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Professor Jane E. Raymond PhD

Professor of Visual Cognition

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About

Professor Raymond is a visual perception/cognition specialist with a wide range of interests in how humans use and respond to complex visual information. She conducted the seminal work on the “Attention Blink”, a finding that launched intensive interest in labs around the world on how selective attention operates over time. Her work has included studies visual attention across time and space; emotional/social responses to visual information, and more recently, effects of learning and experience on visual processing and working memory. As Director of the Visual Experience Laboratory, she uses a range of approaches with a primary emphasis on behavioural and electrophysiological techniques. She has a long-standing interest and track record in the application of this knowledge to the consumer goods industry (advertising and packaging), trademark disputes, and counterfeit issues. She also maintains an active interest in the Psychology of Art.

Feedback and office hours

Monday 14:00 during term time.

Qualifications

BSc (Hons) Psychology, Dalhousie University, Canada
MSc Psychology, University of Washington, USA
PhD Psychology, Dalhousie University, Canada

Biography

Canadian born, Professor Raymond began her post grad work at the University of Washington in the visual psychophysics of lightness perception. Her PhD work (funded by NSERC Canada) focused on visual disorders in patients with Multiple Sclerosis. Her post-doctoral research (funded by the MRC Canada) investigated oculomotor function and visual-vestibular interactions in normal and abnormal populations. Returning to Canada, she progressed from Assistant Professor to Full Professor at the University of Calgary where her research focused on visual attention and visual motion perception. She then moved to the UK, taking up a professorial post at Bangor University in 2000. There, she developed her applied interests and focused on linking emotional, social and attention processes in the visual system. She took up her Chair in Visual Cognition at the University of Birmingham in 2012 where she directs the Visual Experience Laboratory.

Teaching

Professor Raymond teaches a Year 3 undergraduate module called “Visual Cognitive Neuroscience and Art”

Postgraduate supervision

Professor Raymond has supervised more than 10 PhD students on a wide range of topics in visual cognition and perception. Her current students are involved in projects on how rhythmic and arhythmic visual stimullation affects perpcetion and brain oscillations; how emotional faces affect attention and working memory; and how reward and loss experiences affect visual attention in adolescents. New student projects will involve:

- Perception and memory for emotional expression in older adults
- Effects of reward on visual working memeory in young adults and adolescents
- Attention biases in overeating and other forms of quasi-addictive behaviour

Research

Research conducted by Professor Raymond in the Visual Experience Lab is directed at understanding how exposure to visual stimuli changes the way we respond at perceptual, cognitive and emotional levels to subsequent information. Our group want to know how experience with visual information changes the way the brain works. This general question underlies our work that specifically asks:

- How does social emotional information in a visual scene or object (including faces) alter how we process that information or related information for future use? This probably affects memory and the subsequent allocation of attention. (E.g., We discovered that when faces are angry, we remember them better than if they are happy or neutral in expression.) We use behavioural and ERP measures to address these types of questions. We are interested in how healthy people from a wide range of ages (from teens to the elderly) respond. We are also interested in how personality factors related to social empathy and autism-like traits correlate with measures in these types of experiments.
- How does learning that visual stimuli predict good or bad events change the way we see those stimuli? An effect of learning on visual processing might explain why people are very good at discriminating exemplars of things they really like and not at things they don’t like even though they may encounter them everyday. (E.g., we discovered that objects that are reliable predictors of winning money are processed faster than other equally familiar objects.) We use behavioural and ERP measures to address these types of questions. We are especially interested in how personality factors related to reward sensitivity, risk taking, and impulsivity correlate with measures in these types of experiments.
- How does visual experience with stimuli affect the way the selective attention system and the motivational system respond to them in other contexts? This might help us understand how people often inappropriately focus on irrelevant images of things they really like or are afraid of, even when driving or doing important and

attention-demanding tasks. We want to know how these types of stimuli can also create cravings that lead to unhealthy behavior. (E.g., we discovered that “lucky” stimuli but not “unlucky” or neutral stimuli can be noticed and remembered when people are engaged in a demanding cognitive task). As in all our work, we use behavioural and EEG measures in these experiments.

Other activities

- ESRC panel member
- Consulting Editor for Journal of Experimental Psychology: Human Perception & Performance
- Consulting Editor for Emotion
- Consulting for high profile trademark disputes
- Consulting for global consumer goods companies and market research companies
- Winner of the 2010 WPP/ Google Marketing Research Award

Publications

Some sample publications:

Gupta, R & Raymond, J. E. (2012). Emotional distraction unbalances visual processing. **Psychonomic Bulletin & Review**, 19(2), 184-189.

O’Brien, J. & Raymond, J. E. (2012). Learned predictiveness speeds visual processing. **Psychological Science, 23(4),** 359 – 363.

Gomez-Cuerva, J. & Raymond, J.E. (2011). Perception of facial expression depends on prior attention. **Psychonomic Bulletin & Review**, 18 (6), 1057-1063.

Doallo, S, Raymond, J. E, Shapiro, K. L., Kiss, M., Eimer, M., Nobre, S. C. (2011). Response inhibition results in the emotional devaluation of faces: neural correlates as revealed by fMRI. **Social Cognitive and Affective Neuroscience**, 7, 649-659.

Rutherford, H. J. V., O’Brien, J.L. & Raymond, J. E. (2010). Value associations of irrelevant stimuli modify rapid visual orienting. **Psychological Bulletin & Review,** 17 (4), 536-542**.**

Rutherford, H. J. V. & Raymond, J. E. (2010). Effect of spatial cues on locating emotional targets. **Visual Cognition**, 18(3) 389-412.

Raymond J. E. & O’Brien, J. L. (2009). Selective visual attention and motivation: The consequences of value learning in an attentional blink task. **Psychological Science,** 20 (8), 981-988.

Goolsby B., Shapiro, K.L. & Raymond, J. E. (2009). Distractor devaluation requires visual working memory. **Psychonomics Bulletin & Review**, 16(1), 133-138.

Jackson, M. C., Wu, C-Y., Linden, D. E. J., & Raymond, J. E. (2009). Enhanced visual short-term memory for angry faces. **J Exp Psychol: Human Perception and Performance,** 35(2), 363-374.

Jackson, M. C. & Raymond, J. E. (2008). Familiarity enhances visual working memory for faces. **J Exp Psychol: Human Perception and Performance, 34 (3),** 556-568**.**

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