NOrth**W**est **C**ognition **A**nd **M**emory

2010 Meeting

NOWCAM is an annual venue for students and researchers from the Pacific Northwest working in the general area of memory and cognition to meet and share their current research activities with an informed, sympathetic, and good-humored audience.

NOWCAM 2010

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NOWCAM Mission Statement

The aim of NOWCAM is to support Pacific Northwest faculty and student researchers working in the general area of memory and cognition by creating an annual venue in which they can share their current research activities with an informed, sympathetic, and good-humored audience. With the exception of keynote addresses, NOWCAM favors papers and posters presented by students (usually with faculty as co-authors). This gives students an opportunity to develop their chops, and faculty a chance to sit back and relax.

The Pacific Northwest is home to numerous wide-flung Psychology departments with strengths in cognition and memory. NOWCAM provides a forum for faculty and students from these departments to get together and discuss their latest research. Interactions with other researchers can spark innovations and cross-fertilizations that move the research forward in new and exciting ways. In any case, it's good fun to get together with friends and colleagues who share similar interests, chew the cognitive rag a bit, and quaff a beer or two over a good meal.

Steve Lindsay is Grand Poo-bah Mother Hen of NOWCAM, and the Exalted Order of the Group of 7 +/-2 consists of Eric Eich (UBC), Ira Hyman (WWU), Alan Kingstone (UBC), Mariam Bassok (UW), Mike Masson (UVic), and Don Read (SFU).

Acknowledgements

NOWCAM gratefully acknowledges financial support from Simon Fraser University, the University of British Columbia, the University of Victoria, the University of Washington, and Western Washington University, and from generous anonymous donations by a number of individuals attending past NOWCAM conferences.

Thanks this year to several individuals who have worked to make NOWCAM function: Chris Lalondeand Steve Lindsay for the work on the web and registrations; Ruth Hackler and the WWU Psychology Department staff for administrative support; the students in Ira Hyman's lab and other labs for pulling together some of the materials, putting together poster boards, and running registration; Dale Dinnel (serving in the thankless position of WWU Psychology Chair) for helping organize and making sure the budget works.

Registration

Registration will be available during poster sessions, prior to the keynote, and Saturday and Sunday mornings before paper sessions and during breaks.

Locations for Posters and Papers

The keynote address and the paper sessions will occur in room 105 of the Communication Facility building (hereafter abbreviated CF). The poster sessions will happen in the Skybridge of Academic Instructional Center building (hereafter abbreviated AIC).

Poster Set-Up Information

Poster Boards will be available in AIC Skybridge by 3:30 pm Friday and will remain there throughout the conference. Thus there will be plenty of time to set your poster up. Friday night posters should be taken down at the end of the session so that Saturday posters can go up in the morning.

NOWCAM 2010
Western Washington University
May 14th to 16th

Friday Afternoon, May 14th

3:30 – 4:00 Registration in Lobby of CF outside of room 105

4:00 – 5:20 Cognition Paper Session (CF 105)

5:30 – 7:00 Poster Session 1 and Registration (AIC Skybridge)

Saturday, May 15th

8:30 – 9:00 Coffee and Registration in Lobby of CF outside of room 105

9:00 – 10:40 Social Cognition (CF 105)

11:00 – 12:00 Keynote Address (CF 105)
Geoffrey Loftus
University of Washington
How a cognitive psychologist can help a jury: Three examples from the real world of murder and mayhem

12:30 – 1:00 Poster Session 2, Pizza, and Registration (AIC Skybridge)

2:30 –4:10 Memory

4:30 –5:30 Attention and Perception 1

Sunday, May 16th

8:30 – 9:00 Coffee and Registration in Lobby of CF outside of room 105

9:00 –11:00 Fluency and Judgments

11:30 – 12:30 Attention and Perception 2

NOWCAM 2010

Detailed Program

Friday May 14

Cognition: Friday afternoon Chair: Ira Hyman

4:00–4:20 Kristie J. Fisher, Miriam Bassok, & Lee Osterhout
When two plus two does not equal four: Event-related potential responses to incongruous arithmetic word problems

4:20–4:40 Andrew Hughes & Barbara Rutherford
Hemispheric asymmetry and processing of emotion

4:40–5:00 Rylie Moore & Barbara Rutherford
Interhemispheric communication: How do first and second languages interact?

5:00–5:20 Julie Anne Seguin, David N. Harper, Geoffrey R. Loftus, & Gina M. Grimshaw
A matter of time: Dynamic effects of emotion on duration judgments

Poster Session 1: Friday 5:30–7:00

1. Terry Chu, Kaitlin Laidlaw, & Alan Kingstone
   Effects of distractor saliency on saccade trajectory: An investigation on how objects are represented in the superior colliculus.
2. Adam Mannegren, Joseph Chisholm, Evan Risko, & Alan Kingstone
   Players in the driver's seat: Immersion and body movement during racing games
3. Janel Fergusson & Peter Graf
   Time flies sometimes: Production of 2-6 minute intervals
4. James Farley & Alan Kingstone
   Stop moving and read this poster!
5. Joseph Chisholm, Evan Risko, & Alan Kingstone
   Embodying focused attention: The role of posture in task performance
6. Victoria Holec & Janice J. Snyder
   Multiple inhibition of return in older adults
7. Tanya R Jonker, Daniel M. Bernstein, Andre Asfalg, & Richard LeGrand
   Processing orientation and facial recognition
8. Ashley Ruggles
   Emotion-processing in high-functioning autistic children: A priming study
9. Briana S. MacDonald, Chelsea Durber, Blaire Webster, Justin Katner, Tamara Meixner, & James W. Tanaka
   Face space: The effect of category learning on the atypicality bias
10. Charles K. Odell, Ben Richardson, Matthew Seifert, Lawrence Behmer, Aaron Tripp, Lawrence A. Symons, & Kelly J. Jantzen
    Alpha band synchrony contributes to action-induced modulation of ambiguous motion

11. Gabriela Pawlowski, Hayley Heinekey, Olav Krigolson, Suzan Nouwens, & Todd Handy
Motor and visual experience reduces implicit analysis in related areas of cortex
12. Patricia Blinn, Julia Kam, Olav Krigolson, & Todd Handy
Impact of mind wandering on error processing in the brain
13. Avital Cherniawsky & Clay B. Holroyd
Temporal discounting of the feedback error-related negativity (fERN): An electrophysiological study of intertemporal feedback processing
14. Paul Gosset, Olav E. Krigolson, & Todd C. Handy
The role of medial-frontal cortex in language acquisition
15. Marla Mickleborough, Andreea Simi Toma, Christine M. Chapman, Jeremy H. M. Chan, & Todd C. Handy
People with migraine have abnormal visual processing
16. Katrina Jones, William J. Peria, Julie Anne Seguin, Melissa Rangel, Mark T. Reinitz, & Geoffrey R. Loftus
Different confidence-accuracy relationships for detailed and non-detailed memories
17. Tanjeem Azad, Carla L. MacLean, D. Stephen Lindsay, & C.A. Elizabeth Brimacombe
Witness fatigue and misinformation
18. Lauren E. Williams, Kaitlyn M. Runde, Amy C. Peterson, Sal D'Amico, & Ira E. Hyman, Jr.
Source confusion in collaborative remembering
19. Kara H. Lipsett, Caitlin J. Bate, Ashleigh M. Chapman, & Carrie Cuttler
Creativity and memory test performance: Thinking outside of the box
20. Ashleigh M. Chapman, Kara H. Lipsett, Caitlin J. Bate, & Carrie Cuttler
The link between perfectionism and memory test performance: The bright side of perfectionism

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Saturday May 15

Social Cognition: Saturday Morning Chair: Alex Czopp

9:00–9:20 Iris Gordon, Natasha Wawrykow, James W. Tanaka, Marian Bartlett, Javier Movellan, & Robert Schultz
Interactive training of facial expressions in individuals with autism

9:20–9:40 Mara Sedlins, Lori Wu Malahy, Jason Plaks, & Yuichi Shoda
Blurred boundaries: Validating a new measure of implicit social categorization

9:40–10:00 Joshua Tabak & Vivian Zayas
Gaydar: How sexual orientation is read from faces

10:00–10:20 Esther J. Walker, Evan F. Risko, & Alan Kingstone
Um... now you hear it, now you don't: Social influences on the, uh, use of fillers

10:20–10:40 Hilary Kim Morden
If it happens in cyberspace does it count? Beliefs, attitudes and opinions about internet infidelity

Keynote Address:

11:00–12:00 Geoffrey Loftus (University of Washington)
How a cognitive psychologist can help a jury: Three examples from the real world of murder and mayhem

Poster Session 2: Saturday 12:30–2:00

1. Joakim Jacobson, Tom Foulsham, & Alan Kingstone
A turn of the scene gives a different look
2. Pavel Kozik, Marcus R. Watson, Kathleen A. Akins, & James T. Enns
Do similarly shaped letters elicit similar colours in grapheme-colour synaesthesia?
3. John Chauhan, John R. Chauhan, & Daniel N. Bub
Getting a grasp on language: Auditory words and the real-time unfolding of hand action representations
4. Trisha Halpenny, Joseph Chisholm, & Alan Kingstone
Quicker to pull the trigger: The effect of action video game experience on oculomotor capture
5. Robert Teszka, Alan Kingstone, Evan Risko, & Robert Teszka
Magic & social attention: Verbal cues may affect shifts in gaze
6. Jack Xu, Kaitlin Laidlaw, Evan Risko, & Alan Kingstone
Don't look at people: The effect of social stimuli on the control of visual attention
7. Nicola Anderson, Evan Risko, & Alan Kingstone
Careful while on a webcam: People know where you are looking!
8. Janice Hodge & Katharina Young
The effects of training in recognizing Thatcherization in Greebles
9. Cody Tousignant, Glen E. Bodner, Andreas Breuer, & Christopher Warren
Context affects subjective evaluations of paintings
10. Alex M. Wilson, Daniel M. Bernstein, Giuliana Mazzoni, Alan Scoboria, & Josee Jarry
Primed attitudes toward food: Reliability issues of the Brief IAT
11. Russell T. Huffman, Ira E. Hyman, Jr., Kristi M. Lemm, & Julie A. Woodzicka
Egocentric biases in explaining election outcomes
12. Aaron Norr, Dario Cvencek, Andrew N. Meltzoff, & Anthony G. Greenwald
Implicit and explicit cognition of preschool children
13. Tracy Kim, Jeff Kim, & Peter Graf
Pretty n ugly patterns
14. Marla Mickleborough, Jake Hayward, & Todd C. Handy
People with migraine have an exaggerated inhibition of return (IOR) response
15. Somayyeh Montazer-Hojat & Clay B. Holroyd
Developmental changes in feedback error-related negativity (fERN): An electrophysiological trajectory for the brain error processing system
16. Alissa von Malachowski, Chin Hing Chang, Kirsten A. Dalrymple, & Alan Kingstone
South of May: Synaesthesic advantage in date recall

17. Chelsey Moore, Andrea Hughes, & Wayne Podrouzek
Seductive details, levels of interest, and gender: Effects on recognition of academic text

18. Andrea Schneider, Daniel Wuitchik, Briana S. MacDonald, & Ron W. Skelton
Gender differences in spontaneous selection of navigational strategy: A study in virtual space

19. Nichole Nadalin, Kelsey Hamlin, Nichole Nadalin, & Todd Haskell
Measuring mental imagery with eyetracking

20. Kelly Merriman, Brittany A. Cardwell, & Cristina Sampaio
Diminishing the category-based memory distortion in a well known space

Memory: Saturday Afternoon 1 Chair: Cristina Sampaio

2:30–2:50 Krista B. Friesen, James W. Tanaka, & D. Stephen Lindsay
Stop Thief!: Electrophysiological correlates of eyewitness memory

2:50–3:10 Justin Kantner & D. Stephen Lindsay
Response bias as a stable cognitive trait in recognition memory and beyond

3:10–3:30 Andreas T. Breuer, Michael E. J. Masson, & Glen E. Bodner
The long-term effect of repeatedly-presented masked words

3:30–3:50 Seung-Jae Pi & Peter Graf
Distinct components of prospective memory

3:50–4:10 Caitlin J. Bate, Ashleigh M. Chapman, Kara H. Lipsett, & Carrie Cuttler
The link between checking compulsions and prospective memory deficits: From the lab to the field

Attention & Perception 1: Saturday Afternoon 2 Chair: Todd Haskell

4:30–4:50 Matt Yanko & Thomas M. Spalek
The effect of arousal level on driving: Narrow pupils make for sloppy drivers

4:50–5:10 Hayley Lagroix, Thomas M. Spalek, & Vincent Di Lollo
Effect of intervening events between the two targets in the attentional blink

5:10–5:30 Nicole Pernat, Wayne Podrouzek, Richard LeGrand, André Asfalg, & Dianne Crisp
Romancing the blind spot: Embrace of the Pacmen

Sunday May 16

Fluency & Judgments: Sunday Morning 1 Chair: Kristi Lemm

9:00–9:20 Eryn J. Newman, Maryanne Garry, Daniel M. Bernstein, & D. Stephen Lindsay
A Collection of Effects Produced by Seemingly Tangential Photographs

9:20–9:40 Louise Meilleur & Daniel Bernstein
Risky business: The effects of fluency on judgments of risk

9:40–10:00 Alex Wilson, Nicole Pernat, Louise Meilleur, & Daniel M. Bernstein
Did I really say that? Hindsight bias in the auditory domain

10:00–10:20 Oliver Schweickart & Norman R. Brown
On the role of recognition in binary decision making under uncertainty

10:20–10:40 Cody Tousignant & Glen E. Bodner
More contrast effects on subjective evaluations of photographic images

10:40–11:00 Kurt Braunlich & Kristi M. Lemm
Thought in the absence of attention

Attention & Perception 2: Sunday Morning 2 Chair: KJ Jantzen

11:30–11:50 Sophie N. Lanthier, Evan F. Risko, Daniel Smilek, & Alan Kingstone
Take a break! Fatigue selectively influences eye movements during visual search

11:50–12:10 Julia W. Y. Kam, Maria Stanciulescu, & Todd C. Handy
Task-related attention on auditory change detection

12:10–12:30 Lawrence Paul Behmer Jr., Ira E. Hyman, Jr., K. J. Jantzen, & James Graham
Implicit processes may be involved in change detection: The effect of different types of changes and the number of distracters on the speed of change detection

Program Abstracts

Cognition: Friday Afternoon

Kristie J. Fisher, Miriam Bassok, & Lee Osterhout. *When Two Plus Two Does Not Equal Four: Event-related Potential Responses to Incongruous Arithmetic Word Problems*

> Conceptual integration describes the combination of distinct elements into a meaningful whole. Arithmetic word problems are unique in that they combine elements from math and language. Thus, when attempting to integrate these elements, the human cognitive system must coordinate 'real world' and arithmetic knowledge. We used ERP to investigate how the conceptual integration process pertaining to arithmetic word problems compares to conceptual integration in single knowledge domains (e.g., sentences, equations).

Andrew Hughes & Barbara Rutherford. *Hemispheric Asymmetry and Processing of Emotion*

> This study examines the roles of the hemispheres of the brain in comprehending and processing emotional qualities of visually presented stimuli. Two hypotheses regarding the laterality of emotion are investigated using techniques developed to test hemispheric competence and interaction. The emotional valence hypothesis (Hellige, 1995) proposes that the right hemisphere is dominant in processing negative emotions while the left hemisphere is dominant for positive emotions. In contrast, the right hemisphere hypothesis (Hellige, 1995) suggests that the right hemisphere is dominant in processing all emotions. This study investigated the emotional valence and hemisphere hypotheses by comparing the hemispheres relative efficiencies in processing emotional images. The results of this study indicate that while the hemispheres do have valence specific advantages, there is also an overall effect of hemispheric interaction.

Rylie Moore & Barbara Rutherford. *Interhemispheric communication: How do first and second languages interact?*

> Two models of dual language control were tested. Monolingual and bilingual participants determined if a central letter string was an English word or not. A distractor word, located to the left or right, was English or French and semantically related or not to the central string. If French semantically related distractors influence response times of bilinguals but not monolinguals, then the level of activation model is supported. If both groups respond similarly, then inhibitory control is supported.

Julie Anne Seguin, David N. Harper, Geoffrey R. Loftus, & Gina M. Grimshaw. *A matter of time: Dynamic effects of emotion on duration judgments*

> Our subjective sense of time is easily influenced by emotion. Accordingly, we report that emotional arousal and valence interact to influence time perception for briefly presented images (2-6 seconds). These results are consistent with attentional theories of time perception and in marked contrast to the activational effects reported for shorter durations. Follow-up experiments suggest that the effect of emotional factors on time perception can change as stimulus duration increases.

Poster Session 1: Friday 5:30 – 7:00

Terry Chu, Kaitlin Laidlaw, & Alan Kingstone: *Effects of distractor saliency on saccade trajectory: An investigation on how objects are represented in the superior colliculus.*

> The curvature of vertical saccades, compared to horizontal saccades, suggests greater interference from the presence of nearby distractors. We propose that this difference may be partially due to an under-representation of vertical objects in the superior colliculus. This model predicts that vertical saccades should be more sensitive to changes in distractor saliency than horizontal saccades. Our study, which manipulated distractor saliency during a saccade-to-target task, yielded support for this hypothesis.

Adam Mannegren, Joseph Chisholm, Evan Risko, & Alan Kingstone: *Players in the Driver's Seat: Immersion and Body Movement During Racing Games*

While playing video games, many players move their body in a manner consistent with their in-game behaviour (e.g., while turning their character they turn their body). The present study manipulated the feeling of immersion to investigate this apparent embodiment of remote action displayed by participants asked to play a racing game. Although the immersion manipulation successfully influenced participantsâ€™ subjective experience of the game, game related body movements were not affected.

Janel Fergusson & Peter Graf: *Time Flies Sometimes: Production of 2-6 Minute Intervals*

Previous work on time perception has focused almost exclusively on very short intervals (<30 seconds). The current studies examined our ability to estimate longer durations (2-6 minutes) while occupied by a secondary task. Participants made a series of duration judgments while completing a tone-judgment task that varied in difficulty and type (pitch vs. duration). Results indicate that time-keeping of longer intervals may rely on processing by shared attentional resources, rather than an internal clock.

James Farley & Alan Kingstone: *Stop moving and read this poster!*

Attentional states fluctuate over time, and embodied cognition predicts that these states may be observed in motor activity (eg., fidgeting). Participants watched a lecture video and self-reported their attentional state at regular intervals. Motor activity and lecture comprehension were also measured. Motor activity was found to be negatively correlated with both subjective (self-report) and objective (comprehension) measures of attentional states.

Joseph Chisholm, Evan Risko, & Alan Kingstone: *Embodying Focused Attention: The Role of Posture in Task Performance*

Posture is known to communicate certain affective states; however, of interest is whether posture plays a functional role in task performance. We demonstrate that if instructed to sit in a 'focused' or 'unfocused' manner, participants adopt similar postures. However, if asked to adopt these postures without mentioning attentional states, there is no effect on performance. Results suggest that posture is more communicative than having a functional role in focusing attention.

Victoria Holec & Janice J. Snyder: *Multiple Inhibition of Return in Older Adults*

Inhibition of return (IOR) facilitates visual search by inhibiting attention from returning to previously inspected locations. In young adults, robust IOR can co-occur at up to five locations. Given search difficulty experienced in older adults, we wondered whether the same pattern of performance would emerge. IOR was comparable in both magnitude and number of locations inhibited for adults aged 51 â€“ 72 years but not for adults aged 73+ years.

Tanya R Jonker, Daniel M. Bernstein, Andre Asfalg, and Richard LeGrand: *Processing Orientation and Facial Recognition*

Responding to Navon stimuli modulates subsequent facial recognition performance (Macrae & Lewis, 2002). This effect has been attributed to a shift in processing (local versus global), but this processing effect is under debate (e.g., Perfect et al., 2008). In two experiments, we attempt to replicate the Navon effect as well as employ the Stroop task prior to facial recognition to evoke automatic/controlled processing.

Ashley Ruggles: *Emotion-Processing in High-Functioning Autistic Children: A Priming Study*

Autistic children demonstrate greater difficulty processing emotion in faces than do typical children. The present study used a priming task measuring speed and accuracy of prime-target pairs between high-functioning autistic and typical children. Primes included emotional faces, and targets included words that matched or mismatched valence of the prime. No priming effects between groups were found. Results indicate a trend in that error rates only for typical children decreased with age.

Briana S. MacDonald, Chelsea Durber, Blaire Webster, Justin Katner, Tamara Meixner, & James W. Tanaka: *Face Space: The effect of category learning on the atypicality bias*

> The atypicality bias is an effect whereby a 50/50 morph of typical and atypical faces is perceived as more similar to the atypical face. We hypothesized that experience with category learning creates the atypicality bias. We found that participants exhibited the atypicality bias to novel stimuli called blobs only after category training. This demonstrates that the atypicality bias is a change in object perception that occurs through category learning.

Charles K. Odell, Ben Richardson, Matthew Seifert, Lawrence Behmer, Aaron Tripp, Lawrence A. Symons, Kelly J. Jantzen: *Alpha Band Synchrony Contributes to Action-Induced Modulation of Ambiguous Motion*

> We used electroencephalography to investigate the neural basis of the motor priming of apparent motion. Participants made circular movements while viewing apparent motion that was either ambiguous in direction or forced to occur in the same direction as the movement. Stimulus only and movement only control conditions were also included. Results show greater alpha band desynchronization in V1 when motion influences perception suggesting that motor activity primes early visual processing.

Gabriela Pawlowski, Hayley Heinekey, Olav Krigolson, Suzan Nouwens, & Todd Handy: *Motor and Visual Experience Reduces Implicit Analysis in Related Areas of Cortex*

> Participants were scanned with functional magnetic resonance imaging(fMRI) while passively viewing rock climbing holds and matched control objects. Subsequent to this, participants completed a five-week training program during which they learned to climb using the holds but not the control objects. A follow-up fMRI scan revealed greater activations in pre-motor cortex for climbing holds. These data suggest that motor experience appears to play a role in perceptual processing.

Patricia Blinn, Julia Kam, Olav Krigolson, & Todd Handy: Impact of Mind Wandering on Error Processing in the Brain

> In the present study we examined the effect of attention (on-task versus mind wandering) on error evaluation within medial-frontalcortex. Our data demonstrate that mind wandering impairs error processing. Specifically, we found that the amplitude of the error-related negativity, a component of the event-related brain potential associated with error evaluation, was reduced during episodes of mind wandering.

Avital Cherniawsky & Clay B. Holroyd: *Temporal Discounting of the Feedback Error-related Negativity (fERN): An electrophysiological study of intertemporal feedback processing*

> Neurophysiological evidence supports a model of temporal discounting (TD) wherein the midbrain dopamine system preferentially responds to immediate rewards. We examined the fERN, an ERP component associated with dopamine reward processing, in a TD paradigm. A fERN was found for immediate rewards/errors, but not for future rewards/errors. In addition, high TDs had larger immediate fERNs. These results provide further evidence for dopamineâ€™s impulsive role in a neural model of TD.

Paul Gosset, Olav E. Krigolson, & Todd C. Handy: *The Role of Medial-Frontal Cortex in Language Acquisition*

> To examine the role of medial-frontal cortex in language acquisition, we recorded event related potential (ERP) data while participants learned symbol word pairings for a novel language. Analysis of the stimulus averaged waveforms and feedback average waveforms revealed activations indicative of language processing and error evaluation in the medial-frontal cortex respectively. Our results suggest that a reinforcement learning system in medial-frontal cortex plays a role in language acquisition.

Marla Mickleborough, Andreea Simi Toma, Christine M. Chapman, Jeremy H. M. Chan, & Todd C. Handy: *People with migraine have abnormal visual processing*

> People with migraine have abnormal visual processing between headache attacks. Could this abnormality affect automatic affective evaluative processing of everyday objects? 26 migraineurs and 26 controls performed a target identification task, while we measured visual cortical responses to 232 non-target logos via ERPs. An abnormal central-parietal late positive potential (LPP; 450-700 ms post-stimulus) for migraineurs suggests that higher-order stimulus processing of affective evaluative judgements is abnormal in migraineurs.

Katrina Jones, William J. Peria, Julie Anne Seguin, Melissa Rangel, Mark T. Reinitz, & Geoffrey R. Loftus: *Different Confidence-Accuracy Relationships for Detailed and Non-Detailed Memories*

> Detailed memories are perceived as more credible than familiarity-based memories, and have shown to indeed be more accurate. A factor contributing to perceived credibility is reported confidence. We examine the relationship between accuracy and retrospective confidence in a recognition test. Our results show that when confidence is controlled, accuracy is greater for familiarity-based than for detailed memories. We conclude that details in memories produce an unwarranted increase in confidence.

Tanjeem Azad, Carla L. MacLean, D. Stephen Lindsay, & C.A. Elizabeth Brimacombe: *Witness Fatigue and Misinformation*

> Are witnesses who are mentally fatigued more likely to recall misinformation than witnesses who are not fatigued? Participants will undertake a series of activities to assess their mental state near the beginning and end of the term. At both times, participants will view a video of a workplace incident and then answer correct and misleading questions about the event. We will discuss the issues of witness fatigue and predicted findings.

Lauren E. Williams, Kaitlyn M. Runde, Amy C. Peterson, Sal D'Amico, & Ira E. Hyman, Jr.: *Source Confusion in Collaborative Remembering*

> When engaged in collaborative remembering, people adopt information from their partner's memory. We looked at whether people are able to recall which memories are their own and which came from their partner. We found that people make frequent errors in source monitoring by claiming their partner's memories as their own. In collaborative remembering, people work to construct an agreed upon version of the past.

Kara H. Lipsett, Caitlin J. Bate, Ashleigh M. Chapman, & Carrie Cuttler: *Creativity and memory test performance: Thinking outside of the box*

> Do creative individuals tend to perform better on memory tests? We examined the link between creativity and performance on various types of memory tests: prospective, visual, verbal, action and source. Our findings indicate that creativity is positively correlated with superior performance on all of the memory tests, except for source memory. These findings may reflect a tendency for creative individuals to use more innovative strategies to remember.

Ashleigh M. Chapman, Kara H. Lipsett, Caitlin J. Bate, & Carrie Cuttler: *The link between perfectionism and memory test performance: The bright side of perfectionism*

We examined whether perfectionism is associated with retrospective memory (the ability to remember previously learned information) or prospective memory (the ability to remember to perform tasks in the future). Participants completed a series of retrospective memory tests, prospective memory tasks and a questionnaire which we used to measure perfectionism (the Obsessive Beliefs Questionnaire). Results show positive correlations between perfectionism and retrospective memory test performance but not prospective memory task performance.

Social Cognition: Saturday Morning

Iris Gordon, Natasha Wawrykow, James W. Tanaka, Marian Bartlett, Javier Movellan, & Robert Schultz. *Interactive Training of Facial Expressions in Individuals with Autism*

> Children with Autism are characterized by a severe deficit in both voluntary and spontaneous production of facial expressions. "FaceMaze" is an interactive computer-based intervention that aims to improve spontaneous facial expression production through the use of voluntary production. Typically developing adults preformed a facial expression production task before and after playing FaceMaze, and expression production was measured using Electromyography. Playing Facemaze significantly improved facial expression production with attenuation of irrelevant muscle activation and enhanced activation of relevant muscle groups. Implications for Autism intervention will be discussed.

Mara Sedlins, Lori Wu Malahy, Jason Plaks, & Yuichi Shoda. *Blurred Boundaries: Validating a New Measure of Implicit Social Categorization*

> Biologically, the physical features (e.g., skin tone, hair color) associated with racial groups vary continuously, yet people treat these socially constructed groups categorically. Do such categories affect how we perceive people, such that, as in the case of phonemes, differences within category boundaries are difficult to perceive while differences across boundaries are accentuated? We predicted (and found) that confusion patterns among digitally morphed faces reflect categorical perception of race.

Joshua Tabak & Vivian Zayas. *Gaydar: How Sexual Orientation is Read From Faces*

> Little is known about how sexual orientation is read from faces. We demonstrated above-chance accuracy for judgments of sexual orientation from men's and women's faces presented for 50ms upright or upside-down. Moreover, accuracy decreased during upside-down (vs. upright) trials. Because configural face processing is inhibited when faces are viewed upside-down but featural face processing remains intact, our results indicate that both featural and configural face processing contribute to judgment accuracy.

Esther J. Walker, Evan F. Risko, & Alan Kingstone. *Um... now you hear it, now you don't: Social influences on the, uh, use of fillers*

> At its core, language is a social act. In the present investigation, we explore how the social context of a situation affects the production of fillers such as "um" and "uh", which are hypothesized to be used by speakers to account for delays and uncertainties in speech. Results suggest that the social setting influences how often fillers are uttered. Implications for theories of filler use in speech will be discussed

Hilary Kim Morden. *If it happens in cyberspace does it count? Beliefs, attitudes and opinions about internet infidelity*

> This study examines attitudes and beliefs about extra-dyadic internet relationships and the role that cyber-sex, hot chat, and intimate conversation play in them. Influential factors such as gender, age, level of education, religious affiliation, internet facility, and personal sexual history are examined in conjunction with beliefs about online infidelity. Faculty, staff and students at the University of the Fraser Valley participated in this questionnaire-based study.

Keynote Address:

Geoffrey Loftus
University of Washington
How a cognitive psychologist can help a jury: Three examples from the real world of murder and mayhem

Poster Session 2: Saturday 12:30 – 2:00

Joakim Jacobson, Tom Foulsham, Alan Kingstone: *A turn of the scene gives a different look*

> Why do people scan images with horizontal eye movements? We investigated how different frames (circle/square) and types of image (scenes/fractals) influenced saccade direction in pictures at their normal orientation and those rotated 90 degrees. Natural scenes tended to have more horizontal and fewer vertical saccades but this changed with rotation. Eye movements in fractals were more constant. The results confirm that both picture features and scene layout affect eye guidance.

Pavel Kozik, Marcus R. Watson, Kathleen A. Akins, & James T. Enns: *Do Similarly Shaped Letters Elicit Similar Colours In Grapheme-Colour Synaesthesia?*

> Grapheme-colour synesthesia is a condition in which one perceives linguistic units as having colours. The specific letter-colour associations are highly idiosyncratic however: e.g. the letter "A" might appear red for one synesthete and blue for another. Our study examines the relationship between shape and perceived colour. We demonstrate that similarly shaped letters tend to elicit similar colours and dissimilarly shaped letters tend to elicit dissimilar colours.

John Chauhan, John R. Chauhan, & Daniel N. Bub: *Getting a Grasp on Language: Auditory Words and the Real-Time Unfolding of Hand Action Representations*

> The current study implements a unique behavioural paradigm in order to explore the dynamic relationship of hand representations as they unfold in real-time during the processing of manipulable objects presented acoustically. The study differentiates between functional knowledge, recruited both powerfully and quickly across word presented, and volumetric knowledge, which is first suppressed, activated weakly after some time, only to fade away. The unique methodology is sensitive to measurement in milliseconds.

Trisha Halpenny, Joseph Chisholm, & Alan Kingstone: *Quicker to pull the trigger: The effect of action video game experience on oculomotor capture*

> Extensive action video game experience has been suggested to lead to an improvement in endogenous control of attentional resources. As the majority of prior work has used covert attentional tasks, the present study tested action video game players and non-players in an oculomotor capture task which required overt shifts of attention. Results indicate that players make quicker manual responses than non-players, but no differences in oculomotor capture were observed.

Robert Teszka, Alan Kingstone, Evan Risko, & Robert Teszka: *Magic & Social Attention: Verbal Cues May Affect Shifts in Gaze*

> Social attention research assumes individuals attend to images of people in the same way they attend to real live people. In previous work, verbal cues made by a live performing magician were shown to affect shifts in gaze. We extended this work by having participants watch HD video of a trick while wearing an eye tracker in order to investigate the effects of presentation (live vs video) on social attention.

Jack Xu, Kaitlin Laidlaw, Evan Risko, & Alan Kingstone: *Don't look at people: The effect of social stimuli on the control of visual attention*

> Do preferences for certain stimuli undermine efforts to avoid them? Research has demonstrated that individuals prefer to look at social content in scenes. Here, we explore the cognitive consequences of avoiding social relative to non-social content in the context of a new paradigm designed to study the explicit control of attention. Results reveal that avoiding social content is objectively and subjectively more cognitively demanding than avoiding nonsocial content.

Nicola Anderson, Evan Risko, & Alan Kingstone: *Careful while on a webcam: People know where you are looking!*

> We tracked eye movements with only a web camera. People could reliably detect and judge the direction of eye movements that were only 1 degree of visual angle, although accuracy improved for larger movements. These data indicate that a webcam-plus-observer system can be used to study eye movements in a simple, discrete, noninvasive manner. Practical and theoretical implications are discussed.

Janice Hodge & Katharina Young: *The Effects of Training in Recognizing Thatcherization in Greebles*

> Our experiment was designed to investigate whether training with novel objects known as Greebles would cause individuals to recognize thatcherization within the Greebles. We looked at whether training in Greebles would cause enough recognition expertise to enable recognition of thatcherization similar to recognition in human faces. Experts became aware of differences in orientation and thatcherization, respectively, whereas novices found all images to be relatively similar in bizarreness.

Cody Tousignant, Glen E. Bodner, Andreas Breuer, & Christopher Warren: *Context affects subjective evaluations of paintings*

> We examined whether beauty ratings for a critical set of medium-beauty paintings were affected by a previously viewed context set of low- or high-beauty paintings. Beauty ratings for the critical paintings were higher after a low- than high-beauty context, even when the context and critical paintings were of a different type (e.g., representational context and abstract critical images). We relate our findings to theories of contrast versus assimilation effects.

Alex M. Wilson, Daniel M. Bernstein, Giuliana Mazzoni, Alan Scoboria, & Josee Jarry: *Primed attitudes toward food: Reliability issues of the Brief IAT*

> While considerable research has focused on reliability and validity of implicit measures, few examined the influence of priming attitudes on implicit associations. We used images to influence food preference in two experiments. Subjects viewed emotional image primes immediately prior to rating food items. Supraliminal primes affected explicit food attitudes, but subliminal primes did not. Moreover, implicit attitudes as measured by the Brief IAT were insensitive to both kinds of primes.

Russell T. Huffman, Ira E. Hyman, Jr., Kristi M. Lemm, & Julie A. Woodzicka: *Egocentric Biases in Explaining Election Outcomes*

> We looked at the reasons people used to explain the 2008 Presidential election outcome. In study 1, we looked at pundits' explanations of the election outcome. In Study 2, we surveyed college students to assess their explanations. We found some evidence for an egocentric bias. Individuals focused on the actions of their own Presidential candidate rather than the opponent. We suggest egocentric biases can encompass political party and preferred candidates.

Aaron Norr, Dario Cvencek, Andrew N. Meltzoff, & Anthony G. Greenwald: *Implicit and Explicit Cognition of Preschool Children*

> A new implicit measure of attitudes, the Preschool Implicit Association Test (PSIAT) was administered to 75 4-year-old children. The gender attitude PSIAT measure (good = girl) correlated positively with the corresponding explicit measure (liking for girls). Using both measures together increased the prediction of children's gendered activities (playing with dolls) relative to using each measure alone, suggesting the value of using implicit and explicit measures as joint predictors of behavior.

Tracy Kim, Jeff Kim, & Peter Graf: *Pretty n Ugly Patterns*

> How do we respond to unexpected stimuli? We displayed a series of simple visual patterns and required undergraduate students to rate each either on a prettiness scale or on an ugliness scale. Most patterns were shown for exactly 400 ms, while a few were shown for 300 ms or for 500 ms. Participants' ratings were generally lower for the patterns displayed for the standard duration than for the exceptional durations.

Marla Mickleborough, Jake Hayward, & Todd C. Handy: *People with migraine have an exaggerated inhibition of return (IOR) response*

> Inhibition of return (IOR) means there is a brief facilitation, followed by a subsequent impairment, for detecting an object in an attended peripheral location. We tested 20 migraineurs and 20 controls in an IOR task and found that migraineurs have exaggerated IOR. Migraineurs may have an increased exploration of previously unattended objects in the scene during visual search due to increased prevention of attention from returning to already-attended objects.

Somayyeh Montazer-Hojat & Clay B. Holroyd: *Developmental Changes in Feedback Error-Related Negativity (fERN): An Electrophysiological Trajectory for the Brain Error Processing System*

> Effective feedback processing is essential in performance monitoring. This event- related brain potential (ERP) study examined developmental changes in the magnitude of the feedback error-related negativity (fERN) in participants ages 9-13, 14-17, and 18-23. Participants navigated a virtual 'T-maze' where they were presented with either positive or negative feedback. No significant changes in the size of the fERN suggested an early maturation of the neural system that produces the fERN.

Alissa von Malachowski, Chin Hing Chang, Kirsten A. Dalrymple, & Alan Kingstone: *South of May: Synaesthesic advantage in date recall*

> Individuals with time-space synaesthesia have consistent and automatic visual-spatial representations of time-units, such as months of the year. These representations may aid individuals in manipulating and recalling time-based information. The current study investigates this potential cognitive advantage in a practical behaviour task in which time-space synaesthetes and controls recall and reorder 6 month-date pairs. Time-space synaesthetes were significantly faster at reordering and recalling dates than controls, indicating a cognitive advantage.

Chelsey Moore, Andrea Hughes, & Wayne Podrouzek: *Seductive Details, Levels of Interest, and Gender: Effects on Recognition of Academic Text*

> This study examines the effects of seductive details (extraneous, highly interesting, but unimportant pieces of information), gender, and interestingness of text, on recognition. Participants read one of six texts. There were two topics, social impact and neural firing. For each topic there were three levels of seductive details: none, related, and non-related. Participants completed a multiple choice quiz to test recognition of text material. Results of analyses will be discussed.

Andrea Schneider, Daniel Wuitchik, Briana S. MacDonald, & Ron W. Skelton: *Gender differences in Spontaneous Selection of Navigational Strategy: A Study in Virtual Space*

> Men are thought to be better than women at spatial navigation, supposedly because men navigate by cognitive maps and women by simple cues and responses. We examined whether men and women differentially selected these two navigational strategies in a virtual analogue of the Morris water maze. Surprisingly, more women selected the cognitive-map-based strategy while approximately the same number of men chose cognitive-map-based and cue-based strategies.

Nichole Nadalin, Kelsey Hamlin, Nichole Nadalin, & Todd Haskell: *Measuring Mental Imagery with Eyetracking*

> There is currently much interest in mental imagery associated with memory and understanding language. We attempted to measure this imagery via eyetracking. Participants were instructed to visualize an event involving three-dimensional motion. An eyetracker measured eye movements during the visualization. We observed different patterns of eye movements for horizontal movement, vertical movement, and movement in depth. We have explored applications of this technique to address questions about imagery and perspective.

Kelly Merriman, Brittany A. Cardwell, & Cristina Sampaio: *Diminishing the category-based memory distortion in a well known space*

> We investigated categorical distortions in memory for a heavily navigated space. In experiment 1, we found that after erring in recalling a target location, subjects recognized the targetâ€™s true location. In experiment 2, we found that the categorical distortion in recall diminished with episodic cues. These findings suggest that the blending of specific and regional target information in a well known space occurs at retrieval and not perception.

Memory: Saturday Afternoon 1

Krista B. Friesen, James W. Tanaka, & D. Stephen Lindsay. *Stop Thief!: Electrophysiological correlates of eyewitness memory*

> We measured event-related potentials (ERPs) during an eyewitness line-up task after participants unexpectedly witnessed a live mock-theft. Analysis of ERP waveforms suggested that participants who correctly identified the culprit may have done so more quickly but with less confidence than people who incorrectly accused a foil. We also found evidence suggesting some subtle perceptual recognition of the culprit, even when participants failed to correctly identify her from the line-up.

Justin Kantner & D. Stephen Lindsay. *Response bias as a stable cognitive trait in recognition memory and beyond*

> Response bias in recognition memory is typically assessed at the group level, but substantial individual differences in bias can often underlie group means. From a signal detection theory perspective, these individual differences suggest that some people require more evidence of "oldness" than others before they will endorse a test probe as old. We investigated the within-person stability of bias over time and its relationship to performance on other cognitive tasks.

Andreas T. Breuer, Michael E. J. Masson, & Glen E. Bodner. *The long-term effect of repeatedly-presented masked words*

> We investiged the possibility that subliminally-presented words can have an effect lasting longer than a few seconds. Word and nonword targets in a lexical decision task were preceded by masked word primes. When word primes became visible targets, responses were faster if the target had previously been a prime preceding a word target. A second experiment suggests that masked primes become associated with the manual response made to the target.

Seung-Jae Pi & Peter Graf. *Distinct Components of Prospective Memory*

> Prospective memory (ProM) -- the ability used for carrying out plans in the future -- is assumed to have distinct components: we call them monitoring (used in connection with near-term plans), and episodic ProM (used in connection with plans to be carried out after longer delays). For the present study, undergraduate students completed either a monitoring task or an episodic ProM task. The speed and accuracy of their performance showed both similarities and differences between monitoring and episodic ProM.

Caitlin J. Bate, Ashleigh M. Chapman, Kara H. Lipsett, & Carrie Cuttler: *The link between checking compulsions and prospective memory deficits: From the lab to the field*

> Previous research has demonstrated a link between checking compulsions and impaired prospective memory (ProM): our ability to remember to perform tasks in the future. We examined whether these findings generalize to field ProM tasks. Our findings replicate those of previous research, showing correlations between checking and impaired in-lab ProM performance. However, they failed to reveal evidence of a relationship between checking compulsions and performance on the field ProM task.

Attention and Perception 1: Saturday Afternoon 2

Matt Yanko & Thomas M. Spalek. *The effect of arousal level on driving: Narrow pupils make for sloppy drivers*

> We have shown that, as drivers become more familiar with a route, they respond less promptly to sudden events, such as a dog running onto the road. We hypothesize that, with increasing familiarity, drivers become more relaxed and allow their minds to wander. We tested this relaxation hypothesis by monitoring pupil diameter while manipulating route familiarity. Consistent with this hypothesis, pupil diameter decreased with route familiarity. There was a tendency for this trend to be reversed upon switching to an unfamiliar route.

Hayley Lagroix, Thomas M. Spalek, & Vincent Di Lollo. *Effect of intervening events between the two targets in the attentional blink.*

> Report of a second target (T2) is impaired when presented within 500 ms of the first (T1; attentional blink, AB). We examined the role of intervening events between T1 and T2: (a) distractors, (b) long T1, (c) blanks, (d) blanks plus one distractor before T2. All produced an AB whose magnitude was greatest in (a). (c) and (d) yielded identical levels of performance, confirming Delayed-Attentional-Engagement models but disconfirming Input-Control models.

Nicole Pernat, Wayne Podrouzek, Richard LeGrand, André Aβfalg*, Dianne Crisp. *Romancing the Blind Spot: Embrace of the Pacmen*

> Is the blind spot actually "filled-in," as suggested in so much literature, or is it simply not processed by the brain? The present psychophysical scaling study tested stimulus size-perception relationship in 10 subjects by presenting stimuli (Kanizsa triangles) at the blind spot and a corresponding non-blind retinal location. Consistent with the "simply not processed" hypothesis, subjects perceived stimuli to be smaller at the blind spot than the non-blind location.

Fluency and Judgments: Sunday Morning 1

Eryn J. Newman, Maryanne Garry, Daniel M. Bernstein, & D. Stephen Lindsay. *A Collection of Effects Produced by Seemingly Tangential Photographs*

> Tangentially related photographs affect immediate judgments about accompanying information. In three experiments, subjects decided if trivia claims, product claims and personality claims were true or false. Claims appeared either with or without a tangential photograph. Although photographs sometimes improved accuracy for familiar claims, they consistently produced a truth bias for unfamiliar claims. Together, these results suggest that the effect of photographs depends on people's prior knowledge—when knowledge is low, photos lull people into error.

Louise Meilleur & Daniel Bernstein. *Risky Business: The effects of fluency on judgments of risk*

> Most fluency research examines how individual fluency manipulations affect positive judgments. Expanding on recent findings that hard-to-pronounce (disfluent) food additives (Nxungzictrop) are rated as riskier, the current study explores the effects of two sources of disfluency on risk judgments. Rather than increasing this disfluency-risk effect in an additive manner, we found that a second source of disfluency (hard-to-see words) attenuated risk judgments. Thus, fluency effects are not additive.

Alex Wilson, Nicole Pernat, Louise Meilleur, & Daniel M. Bernstein. *Did I really say that? Hindsight bias in the auditory domain*

> Communication errors can profoundly impact subsequent actions; especially when speakers, who clearly understand what they mean to say, overestimate their listener's comprehension of the message. Three experiments verified this hindsight effect in the auditory domain. Subjects, who knew the identity of distorted words and sentences, greatly overestimated their peers' ability to understand the same items. Hindsight can impede communication by leading to reduced effort at confirming a message.

Oliver Schweickart & Norman R. Brown. *On the role of recognition in binary decision making under uncertainty*

> This study examines processes underlying binary decisions when only one object in a pair is recognized. Participants had to choose which of two countries has the higher per capita GDP. RTs for binary decisions were inversely related to the difference between the subjective per capita GDPs of the compared countries. This finding disconfirms predictions made by simple non-compensatory decision models and indicates that a magnitude-comparison process plays a central role.

Cody Tousignant & Glen E. Bodner. *More contrast effects on subjective evaluations of photographic images*

> We provide further evidence for context effects on aesthetic evaluations. A critical set of medium-beauty photographic images received higher ratings after a low- versus high-beauty context set, regardless of whether the two sets differed thematically. The effect persisted when subjects were instructed to ignore their experiences with the context set, and when they focused on non-aesthetic dimensions of the context images. Thus, context effects on aesthetic evaluations appear quite robust.

Kurt Braunlich & Kristi M. Lemm. *Thought in the Absence of Attention*

> Replicating Dijksterhuis' (2004) "unconscious thought" effect, we found that participants who were distracted with the performance of an irrelevant task made better decisions than participants who engaged in conscious thought and participants who made immediate decisions. Dijksterhuis has suggested that this effect necessitates the existence of an active unconscious thought process. However, we suggest that this finding may reflect a passive cognitive process related to the forgetting of explicit information.

Attention and Perception 2: Sunday Morning 2

Sophie N. Lanthier, Evan F. Risko, Daniel Smilek, & Alan Kingstone. *Take a break! Fatigue selectively influences eye movements during visual search*

> Over the course of a visual search task, performance improves, fixation number decreases, and fixation duration increases. Do these changes reflect a change in a single process or changes in different separable processes? Across two experiments we demonstrate that (a) changes in fixation duration over time fail to predict better search or changes in fixation number and (b) fixation duration reflects fatigue and is separable from fixation number.

Julia W. Y. Kam, Maria Stanciulescu, & Todd C. Handy. *Task-Related Attention on Auditory Change Detection*

> In an ERP study, we examined the detection of change as a function of whether or not attention is focused on task-at-hand. We found that task-related attention modulated the processing of standard tones, such that auditory-evoked responses were attenuated during mindwandering relative to on-task states. However this was not observed in deviant tones. Their immunity to the effects of task-related attention potentially reflects the adaptive nature of change detection.

Lawrence Paul Behmer Jr., Ira E. Hyman, Jr., K. J. Jantzen, James Graham. *Implicit Processes May Be Involved in Change Detection: The Effect of Different Types of Changes and the Number of Distracters on the Speed of Change Detection*

> Individuals are often blind to changes in their environment. In this experiment, we integrated a series of flicker tasks with Treisman and Gelade's Feature Integration Theory. We investigated if top-down and bottom-up processes are involved in change detection as a function of set-size and the qualities of the stimuli. Removal changes were detected more rapidly than other types of changes. Successful change detection is dependent upon bottom-up and top-down processes.