False memory formation was strongest in the lifetime period condition.

Identifying manipulated images

Sophie Nightingale, Kimberly Wade, & Derrick Watson

Digitally manipulated images are ubiquitous in our daily lives, yet little research has examined people's ability to detect whether an image has been altered. Using a doctored-image detection task, we found that the sensitivity to identify image manipulations (e.g. shadow inconsistencies) did not differ from zero (d`=-0.028). Furthermore, there was an overall bias to accept images as authentic (c=.265). These analyses highlight people's remarkable inability to identify image alteration. The prevalence of digitally altered images in society paired with findings that such images can influence our cognition and behaviour, warrant the need to develop a greater understanding of this area.

Paper Session — Room: Oak Bay 2

Learning in Educational Contexts: Children, Young Adults

Children's understanding of scientific concepts: Exploring the benefits of hand gestures
Lynley McLay, Karen Salmon, & Deirdre Brown

We examined whether children's learning and memory of abstract scientific concepts would improve if children observed informative hand gestures accompanying the verbal information. Such hand gestures improve learning in mathematics, but research with scientific concepts is limited. Children (aged 7-9) were taught about the solar system; some children received verbal instruction with associated hand gestures, while others were instructed verbally only. One day later, children were interviewed to assess their learning and memory. Preliminary results show the two groups did not differ in the amount or accuracy of information reported, suggesting the benefits of gesture may vary across learning conditions.

Differential effects of "action valence" and "agent of action" on preschoolers' memory and suggestion
Nieves Pérez-Mata, A. Moreno, & M. Diges

This study examined how "action valence" (positive or negative actions) and "agent of action" (adult/teacher or child) affected preschoolers' memory and suggestion. Firstly, preschoolers (3 – 6 year-olds) interacted with an interviewer/teacher and both performed positive and negative actions. A week later, another interviewer evaluated preschoolers' memory and suggestion. Results revealed: An age effect on memory and suggestion; a better recognition for adult than child actions; more acceptance of: positive than negative suggestions, and suggestions about children than those about adults. So, memory was only affected by the agent of action, but suggestion by the valence and the agent of action.

Proficiency moderates language-dependent recall
Alena G. Esposito & Lynne Baker-Ward

We examined memories in cross-language immigrants and posit that second-language proficiency provides a resolution to a discrepancy in the literature regarding language-dependent recall. Some studies have found that the language of the cue word is related to the language of encoding while others have found no relationship. We found support for second-language proficiency as a moderator of language-dependent recall such that language-dependent recall only emerged for individuals with lower second-language fluency and not for highly proficient bilinguals. The results are consistent with a developmental model of second-language acquisition and underscore the importance of language experience on memory reports.

Memory for lectures: how lecture format impacts the learning experience
Trish Varao Sousa & Alan Kingstone

Using a real classroom, the present study investigated whether memory or mind wandering are impacted by a single, but significant, change in the learning environment: physical professor presence. Students attended their regularly scheduled class session and were probed to report mind wandering and later complete a memory test. On their next scheduled class session they watched a pre-recorded video version of the lecture they were scheduled to receive, again mind wandering and memory performance were measured. Results indicated that lecture format affected memory but not mind wandering, with enhanced memory in the live lectures.

Effects of processing fluency on undergraduate students' perception of university coursework
Ian R. Mundy & Rebecca L. Wheeler

The processing fluency of written instructions (i.e. the ease with which the instructions can be cognitively processed) has been shown to influence the perceived difficulty of a novel task with additional implications for participants' levels of motivation and self-efficacy (Song & Schwarz, 2008). The present study aimed to investigate this phenomenon in an applied educational context by asking 238 undergraduate students to appraise a hypothetical coursework assignment. As in previous research we found a fluency effect on motivation levels. However we were unable to replicate an effect of fluency on perceived difficulty. We suggest a mediating influence of task familiarity.

Paper Session — Room: Saanich 1

Effects of Retrieval, Repetition, and Reminiscence in Autobiographical Memory

Visual imagery in autobiographical memory: The role of repeated retrieval in shifting perspective
Andrew C. Butler, Heather J. Rice, Cynthia L. Woolridge, & David C. Rubin

Recent memories are generally recalled from a first-person perspective whereas older memories are often recalled from a third-person perspective. We investigated how repeated retrieval affects the availability of visual information, and whether it could explain the observed shift in perspective with time. In two experiments, participants performed mini-events and nominated memories of recent autobiographical events in response to cue words. Next, they described their memory for each event and rated its phenomenological characteristics. Over the following three weeks, they repeatedly retrieved half of the mini-event and cue-word memories. No

instructions were given about how to retrieve the memories in Experiment 1, but participants were asked to adopt either a first- or third-person perspective in Experiment 2. One month later, participants retrieved all of the memories and again provided phenomenology ratings. When first-person visual details from the event were repeatedly retrieved, this information was retained better and the shift in perspective was slowed.

Retrieval-Induced Forgetting may alter phenomenological vividness and emotional valence of autobiographical memories
Jeremy Yamashiro & William Hirst

The way an autobiographical memory is told may alter how it is remembered in subsequent tellings. Stone, Barnier, Sutton, & Hirst (2012) demonstrated how selective practice may lead to decreased availability of closely related autobiographical episodes via a process called socially-shared retrieval induced forgetting (Cuc, Koppel, & Hirst, 2007). Here we examine how phenomenological vividness and emotional valence of autobiographical memories are altered by selective retrieval practice. Preliminary data indicate that despite replicating Stone et al., when independently cued, inhibited autobiographical episodes do not show decreased vividness, and in fact are experienced as more vivid than unrelated, unpracticed episodes.

Making a sad song better: Positive reappraisal in autobiographical memory from ages 6 to 60
Gwynn Morris, Lynne Baker-Ward, & Mary Styers

Although positive reappraisal is an important component of coping, little is known about its development in autobiographical memory. We created a coding scheme reflecting accomplishments in multiple domains of development and examined changes in positive reappraisal across ages 6-60. Analysis of 286 reports of negative memories revealed a protracted developmental course. With increasing age, children more often reported acceptance of negative experiences. Personal insights were rarely conveyed before adulthood and increased from college to midlife. No linkages were found between positive reappraisal and ratings of event outcomes. We will discuss linkages between autobiographical memory and the development of coping mechanisms.

Functions of autobiographical memory in a nursing home: Reminiscence in nursing home residents
Linda A. Henkel, Alison Kris, Sarah Birney, Kaitlyn Krauss

People use their autobiographical memories to serve different functions. This study examined the role reminiscence plays in a nursing home setting. How often do residents reminiscence, with who, and what functions and values are there? Older adult residents reported using reminiscence to maintain intimacy and nurture social bonds, but not for death preparation or problem-solving. Different styles of reminiscence were related to morale, depression, and loneliness. Residents generally reminisced alone, and enjoyed reminiscence with family more than with fellow residents. Although they enjoyed sharing personal experiences with healthcare providers, this was rarely done and they expressed desire for increased opportunities.

The role of cognitive load and inhibition in formation of involuntary autobiographical memories
Krystian Barzykowski

Little is known about cognitive mechanisms of involuntary autobiographical memories (IAMs). According to Conway and Pleydell-Pearce (2000) the executive control system inhibits involuntary autobiographical memories occurrence. On the other hand, existing results (Schlagman, Kliegel, Schulz & Kvavilashvili, unpublished) suggesting working memory capacity dependency of IAMs. The goal of the study was to verify the alternative hypothesis: cognitive inhibition vs the cognitive resources dependency hypothesis. The results obtained in experimental design (Schlagman & Kvavilashvili, 2008) support the cognitive inhibition dependency hypothesis and shed some light on the cognitive mechanisms of IAMs. Possible explanations of these outcomes will be further discussed.

10:00 am – 10:20 am

20-minute Break

10:20 am – 11:50 am

Symposium **Room: Theatre**

Visual attention in multifaceted, dynamic, social environments
Alan Kingstone

Traditionally, attention research has been unidimensional, focusing on how an individual, in isolation, responds to simple images presented as a series of brief isolated static trials. One of the most remarkable aspects of this research is how divorced it is from reality, where people live in a rich, multifaceted, dynamic and social world. The talks in this symposium provide a glimpse of what attention research can be, and the discoveries it can yield,

when one is sensitive to the fact that humans live with other people in an ever-changing environment.

Mind wandering in educational contexts

Evan F. Risko

Disengaging attention from an external task to internal thoughts (i.e., mind wandering) often impairs performance, yet this behavior is relatively frequent. This is nowhere more true than in educational contexts (e.g., lectures, reading for comprehension). Thus, understanding mind wandering in these contexts represents an important goal for applied cognition and a potentially fruitful real-world context for exploring attention. The present talk will review studies investigating mind wandering in educational contexts, particularly lectures, with an eye towards identifying conditions that might reduce mind wandering.

What's in a friendship? Body language supports cognitive collaboration among friends

Allison A. Brennan & James T. Enns

This study examined two factors that allow team members to collaborate effectively on a cognitive task: friendship status and communication channel. Participants completed a cognitive task individually, and as a team with a friend or stranger. Teams were either visible to one another (allowing nonverbal communication) or separated by a partition (restricted to verbal communication). The results showed that friends collaborated more efficiently than strangers without the partition, but that friends and strangers collaborated at similar low levels with the partition. These findings link friendship and effective cognitive collaboration, and suggest the importance of body language in collaboration among friends.

The reciprocity of gaze and social interaction

Daniel C. Richardson*, via Skype*, & Matt Gobel

Attention is shaped by social interaction and social interaction is shaped by attention. When participants talk, their gaze coordination is modulated by what they believe the other can see and what they believe the other knows. Individuals will look at photographs differently if they believe that another person sat elsewhere is looking at the same images. Gaze patterns across a face will change if the perceiver believes that the face can also perceive them. Gaze is not just a window onto the processes of social interaction, but a tool used in its construction.

Cognitive ethology and the investigation of human attention

Alan Kingstone

My colleagues and I have proposed a new research approach, called Cognitive Ethology, that seeks to bridge the gap between cognitions and behaviours as they operate in everyday life with those studied in controlled lab-based investigations (Kingstone et al., 2008; Risko et al. 2012). Recent investigations have tested and confirmed the validity of the cognitive ethology approach thereby providing a "proof of concept". The present talk reviews some of these studies, with a special emphasis on how they have informed our understanding of human attention as it operates in real world and lab environments.

Paper Session — Room: Esquimalt

Acceptance and Rejection of Misinformation

The impact of multifaceted questions on rejecting suggested misinformation

Caitlin Weihing, Nicole Johnson, Shannon Gilson, & Quin Chrobak

Recent research has demonstrated that participant-witnesses are particularly susceptible to misleading false information when asked complex questions. The present results suggest that participants' accuracy is impaired even when misleading false information is experimenter provided, as opposed to self-generated. This decrease in accuracy when responding to complex questions may be due to the limited amount of information witnesses are able to hold and process simultaneously. Presenting complex questions simultaneously in a visual and verbal format reduces this impairment.

Correcting the misinformation effect

William E. Crozier & Deryn M. Strange

The Misinformation Effect occurs when people make memory errors for an event based on misleading post-event information. The best method to reduce these memory errors is unclear. This 3-Part Study seeks to evaluate the usefulness of correcting misinformation. This strategy has not been directly tested and offers a method to limit misinformation effects after the misinformation has been given. Participants were shown a video then given a post-event narrative with misleading details which were subsequently corrected within the narrative. We found that these corrections were effective at reducing the misinformation effect, which may be due to reducing narrator credibility.

Effectiveness of correcting mistaken information in news reports depends on correction timing

Patrick R. Rich & Maria S. Zaragoza

Initial misinformation in news reports can continue to influence readers' judgments and inferences even after a correction has been provided (Lewandowsky et al., 2012). However, prior studies have always presented the misinformation and correction as part of the same story, though this rarely occurs in real-world settings. To address this limitation, in the current study participants received a correction on the same day as the misinformation or 2 days later. The results suggest that the delayed correction was less effective than the immediate correction, consistent with recent research suggesting corrections are more effective when the discrepancy can be easily detected.

Testing the timing of the misinformation effect with an expertise manipulation
Paul Williamson & Melissa Lane

We investigated the temporal nature of the misinformation effect using a manipulation of the timing of an encoding duration manipulation that has been shown to lead to greater memory conformity among dyad members who believe that they viewed stimuli for less time than their fellow co-witnesses. We found encoding duration and timing interacted: an effect of encoding duration only occurred for those who knew about the encoding difference before the discussions but not for those who only found out about the encoding differences prior to the memory tests. Source monitoring and social influence effects as misinformation is presented are emphasized.

Modelling the misinformation effect
Timothy Gillespie, Ruth Horry, & Paul Williamson

Understanding of the misinformation effect demonstrated and brought into prominence by Loftus et al. (1978) has been gradually refined. Typical theoretical explanations for the effect suggest a combination of three processes: item memory; source monitoring errors; and response biases (guessing). However, these processes are suggested as a post-hoc explanation, without empirical support for the specific role each process plays in the given paradigm. By modifying the typical paradigm to collect source monitoring responses, multinomial processing tree models can now be applied. These models provide parameter estimates and therefore quantifiable roles for each of the three previously entangled processes in question.

Symposium — Room: Oak Bay 1

Showup identification procedures: Applied and methodological implications

Andrew M. Smith & Mitchell L. Eisen

The intention of this symposium is to examine issues related to showups. We compared identification accuracy for single- and multiple-suspect showups, showups high and low in ecological validity, the implications of repeated showups, and the impact of repeated showups on the target-present base-rate in lineups. The first presentation found that clothing-change reduced choosing in single- and multiple-suspect showups. The second found that innocent suspect identifications were more likely from ecologically valid showups. The third found that identifications from repeated procedures are uninformative. The fourth argues that, if lineup-suspects are recruited from repeated showups, the target-present base-rate will be low.

The influence of clothing change on solo and group street identifications
Josh P. Davis & Kelly Battenti

In England, street identifications are mainly conducted shortly after a crime, with the suspect present in person (live). Most are solo procedures (showups), although group procedures involving two or more suspects can be conducted – in effect these are all-suspect lineups. Culprits also sometimes change or discard clothing on leaving the scene of the crime. The current research found no differences in identification rates between solo and group live culprit-present or in culprit-absent trials in which the culprit was replaced by an innocent suspect, although a clothing change between mock crime and procedure substantially reduced the likelihood of anyone being identified.

Live showups in the field: What we can't learn from laboratory research
Mitchell L. Eisen, Alma P. Olaguez, Jessica Pope, Gabrielle Aroz, Satchel Pratt, Joseph Williams, & Marilyn Orozco

Small groups of seven subjects (N=288) witnessed a staged theft while participating in an unrelated experiment. In the law-enforcement field condition, the police responded and escorted witnesses to a live showup involving a handcuffed suspect by a patrol car. Otherwise, participants were informed the theft was not real, and a live showup was conducted by the researchers. The innocent suspect was either similar or dissimilar to the thief, and participants were either admonished or not. Results showed that false identification rates across conditions of similarity and instruction generally doubled in the law enforcement field test compared to the lab simulation.

A Bayesian comparison of single and multiple showup procedures
Joseph P. Davis & R. C. L. Lindsay

Recent research demonstrates that police sometimes use more than one showup with the same eyewitness for single perpetrator crimes and that innocence risk increases with the number of showups (Smith et al. 2014). We compared single and multiple showup procedures over a range of prior probabilities. Though an identification from a single showup procedure increases the probability of guilt, no information can be gained when officers are willing to use two showups with the same eyewitness. Worse yet, when officers are willing to use three or more showups, identifications and rejections are equally exculpatory – showups are useless in this context.

Target-present base-rates in lineups: Implications of showup research
R. C. L. Lindsay & Andrew M. Smith

Sequential lineups reduce mistaken identifications but also reduce correct identifications. Depending on the base-rate

of perpetrator-presence, sequential or simultaneous lineups might be preferred. Many lineup suspects are obtained via showup identifications. Showups are: 1. Frequently used. 2. Often repeated (a single witness who rejects a suspect is shown another showup, and another, …). 3. And, likely to produce innocent suspect identifications. Thus, the target-presence base-rate in lineups might be exceedingly low. If true, sequential lineups ought to be strongly preferred to simultaneous lineups, but all identifications from lineups will be of limited value as evidence of guilt.

Discussion
Jennifer E. Dysart

Symposium

Room: Oak Bay 2

The cognitive psychology of dietary behavior

Brittany Merson & Kathy Pezdek

Dietary behaviors influence a wide range of outcomes at both an individual and societal level. Recently, cognitive psychology constructs and theories have been applied in nutrition and health domains to provide a better understanding of how individuals choose dietary behaviors. Panelists will present their research results examining the role of executive functioning, inhibition, attention, learning, and memory in dietary intake and decision making. These researchers are seeking new ways to reduce obesity and improve dietary intake. The symposium will also include a more general overview of how researchers apply topics in cognitive psychology to the field of health behavior.

Sustained effects of attentional bias modification of food cues in overweight adults
Eva Kemps, Marika Tiggemann, & Sarah Hollitt

Evidence shows that overweight individuals exhibit an attentional bias for food, and that this bias can be modified. We investigated whether such modification effects can be maintained over time. Using a dot-probe paradigm, overweight adults trained to direct attention away from pictured food cues over 5 weekly sessions showed a reduced bias for these cues. This effect was maintained at 24-hour and 1-week follow-up, and generalized to an independent measure of biased processing, i.e., participants produced fewer food words on a word stem task. Results are consistent with neuro-cognitive perspectives of obesity and offer potential scope for combatting pathological (over)eating.

Inhibition for food specific and general items in restrained and unrestrained eaters
Brittany Merson & Kathy Pezdek

Dietary restraint is a self-report measure of dietary disinhibition, including low ability to inhibit responses to food related stimuli. In this experiment participants in the low and high quartiles of a dietary restraint scale completed the Stroop task, an emotional Stroop task with food words, and the Simon task to assess inhibition. Significant differences in task outcomes were observed between groups. People with high dietary restraint showed poorer inhibition for both food and general stimuli than people with low dietary restraint, suggesting that individuals experiencing difficulty inhibiting responses to food stimuli also have difficulty inhibiting responses to stimuli more generally.

Executive function and health behaviors related to obesity: A comprehensive review of findings from the pathways to health study
Nathaniel R. Riggs, Mary Ann Pentz, Donna Spruijt-Metz, & Chih-Ping Chou

Pathways to Health (Pathways) is a large-scale youth obesity prevention trial focusing on promoting self-regulation of food intake and physical activity. Central to the Pathways model is executive function (EF), neurocognitive processes necessary for self-regulated and goal-directed behavior. Reviewed will be six years of research testing associations between EF and multiple health behaviors related to obesity. Early cross-sectional data will be discussed that contributes to intervention development and piloting. Longitudinal data will also be presented demonstrating mediation of Pathways effects on health risk behaviors, and subgroup and moderation analyses suggesting for whom EF relates to body mass index.

Improving learning and transfer of calorie information
Erica Wohldmann

People are generally not very good at estimating quantitative information. However, seeding the knowledge base has been shown to improve estimation accuracy (e.g., Brown & Siegler, 1996). Like other numerical information, estimating calories is also difficult, with the total calories in meals often being underestimated, even by registered dietitians (e.g., Backstrand, Wootan, Young, & Hurley, 1997). In this talk, I will discuss a series of experiments that examine ways to improve learning and transfer of calorie information, including the seeding technique. The practical applications of this research to education and health will be discussed.

Decision making based on nutrition labels: The role of prior nutrition knowledge
Lisa M. Soederberg Miller & Diana L. Cassady

Nutrition labels on packaged foods are intended to communicate the requirements put forth in the Dietary Guidelines for Americans. Yet, using nutrition labels to make healthful choices represents a complex skill. Prior nutrition knowledge may be an important component of nutrition label use related to dietary decision making, however, few studies have investigated this possibility. We will present our research investigating (a) how

consumers allocate attention to nutrition information on food labels in making decisions, (b) associations between attention and accuracy of decision making, and (c) the role of prior nutrition knowledge in decision making processes related to dietary choice.

Symposium

Room: Saanich 1

Social aspects of memorizing and remembering: Moving from basic findings to applied topics

Suparna Rajaram & William Hirst

Although there has been increased interest in the social aspects of memory in recent years, researchers are only beginning to translate the basic results to applied settings. This symposium will focus on the innovative methods in this new research area that can be applied to pressing social problems. Presenters focus on the construction of collective memory, the role of collaborative remembering in education, and the neural underpinnings of collaboration effects on memory in the aged. Ways of further applying the basic research will be discussed.

The influence of collaborative remembering on varieties of memory

Adam R. Congleton & Suparna Rajaram

Our research has demonstrated that remembering the past with others shapes both the content and structure of people's memory. As part of this talk, we will discuss two studies in this area by examining collaboration's influence on varieties of memory (recall, collective memory, and people's knowledge of the source of their memory, i.e., whether information they remember was something they knew prior to collaboration, or whether they first encountered it through collaborative discussion with others). In two studies, we examined the influence of antecedents to collaboration and the influence of the timing and frequency of collaboration on these memories.

Conversational network structure impacts mnemonic convergence in small communities

Alin Coman, Ida Momennejad, Andra Geana, & Rae Drach

This talk explores how conversations in small, lab-created communities lead to the formation of shared mnemonic representations. Groups of 10 participants were asked to first study and then individually recall information. Subsequently, they engaged in dyadic, computer-mediated interactions in which they jointly recounted initially presented information. The sequence of these conversations followed a pre-established network structure. A final individual recall followed. We found that: 1) one's mnemonic influence in the network has clear limitations; 2) the strength of this influence circumscribes the community's mnemonic convergence, and 3) the conversational network structure impacts the degree of convergence a community could reach.

Retrieving knowledge in a collaborative context: Costs, benefits, and implications

Sarah Pociask, Elizabeth Marsh, & Suparna Rajaram

Working in groups is common. For example, students study in groups or co-workers problem-solve together. Our question is how such collaboration affects the retrieval of knowledge people bring to bear in their discussions. Participants completed a series of general knowledge tests, either collaboratively in triads or individually. Collaboration increased retrieval of correct answers and decreased errors and omissions, exceeding the small improvement observed with repeated individual testing. To further explore the effects of collaboration, group members were exposed to misinformation prior to or immediately following a collaborative retrieval task. Costs and benefits of collaboration, and educational implications will be discussed.

The applied implications of identifying the neutral systems of collaboration in aging

Helena M. Blumen & Saul R. Korey

Recent research suggests that collaborating with others during recall can enhance later individual recall. Yet, we know very little about the neural systems that operate during collaboration. Identifying the neural systems of collaboration is of applied importance particularly in aging because both normal and pathological aging is associated with known changes to the structure and function of the brain. I will discuss the applied implications of an initial fMRI study that links collaboration to neural systems previously linked to social processing of information – including medial prefrontal regions – which are relatively spared in aging compared to lateral prefrontal and hippocampal regions.

A discussion of applying research on social effect on memory to real world issues

Suparna Rajaram & William Hirst

Rajaram and Hirst will discuss the presented findings and explore how what psychologists know about the social aspects of memory might be further applied to pressing social problems.

11:50 am – 1:25 pm

Lunch (not provided)

1:25 pm – 2:55 pm

Symposium **Room: Theatre**

Nonbelieved memories: Decision-making and consequences

Alan Scoboria

These papers present recent research on nonbelieved memories (NBMs) and decision making about existing memories. NBMs are memories that were once believed to be true, the person has decided to reduce their belief for the event. Despite this loss of belief, the mental representation for the event continues to be experienced much like a believed memory. These current topics include: appraisals of occurrence and accuracy within believed and nonbelieved memories; 'high stakes' instances of memory retraction; the impact of self-generated false denials on remembering; analysis of memory verification strategies; and consequences that follow from the development of NBMs.

Accuracy appraisals for believed and nonbelieved autobiographical events
Alan Scoboria

The study of nonbelieved memories has extended understanding of metatmemory judgments that contribute to remembering. Recent research documenting dissociations between appraisals of occurrence, recollection, and accuracy are reviewed. New data is presented in which these appraisals are contrasted for believed versus nonbelieved memories. 290 respondents described and rated nonbelieved and believed memories on belief in occurrence, recollection, belief in accuracy, and other characteristics associated with remembering events. Structural modelling revealed notable differences between the events for latent variable correlations between recollection and belief in accuracy, and path loadings of visual detail ratings on belief in accuracy.

Retracted claims of childhood abuse: High-stakes and the (in)validation of memory
James Ost, Karl Nunkoosing, & Alan Costall

In this talk, we will revisit research on retracted claims of childhood sexual abuse and use these 'high stakes' case examples to draw comparisons with the recent work on non-believed memories. Using the theoretical framework provided by Blank (2009) and the empirical work of Scoboria et al. (2014), we will discuss the sometimes fluid relationship between memory and belief, and argue that retractors' accounts vividly illustrate that those constructs are not autonomous but bound up in 'higher level' notions of self and identity.

The effect of false denials on the creation of nonbelieved memories
Henry Otgaar, Mark L. Howe, Amina Memon, & Jianqin Wang

This experiment examined the mnemonic consequences of false denials. Children (6/8- and 10/12-year-olds) and adults viewed a video and their memory and belief about the event were tested. In the False Denial group, participants had to falsely deny each question. One-week later, participants received a memory test, and had to provide memory and belief ratings once more. False denials resulted in deteriorated memory performance. Furthermore, false denial and nonbelieved memory rates were higher in younger than in older children and adults. Our results imply that false denials can be harmful during an interview as they adversely affect memory performance.

Cost is more important than reliability when deciding how to verify autobiographical memories
Kimberly Wade & Robert A. Nash

People use various strategies to verify their memories. Studies have examined which strategies people use, but we asked whether people's beliefs about the reliability and cost of using different strategies influences their strategy selection. In two experiments, we found that subjects consider reliability and cost when selecting a verification strategy, but they consider cost to be more important than reliability regardless of the age (Experiment 1) or significance (Experiment 2) of the memory. A tendency to seek and to value "cheap" over reliable information fits with the principal of least effort and could account for certain real-world memory errors.

Consequences of non-believed memories
Giuliana Mazzoni

Nonbelieved memories are vivid autobiographical memories for personal events that are no longer believed to have happened. Yet, they retain strong recollective qualities. No previous work has shown the behavioral consequences vivid non-believed memories. I present the result of four studies in which decision and action are measured when belief and memory are incongruent. In case of major incongruency, participants discount the informative value of the memories, and base decisions and actions on belief only, independently of the strength of the memories recollective quality. These results are discussed in terms of the theoretical relationship between memory and belief.

Symposium **Room: Esquimalt**

Assessing cognitive and social biases in judgement and decision making for higher education and workforce applications

Franklin Zaromb & Richard D. Roberts

The measurement and potential influence of biases in judgment and decision making have been topics of interest in psychology, economics, law enforcement, medicine, and education. However, most research has focused on group differences, with few attempts to investigate individual differences in bias or to develop assessments that provide reliable, fair, and valid individual-level scores. Moreover, there is growing demand in the public and private sectors for developing effective training interventions for mitigating biases. This symposium will focus on challenges and recent advances in measurement and application of individual differences in cognitive biases.

Individual difference measurement of bias susceptibility and declarative knowledge of cognitive and social biases

Franklin Zaromb, Abigail Gertner, Robert Schneider, Gerald Matthews, Rebecca Rhodes, Jonathan Weeks, & Richard D. Roberts

We examined the underlying structure of, and relationships between, six prominent cognitive and social biases using innovative assessments that measure susceptibility to, and declarative knowledge (DK) of, confirmation bias, fundamental attribution error, bias blind spot, anchoring bias, representativeness bias, and projection bias. The assessments were administered to 4,316 U.S. adults. DK was unidimensional across biases. With the possible exception of bias blind spot, the bias susceptibility constructs may best be modeled by including formative indicators. Correlations between representativeness bias and DK were moderately high, but no other intercorrelations were practically significant, suggesting that DK is largely orthogonal to bias susceptibility.

Base rate neglect – or base rate misuse?

Gerald Matthews, Ryan Wohleber, Franklin Zaromb, Rebecca Rhodes, Abigail Gertner, & Richard D. Roberts

When estimating conditional probabilities on problems that require application of Bayes' Theorem, people often neglect prevalence of the phenomenon of interest ("base rate neglect"). Data on such problems were collected from multiple samples during research to develop a standardized assessment of cognitive biases. Sample sizes ranged from 64–403. Results identified distinct subgroups showing base rate neglect and reporting the base rate itself. The subgroup responding with the base rate was relatively low in cognitive ability, and was resistant to an intervention based on an instructional video. Research should address base rate misuse as a broader phenomenon than neglect.

Moderators of numerical anchoring

Rebecca Rhodes, Franklin Zaromb, Gerald Matthews, Robert Schneider, Abigail Gertner, & Richard D. Roberts

Anchoring bias occurs when numerical estimates are influenced by previously encountered numbers. Although anchoring bias is often measured between-subjects, a reliable within-subjects approach is preferred for understanding the moderators of anchoring bias. We developed a conditional anchoring paradigm to measure anchoring bias at the individual level and found that anchor magnitude and the number of anchors present affected the degree of anchoring bias. We also found that cognitive ability, age, and performance on the Cognitive Reflection Test (CRT) predicted susceptibility to anchoring across a variety of scenarios.

Measurement of false consensus at the aggregate and individual level

Jan Marie Alegre, Franklin Zaromb, Patrick Kyllonen, Rebecca Rhodes, & Abigail Gertner

Prior studies of the false consensus effect (FCE, Ross, Greene, & House, 1977) have focused on its measurement as a group-level phenomenon, neglecting individual differences in bias susceptibility. Participants (N = 596) completed an online survey of 10 pilot FCE items that varied in individuals' choice options (traditional binary choices or support/oppose/undecided choices) and format of consensus reporting (estimated percentages versus frequencies of other Americans sharing one's position). The newly-developed survey items replicate the traditional FCE at the group level, and analysis of individual-level scoring approaches for the FCE suggest that this facet of projection bias can be reliably measured.

Closing remarks and integrative discussion

Richard D. Roberts

Roberts, our discussant, will close our symposium by distilling the important themes throughout the presentations and provide an overview of some important avenues to explore in future research examining the measurement and application of individual differences in cognitive biases.

Paper Session — Room: Oak Bay 1

Applications of Memory and Cognition Research to Educational Contexts

The assessment of the utility of learning techniques by professionals in education
Gino Camp & Nicole A. M. C. Goossens

Dunlosky et al. (2013) discuss 10 learning techniques, many based on research in cognitive psychology, that may help students to regulate their learning and offer recommendations about their relative utility, rendering techniques as having low, moderate or high utility. In the present study, we investigated how a broad representation of the field of education evaluated the utility of these 10 techniques. Next, they followed an online masterclass on effective learning strategies. Afterwards, they evaluated the learning techniques again. Results indicate that, on the whole, participants made good assessments of the strategies' utility. This assessment was further improved by the masterclass.

The role of emotions in self-regulated learning during complex mathematics problem solving
Krista R. Muis, Cynthia Psaradellis, Ivana Di Leo, Marianne Chevrier, & Susanne P. Lajoie

We examined the antecedents and consequences of epistemic and activity emotions during complex mathematics problem solving. Seventy-nine students from fifth grade participated. Students self-reported their perceptions of control and value, and were given a complex mathematics problem to solve. During problem solving, students reported their emotions. To capture self-regulatory processes, students thought out loud as they solved the problem. Path analyses revealed that perceived control and value predicted the emotions students experienced during problem solving. Emotions also predicted the types of processing strategies students used across three phases of self-regulated learning. Finally, cognitive and metacognitive strategies predicted problem-solving performance.

Supporting metacognitive difficulties to improve mathematics learning in autism spectrum disorder (ASD)
Katie L. Maras & Mark Brosnan

One of the best predictors of mathematical achievement is metacognition, predicting learning outcomes better than IQ. People with Autism Spectrum Disorder (ASD) have metacognitive impairments in judging the accuracy of their answers, monitoring their intentions, and regulating their learning strategies appropriately. This is pertinent because on average, mathematics ability is substantially lower among people with ASD would be expected on the basis of IQ. We report findings of a new computerised method for delivering metacognitive support to enhance mathematics learning in children with ASD, with the provision of feedback about performance (metacognitive judgment support) and goal reminders (metacognitive strategy support).

Relating monitoring accuracy and learning: A causal model
Claudia C. von Bastian, Akira Miyake, Bridget A. Smeekens, Natalie Phillips, John Lurquin, Nicholas P. Carruth, & Michael J. Kane

The causal relationship between learning and monitoring accuracy (i.e., how well learners estimate their performance on a test) was examined by measuring monitoring accuracy in N = 200 college students before and after learning through a 1-h video-recorded lecture. Path analysis using learning as mediator between predictive and postdictive monitoring accuracy revealed evidence for a bidirectional causal relationship. Hence, better monitoring accuracy not only enhanced learning, but better learning in turn improved monitoring accuracy. Our results underline the importance of taking into account the mediating role of learning when evaluating interventions that target monitoring accuracy.

Retrieval practice in middle school teacher talk
Lisa K. Fazio

Practices that involve retrieving information from memory such as answering short answer or multiple-choice questions and recalling a text have been shown to be more effective at improving learning than restudying, concept mapping, and other study techniques. These findings have led to the suggestion that retrieval practice opportunities provided during lectures and classroom discussions should also have positive effects, but the idea has not yet been empirically tested. We examined videotapes of 32 middle school classrooms to identify how often teachers ask questions that require retrieval and whether the use of retrieval questions is related to student learning.

Symposium — Room: Oak Bay 2

Eyewitness identification's young scientists
Neil Brewer

This symposium focuses on decision making in the eyewitness identification context. Papers were openly invited from young scientists conducting their doctoral research in this area. The five papers selected for inclusion in the symposium showcase recent research on issues as diverse as lineup composition, the impact of individual differences on decision making, the relationship between consequences of the identification decision and the decision, the discrimination of identification decision accuracy, and important conceptual issues in eyewitness identification methodology and analysis.

Lineup composition: Accommodating suspects with distinctive features
Melissa F. Colloff, Kimberly A. Wade, & Deryn Strange

When constructing lineups for suspects with distinctive facial features (e.g., tattoos, scars), police officers must ensure that the suspect does not stand out. Using an eyewitness-memory procedure and testing young and older adults, we compared three lineup techniques for accommodating distinctive suspects with a control condition in which the suspect was left to stand out. Intuitively, we might predict that leaving the distinctive suspect to stand out would increase suspect identification rates, yet our data indicate that it also impairs eyewitness discriminability. This finding fits with the diagnostic-feature-detection model (Wixted & Mickes, 2014) and highlights the dangers of unfair lineups.

Predicting lineup identifications from individual difference variables: The impact of proclivity to choose
Mario J. Baldassari, Justin D. Kantner, & D. Stephen Lindsay

Three experiments tested witnesses' individual susceptibility to making errors in a lineup task with a face recognition test in which 50% of trials contained one studied face and one non-studied face (Old/New pairs) and 50% of trials contained two non-studied faces (New/New pairs). Response options were "Right," "Left," and "Neither." An individual's proclivity to choose (PTC) on the New/New pairs predicted their PTC on five lineups that did not contain the crimes' culprits, $r(65) = 0.45$, $r(91) = 0.45$, and $r(78) = 0.37$. In a fourth study we will assess the postdictive utility of Old/New pairs on culprit-present lineups.

The consequences of identification decisions: Effects on witnesses' cognitions and behaviour
Carmen Lucas & Neil Brewer

There are theoretical grounds for expecting that the potential consequences associated with identification decisions will affect a witness's propensity to choose from a lineup, almost certainly in ways which have important practical implications. Yet, research has largely neglected this issue, perhaps because of the absence of a convenient research paradigm that captures the requisite ecological validity. We present a series of experiments, examining alternative ways of manipulating perceived identification consequences and testing lineup choosing behaviour, and discuss the implications of the findings for the development of a paradigm within which to investigate the relationship between identification decisions and their consequences.

Discriminating between correct and incorrect eyewitness identification decisions: The use of appropriate cues
Kristina S. Kaminski & Siegfried L. Sporer

We adapted the Brunswikian lens model to the evaluation of identification decisions. Which cues do observers use to evaluate identification decisions ("subjective utilities") and, more importantly, are these cues indeed related to identification accuracy ("ecological validities")? N = 384 observer-judges rated eight variables measuring perceived confidence, decision time and decision processes of 96 identifications (choosers only). These ratings showed greater postdictive value for perceived than for actual identification accuracy. Within the Brunswikian framework, correspondencies and differences in these two sets of relationships allow recommendations for weighting information contained in identification protocols for the evaluation of identification decisions.

ROC analysis of lineups is not a measure of discriminability and hides the important phenomenon of filler siphoning
Laura Smalarz & Gary L. Wells

Receiver Operating Characteristic (ROC) analysis has recently been marketed in the eyewitness literature as a tool for measuring discriminability in lineups. We show how ROC analysis of lineups does not actually measure discriminability because it treats false positive identifications of fillers as rejections. Moreover, ROC analysis hides the important phenomenon of filler siphoning, which is neither a discriminability nor a decision-criterion effect. We use comparisons of fair lineups to showups and biased lineups to illustrate how filler siphoning accounts for differences between these identification procedures. We conclude with a call for researchers to study the properties of filler siphoning.

Symposium — Room: Saanich 1

Social aspects of memorizing and remembering: The role of motivation
William Hirst & Suparna Rajaram

Interest in the way social context affects memorizing and remembering has burgeoned in the last decade or so. This symposium will focus on how the social context can shape memory by affecting the motivations governing both how and what people memorize and remember. The presenters explore the role of motivational relevance, relational motives, the power to command, and motivated deception (lying). Investigated mnemonic phenomena include social tuning effects, transactive memory in elderly couples, observational inflation, autobiographical memory, and memory inflation.

Older couples as remembering systems: Collaborative facilitation across personal and non-personal, episodic and semantic tasks
Celia B. Harris, Amanda J. Barnier, Thomas Morris, Greg Savage, & David Balota

Based on some of the first collaborative recall studies with long-married, older couples, we have argued that remembering together in well-established, intimate groups can benefit memory and that couples might be considered 'remembering systems'. In the current study, we tested 39 older couples married 13-65 years. We reversed typical 'collaborative inhibition' and instead showed powerful collaborative facilitation, particularly for personally relevant, shared memories. Taking advantage of rich longitudinal data from the Australian Imaging Biomarkers & Lifestyle Flagship Study of Aging, we place couples' collaborative success in the context of their individual and interpersonal, internal and external cognitive resources and trajectories.

The power of observation inflation: Commanding another person does not prevent false memories of self-performance

Isabel Lindner, Robert Wirth, Katharina A. Schwarz, & Roland Pfister

Passively observing another person performing simple actions can induce false memories of self-performance. This observation-inflation effect has been proposed to rely on action simulation during observation. Here, we investigated whether the effect would also occur in situations that inhibit action simulation. Having the power to command another agent is a prime candidate for such situations. Therefore, after having performed some actions themselves, our participants actively commanded another agent to perform some actions. A later source-memory test yielded inflated memories of self-performance even in this setting. These results are discussed in light of the potential mechanisms underlying observation inflation.

The influence of lying on autobiographical memory

Steven J. Frenda

Lying is common in everyday social life. Despite a number of studies demonstrating that lying can change memory, few have investigated the influence of lying about the personal past on autobiographical memory. In the present studies, participants wrote fabricated stories that were rich with perceptual and emotional detail and embellished with plausible false content. After a short delay, they were asked to disregard their fabrications and provide sincere memory reports. Results indicated that under certain conditions, participants incorporated their fabrications into autobiographical memory. These findings shed new light on phenomena such as deception, truth-telling, and the flexibility of autobiographical memory.

Social memory inflation: The consequences of lying on how a listener remembers their childhood memories

Jolee Davis & Charles B. Stone

Recent research suggests that lying to oneself about the past can lead to increased confidence in the occurrence of false childhood events. The present study extends this line of research to instances in which a speaker is intentionally lying to a listener about the listener's personal past. The present results suggest that a liar can increase the confidence a listener has in the occurrence of false childhood events, what we have termed, "social memory inflation." Critically, however, the extent to which social memory inflation occurs depends on the trustworthiness of the speaker and the gullibility of the listener.

2:55 pm – 3:15 pm

20-minute Break

3:15 pm – 4:45 pm

Symposium Room: Theatre

Cognitive factors in the judicial process

Hon. Lynn Smith & Craig Jones

A judicial perspective on cognitive factors in decision-making

Hon. Lynn Smith

Professor Smith, a retired judge, will discuss the ways in which the system of judicial fact-finding recognizes the role played by individual perspectives and cognitive factors. She will comment in particular on judicial credibility assessment of witnesses. One of the purposes of rules of evidence is to ensure that courts hear reliable evidence and reach accurate conclusions about the facts based on that evidence. She will explore ways in which the evidentiary rules might themselves become more "evidence-based".

Heuristics and hidden biases in judicial decisions

Craig Jones

Professor Jones will describe studies done on heuristics and biases in the courtroom setting, and the increasing understanding of the role they play in judicial decision making. Drawing on his own research and others', he suggests that the court process is built in many ways to accommodate or counter bias in adjudication, but proposes that these systems might not be up to the task as we are beginning to understand it in light of the contributions of cognitive neuroscience.

The bias snowball effect: Why and how the judicial decision model fails
Itiel Dror

Judicial decisions are based on taking together and integrating different lines of evidence. If a single piece of evidence is flawed, then the other lines of evidence are there to ensure that the overall legal decision is correct. However, such a model assumes independence between the different lines of evidence. In reality that rarely occurs, and the process of integrating evidence breaks down because most often different lines of evidence are not independent. Not only are they not independent, but they bias and effect each other, causing the Bias Snowball Effect, whereby different lines of evidence are biased by other evidence, and then they in turn bias other evidence, causing the bias to increase and grow in magnitude, and potentially an ultimate failure of the entire model of judicial decision making.

Discussion

Paper Session — Room: Esquimalt

New Methods, Questions, and Techniques in the Investigation of Autobiographical Memory

Memory improvement in clinical groups using life-logging technologies
Chris Moulin, Ana Rita Silva, Alexandra Ernst, Lydia Dubourg, Charline Cerf, & Celine Souchay

Life-logging technologies, such as wearable cameras which take photos automatically according to sensors, are beginning to be used in memory rehabilitation. Silva et al. (2012) showed that reviewing images of three days' of events and activities whilst using SenseCam (a lifelogging technology) improved cognitive function on a battery of neuropsychological tests. In this presentation, we present novel data on the use of SenseCam in Alzheimer's disease, using the same paradigm. In a between subject long-term study and in a shorter scale, experimental task, we find improvements in cognitive tasks following use of SenseCam, particularly in autobiographical memory.

The Meaning in Memories Scale (MIMS): Measuring narrative content, self-report, and well-being in autobiographical memories
Azriel Grysman & Grace Bowers

The construction and validation of a 15-item, self-report scale of meaning making from event memories is presented. In studies 1 and 2, exploratory and confirmatory factor analyses demonstrate a consistent factor structure. In study 3, predictive validity is demonstrated by showing predicted correlations between the MIMS and existing measures, and incremental validity by showing how it differentially predicts well-being when compared to similar measures. In study 4, comparisons to narrative content analyses support hypothesized overlap, especially for lessons and insights. The MIMS is recommended for comparing and combining self-report and narrative content measures when researching meaning making and autobiographical memory.

Factors that influence memory report variation across retellings
Misia Temler, Amanda J. Barnier, John Sutton, & Doris McIlwain

In our research we used the Memory Retelling Paradigm and the Social Contagion Paradigm for Autobiographical Memory to investigate memory report variation across retellings. In session one, participants recalled memories of four personally relevant unshared events. One week later in session two, they recalled the same events again. Across four experiments we manipulated and measured various external and internal factors. Participants made omissions, additions and contradictions across their two memory reports. Findings have important implications in the applied setting, such as the asylum seeking process, where variation in memory reports across retellings is often interpreted as a sign of deception.

What memory would you save? What memory would you erase?
Maryanne Garry, Deryn Strange, & Anne Scharling Rasmussen

When people report important events from their lives, they tend to describe events that fit into a cultural life script—culturally shared expectations of major transitional live events. We asked some people to describe the one memory they would save, and asked others which one memory they would erase. Whereas "save" memories often mapped on to the cultural life script, "erase" memories were more idiosyncratic. Our findings suggest that asking people to pinpoint a memory to erase encourages them to bypass a top-down search based on cultural "importance," and to instead search for memories that are more personally meaningful.

Understanding service memory: Theoretical foundations and research directions
Rod McColl & Jan Mattsson

Memory has been studied extensively in the fields of psychology and physiology, and to some extent, marketing, however this literature gives inadequate attention to the way service memories are created, stored and recalled. Memories are important in marketing due to their role in mediating purchase behavior. We explore how and why, service experiences become interwoven into long- term, autobiographical memories. First, the memory literature is examined from related fields, describing what we know about how memory works and the factors that shape it. Second, the authors develop a comprehensive, multi-dimensional, conceptual model of service memory, its antecedents and consequences.

Symposium **Room: Oak Bay 1**

How and when memories of conflicts transmit across generations

Charles B. Stone & William Hirst

As the refrain "never forget" insists, intergenerational transmission of memories is a moral imperative, the basis for communal legacy, and a daunting challenge. In light of this, the three issues occupying this symposium – what is transmitted, how effective is the transmission and what are the consequences of the transmission – arise because transmission is inevitably selective (influenced by psychological, social and cultural factors) and memories can shape both individual and communal identity. The four talks presented here will explore some of these issues, followed by a discussant who will distil the important themes discussed throughout the symposium.

Intergenerational transmission of war memories and xenophobia

Connie Svob, Norman R. Brown, Vladimir Takšić, Katarina Katulić, & Valnea Žauhar

We examine the mnemonic processes involved in the intergenerational transmission of war memories and their correlations with xenophobia. Specifically, we compare two groups of young adults from Eastern Croatia (extensively affected by the war) and Western Croatia (affected relatively less by the war). All participants were born after the war ended. They were asked to recall and date the ten most important events in their parents' lives and to provide scale ratings on them. Additionally, all subjects completed the Bogardus Social Distance scale. We discuss findings in terms of war memories as they relate to hateful attitudes in subsequent generations.

Personally relevant vs. nationally relevant memories: An intergenerational examination of World War II memories across and within Belgian, French-speaking families

Aurelie Van der haegen, Charles B. Stone, Oliver Luminet, & William Hirst

The current study examined the intergenerational transmission of World War II memories within five Belgian, French-speaking families. Within each family, a member of each generation (3) was interviewed individually and then collaboratively about specific WWII topics. The results showed a poor intergenerational transmission from the oldest generation to the youngest generation. We discuss these results in terms of the types of memories each participant chose to talk about (personally vs. nationally relevant) and the roles (narrator, mentor, monitor, and inquisitor) each generation undertook during the collaborative discussion.

Collective memories of three wars in United States history in younger and older adults

Franklin Zaromb, Andrew Butler, Pooja Agarwal, & Roddy Roediger

We investigated the collective memories of younger and older adults for three major wars in U.S. history (the Civil War, World War II, and the Iraq War). Subjects recalled and evaluated the 10 most important events of each war. Subjects commonly recalled a core set of events for each war that conform to a narrative structure. Younger adults showed greater consensus in the events that they recalled for all three wars but there was less consensus in both groups for the Iraq War. Collective memories can differ depending on whether the events are experienced personally or learned from historical sources.

"Never forget": An examination of the intergenerational transmission of 9/11

Charles B. Stone, Oliver Luminet, & William Hirst

Little is known about the transmission from one generation to the next of long lasting memories, such as those many hold of the 9/11 attack. What is transferred and under what circumstances? With these questions in mind, we examined the memories of children of those who lived through 9/11, exploring what they knew, where they learned this information, and the extent it shapes their national identity. As participants, we used the children of participants in a 10-year longitudinal study of memories of 9/11 (Hirst et al., 2009, 2015). The results are discussed in terms of cultural and communicative memories.

Discussant: The importance of research on the intergenerational transmission of memories

William Hirst

In this talk I will first summarize the results of the various talks presented in this symposium. Second, and more importantly, I will distill the pertinent themes throughout the symposium and, lastly, provide an overview of some important avenues to explore in future research examining the transmission of memories across generations.

Symposium **Room: Oak Bay 2**

Autobiographical memory and the self: Insights from dementia, psychiatric and neurological conditions

Alexandra Ernst & Clare J. Rathbone

Autobiographical memory plays important functional roles in everyday life, especially in the construction and maintenance of a sense of personal continuity over time, and is also associated to well-being. The aim of this symposium is to provide an overview of recent findings obtained in aging, dementia,

depression and neurological conditions in which autobiographical memory and/or the self are compromised and how they could be differentially affected depending on aetiologies. A common theme is also to consider applications of theory to rehabilitation that could be used with patients.

Life-events, cognitive decline and depressive symptoms in later life: A prospective study
Lynn A. Watson, Dorthe Berntsen, & Lars-Göran Nilsson

Lifespan perspective models of depression suggest that risk factors contributing to depression in later-life differ to those present in other age groups. 1012 participants aged between 45-90 were allocated to one of four groups (i) Resilient, (ii) New Onset, (iii) Recovered, (iv) Stable depressive symptoms. Resilient individuals who reported minimal depressive symptoms over a five year period reported fewer life-events, less emotional and cognitive reactions to life-events and lower levels of self-reported memory problems than the three non-resilient groups. Furthermore, impairments in episodic memory but not other forms of memory predicted higher levels of depressive symptoms at time one.

The role of the self in the organisation of autobiographical memories in Alzheimer's disease
Clare J. Rathbone, Judi A. Ellis, Emily A. Holmes, & Chris R. Butler

The relationship between the self and autobiographical memory was examined using the IAM Task (Rathbone et al., 2008) in c.13 patients with Alzheimer's disease (AD) and 32 age-matched controls. All participants generated and dated up to 10 identity statements (e.g. I am a mother) and recalled associated autobiographical memories. The AD group generated fewer identity statements and fewer associated memories, compared to controls. AD group memories also contained less episodic detail. However, both groups' memories formed similar temporal clusters, organised around periods of identity formation. We suggest that self-related memory organisation is preserved in AD, with implications for supporting identity.

Episodic autobiographical memory maintains the psychological self: Evidence from a case of limbic encephalitis
Chris Moulin, Lara Charlesworth, Kata Pauly-Takacs, Richard Allen, & Jelena Havelka

It has been suggested that autobiographical memory is responsible for maintaining self and identity; something difficult to test in healthy populations. In brain damage, the relationship between memory and self is clearer: research has shown that despite deficits in episodic memory, people still have intact identities, based on conceptual knowledge. In a case of amnesia, we show that there is in fact a reduction in access to the more dynamic, psychological concepts, such as personality traits. Other forms of identity are maintained. This further defines the separable roles of episodic and semantic memory in the maintenance of self.

Improving autobiographical memory in relapsing-remitting multiple sclerosis patients
Alexandra Ernst, Frédéric Blanc, Jérôme De Seze, & Liliann Manning

Autobiographical memory (AM) has been found to be impaired in non-depressed relapsing-remitting multiple sclerosis (RR-MS) patients. A mental visual imagery (MVI)-based facilitation programme was constructed to alleviate AM impairment. Forty RR-MS patients were randomly assigned in three groups, with the aim of probing the efficacy of the MVI programme by controlling the presence of nursing or learning effects. Only the patients who underwent the MVI programme showed a significant improvement in AM performance after facilitation, with an effective transfer to daily life functioning and with a long-term robustness of clinical benefits.

Discussant
Martin Conway

Martin Conway will act as a discussant.

Symposium — Room: Saanich 1

Mind wandering in everyday life
Jonathan W. Schooler

Estimates of the incidence of mind wandering in every day life suggest that people spend between 25%-50% of their waking hours engaging in thoughts unrelated to the goings on around them. This symposium will explore the potential costs and benefits of this ubiquitous form of mental activity as they are incurred in a variety of everyday life situations. The explication of the role of mind-wandering in the real world will be complimented with theoretical evaluation of its various forms and psychometric analysis of the underlying traits that underpin the mind's incessant tendency to depart from the here and now.

Mind wandering across occupations: A generative source of inspiration but also a dangerous cause of distraction
Jonathan W. Schooler, Shelly L. Gable, & Stephen M. Casner

This talk reviews field studies that examined the occurrence of mind wandering in various professional contexts. For creative occupations, mind wandering can be an important source of inspiration. Two diary studies found that over a third of the creative ideas generated by a

sample of writers and physicists over a two-week period took place while mind wandering. However, for occupations requiring vigilance, mind wandering may be a hazard. An investigation of professional pilots in a 747 flight simulator found that co-pilots routinely missed elevation change call-outs when mind wandering. Clearly, the professional impact of mind wandering depends on who is doing it and when it is done.

Mind wandering and learning in live undergraduate lectures
Daniel Smilek

We examined students' mind wandering during lectures across several semesters of a large undergraduate course. In one semester students completed randomly presented thought-probes asking students whether they were on task, mind wandering intentionally or mind wandering unintentionally. In another semester, students reported on the depth of their mind wandering episodes. Our comprehensive placement of thought-probes allowed us to assess how mind wandering changed over the span of an average lecture, over the span of an average week and across the entire semester. We also examined the relation between mind wandering and learning by assessing students' learning with quiz questions at the end of each class as well as with standard midterm tests. Among the many findings of our study were the counterintuitive findings that 1) unintentional mind wandering levels were strikingly low and levels of on-task performance did not change over time in an average lecture, and 2) while mind wandering during lectures was related to performance on quiz questions at the end of lectures, mind wandering was only weakly related to performance on midterm tests.

What do cognitive abilities and schizotypic personality predict about mind wandering experiences in daily life?
Michael J. Kane, Georgina M. Gross, Charlotte A. Chun, Matt E. Meier, Bridget A. Smeekens, Paul J. Silvia, & Thomas R. Kwapil

Experience-sampling studies that probe subjects' thoughts during daily-life activities have shown that mind wandering is a common experience. Nonetheless, people differ dramatically in how often they mind-wander and in the contexts that provoke it. The present study tested over 500 subjects in laboratory measures of working memory, executive control, task-unrelated thoughts, and schizotypal personality; we then recruited 280 of them to participate in a week-long ecological assessment of mind wandering and other cognitive, emotional, and social experiences. Here we report the extent to which our lab-based cognitive and personality constructs predicted the rate, content, and context-sensitivity of daily-life mind wandering.

Executive resources and mind-wandering: Friends or foes?
Kalina Christoff, Kieran Fox, Zachary Irving

During the past decade, there has been a major debate over how executive resources relate to mind-wandering. Do executive processes serve to reign in the wandering mind, inhibiting any task-unrelated thoughts and keeping us on track with the task at hand? Or do executive processes facilitate the wandering mind, by somehow increasing and even helping the mind's wanderings? While common sense and our cultural conditioning generally leads us to choose the first possibility and dismiss the second, growing empirical evidence from psychometrics, neuroimaging, and direct neural stimulation suggests that the two possibilities are equally valid. We present a novel theoretical framework within which these two possibilities, which may otherwise seem mutually exclusive, can be easily accounted for. Sometimes executive resources and mind-wandering work at cross purposes and therefore interfere with each other, but at other times mind-wandering can recruit executive resources for its own purposes. Recognition of this and understanding of how this is possible at the cognitive and neural levels has significant implications for our commonsense attitudes and everyday reactions towards our wandering minds.

4:45 pm – 5:00 pm

15-minute Break

5:00 pm – 6:00 pm

Keynote **Theatre**

Temporal Spacing to Increase Retention
Hal Pashler

Memory researchers have long known that distributing learning effort over time can enhance learning. In recent years, we have studied the effect of temporal spacing of

review on remembering of facts and skills over substantial periods of time. The effects are very large but also complex—with optimal spacing depending upon how long the material needs to be retained. Implications for instructors at all levels will be described, along with recent efforts to provide advice and tools to help people take advantage of these principles of learning.

6:00 pm – 7:30 pm

Poster Session 3 — Lobby

3-1. Challenging memories for performed actions
Nicole Beeby, Alan Scoboria, & Henry Otgaar

Recent research has shown that nonbelieved memories can be created in the lab using an adaptation of the Goff and Roediger (1996) procedure. The current study focused on acceptance vs. rejection of challenges to memories for performed actions. Participants imagined, performed or heard actions (e.g. bounce the ball). One week later they completed a source-monitoring test and rated belief in performing and recollection for all actions. For six 'remembered' actions participants were told that they had not performed the action before making ratings. Individual differences in rates of rejection vs. acceptance of challenged items and associated ratings are described.

3-2. Self-consistent and self-discepant memories across cultures
Ali Tekcan & Aysu Mutlutürk

It has been shown that memories that are inconsistent with one's self differ from those that are consistent with the self on a number of characteristics. In the present study we investigated how culture may influence retrieval and content of self-consistent and self-discrepant memories. Participants from Turkey and the UK recalled one self-consistent and one self-discrepant memory. Narratives of the two groups did not differ in specificity and meaning making. In terms of content, Turkish participants recalled more relationship-oriented memories but fewer achievement memories and put greater emphasis on social interactions than the UK participants.

3-3. No pain, no gain: Word identification difficulty improves memory
Natasha Pestonji & Peter Graf

The Revelation Effect (RE) demonstrates that an item/word is rated as more familiar if somehow 'revealed' by solving a puzzle. For this study, we implemented a revelation procedure by displaying familiar words obscured by line-grid masks, which varied in density and obscured words to different degrees. Participants made liking judgments during encoding, followed by an old/new recognition test of the encoded words. Results showed that liking ratings were negatively correlated with mask density. By contrast, recognition memory showed the opposite pattern. These findings prove the no pain, no gain rule: The effort invested in encoding pays dividends at retrieval.

3-4. Single-step simple ROC curve fitting via PCA
John R. Vokey

A simpler approach to fitting curves to ROC rating data is presented. It is based on the first principal component of the covariance space of the inverse normal integral of the cumulative rating data. Two new associated d′ estimates, d'_p and d'_YNp, are proposed. Two Monte Carlo simulations demonstrated that the parameter estimates are unbiased and produce estimates comparable to the more usual, iterative, maximum likelihood approach (ROCFIT). The corresponding computational and plotting functions in the R programming language are also provided.

3-5. Prospective memory cues contaminate memory for surrounding stimuli
Michelle L. Crease Lark, Peter Graf, & Randall K. Jamieson

Have you ever failed to carry out a planned task (eg. posting a letter) because when you could have done so (eg. walked by a mailbox) you were pondering pizza-topping alternatives? To gain insight into the cognitive processes engaged for planned task execution, we investigated how cues for remembering (eg. a mailbox) affects concurrently ongoing cognitive activities. Participants studied words for a memory test by answering a binary question about each; the study list included words defined as prospective memory task cues. Results showed that prospective cues impaired the encoding of the words that immediately followed each cue.

3-6. Testing selectively reduces mind wandering
Judy Xu & Janet Metcalfe

Recent evidence suggests that the proclivity to mind wander results from a mismatch between the learner's expertise and material and task difficulty. As testing reduces mind wandering, we wanted to investigate if testing led to a generalized or selective decrease, based on material difficulty, for unlearned items. In Experiment 1, with no intermediate testing, we found that mind wandering increased over time, but in Experiment 2, with 2

interpolated tests, mind wandering only declined for items of medium difficulty, suggesting that testing allows the learner to recalibrate their learning and focus their attention on unlearned materials.

3-7. Recall me maybe: From distractor to intrusive thought

Kayleigh I. Cutshaw, Joseph Blyth, Madeline Jalbert, Sydney Drever, Samantha Clark, & Ira E. Hyman

We were interested in understanding if the distractor in a divided attention task can become an intrusive thought through suppression. We used music as a distractor in a divided attention task. In following studies, we used different levels of distraction in songs and instruction. We found that the music frequently returned to awareness when it was a distraction and that distractors quickly become intrusive thoughts. Participants who try to suppress the distractor from awareness are likely to experience a rebound effect creating an intrusive thought.

3-8. Same-race versus cross-race identifications: Differences in accuracy and confidence-accuracy relationships depend on the decision strategy encouraged

Lisa Pascal, Alan Scoboria, & James Sauer

Lineup procedures that encouraged different decision strategies (simultaneous, sequential, and elimination) were used to examine cross-race identifications relative to same-race identifications. White participants (N = 393) watched a video and were asked to identify either a same-race or other-race culprit in a target-present or -absent lineup and to rate their confidence. Results showed that the pattern of accuracy between the three procedures differed between same-race and cross-race identifications. Further, the confidence-accuracy relationship changed depending on the race of the culprit and type of decision strategy encouraged. In some cases, for cross-race identification, there was no relationship between confidence and accuracy.

3-9. Remembering autobiographical memories with nostalgia: Its characteristics and the influence on moral judgment

Jun Kawaguchi, Hiroko Nakamura, & Kou Murayama

Nostalgia, a sentimental longing for the past, is an affective process that can accompany autobiographical memories. We tried to elucidate the characteristic of remembering autobiographical memories with nostalgia and its influence on moral judgment (personal moral dilemma task). Participants wrote an essay on a nostalgic event (nostalgia condition) or on an ordinary event (control condition). Then participants responded to questionnaires on characteristics of remembering (e.g., mental time travel, etc.) and answered moral judgment problems (e.g., footbridge dilemma). Nostalgic remembering coexisted with mental time travel and the relation between nostalgia and moral judgment was discussed.

3-10. Are you sure?: Examining confidence for memory of a specific instance of a repeated event

Kristin Chong, **Patricia I. Coburn,** Carla L. MacLean, & Deborah A. Connolly

We examined confidence for memory of a specific instance of a repeated event. Participants experienced 5 food-tasting instances with a deviation during the third instance. In Experiment 1 half of the participants experienced a discrete deviation (room change, different RA). In Experiment 2 half of the participants experienced a continuous deviation (RA behaved unprofessionally). In both experiments half received post-event information that the deviation RA was on probation. Participants were more confident about their memory for the first instance than the other instances in both experiments. Participants were also more confident when a deviation was present in Experiment 2.

3-11. Production of false memories in collaborative memory tasks: Manipulating backward associative strength, theme identifiability and type of recall

Pedro B. Albuquerque, Magda Saraiva, & Joana Arantes

Studies about the production of false memories (FM) in collaborative memory tasks have shown controversial results. Thus, the main objectives of this study were: (1) determine production of FM in collaborative memory tasks manipulating backward associative strength (BAS) and the identifiability of the theme of the lists of associated words; (2) and understand the influence of turn taking method in collaborative inhibition effect. The results showed that the collaborative group produces less FM than the nominal group and the BAS predicts FM production. Finally, the retrieval strategies of the participants were found to have a significant influence on collaborative inhibition.

3-12. Confronting student misconceptions about the cost of attending college

Jimmeka J. Guillory

As the cost of attending college continues to rise across the country many college administrators emphasize that the cost of tuition is actually a discount, all things considered. In this study, student beliefs about college spending were assessed and attempts were made to correct any misconceptions. Results showed that providing students with factual information regarding college spending led to an improvement in knowledge regarding issues such as tuition and financial aid, in comparison to students in a control condition who did not receive the corrective information. The influence of correction format, issue importance and delay were also examined.

3-13. Time-based prospective memory in children and adolescents with 22Q11.2 deletion syndrome

Céline Souchay, Nicola Ballhausen, Maude Schneider, Charline Cerf, Lydia Dubourg, Katharina Schnitzspahn, & Matthias Kliegel; presented by **Chris Moulin**

22Q11.2 deletion syndrome, also known as velo-cardio-facial syndrome (VCFS) is a genetic disorder associated with a microdeletion in chromosome 22q11 and is characterized by marked impairment in visual attention and executive function. The novelty of this study was to explore time-based prospective memory in 22Q11.2 using the Dresden Cruiser task. As the prospective memory task, participants had to remember to refuel a target car and had to press on a button to make the fuel appear on the screen. Results showed that children/adolescents with 22Q11.2 fail to complete this task; showing prospective memory deficits.

3-14. Why verbalization of non-verbal memory reduces recognition accuracy: A computational approach to verbal overshadowing

Taiji Ueno, Aya Hatano, Shinji Kitagami, & Jun Kawaguchi

Verbal overshadowing refers to a phenomenon whereby verbalization of non-verbal stimuli during maintaining impairs subsequent non-verbal recognition. Elucidation of the mechanisms underlying this phenomenon is significant because this can be observed in daily life and in legal settings (eyewitness reports). So far, two primary mechanisms have been proposed: One assumes an interference whilst the other assumes the transfer-inappropriate processing shift. Our computational model instantiated core processing principles of the interference theory, and successfully reproduced verbal overshadowing, including the patterns that had been advocated as counter-evidence against the interference theory. Therefore, this model demonstrates the plausibility of the interference theory.

3-15. Emotional false memories for events: The role of working memory

Chiara Mirandola, Enrico Toffalini, Francesca Pazzaglia, & Cesare Cornoldi

The present research investigated whether false memories for scripted events are influenced by working memory (WM), examining either the role of individual differences (Experiment 1) or of an interfering WM task (Experiment 2). Participants were administered a false memory paradigm for emotional events, which allows for the investigation of gap-filling and inferential causal errors. Results showed an increased false memory rate for negative, but not positive, causal errors in people with low WM and in participants in the double task condition. These results suggest that WM influences positive and negative events in different ways.

3-16. RECALL: Retrieval-induced forgetting in the real world

Caterina Cinel & Geoff Ward

Retrieval-induced forgetting (RIF) is a well-studied phenomenon where retrieval practice of a subset of events can enhance their later recall, but can impair accessibility to related but unreviewed events. We introduce the vision of RECALL, an attempt to augment human memory through life-logging technologies, which integrates RIF and retrieval practice within an intelligent review system. In six experiments, we demonstrate that we can manipulate factors that selectively amplify and/or attenuate the forgetting and enhancement of selected memories. However, whereas retrieval practice can be found with all stimuli, to date, evidence for RIF has been limited to semantic lab-based stimuli.

3-17. Shaping the future by selecting retrieving: Changing the way people imagine the future of climate change

Clinton Merck, William Hirst, & Adam Brown

This study weaves together retrieval-induced forgetting and imagination of the future and applies them to a pressing social issue, climate change. In the experiment, participants studied four short lists of facts about climate change and then reread redacted versions of two of the lists. Replicating previous work, the selective reading of the redacted lists induced forgetting for related, unmentioned material. It also shaped the way people imagined the future of climate change, with further analyses indicating the effect on imagining was due to selective forgetting rather than selective practice. Manipulating semantic memory can shape the way one imagines the future.

3-18. Motorcycles are not invisible: Examining motorcycle conspicuity using change-blindness and eye-tracking

Elisabeth Kreykenbohm, Bertrand Sager, Farhad N. Dastur, David J. Froc, & Daniel M. Bernstein

Multi-vehicle motorcycle collisions are commonly attributed to poor motorcycle conspicuity, but this attribution lacks empirical support. We used an eye tracker to examine gaze patterns in a change-blindness experiment, with cars and motorcycles as targets in images of common traffic scenes. We found higher detection rates for motorcycles compared to cars. Additionally, gaze data did not follow the saliency maps we constructed for our stimuli, suggesting that participants employ top-down traffic-based search schemas. We argue that multi-vehicle motorcycle collisions are not due to poor conspicuity, but to perceptual factors that make it difficult to judge an oncoming motorcycle's speed.

3-19. The role of fluency in judgment of infographics

Tomoyo Takahashi & Shinji Kitagami

The current study investigated the relationship between fluency, aesthetics, and comprehension, using infographics as stimuli. Participants were shown the infographics and were asked to rate their fluency, aesthetic appeal, and ease of comprehension, on a Likert scale. Participants were then required to report as much as possible what the infographics represented. Finally, participants were shown the infographics and were asked to rate them again. The results revealed that fluency was related to both aesthetic appeal and comprehension. Moreover, the aesthetics of infographics could be divided in some dimensions according to fluency.

3-20. What I value and why I remember: Values and the functions of memory in a multi-ethnic lifespan Trinidadian sample

Nicole Alea, Sideeka Ali, & Mary J. Arneaud

The study examined whether values held by ethnic and age groups in Trinidad predicted the reasons why people remember. A multi-ethnic (Afro-, Indo-, mixed) lifespan sample (N = 310) completed measures of self-transcendence (social welfare) and conservation (tradition) values, and directive, self, and social memory functions. Valuing self-transcendence was positively related to using memory for the directive function for Indo-Trinidadians only. Younger age was positively related to using memory to direct behavior, but particularly for younger adults with stronger conservation values. No effects were found for self and social functions. Cultural value adherence and life phase developmental explanations are considered.

3-21. Retrieval-based inferences in multiple-choice tests

Zuzanna Skóra, Katarzyna Zawadzka, & Maciej Hanczakowski

We explored how disqualifying alternatives affects responding in multiple-choice recognition tests in laboratory and eyewitness settings. Participants studied pairs of words or read a forensically-related text and later completed recognition tests containing answerable and unanswerable questions. For each critical question, two alternatives and a 'don't know' option were available. The ease of disqualifying one of the alternatives was manipulated. The results depended on task type. Greater ease of disqualifying one of the alternatives lowered the levels of 'don't know' responding for both question types in the word-list experiment, but not in the text experiment. Theoretical and practical implications are discussed.

3-22. Verbal overshadowing effect in olfactory recognition memory

Yuji Itoh, Rei Kato, & Hiroshi Miura

Verbal overshadowing effect is observed in several modalities. In this study, we examined whether the verbal overshadowing effect was observed in olfactory recognition memory. An experimental session consisted of three study-test trials. In a trial, participants smelled a target and then, verbally describe the target smell or engaged in an unrelated task. Then they smelled four odors, a target and three foils, and judged whether each odor was presented in the study phase. The overall data showed that verbalization interfered with recognition. Differences among the effects of verbalization in three stimulus sets will be discussed.

3-23. Time and time again: Reproduction vs. production of time intervals

Janel Fergusson & Peter Graf

Every day we complete tasks which require us to accurately judge the passing of time, such as steeping a cup of tea for 4 minutes. For many of these tasks we rely on internal devices rather than clocks. Previous research has suggested that subjects overestimate intervals of 2-6 minutes, but the reason for this overestimation is unclear. One possibility is that subjects do not have sufficient experience timing longer intervals to have an accurate mental representation of the durations. The present study was designed to determine whether accuracy differs between production and reproduction of intervals from 2-6 minutes.

3-24. Affect infection: Target valence ratings assimilate context valence

Christopher Lee, Anna Maslany, & Peter Graf

Pictures may trigger powerful emotions, which are likely to affect our perception and evaluation of related or unrelated other stimuli. To investigate this possibility, we showed participants sequences of 5 pictures with all pictures in a sequence from the same valence bin (e.g., positive). Immediately following each sequence, we displayed a target picture either from the same or a different valence bin. Subjects rated the valence of each picture on an 8-point scale. The results showed that negative target pictures, for example, were rated as more negative when presented in the context of negative compared to neutral or positive pictures.

3-25. A new computer theory of mind task: The Sandbox task

Martin Vane-Hunt, Bertrand Sager, Andre Aßfalg, Ragav Kumar, & Daniel M. Bernstein

Theory of mind (ToM) is the ability to appreciate that other minds differ from one's own mind. ToM supports successful communication, empathy, and perspective taking. Eighty-four participants completed a computerized ToM task called the Sandbox task, using either a mouse or a touchscreen. Surprisingly, both mouse and touchscreen produced a ToM effect in that participants were biased towards their own privileged knowledge when estimating for a naive protagonist. We found no difference between mouse and touchscreen modalities. The computerized Sandbox task will be a useful tool for ToM researchers.

3-26. What lies beneath: Explicit versus implicit detection of high-stakes lies

Pamela J. Black, Crystal Evanoff, Stephen Porter, & Alejandra De La Fuente Vilar

The current study sought to assess whether implicit, emotion-based lie detection is more accurate than explicit lie detection for high-stakes lies. Participants (N = 231) evaluated the honesty of targets - half of whom were sincere and half deceptive killers - making a plea for the return of a missing relative across one of four presentation modalities (audiovisual, video-only, audio-only, or transcript-only) both explicitly (direct lie/truth decision) and implicitly (via emotional reactions). Although explicit lie detection accuracy was only at the level of chance, implicit emotional reactions indicated that observers were able to unconsciously discern liars from truth-tellers.

3-27. Childhood amnesia: Forget nature, remember nurture

Connie Svob, Elena Nicoladis, & Lisa Smithson

We investigated Berntsen and Rubin's (2004) hypothesis that childhood amnesia results because early childhood events are primarily biological, rather than social – as such, they are not integrated into the cultural life script and are forgotten. We found that, although early childhood events were indeed marked by biological experiences, there were no distinguishing mnemonic features between biological and social events. These data suggest that while the preponderance of biological events in early childhood may correlate with childhood amnesia, they, alone, lack causal explanatory power. We discuss implications for the construction of the cultural life script and the development of autobiographical memory.

3-28. Investigating the face inversion effect in adults with Autism Spectrum Disorder using the fast periodic visual stimulation paradigm

Buyun Xu & James Tanaka

We are experts in face processing in that we can recognize individual faces almost effortlessly. However, people with autism spectrum disorder (ASD) have more difficulty recognizing faces than typically developed (TD) people. We recorded EEG brain activity of both ASD and TD adults while viewing upright and inverted faces. Our results showed that the TD participants demonstrated stronger brain activity to the upright than the inverted faces. However, participants with ASD showed similar brain activity to upright and inverted faces. This findings is consistent with the behavioral findings suggesting that individuals with ASD perceive faces differently than non-ASD individuals.

3-29. Exploring expert object recognition by measuring EEG brain activity

Simon Hagen & James Tanaka

How are the brains of experts different from the brains of novices? We explored neural sensitivity to object categories in real world perceptual experts by measuring their brain wave patterns with EEG. Bird experts and novices were presented with sequences of bird images containing a repetition of the same bird or different birds. Bird experts showed reduction in response to repeated same birds and an enhanced response to different birds. In contrast, the novices showed a sustained response to both the same and the different birds. These results suggest expert bird recognition is highly tuned to specific species of birds.

3-30. Memory amplification for traumatic experiences: Investigating the relationship between memory distortion and PTSD symptoms in the laboratory

Jacinta Oulton, Melanie Takarangi, Deryn Strange, & Sasha Quayum

Victims of trauma with poor adjustment often come to remember their experience as being more traumatic later, compared to immediately after, the event took place. Critically, this pattern is associated with greater re-experiencing symptoms at the latter time point. We aimed to investigate the mechanism underlying this relationship using a trauma analogue design. Participants viewed a series of traumatic photographs and recorded their intrusive thoughts and analogue symptoms. We then assessed memory distortion on two occasions, one week apart. Replicating findings from field studies, analogue PTSD symptoms at follow-up was associated with an increase in false traumatic memories over time.

3-31. Memory amplification for traumatic experiences: Are people susceptible to post-event information about trauma?

Sasha Quayum, Melanie Takarangi, Deryn Strange, & Reg Nixon

Researchers have proposed that remembering traumatic experiences as being more traumatic later compared to immediately after the event took place—known as memory amplification—occurs when people incorporate new information from external sources into their memory for the experience. This idea fits with decades of research showing post-event information (PEI) can alter memory. In this research, we examined whether PEI increases traumatic memory distortion. Participants viewed an analogue trauma event and we tested their memory for this event after exposing them to suggestive information about what they experienced. Our data were consistent with the proposal that PEI alters traumatic memory.

3-32. Reasoning biases and memory processes in delusional thinking

Bahar Haji-Khamneh & Alan Scoboria

Contemporary cognitive models of psychosis implicate reasoning biases as key factors in the development and maintenance of delusional thinking. Links between delusional thinking and memory processes have also been proposed. The contribution of reasoning biases (viz. jumping to conclusions, bias against disconfirmatory evidence, belief flexibility) to delusional disorders will be discussed, and their role in explaining aberrant memory processes will be explored. We propose that reasoning biases as well as delusion-proneness may be related to suggestibility and memory performance in the general population. Exploratory data testing this hypothesis are presented, and methodological challenges with measures of reasoning biases are discussed.

3-33. Individual differences in the lifespan distribution of autobiographical memories

Tabea Wolf & Daniel Zimprich

In the present study, we used a mixed location-scale logitnormal model to examine individual differences in the lifespan distribution of autobiographical memories and to analyze predictor variables that might account for these differences. Preliminary results based on word-cued memories of 98 older adults aged between 64 and 92

years showed that there were reliable individual differences in both location (the average age) and scale (the range of ages) of autobiographical memory distributions. Properties of the events remembered (e.g., valence) as well as a person's personality (e.g., Openness to Experiences) were reliable predictors for these differences.

3-34. Failures in meta-awareness for traumatic experiences: The role of working memory capacity
Robert Skurray, Melanie Takarangi, Deryn Strange, & Jeffrey Foster

Research has demonstrated that we do not always notice our experience of intrusive thoughts about traumatic events. In other words, we often lack meta-awareness of such thoughts. Our research investigated whether the ability to be meta-aware relies upon the cognitive resources of working memory; and, whether individual differences in working memory are associated with differences in the ability to be meta-aware. Using the self-caught/probe-caught paradigm to measure meta-awareness of trauma-related thoughts, and a series of complex-span tasks to measure working memory, we found that a person's ability to be meta-aware is positively related to their working memory capacity.

3-35. Reappraising life transitions: Retrieval context matters
Chantal Boucher & Alan Scoboria

Life transitions produce change in the way people perceive themselves, live their lives, and understand the world. At retrieval, people can derive various meanings from a transitional event by mentally focusing on some elements while disregarding others. For instance, they can focus on the event's concrete details (experience focus) or its broader life significance (coherence focus). Three experimental studies are presented which demonstrate that adopting a coherence focus at retrieval is associated with higher ratings of event impact and personal relevance, compared to adopting an experiential focus. This research highlights the importance of the retrieval context in present self-construction.

Saturday June 27

8:30 am – 10:00 am

Symposium **Room: Theatre**

Applied metacognition: Operational influences on eyewitnesses' metacognitive monitoring and task performance
Fiona Gabbert

Five presentations explore factors that affect metacognitive performance, and the subsequent reliability of memory outputs, in eyewitness tasks. Metacognition in this context refers to awareness and control over the cognitive processes engaged in learning (encoding), as well as monitoring and evaluating the content and accuracy of memory. Examining encoding and testing procedures, including the administration of novel instructions, these presentations provide an insightful overview of how factors of theoretical and applied relevance affect metacognitive monitoring and, consequently, task performance, and offer a common theoretical foundation for understanding a range of applied memory problems.

Metacognition at the sharp end: Examining free and cued recall performance as a function of active response role
Lorraine Hope, Fiona Gabbert, James D. Sauer, & David Blocksridge

Investigations following critical events often depend on accurate and detailed recall accounts from operationally active witnesses (e.g., police officers, military personnel, emergency responders). Such events are challenging and place additional cognitive demands on operational witnesses that may impair subsequent recall and memory monitoring. We compared the free and cued recall performance of 80 operational witnesses with that of non-operational observers for a simulated scenario involving an armed perpetrator. Operational witnesses reported significantly fewer correct details about the critical phase of the scenario, provided less detailed responses to questions and used Don't Know responses differently than their non-operational counterparts.

The effects of divided attention at study and reporting procedure on monitoring and grain size regulation for cued recall
James D. Sauer & Lorraine Hope

Research investigating grain-size regulation in memory reports demonstrates that individuals prioritize informativeness over accuracy, but typically uses conditions that facilitate strong memories and an artificial 2-phase reporting procedure, leaving the generalizability of these findings to eyewitness recall unclear. Two experiments investigated the effects of sub-optimal encoding conditions on grain-size regulation and the confidence-accuracy relation for cued recall. In

Experiment 1, under more naturalistic reporting conditions, participants prioritized informativeness over accuracy despite reduced memory quality. Divided (cf. full) attention reduced fine-grain response accuracy, but the confidence-accuracy relation was unaffected. Experiment 2 replicated these findings but demonstrated that reporting procedure (naturalistic vs. 2-phase) systematically affected grain-size regulation and monitoring processes.

Exploring how different types of recall tests affect subsequent learning of information

Fiona Gabbert, Lorraine Hope, & James D. Sauer

Research shows that immediate recall tests sometimes reduce and sometimes exacerbate memory suggestibility. To explore these contrasting findings we examined how different types of immediate recall test differentially influence metacognitive appraisals of memory quality. Participants viewed an event, then reported their memories for the event using either a free-recall or cued-recall test (control participants did not engage in an initial recall). Participants then encountered accurate and misleading post-event information about the event, prior to taking a final recall test. We found that the type of immediate recall test taken differentially affected the subsequent processing and learning of post-event information.

Metacognitive cueing and resistance against misinformation in eyewitness remembering: General and item-specific post-warnings

Hartmut Blank, Philip A. Higham, & Karlos Luna

Eyewitness memory is what we make of it. How witnesses convert stored memory information into eyewitness testimony depends on metacognitive background information, e.g. post-warnings about misinformation in eyewitness misinformation studies (Blank & Launay, 2014). Little is known about how different types of post-warning work, however. In two experiments (one using 2AFC recognition, one cued recall), we provided either just a general post-warning about the presence of misinformation or additionally marked individual test items as misinformation target items. The item-specific but not the general warnings eliminated both the misinformation effect and the adverse impact of misinformation on memory monitoring.

Metacognitive cues and the order of lineup decisions: Phenomenological instructions improve eyewitness memory, but it depends what you ask first

Nicola Guerin & Nathan Weber

In four mini-lineup experiments, we investigated the effectiveness of metacognitive instructions to reduce biased criterion-setting and improve eyewitness sensitivity. Participants made standard or two-step simultaneous lineup decisions. Two-step participants either selected a best-match before indicating whether or not the guilty culprit was present (best-match-first); or, decided on culprit presence before identifying that person, if present (presence-first). Instructions in the presence-first task produced better discrimination than in other conditions, without lower hits. Thus, procedure and instructions that influence metacognitive control of the memory decision can improve identification accuracy itself, rather than simply reducing false identifications at the cost of increased misses.

Paper Session — Room: Esquimalt

Face Recognition, Collaborative Recall, Imagining the Future

Exploring the role of individual social skill on face and object recognition

Karen Lander, Siddhi Poyarekar, Jessica Rolfe, & Marissa Clark

Previous work has established the importance of social anxiety and extraversion on face identity recognition. In our outlined work we find a significant relationship between extraversion and famous face recognition but not famous building recognition (Experiment 1). In Experiment 2 we further explore the impact of social anxiety, neuroticism, emotional stability and extraversion on both face and object identity recognition. We speculate on the nature of the relationship between social skill and face recognition and consider the theoretical and applied implications of these findings.

The perception and production of facial expressions in typically developing children and children with Autism Spectrum Disorder

James Tanaka, Buyun Xu, Laurence Poirier, & Marni Bartlett

What is the connection between the perception of a facial expression and its production in children with autism? In this study, children with ASD and typically developing (TD) children participated in an expression discrimination and generation task. Children with ASD performed more poorly than the TD children in their perception of the morphed happy, sad, angry, and fear expressions. On the production task, the children with ASD performed more poorly than TD children on the angry expression. When the performance was aggregated across the clinical and non-clinical groups, a reliable correlation was identified suggesting a common expression perception-production mechanism.

Haven't we met: Changing task requirements boosts feelings of familiarity

Devon Currie, André Aßfalg, Daniel M. Bernstein

After completing an intervening task (e.g., 145 + 223 = ?), participants are more likely to claim that a subsequent recognition probe (e.g., a word or picture) is familiar compared to recognition probes without a prior intervening task. Past studies have failed to explain this familiarity bias, called the revelation effect. In five experiments, we

varied intervening-task requirements by manipulating participants' ability to predict a response. Familiarity biases emerged only when intervening tasks were unpredictable and unpracticed. Results show that familiarity biases do not result from intervening tasks per se, but arise from cognitively demanding intervening tasks.

Let's talk about it: The effect of explicit retrieval strategy agreement on collaborative recall performance

Vana Webster, Amanda J. Barnier, Penny Van Bergen, Michelle L. Meade, & Celia B. Harris

Optimal recall performance is important in groups such as work teams. However, studies exploring collaborative recall performance typically find collaborative inhibition (CI), where groups recall less together than the same number of individuals (pooled) working alone. Previous research suggests that CI is eliminated when shared self-referential encoding, long-standing group membership, or shared expertise promotes group retrieval strategies. However, it is unclear if group strategy use is an emergent, implicit quality or if explicit strategy agreement can reduce CI. In this study we explore if nominating a retrieval strategy reduces CI, and if this carries over to future recall tasks.

Remembering the collective past to imagine a collective future

Maymune Topcu & William Hirst

The present research investigates the relationship between remembering past collective events and imagining future collective events. As in episodic events, a strong relationship between remembering the past and imagining the future has been found for events that involve one's nation and one's family. However, there were also differences between individual, family and national events with future imaginations being less specific for events that involve one's nation compared to events that involve the individual or the family. Possible reasons for such similarities and differences between collective and autobiographical memories will be discussed.

Paper Session — Room: Oak Bay 1

Estimator Variables for Lineup Performance

Eyewitness identification across the lifespan: A meta-analysis of age differences

Heather L. Price & Ryan J. Fitzgerald

We report a meta-analysis of age differences in eyewitness identification, examining witnesses' discriminability from early childhood to late adulthood. The meta-analysis summarizes data from 20,280 participants across 91 studies. Children were more likely to erroneously select a culprit-absent lineup member, and less likely than young adults to correctly identify the culprit. Young adults were better able than children to discriminate between guilty and innocent suspects. A strikingly similar pattern emerged for older adults, who had even stronger deficits in discriminability than children. Although young adults' identifications were the most reliable, identifications by all witnesses had probative value.

Does memory for cross-face faces benefit from longer on-time and off-time?

Thao B. Nguyen & Kathy Pezdek

Cross-race face identification is less accurate than same-race identification; a phenomenon known as the cross-race effect (CRE). Recognition accuracy for same- and cross-race faces is influenced by the context in which encoding occurs. In two experiments, we tested the effects of exposure time (1.5s or 5s), interstimulus interval (ISI) (3s or 9s), and rehearsal instruction on the magnitude of the CRE in Caucasian participants. Exposure time and ISI improved face recognition memory, but did so at similar rates for same- and cross-race faces, thus evidencing quantitative not qualitative effects on processing same- (White) and cross-race (Black) faces.

The effects of simulated distance on recognition of same race and other race faces

Kara Moore, James Michal Lampinen, Amanda Rousch, William Blake Erickson, & Brittany Race

The own race bias (ORB) refers to a finding that faces of members of one's own racial or ethnic group are easier to recognize. Holistic processing theories suggest that the ORB might be moderated by viewing distance. Participants studied photographs of own and other race individuals and then took a recognition memory test. Viewing distance was simulated by varying the degree to which photographs were blurred (Experiment 1) and photograph size (Experiment 2). Findings indicated that own race faces were better recognized, that recognition was impaired by simulated viewing distance, but the size of the ORB wasn't contingent upon distance.

Do you see what I see? Investigating eyewitness memory and oculomotor behaviour during CCTV observation

Gemma Graham, Anne Hilstrom, James Sauer, Jenny Page, & Lucy Akerhurst

The present study investigated how people attend to CCTV footage by integrating an eye tracking methodology to determine how often and for how long people attend to features in mock CCTV footage including a crime and a change and identifying how accurately participants can recall information. Findings demonstrated that change detectors attended to the change target more often and for longer than non-detectors and were able to recall significantly more overall accurate details and accurate people details from the footage. Change detectors eye movement behaviour and accurate recall implies more cognitive processing was taking place during observation.

Improving eyewitness memory: Training for internal feature focus

Helen M. Paterson, Clare Calderwood, Daniella Luppino, Hamish MacDougall, & Richard I. Kemp

Individuals often rely on external features such as hair and face shape when processing and recognising unfamiliar faces. This is problematic in a forensic setting because hairstyle can be changed easily. In two studies we examined whether training individuals to focus on the more stable, internal features of the face (e.g., eyes, nose and mouth) would improve identification accuracy. Results suggest that training individuals to attend to internal features may be beneficial when the appearance of a perpetrator has changed. Practical and theoretical implications of these findings will be discussed.

Paper Session — Room: Oak Bay 2

Lifespan Differences in Development and Recall of Autobiographical Memory in Children and Adolescents

Twenty-four-month-olds' nonverbal memory for expected and unexpected incidents of familiar and less familiar event sequences

Osman S. Kingo, Joanna J. Dahl, & Peter Krøjgaard

Pursuing the origins of scripts we examined memory for familiar events nonverbally in infancy. With the elicited imitation paradigm we investigated 24-month-olds' ability to re-enact expected and unexpected incidents in two familiar events and in two less familiar events across a two-week retention interval. Two factors were manipulated: (1) the extent to which the script was familiar to the infants and (2) whether the event sequences followed the expected sequence or not. Over time, scripted knowledge seemed to overwrite the memory trace of an unexpected incident of the familiar events, but not for the less familiar events.

The development of a life story in childhood

Elena Nicoladis, Connie Svob, & Lisa Smithson

The purpose of this study was to test whether life story coherence might emerge developmentally after including culturally normed life-script events in a life story. Children between 4 and 9 years told us their own life story and that of a fictional character. We analyzed children's inclusion of life-script events as well as coherence. The youngest children (4-5 years) included few life-script events, while the children between 6 and 9 years included significantly more. In contrast, only the oldest children (8-9 years) showed signs of coherence. These results suggest that life story coherence is itself a culturally normative narrative feature.

Retrieval induced forgetting for autobiographical events in children

Kaila C. Bruer, Heather L. Price, & Thomas L. Phenix

Few studies have explored retrieval-induced forgetting in childhood and, of those, fewer have done so beyond word-list paradigms. The purpose of this study was to examine how partial retrieval of an autobiographical event would impact children's subsequent recall of that event. We examined the recall of 283 school-aged children (M_age= 9.23, SD = 2.99) and found clear evidence of RIF in autobiographical memories. In addition, we found evidence demonstrating the robust impact that semantic integration instructions have on minimizing RIF. Integration instructions on an earlier unrelated task (word list recall) reduced retrieval-induced forgetting in children's subsequent of an autobiographical experience.

Overgeneral autobiographical memory across adolescence: A 3-year longitudinal investigation

Charlotte Gutenbrunner, Karen Salmon, & Paul Jose

Overgeneral memory (OGM), the tendency to report general memories when asked to recall a specific event, predicts the course and recurrence of adult depression. According to Williams et al.'s (2007) model of OGM, certain cognitive processes (rumination, avoidance and executive control), may contribute to emergence of OGM. Despite evidence of significant increases in depression during adolescence, limited research has investigated OGM and its covariates across this developmental period. Considering these gaps in the literature, the current longitudinal study examined proposed relationships in a community sample of 269 adolescents over 3 years. Findings and implications will be discussed.

Task-dependency of adult age differences in episodic and autobiographical memory

Ali Mair, Marie Poirier, & Martin A. Conway

Younger adults typically outperform older adults on tests of both autobiographical (AM) and episodic memory (EM), yet little is known about how performance on these different measures is related. Twenty younger and 20 older adults completed three AM and two EM tasks. Younger adults scored higher than older adults on measures of EM, but performance on AM tasks varied. AM recall was comparable across groups when retention interval was controlled, but older adults recalled AMs from adolescence in less detail than younger adults, and production of specific AMs in response to cue words was impaired in the older group.

Paper Session — Room: Saanich 1

Methods for the Assessment of Attitudes and Memory, Consumer-Decision Making

Group administration of the affect misattribution procedure for implicit measurement

Kazuo Mori & Akitoshi Uchida

The Affect Misattribution Procedure (AMP: Payne et al., 2005) can measure implicit attitudes more reliably than the Implicit Association Test because it utilizes the number of responses instead of the reaction times. We aimed to improve the administrative advantage of the AMP by converting it into a paper-and-pencil group performance test so that it can collect massive data easily. We conducted Group AMP experiments to achieve the typical AMP results with large effect sizes and obtained sufficient reliability. We also found a similar phenomenon of the disappearance of misattribution when participants evaluated the primes consciously prior to the target evaluation.

Unconscious plagiarism in a novel-generation task is greater when the source of examples is credible

Gabriel I. Cook, Paul S. Merritt, & J. Thaddeus Meeks

Participants either saw or did not see experimenter-provided visual examples of category items before generating their own examples for novel-generation task.. created novel designs after they had seen several. Participants unconsciously plagiarized features that were common across the examples despite strong admonitions to avoid doing so. However, unconscious plagiarism was greater if participants believed that a credible source had generated the examples as opposed to a novice. Information about the source, however, had to be available during the original learning experience when the examples were seen, but not simply during the design creation phase. Differential rates of unconscious plagiarism may be consistent with a valenced-based editing process.

Impairment of self-experienced brand memory via manipulated SenseCam pictures

Maria V. Hellenthal & Mark L. Howe

We examined the effects of retroactively changed brands in pictures on recognition memory for personally experienced brands. In an incidental learning task, 41 participants rated a set of brands for their pleasantness whilst wearing automatically triggered cameras (SenseCams). After two weeks, misinformation was induced by means of manipulated SenseCam pictures, in which half of the originally evaluated brands were replaced by a competitor brand. A recognition test for the original event followed by a source-monitoring task revealed a robust misinformation effect. These findings extend the generalizability of the misinformation effect to what might be considered a futuristic advertising measure.

Memory for emotional content from entertainment films: The role of subtitles, sex, and empathy

Richard Harris, Sawyer Borror, Kelsey R. Koblitz, Morgan Pearn, & Tanner C. Rohrer

One benefit of filmed entertainment is vicariously experiencing others' emotions. Four experiments assessed remembered emotions of characters in film clips from either a contemporary farce or a historical drama under various conditions of native or foreign language dialogue and/or subtitles. Positive and negative affect of characters was remembered better in conditions with English sound or subtitles than in conditions with no English, although dialogue or subtitles alone were equally effective at conveying emotion. Overall, emotion memory from the farce was better than from the drama. Participants higher in trait Fantasy Empathy remembered emotions better, although Emotional Intelligence had no effect.

The role of self-presentational motives in the use of the verticality-power metaphor in product preference

Aparna Sundar, Theodore Noseworthy, & Frank Kardes

A recent special issue of JCP (see vol. 24, no. 2) suggests that metaphors can elicit merely imagined bodily states and experiences that can have a profound influence on consumer judgment and decision making. For example, verticality is associated with valence, godliness, rationality, and power (Krishna & Schwarz, 2014). Our research shows that the conceptual link to verticality is also associated with impression motivation, and that self-presentational concerns amplify the effects of this metaphorical association on product preference.

10:00 am – 10:20 am

20-minute Break

10:20 am – 11:50 am

Symposium **Room: Theatre**

What can psychologists do to improve criminal investigation: Suspects interviews, eyewitness identifications, and forensic interviews with alleged victims

Makiko Naka

In spite of the accumulation of psychological knowledge that are relevant to criminal investigation such as suspect interviews, eyewitness identification, and forensic interviews with child victims, the knowledge is not always used among practitioners. In this symposium, studies by those who are committed to research that is relevant to the real world practice of investigation interviews/identification will be presented. It includes development of suspect interviewing method based on scientific evidence, eyewitnesses' strong belief in his/her memory even though it could be wrong, and training for forensic interviews of child victims in Taiwan and in Japan.

A collaborative and evidence-based approach to improving interrogation

Christian Meissner & Steven Kleinman

Interviews and interrogations are major elements of intelligence gathering. In the last decade, the use of psychologically and physically coercive interrogation techniques that aim to reduce resistance and produce compliance have received considerable scrutiny based upon arguments that they are ineffective and that they violate international law. The current paper describes a collaborative effort between researchers and practitioners to develop a theoretically-grounded and evidence-based approach to interrogation that is both ethically/legally sensitive and produces diagnostic information. We discuss experimental and field studies that have been conducted to assess current methods of interrogation, to introduce and test novel methods based upon social and cognitive psychological principles, and to develop improved metrics of rapport and elicitation. We also describe several recent meta-analyses that identify both productive methods of interviewing/interrogation and key psychological processes that distinguish the elicitation of true and false information. We propose that an empirical, collaborative approach has the potential to transform current practice from an "art" to a "science".

Psychology of eyewitness testimony: Lessons from twenty-five years as an expert testimony

Yukio Itsukushima

I will talk about the criminal cases, in which important eyewitness or witnesses were included, and psychologists were asked to assess their reliability and if necessary to testify in court as an expert witness. By having served as an expert witness for quite a few times, I learned that scientific psychological knowledge or techniques to collect information from eyewitnesses and witnesses were still lacking among law professionals, and lay people, who could serve as lay judges, lack the knowledge on important psychological factors that may influence the accuracy of eyewitnesses testimony. Furthermore, we learned that eyewitnesses in the real criminal cases tended to cling to what they have said in the process of investigation and in court. To understand the real nature of eyewitness testimony, it is important not only to study the factors that may influence the accuracy of eyewitness testimony but also to understand the mechanism how their strong beliefs are formed.

Forensic interviewing of child victims in Taiwan

Yee-San Teoh

The aim of this ongoing study was to evaluate the effects of forensic interviewing training of practitioners in Taiwan. 24 police officers, prosecutors, and social workers participated in a 3-day training on the forensic interviewing of children (including the NICHD Investigative Interview Protocol), followed by three monthly case discussions. Trainees submitted interview transcripts for analysis for the case discussions. Following training, focus group sessions were conducted to explore practitioners' views on the training components, impact of the training, and general views on interviewing alleged victims of child sexual abuse.

What hinders the implementation of forensic interviews (FI) and multiple disciplinary team (MDT) approach: Professionals' views on FI, MDT, and their skills of interviewers

Makiko Naka

Forensic interviews (FI), or investigative interviewing is a method to obtain as accurate information as possible from alleged child victims and witnesses with the effort of lessening the stress of interviewing to prevent the secondary trauma. The method is especially effective when used by a multi-disciplinary team (MDT), where social workers, police officers /prosecutors, medical doctors, and psychologists work together and share the information from the child, instead of having the child talk to each professional separately and thus repeatedly. Although such approach is widely used in western countries, in Japan, we are still struggling to implement the system. In this study, we researched into the professionals' perception of what hinders the implementation of FI and MDT approach, and their view of their own skills of using FI.

Paper Session **Room: Esquimalt**

Prospective Memory

Prospective memory in the lab and everyday life: Comparing older adults with and without Mild Cognitive Impairment

Agnieszka Niedzwienska & Lia Kvavilashvili

The study focuses on clarifying the nature of memory problems in Mild Cognitive Impairment (MCI) and assessing their magnitude in everyday life. In the lab, we have investigated the effect of target focality and ongoing task demands on the prospective memory performance of 40 MCI individuals and 40 healthy older adults. This will enable us to clarify which type of processing (strategic or automatic) is particularly disrupted in MCI. Outside the lab, all participants have kept a diary of memory failures which will enable us to identify everyday tasks that are most problematic for MCI individuals compared with healthy adults.

Collaborative inhibition in prospective memory

Catherine A. Browning, Celia B. Harris, Amanda J. Barnier, & Peter G. Rendell

Prospective memory is vital for everyday functioning, yet declines with age. Although we know that collaborating with others to recall past events can produce both costs and benefits, we know little about the effect of collaboration on prospective memory. Prospective memory task 'Virtual Week' (Rendell & Craik, 2000) was adapted for use in a collaborative recall paradigm to test young adults' collaborative prospective memory performance. We found collaborative inhibition. Furthermore, collaborating-pairs' prospective memory performance was related to their measures of 'Transactive Memory Systems' (Lewis, 2000). Future directions and implications for ageing research are discussed.

For more important prospective memory tasks, do we use more strategies and better strategies?

Suzanna L. Penningroth & Walter D. Scott

Prospective memory tasks are delayed intentions, such as taking medications. We tested whether higher task importance causes more memory strategy use and better (external) strategy use. In Study 1, participants reported strategies for real tasks from the past ("important" or "less important") and two hypothetical tasks (one important, one less important). For all tasks, participants reported greater strategy use for more important tasks. However, results were mixed for the prediction of more use of better strategies. Study 2 replicated the hypothetical task results. Our results demonstrate "hot" motivational influences in prospective memory but suggest a mixed review of meta-prospective memory.

Intending is believing: The impact of prospective memory on the false memory of task performance

Anna-Lisa Cohen, Michael Silverstein, Natan Weissman, Daniel Bernstein, & D. Stephen Lindsay

We explored whether forming an intention to perform a future action (i.e., prospective memory; PM) increases susceptibility to later falsely believing that the intention was carried out. Participants played a charades-like game called "Taboo" with an embedded PM task that led them to form intentions to say certain words and not others. A day later, participants were falsely informed that they had said some words during the task. Participants rated their memory clarity for those words. Participants reporting significantly higher memory clarity for the words for which they had formed an intention than for control words.

The role of expectations in prospective person memory

Kara Moore, James Michael Lampinen, William Blake Erickson, Christopher Peters, & Jessica Taylor

Past research has found that the majority of people identify the issue of 'missing persons' as very important and yet these same people were also highly unlikely to report having looked at missing children's posters when exiting a grocery store (Lampinen et al., 2009). The purpose of this research was to determine how expectations of encounter via the use of multiple missing persons alerts affect prospective person memory. We found that people who saw multiple missing persons alerts spotted a 'missing person' less than participants who saw only one missing persons alert.

Paper Session — Room: Oak Bay 1

Behavioural Cues to Deception

The impact of language proficiency as cognitive load on lie detection and confidence

Elizabeth Solodukhin & Amy-May Leach

We examined the impact of cognitive load on lie detection. Undergraduate students (N = 160) were randomly assigned to make lie detection decisions about individuals who belonged to different language proficiency groups (i.e., native, advanced, intermediate, beginner English speakers). Observers' accuracy and confidence differed based on the targets' levels of cognitive load. Specifically, observers who judged beginners were least accurate and confident. Speakers with intermediate proficiency, however, were most confidently and correctly identified as lie-tellers or truth-tellers. Previous research will be discussed in light of these results.

Exoneration or observation? Examining a novel difference between liars and truth tellers

Peter Molinaro & Ronald P. Fisher

Two strategies were proposed for detecting differences between liars' and truth-tellers' statements. Liars were hypothesized to strategically write statements with the

goal of self-exoneration. Liars' statements were predicted to contain more first-person pronouns and fewer describing words. Truth-tellers were hypothesized to be motivated toward being informative and thus produce statements with fewer first-person pronouns and more describing words. To better match the context of a criminal investigation a cheating paradigm was used in which spontaneous lying was induced and written statements were taken. Support for the first-person pronoun hypothesis was found. Limited support was found for the describing word hypothesis.

Deception about lab-induced and self-induced intentions

Lara Warmelink, Anna Reshetilova, Daria Tkacheva, & Neil McLatchie

Research on deception about intentions has shown that truth tellers and liars give different amounts of detail in interviews. This difference may be dependent on the type of intentions being discussed. Our experiment investigated the difference in level of detail between truth tellers (N = 84) and liars (N = 85) when they discuss self-induced and lab-induced intentions. Data analysis was ongoing when the abstract was submitted. The presentation will report the results and discuss their theoretical and practical implications.

Language cues to trust in online groups

Steven Nicholson, Paul Taylor, & Stacey Conchie

The present research tested language processes by which trust is built in online groups. Participants completed a hidden profile task over a 'relationship-building phase' and 'problem-solving phase'. Linguistic synchrony in the relationship-building phase predicted trust. Groups with low linguistic synchrony in the relationship-building phase were able to build trust on positive emotion in the problem-solving phase instead. Implications for inferring states of trust in criminal online groups and informing trust decision-making theory are discussed.

Students of SARMAC Caucus — Room: Oak Bay 2

All student members are encouraged to attend.

Symposium — Room: Saanich 1

Emerging perspectives on the organization of autobiographical memory

Norman R. Brown

For the past two decades, the default assumption in the area has been that autobiographical memory is (primarily) organized in a hierarchical manner. Although this approach has succeeded in labeling a set of plausible memory structures, little is known about their actual nature or their origins. This situation has motivated a fresh wave of research, one that challenges the traditional hierarchical approach, while introducing new theory, methods, and findings to the area. This symposium brings together researchers who are contributing, in various ways, to this trend and, in so doing, provides an overview of recent developments in the area.

Transition theory: A bottom-up approach to organization of autobiographical memory

Norman R. Brown

Transition Theory (T2) assumes that the content and organization of autobiographical memory necessarily mirrors the structure of experience. Thus, this approach rests on an analysis of the environment that emphasizes repetition, co-occurrence, change, and distinctiveness. In this talk, I first identify constructs basic to T2: event components, event representations, lifetime periods, transitions. I then argue that: (a) the periodization of autobiographical memory is an emergent property, driven by association and repeated exposure to frequently encountered, co-occurring event components, and (b) period boundaries should be understand as transitions that bring about a large-scale, synchronized change the set of event components that an individual encounters on a daily basis.

The impact of immigration on the organization of autobiographical memory

Amelia Shi, Felicia Nordlund, & Norman R. Brown

Three groups of middle-aged immigrants (Nigerians, British, Chinese) and one group of migrants participated in this study. All were at least in their 30's when they arrived in Alberta. Participants generated autobiographical memories in response to neutral cue words and then thought aloud as they estimated a date for each. Consistent with prior research, relocation produced a marked immigration bump in all samples. As predicted, participants also frequently mentioned relocation during the dating task, and thus provided evidence for its organizational importance. Finally, Transitional-Impact-Scale data collected from the Chinese sample confirmed that immigration is understood as a major life transition.

Understanding life time periods: Past, future, self and other

Dorthe Kirkegaard Thomsen & David B. Pillemer

Life time periods have been suggested to organize autobiographical memory. We present studies showing that individuals can identify life time periods in their personal future and in close others' past and future, suggesting that life time periods also organize future thinking and knowledge about other people. Finding that individuals construct life time periods for both past and future, self and other people also suggests that this level of organization does not depend on abstracting properties

of directly experienced events from a given period of time. Rather rehearsal or reasoning processes may be central for constructing life time periods.

Predicting the occurrence of respondent retrieval strategies in survey interviewing: Implications for the structure of autobiographical knowledge
Robert F. Belli, L. Dee Miller, Tarek Al Baghal, & Leen-Kiat Soh

Calendar survey interviews have been hypothesized to optimize the use of retrieval strategies in the structure of autobiographical knowledge in reports of life course events. We examine the use of parallel, timing, duration, and sequential respondent retrieval strategies. Sequences of interviewer-respondent interactions that were most predictive of respondents using retrieval strategies in their generation of answers were examined, and these sequences were also associated with retrospective reporting data quality. Results have implications regarding the associations that exist within the structure of autobiographical knowledge, and how such structures may be implemented in reconstructing memories of better and worse accuracy

Discussion and Q-n-A

Given the novel and somewhat controversial nature of the research reported in this session, we intend to reserve this final spot for feedback and discussion.

11:50 am – 12:00 pm

10-minute Break

12:00 pm – 12:30 pm

Business Meeting **Room: Saanich 1**

All members are encouraged to attend.

12:30 pm – 2:00 pm

Lunch (not provided)

2:00 pm – 3:30 pm

Symposium **Room: Theatre**

Distracted driving
Thomas M. Spalek

Over the past several years, considerable media attention has been directed at the dangers of distracted driving. According to US government statistics, each year over 3,300 people are killed and approximately 400,000 people are injured in crashes involving distracted drivers. In many of these cases, the drivers were texting or using a cell phone. Because technological innovations will continue to be part of our daily lives, the problem is likely to get worse. This symposium examines the research on driver distraction and highlights some of the considerations that industry and government will have to grapple with as we move forward.

Beware of foes unknown: The insidious effect of familiarity on driving
Thomas M. Spalek, Matthew R. Yanko, Hayley E. P. Lagroix, & Bertrand Sager

Distracted driving has been defined as any activity that diverts a person's attention away from the primary task of driving. Although the spotlight has been cast primarily on the perils of texting or using a cell phone while driving, some work from our lab suggests that familiarity, typically regarded as desirable, actually may be more bane than gain, at least under normal circumstances. A possible explanation for this finding and its implications for distracted driving research will be discussed.

Why talking to your car can drive to distraction
David Strayer

Driver distraction is increasingly recognized as a significant source of injuries and fatalities on the roadway. Distraction can arise from visual/manual interference, for example when a driver takes his or her eyes off the road to interact with a device. Impairments also come from cognitive sources when attention is diverted from activities related to safely operating the vehicle. We developed and tested a new rating system for quantifying cognitive distraction in the vehicle. Our research establishes that some of the newer voice-based interactions in the vehicle may have unintended consequences that adversely affect traffic safety.

Fatigue, automated vehicles and additional tasks: Is the cure worse than the disease?
Gerald Matthews, Catherine Neubauer, & Dyani Saxby

Future automated vehicles will allow drivers to engage in tasks other than driving. Self-initiated additional tasks such as phone use are typically seen as hazardous. By contrast, imposing tasks including trivia games is a possible countermeasure to driver fatigue. Recent simulator studies of additional-task effects on subjective state and performance during vehicle operation are reviewed. Automation consistently elevated fatigue, threatening reversion to manual control. Phone use and trivia games had mixed effects on subjective state, workload and alertness. Use of additional tasks as countermeasures requires careful design and validation: otherwise, the 'cure' for fatigue may be worse than the disease.

Using fuzzy signal detection to investigate the effects of driver distraction on hazard perception in real-world driving scenarios
Alex Chaparro & Rondell Burge

Little is known about how texting affects drivers' ability to detect and respond to road hazards. We investigated the effects of distraction on hazard detection utilizing fuzzy Signal Detection Theory (fSDT). Participants viewed videos of real-world road scenes and responded to hazards, while performing texting tasks differing in cognitive demand. The more cognitively demanding tasks were was associated with lower sensitivity (A') and a more conservative response bias (BD"). These findings suggest that cognitively demanding texting tasks reduce a drivers' ability to detect road hazards and that drivers require more evidence to classify a road scene as hazardous.

Three things you need to understand about distracted driving science (plus one more)
Paul Atchley

Recent press reports and industry press releases have described the "mixed" results from distracted driving science. The reality is that the results of nearly one-half of a century of research from hundreds of studies produce a generally very consistent finding: engaging the brain with a secondary task while driving produces decrements to driving performance. So why are there reports of a "controversy"? This talk will explore the breadth of distracted driving science, the factors that have produced a "controversy", a view of where the debate is headed and how it informs the use of science in public policy.

Paper Session — Room: Esquimalt

Detection of Deception in Vulnerable Populations and Alibi Witnesses

Imposing cognitive load through gaze maintenance to detect deception in child witnesses
Hannah Lawrence, Lucy Akehurst, Julie Cherryman, Aldert Vrij, & Amy-May Leach

In two experiments, we tested the hypotheses that (a) greater behavioural differences between child truth-tellers and child lie-tellers would occur when interviewees were instructed to maintain gaze than when they were not, and (b) asking children to direct gaze would enhance lie detection accuracy. Eight- to eleven-year-olds were asked to direct gaze at the interviewer or at a toy or were given no gaze instruction. We found that truth-tellers provided significantly more details and paused more often than lie-tellers in both gaze instruction conditions compared to the control condition. The effect of gaze instruction on detection accuracy will be discussed.

What happens when we cross-examine children who have been coached to lie by a parent?
Rachel Zajac, Bridget Irvine, Fiona Jack, & Jacob Ingram

Research has repeatedly demonstrated that cross-examination-style questioning is detrimental to the accuracy of children who are making a genuine attempt to tell the truth. What is less well known is how this unique style of questioning might affect the testimony of children who are being deliberately dishonest. To address this issue, we had children play three computer games with one of their parents before being interviewed with laboratory analogues of direct- and cross-examination. Some children were coached by their parent to lie during the interviews. We investigated how well cross-examination could discriminate between accurate and fabricated reports.

Do stereotypes influence mock juror perceptions of the credibility of witnesses with autism?
Katie L. Maras, Laura Crane, & Amina Memon

This study examined whether stereotypes about autism spectrum disorder (ASD) impact how credible they are perceived by mock jurors, independent from ASD behavioural manifestations and quality of account. Juror participants rated transcripts from witnesses with and without ASD. Conditions varied the provision of an ASD label and further information about ASD. The information jurors received heavily influenced their credibility assessments: those told that a witness had ASD viewed them as less credible than jurors who were given further information. This highlights how information provided to jurors about a witness can have a profound effect on how their testimony is evaluated.

It does matter if you're black or white: The effect of race and SES on evaluations of an alibi
Sara Cowan, Lesley Zannella, Stéphanie B. Marion, & Tara M. Burke

It is well documented that members of visible minority groups and individuals with low socio-economic status

(SES) are overrepresented in wrongful conviction cases (e.g., The Innocence Project). Participants (N = 145) were given materials about a murder investigation in which the alibi provider's race (Black or White) and SES (high or low) were manipulated. Mock-jurors' responses were consistently more lenient (e.g., alibi judged as more truthful, accurate) toward the Black suspect. Non-White participants, however, were significantly more lenient towards all suspects than were White participants. SES had no effect. Results show that race remains a salient factor in alibi evidence.

Looking ready for jail – the influence of handcuffs on deception detection and suspiciousness

Mircea Zloteanu & Daniel C. Richardson

This experiment looked at how the context in which individuals are interrogated affects how believable they appear. Participants were videotaped while providing truthful or fabricated responses in an interrogation setting while their ability to gesticulate freely was manipulated. The manipulation was achieved by handcuffing half of the participants. Deception detection accuracy, confidence and bias for the two conditions was obtained from both layperson and police officers. The study looks at how the physical constraints imposed on the "suspects" affects their ability to appear honest and on how these constraints affect the decoder's accuracy and suspiciousness.

Symposium

Room: Oak Bay 1

Visual expertise in forensics, faces, and medicine

Jason Tangen & Kevin Eva

As a novice in a particular domain, the cognitive feats that experts are capable of performing seem impressive, even extraordinary. Drawing from forensic identification, unfamiliar face matching, and medical competence assessment, we will show that expertise and its development is a useful lens through which to view these apparently disparate fields.

We will see that experts rely on nonanalytic processing; that feedback and elaboration boost learning; that metacognitive accuracy is not a stable individual difference; that cognitive science can improve safety-critical decision-making; and that recognising the context specificity of behaviour can help design better assessment protocols for medical competence.

Visual expertise and identification

Matthew Thompson & Jason Tangen

Many domains of visual expertise (e.g., radiology, cytology, dermatology) involve experiential knowledge based on many prior instances. Learning about the variability of instances between and within categories serves as a rich source of analogies to permit efficient classification. We have been working with a fascinating group of experts—Fingerprint Examiners—who spend several hours a day examining a highly structured set of impressions. Here, we discuss several experiments, which indicate that these identification experts rely heavily on nonanalytic processing, and they perform accurately when information is sparse—experts can do a lot with a little.

Turning novice identifiers into experts

Rachel Searston & Jason Tangen

The tacit knowledge generated from thousands of prior instances results in an astonishing ability to discriminate complex visual categories in the blink of an eye, when the stimuli are familiar (e.g., a friend recognising you in a photograph or a dermatologist recognising a rash as "eczema"). But how does visual expertise develop in domains of identification (e.g., fingerprint or unfamiliar face matching) where the question of identity is based on a single member? Using fingerprint identification as a testbed, we show that feedback, contrasting matching and nonmatching fingerprint pairs, and elaboration are powerful ways to boost learning.

Metacognition in unfamiliar face matching

David White & Richard Kemp

People are surprisingly poor at matching photographs of unfamiliar faces. To confound this problem, confidence does not predict accuracy on this task. Here we summarise recent work focussing on two measures of metacognitive ability in face matching: 1) sensitivity of confidence judgments in predicting accuracy of identity judgments; 2) the ability to select images that support identification performance. Metacognitive accuracy is close to chance in novice participants and does not appear to be a stable individual difference. We discuss implications for face identification in forensic and security settings, and evidence that forensic training can improve this ability.

Is facial identification training effective?

Alice Towler, David White, & Richard Kemp

Establishing the identity of an unfamiliar person can be critical in security situations such as border crossings and in forensic investigations. However, human performance on this task is highly error-prone. To mitigate risk, professional facial identification staff undergo training to improve face matching accuracy. Here we present the first systematic validation of these methods and show that current training is largely ineffective. Encouragingly, subsequent studies based on our understanding of face processing have identified training methods that produce reliable improvements in identification decisions. Our findings emphasise the need for professional

organisations to adopt evidence-based training procedures.

Using cognitive science to overcome the limits of subjectivity in medical performance assessment
Kevin Eva

Competent medical practice requires performance across many dimensions of expertise that do not permit meaningful objective measurement of practitioners' ability. This has caused problems for the health professional education community as validity and credibility issues create barriers for quality improvement and for efforts to impose remediation. Training interventions and changes in scale format have had little effect. In this presentation we will outline ways in which cognitive science is helping to overcome these challenges by designing assessment protocols that recognize the relativity of judgment, the limitations induced by working memory, and the context specificity of behaviour.

Symposium — Room: Oak Bay 2

Cognitive ageing gracefully

Andrea M. Piccinin & Scott M. Hofer

Cognitive functioning is an essential component of health and well-being across the lifespan. Research to understand the lifespan determinants and modifiable risk factors associated with changes in health and cognition continue to be a high priority internationally. This symposium brings together leading researchers to discuss current issues in cognitive aging research, including recent results across international long-term longitudinal studies, modifiability of cognitive performance through repeated training, intraindividual variation as an early marker for normal and pathological cognitive change, and the influence of chronic conditions and related risk factors on cognitive decline.

Integrative Analysis of Longitudinal Studies of Aging (IALSA): Reproducible research on lifespan changes in cognition and memory using a coordinated analysis approach
Andrea M. Piccinin & Scott M. Hofer

Research findings and conclusions often differ across independent longitudinal studies addressing the same topic. Differences in measurements, sample composition (e.g., age, cohort, country/culture), and statistical models (e.g., change/time function, covariate set, centering, treatment of incomplete data) can affect the reproducibility of results. The central aim of the Integrative Analysis of Longitudinal Studies of Aging (IALSA) research network (NIH/NIA P01AG043362) is to optimize opportunities for conceptual replication and cross-validation of results across heterogeneous sources of longitudinal data by evaluating comparable conceptual and statistical models at the construct-level. Recent findings on lifespan determinants of cognitive change will be highlighted.

ACTIVE clinical trial: Overview and 10-year findings
Sherry Willis & K. Warner Schaie

Adult Cognitive Training in Vital Elderly (ACTIVE) is the largest clinical trial on behavioral cognitive interventions with normal elderly funded by the NIH. Cognitively normal older adults (N = 2300) were trained on one of three cognitive interventions (Memory, Reason, Speed) with no-contact control. Significant cognitive effects were found for the 3 interventions at posttest and at 5 year follow-up, and at 10-year follow-up for Reason and Speed groups. At 5 and 10-year follow-up trained subjects reported less difficulty performing IADL activities, compared to controls. At 5 and 10-year follow-up Reason and Speed subjects had fewer auto crashes.

On the relation of cardiovascular disease to cognitive aging: Independent and interactive impacts of hypertension and diabetes mellitus on memory
Amanda Kelly, Matthew Calamia, Graciela Muniz Terrera, Andrea M. Piccinin, & Scott M. Hofer

Hypertension (HTN) and diabetes mellitus (DM) are two of the most prevalent health conditions in the older adult population and both place diagnosed individuals at increased risk for earlier or more dramatic decline in several cognitive domains. In a coordinated analysis of three international longitudinal studies of aging, we found differences in long-term episodic memory performance between those living with HTN-only, those with DM-only and those living with both HTN and DM. Considering both conditions together, with emphasis on lifespan determinants, is a critical next step to further our understanding of the intersection between cardiovascular disease and cognitive aging.

Mechanisms of effective cognitive training to improve everyday function
Jerri D. Edwards, Jennifer L. O'Brien, Ross Andel, & Jennifer J. Lister

Cognitive speed-of-processing training is a process-based, computerized intervention involving perceptual practice of visual tasks. Four randomized clinical trials among older adults demonstrate that (relative to active control conditions) this training transfers to improved performance of instrumental activities including prolonged and safer driving mobility. The underlying mechanisms of effective cognitive interventions are not known. Two studies elucidating the mechanisms of cognitive speed-of-processing training will be presented. Results indicate that training may be effective by compensating for age-related declines in selective attention. Elucidating the key components of cognitive interventions that transfer to improved everyday function is important to advance the field.

What can an intraindividual variability approach tell us about cognitive ageing and early detection of impairment?
Stuart W. S. MacDonald & Robert S. Stawski

Response time inconsistency (RTI) reflects both labile (attentional lapses) and stable (cognitive status) phenomena. Scant research has decomposed RTI into its state- and trait-like components, or examined whether the dispositional nature of variability is higher for the cognitively impaired. Data from Project MIND (n=302, aged 64-92 years), a measurement burst study, are used to examine the distribution of state- and trait-like variability in RTI, potential differences across cognitive status, and explore predictors of normal vs. pathological change in RTI. Discussion focuses on the theoretical and practical value of RTI as an early marker for normal and pathological cognitive change.

Symposium — Room: Saanich 1

Involuntary and intrusive thoughts and memories: The failure to control the contents of consciousness

Ira E. Hyman, Jr.

People experience a variety of involuntary and intrusive thoughts and memories. Involuntary thoughts may be autobiographical memories, semantic knowledge, thoughts about the future, thoughts about emotional and traumatic events, and songs stuck in one's head. In some cases, involuntary thoughts and memories feel intrusive and may contribute to Post-Traumatic Stress Disorder. In this symposium, we will explore involuntary and intrusive thoughts using a variety of research methodologies. From these investigations of different involuntary thoughts, we will gain a better understanding of the similarities and differences that lead to involuntary thoughts and cause some thoughts to feel intrusive.

Involuntary memories during voluntary recall: Are they functional or a distraction?
John H. Mace

Involuntary autobiographical memories are spontaneous recollections of the past that occur normally in everyday cognition. Although most of these memories occur as single events, some occur as a series of memories, where the first memory leads to one or more additional memories. Known as involuntary memory chaining, this retrieval phenomenon also occurs as a function of voluntary remembering, where a voluntarily retrieved memory results in a chain of involuntary memories. This study examined the functional relationship between these involuntary memories and voluntary recall.

The nature and prevalence of involuntary semantic memories or mind pops
Lia Kvavilashvili & Susan Anthony

Mind pops refer to fragments of semantic knowledge (a word, a phrase or a saying, a visual image, or a melody) that come to mind unexpectedly without any deliberate attempt to recall them. The talk will distinguish this phenomenon from other forms of involuntary and intrusive memories and report findings concerning the prevalence of mind-pops in general population (including children and older adults) and clinical samples. Results of a study (n=160) assessing the reliability of a brief Mind-Popping Questionnaire and its relation to other measures of intrusive cognitions will be also reported.

Measuring meta-awareness of intrusive thoughts about emotional events
Melanie Takarangi, Deanne Green, Deryn Strange, & D. Stephen Lindsay

Recent research draws attention to conceptual overlap between traumatic intrusions and thought processes such as mind-wandering. Our focus is on meta-awareness of intrusive thoughts. We showed subjects emotional film footage and subsequently asked them to self-report thoughts about that footage. At intervals, we prompted them to report thought content. Subjects often self-reported film-related thoughts, but were also 'caught' engaging in film-related thoughts. 'Caught' thoughts sometimes reflected the non-reported (but meta-aware) continuation of a previously self-reported thought. However, sometimes subjects were genuinely unaware of their thought content, strengthening the claim that people can lack meta-awareness of thoughts about an emotional event.

From involuntary to intrusive: When the song stuck in one's head feels intrusive
Ira E. Hyman, Jr., Keyleigh Cutshaw, Madeline Jalbert, & Joseph Blythe

In this presentation, we will consider two aspects of the common involuntary thought of having song stuck in one's head. First we will present evidence that background music will become an intrusive. The effect of background distractors on cognitive performance is very well known. We have found that distractors quickly become intrusive thoughts on subsequent tasks. Second we have investigated features that are associated with mental music beginning to feel intrusive. Emotional responses, control, repetition, and the completeness of re-experiencing contribute to feelings of intrusiveness. Research on this phenomenon may contribute to an understanding of involuntary thought in general.

3:30 pm – 3:50 pm

20-minute Break

3:50 pm – 5:00 pm

Paper Session **Room: Esquimalt**

Effects of Post-Event Information on Eyewitness Recall

The effect of post event conversation on eyewitness memory: Using the MORI technique with an East Asian sample
Hiroshi Ito & Kazuo Mori

We examined the effect of post event conversation on eyewitness memory in an East Asian sample. We used a technique in which participants sat beside a person viewing a different movie and believed that both had seen the same movie. The participants had to answer questions together, which guided them to discuss some conflicting details about what they saw. Finally, the participants took a recognition memory test individually. We replicated previous studies' findings on Western populations and found that participants were more likely to report the correct answer for the non-discussed critical details than for the discussed ones.

How warnings after co-witness discussion impact eyewitness memory
Kerri Goodwin & Mia E. Ellis

We explored the effects of a co-witness confidence and warnings after a live co-witness discussion of a witnessed event. Participants viewed a robbery video with a confederate, who then discussed the event and provided misleading or correct PEI. Confederates also exhibited either high or low confidence in their memory. Participants received either a credibility, informational, or no warning prior to completion of an individual memory test. Results showed no impact of warning on the misinformation effect. Yet, credibility warnings reduced memory accuracy consistent with prior research. Importantly, co-witness confidence may play an important role in moderating the effects of warnings.

Memory impairment revisited: Does reactivating a witnessed memory render it susceptible to being overwritten?
Maria S. Zaragoza & Eric Rindal

In a recent study, Chan and LaPaglia (2013) purport to show that reactivating a witnessed memory renders it susceptible to being overwritten by misinformation, a finding they take as evidence of reconsolidation in declarative memory. The current study sought to replicate and extend Chan and La Paglia's (2013) findings using a different set of materials and a different memory test (i.e., the modified test), but obtained a different result. In two experiments with the modified test, we found no evidence that reactivating a witnessed memory prior to misinformation exposure results in impaired memory for the originally witnessed event.

Paper Session **Room: Oak Bay 1**

Can Working Memory Capacity (WMC) be Changed?

Can working memory training increase working memory span? Evidence from the dual N-back task?
Erin L. Beatty, Quan Lam, Ingrid Smith, Kristen Blackler, & Oshin Vartanian

Recently, there has been much interest in the prospects of working memory training for improving cognition. Participants tend to perform better on the trained working memory task as a function of repeated practice, reflecting improved working memory skill. However, it is not always clear whether this improvement reflects increased working memory span. In the present study participants were randomly assigned to train on the adaptive (i.e., experimental) or non-adaptive (i.e., control) version of the dual n-back task—known to draw simultaneously on the phonological loop and the visuospatial sketchpad. We measured the effects on spatial, visual and verbal span.

High-ability subjects benefit the most from cognitive training
Jeffrey L. Foster, Tyler L. Harrison, Kenny L. Hicks, Christopher Draheim, & Randall W. Engle

Recent research suggests that training on tasks that measure cognitive abilities—such as working memory capacity (WMC)—transfer to improvements on other tasks that measure similar cognitive abilities. But who benefits the most from training? More to the point, is it people with high or low abilities that improve? We asked subjects with either high or low WMC to complete a training study under several conditions. Subjects also completed a battery of cognitive tasks before, half-way through, and after training. Critically, only high spans showed consistent improvements in WMC. In other words, high spans benefited the most from training.

The effect of naturalistic changes in stress and mood on working memory capacity and memory inhibition
Julia C. Teale & Malcolm D. MacLeod

Research has indicated that when low mood/ high stress are experimentally induced in the laboratory, this may be associated with a subsequent impairment of working memory capacity (WMC) and memory inhibition. No studies, however, have tested whether naturalistic changes in mood/ stress affect performance on WMC or

inhibitory measures. The present study used a within-participants design to measure individuals (full-time teachers) at reliable times of low mood/ high stress, and times of high mood/ low stress. Our study indicated that high stress/ low mood was related to a significant reduction in WMC scores, but to no significant change in inhibition.

Workshop **Room: Oak Bay 2**

JARMAC Authorship Workshop: How to Get Published

Paper Session **Room: Saanich 1**

Cross-Cultural Differences and the Development of Personal National Life Scripts in Autobiographical Memory

A cross-cultural study of the lifespan distributions of life script events and autobiographical memories of life story events

Alejandra Zaragoza Scherman, Sinué Salgado, Zhifang Shao, & Dorthe Berntsen

Cultural Life Script Theory provides a cultural explanation of the reminiscence bump: adults older than 40 years remember more life events happening between 15 - 30 years of age. The cultural life script represents semantic knowledge about commonly shared expectations regarding the order and timing of major transitional life events in an idealized life course. By comparing the lifespan distribution of life scripts events and memories of life story events, we can determine the degree to which the cultural life script serves as a recall template for autobiographical memories, especially of positive life events from adolescence and early adulthood.

Personal turning-point narratives and well-being across cultures

Elaine Reese, Ella Myftari, Chen Yan, Helena McAnally, Qi Wang, Tia Neha, Fiona Jack

Coherent life stories are linked to positive well-being for adults (e.g., Bauer, McAdams, & Sakaeda, 2005). Yet much of this research is based on European cultures with an independent orientation. Turning-point narratives and reports of well-being were collected from 263 New Zealand adolescents and young adults (aged 12-21) from two cultures with more interdependent orientations (Māori and Chinese) and one culture with an independent orientation (European). The positive link between personal narrative coherence and well-being was present for young adults, but not adolescents, across all three cultures. Personal narratives appear to have utility for well-being across diverse cultures.

Using scripts to inform theories of national development and progress: The national life script

Travis G. Cyr & William Hirst

Prior research has demonstrated that personal life scripts appear to guide recall of autobiographical memories. The present research aims to establish the existence of the national life script: Semantic knowledge of critical events in an idealized national history. We examined a number of factors related to the spontaneous generation of events in an idealized nation's history, including valence, importance, commonality, etc. Content analysis yielded 52 distinct categories of response type. Further analyses support the use of a national life script for recall, though differences between national life scripts and personal life scripts are considered.

5:00 pm – 5:15 pm

15-minute Break

5:15 pm – 6:15 pm

Keynote **Theatre**

Real-world Visual Attention

Daniel Simons

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6:15 pm – 6:30 pm

Closing Ceremonies **Theatre**

6:30 pm – 11:30 pm

GALA DINNER AND DANCE

Crystal Ballroom, Fairmont Empress Hotel

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