Appendix C

FACULTY RESEARCH INTERESTS AND THESIS TOPICS

Ben BAUER (OSHAWA)

My research interests fall under the rubric of Human Vision Science and its Applications. At the basic level, I study human vision and attention. The goal of this area of research is to identify properties of visual objects that allow them to be found efficiently (accurately and rapidly) in cluttered visual scenes. Using these properties I am validating a simple decision-rule model for visual detection. Practical applications of the model are location and tracking of symbology on visual displays, conspicuousness and camouflages for objects in various environments and image compression.

Relevant References:


Possible Thesis Topics:
Adaptive colour/spatial coding for visual displays.

Thresholds of acceptability for network based application components.

Visual properties supporting rapid detection and location.

Attentional modulation of cognition.

Liana E. BROWN (LHS C116; 748-1011 x-7238)

Many everyday activities require that we interact skillfully with the environment. My research is focused on discovering how sensation, perception and movement performance work together as we perform simple, everyday tasks. I focus on four major questions: 1) Can we use our hands to improve vision and/or attention? 2) How do we keep track of where our limbs are in space? 3) How do our motor capabilities influence cognition? 4) Can we learn a new motor skill by watching others perform? The goal of this research program is to understand both what and how information is exchanged between the motor and sensory systems, and the neural bases of this exchange.

Relevant References:


Possible Thesis Topics (Prerequisites: Psyc 3220H (376H) and/or Psyc 3460H (366H)):
Hand placement and vision, changes in visual-spatial performance following motor learning, motor learning by observing (visual observation or hand-over-hand training), proprioception and reaching.
Michael CHAN-REYNOLDS (LHS C119; 748-1011 x-7534)

I am currently interested in three topic areas (may be suitable for thesis):

1. **Transportation into Narratives**: How do people become transported into a story or movie?
2. **Bilingualism**: How do we keep multiple languages separate in our mind?
3. **Digital Technology**: Is technology making us dumber, smarter, more sophisticated, etc.?

**Relevant References:**


Rory COUGHLAN (LHS C137; 748-1011 x-7779)

My approach to social and health psychology is multi-disciplinary. I support social scientific attempts to preserve the inter-relationship of individual subjectivity with social processes and culture. I prefer to use qualitative investigative methodologies capable of assessing individual experiences as inter-penetrated by interaction, ideology and contextualized by societal institutions. My main area of specialty is the investigation of health experiences, interactional processes in health encounters and the development of health policy. I am also interested in understanding “personal agency” and the social and cultural factors that contribute to negotiations in everyday situations, particularly for those who experience oppression. Also, how power relations develop in social settings with a special interest in bullying in different institutional settings.

**Relevant References:**


**Possible Thesis Topics:**

Patient experiences with clinical practices & institutions, Cross-cultural topics, Personal agency, Pregnancy Interaction, power & bullying in different institutional settings,

*Relevant courses for these thesis topics include PSYC 2700H(272H); 3750H(343H); 3590H(308H); 3740H(304H); Anth 348; 309; Soc 220; 345; 363;*
Teresa L. DeCICCO (OSHAWA)

My research covers 2 areas of study: 1. Sleep mentation (dreams and dreaming) and 2. Psychology of the Self. Research involves the theoretical underpinnings of these areas as well as their effectiveness in applied practice. For example, studies include decreasing nightmares and negative imagery related to severe illness; and examining the psychophysiological mechanisms of sleep mentation.

Relevant References:


Possible Thesis Topics
1. Investigating the effectiveness of dream therapy on a variety of samples (e.g. cancer patients, soldiers, pain patients)
2. How dream imagery is related to waking life in terms of anxiety, depression, trauma, relationships.

Neil M. FOURNIER (LHS C135, 748-1011 x-7339)

The primary focus of my research program is to determine how adult hippocampal neurogenesis affects behavior. To address this, we are examining how the abnormal integration of new neurons after epileptic seizures influences cognitive and behavioral function. Specific Aims are: 1) to examine the consequences of repeated seizures on the learning-related functions of new neurons; 2) to map the anatomy and neurochemical profile of synaptic inputs onto newborn neurons after seizures; 3) to determine if mediators of beneficial neurogenesis (e.g., enriched environments, antidepressants) reverse seizure-induced behavioral impairment.

A secondary focus of my research is examining how animals distinguish safety from potentially threatening environments. Projects are: 1) exploring the neural circuitry involved in the processing of learned safety signals; 2) determining the impact that early life stress or exposure to drugs of abuse may have on the neural and behavioral mechanisms of safety learning.

Relevant References:


Possible Thesis Projects:
- How do seizures affect the recruitment of new neurons into memory-related circuits
- Can environmental enrichment reverse aberrant seizure-induced neurogenesis
- Identifying the neurobiological factors important in the encoding and/or retrieval of learned safety signals
Terry P. HUMPHREYS (LHS C114; 748-1011 x-7773)

My research interests intersect human sexuality and social psychology. More specifically, current research focuses on: (1) sexual consent / negotiating sexual interactions (i.e., sexual (mis)communication and sexual coercion); (2) cognitive and behavioural aspects of first sexual experiences; (3) sexuality and technology (e.g., Internet use, sexting); (4) sexual resourcefulness.

Relevant References:


Possible Thesis Topics:
- Factors influencing sexual consent attitudes and behaviours.
- Factors impacting first sexual experiences (i.e., personality, safer sex, relationship quality)
- Sexting behaviour in young adult populations
- Sexual resourcefulness and related variables
- Sexual communication in young adult couples

Nancie IM-BOLTER (OSHAWA)

My research focuses on language and cognition and involves a diverse population of children and adolescents, which includes both typical and atypical development (e.g., psychopathology, language impairment, reading disability, ADHD, autism).

I am currently focused on: 1) the relation between language and numeracy in early childhood, 2) investigating the contribution of language and/or executive function to different aspects of social cognition, in particular theory of mind, in both typical and atypical development, 3) the relation between language and reading, and 4) higher order language (such as figurative language) in children and adolescents. Although most of my research involves children, my interest in the relation between language and cognition is across the lifespan.

Relevant References:


Possible Thesis Topics:
- Language and Theory of Mind (or Social Cognition in general)
- Language and Literacy
- Language and Numeracy
- Other topics in language, cognition, and/or psychopathology (e.g., French Immersion and bilingualism, mental health in adolescents)
Deborah J. KENNETT (LHS C132; 748-1011 x-7770)

My research interests focus on coping strategies, school and work transitions, and health promotion, with special emphasis on program development and on the personal and social factors promoting personal achievement. Research I have completed supports the view that variables such as stress appraisal, motivation, self-efficacy, situational factors, social factors, physiological factors and personal skills play a complex and interactive role in goal attainment.

Example References:

Example Thesis Topics:
Factors influencing lifestyle changes and outcomes
Self-compassion and dealing with academic failure
Goal setting and academic achievement

Hugo LEHMANN (LHS C117; 748-1011 x-7236)

The primary focus of my research program is to determine the contributions of different brain structures to learning, memory, and emotion. Specific aims are to: 1) understand the neural circuits involved in acquiring, storing, and retrieving memory; 2) delineate the mechanisms involved in long-term consolidation and temporally graded retrograde amnesia; and 3) determine how deficits in emotion may undermine mnemonic function. Related research projects normally involve assessing whether surgical lesions and pharmacological manipulations in rats cause anterograde and/or retrograde amnesia as well as changes in fear and anxiety in several types of behavioural paradigms.

A second focus of my research program is to examine the means to reverse or attenuate cognitive deficits, such as memory loss, by promoting regeneration of damaged brain circuitry. Projects examine the effects of promoting neurogenesis with different treatments (e.g., growth factor, enriched environment) on recovery of mnemonic function from a cellular to a behavioural level.

Relevant References:

Possible Thesis Projects:
• Memory reactivation and neural distribution of the engram
• Resistance of memory to brain damage
• The effects of slow progressive damage to the hippocampus on memory
• Strengthening memory with emotion
Mowei LIU (LHS C121; 748-1011 x-7472)

My general research interests are in social development from a cultural perspective. Specifically, I am interested in child and adolescent peer relationships, friendship networks, and parental socialization processes (e.g., belief systems, disciplinary styles) in children’s social and emotional development. Among various factors that may contribute to individual social development, I am particularly interested in parenting styles and parental socialization goal-oriented behaviors and their relations to children’s social, emotional and school adjustment in Chinese and Canadian children. Both within-culture and cross-culture approaches have been taken in my research to understand the impact of cultural context on human development.

Relevant References:


Possible Thesis Topics:
Parental achievement orientation and children’s learning behaviours in Canada and China (relevant courses: PSYC 2500H(281H), 3610H(323H), 3560H(384H))


Possible Thesis Topics:
· Religious orientation as a predictor for various behaviours/attitudes
· Parent/child dynamics – specifically looking at bidirectionality in socialization
· Transmission of cultural values and beliefs

Prerequisite: PSYC 2500H(281H) and either PSYC 3510H(381H) or 3560H(384H)
Elizabeth (Lisa) K. NISBET (LHS C128; 748-1011 x-7855)

Relevant References:


Possible Thesis Topics:
The psychological health effects of nature contact and exposure to nature images (e.g., well-being, happiness, stress and coping, affective forecasting).

Connection/disconnection from nature and environmental decision-making (sustainable behaviours).

Personality correlates (e.g., materialism, Big 5, self-concept/identity) and antecedents of nature relatedness (e.g., growing up in urban/rural environments).

Interventions that influence nature relatedness (e.g., environmental education, nature experiences, virtual immersion, citizen science).

Relevant courses for these research topics include PSYC 2310H, PSYC 2700H PSYC 3420H, PSYC 3750H or PSYC 3610H or PSYC 3770H.

Fergal O’HAGAN (LHS C134; 748-1011 x-7086)

My research program focuses on psychosocial determinants of work disability and factors that enable (or impede) disabled workers from reintegrating to the workplace. Some of my present projects include the role of illness representations in recovery from occupational injury, health trajectories and coping in injured workers with permanent impairments, the role of acceptance and resourcefulness in occupational adaptation following disabling injury. I also research concussion risk perceptions and their relationship to protective behaviours in sports communities.

Relevant References:


Possible Thesis Topics:

Evaluation of program-based care delivered by Family Health Team allied professionals

Experiences of mental health professionals in work disability and return to work

Concussion risk perceptions and protective behaviours among sporting communities

Illness representations and recovery trajectories of patients with chronic illness
James D. A. PARKER (LHS C249; 748-1011 x-7935)
I have been involved in a number of research projects on personality and affect regulation. During the past 2 decades research from a variety of fields has generated growing interest in the development of affect regulation and in the consequences for personality development, psychopathology and wellness when there are deficits in these abilities. I am particularly interested in studying the relationship between constructs like alexithymia and emotional intelligence and various outcome variables (particularly academic achievement, leadership, and various mental and physical health problems). Another longstanding research interest involves work on psychometric tools for assessing constructs like alexithymia and emotional intelligence.

Relevant References:


Possible Thesis Topics:
How long-lasting are emotional intelligence’s effects on educational attainment and vocational outcomes? What are the links among addiction-related behaviours (specifically problem gambling, internet misuse, and problematic video/computer game addiction) and dimensions of emotional and social competency in adolescents and adults?

What is the relationship between parent and child levels of emotional intelligence?

Possible courses for these research topics include PSYC 2310H(236H) and 337H and PSYC 2300H(240H) and 3300H(341H).

Kevin PETERS (LHS C115; 748-1011 x-7795)
My current research interests cover two main areas:

1. Neuroethics of Cognitive Enhancement: I have recently become interested in how people define cognitive enhancement and what factors are related to one’s willingness to use pharmaceuticals to enhance their cognitive performance and other aspects of psychological functioning.

2. Perceptions and Realities of Mild Cognitive Impairment and Dementia: I am interested in the critical examination of how well we can reliably and validly predict the onset of dementia (e.g., Alzheimer disease or AD). I am also interested in what the members of the public think about the risk for developing AD and their views on how effective the current treatments are for AD.

Relevant References:


Possible Thesis Topics:
An examination of how students define “cognitive enhancement” and/or an investigation into the factors that are associated with one’s willingness to use a drug to enhance different psychological traits/abilities (Prerequisites: preferably PSYC 2010H, 2200H, 2400H)
An examination of the information that is currently available online about different cognitive enhancing drugs (Prerequisites: preferably PSYC 2010H, 2200H, 2400H)

Elaine SCHARFE (LHS C130; 748-1011 x-7354) (not available for thesis supervision 2015-16)

Research Interests: Influence of relationships on health emotional development across the lifespan.

John Bowlby (1969/1982) defined attachment as the instinct to form relational bonds with others and the development of strategies to seek and maintain proximity to these attachment figures when distressed, ill, or afraid. These strategies are internalized into representations or internal working models that help to guide interpretation of and reactions to social situations from infancy to old age. Although attachment representations are proposed to be relatively stable, a key challenge to attachment researchers is to identify conditions under which attachment patterns are likely to change.

I am currently exploring mechanisms of continuity and change of attachment in the context of life transitions (e.g., school transitions, transition to parenthood). In addition, I am interested in the influence of attachment behaviours on ways of coping with stress during transitions, health outcomes during transitions, and cognitive reappraisals of attachment representations during transitions. My current research focuses on how early caregiving relationships impacts on individuals' physical and psychological development.

Relevant References:

Possible Thesis Topics:
* status on accepting honours thesis students for the 2015-16 academic year TBA
Prerequisite: at least one of PSYC 3730H(300H), 3750H(343H) and/or 3560H(384)H.
(1) Influence of relationships on coping with chronic disease
(2) Health and wellness in the family

Brenda SMITH-CHANT (LHS C136; 748-1011 x-7780)

I am interested in cognitive development from the perspective that the experience, education and social programs have a fundamental influence on how information is organized in memory and the resulting behaviour. In particular, I am interested in exploring the science of self-regulation (Shanker, 2016) and the application of this science to learning environments in communities and organizations to create positive learning environments. I am currently the Director of Research for the Self-Regulation Institute (SRI) and a member of The MEHRIT Centre (TMC; www.self-reg.ca). My research is open to undergraduates, graduate students, and professionals interested in evaluation.

I am currently working on multiple projects including how to assess learning environments to: identify self-regulation challenges and strengths, train parents and professionals to incorporate self-regulation principles into their daily practice, use exercise/activities to promote optimal learning environments, and incorporate cultural practices into learning environments for optimal self-regulation. In addition to the selections below, interested students can also review relevant publications at: http://www.self-reg.ca/shanker-self-reg/shanker-library/ and http://www.self-reg.ca/leaders/research-sri/.

Relevant References:
Gilmer, C., Buchen, J., Bennett, C., Letourneau, N., & Smith-Chant, B. (In press). Parent education interventions designed to support the transition to parenthood: A realist review. [copy available from Smith-Chant]

Possible Thesis Topics:
Integrating exercise bikes into classrooms: The impact on academic performance. 
Social policy as a mechanism to initiate cognitive change.

Laura SUMMERFELDT (LHS C120; 748-1011 x-7526)

I have several areas of research interest, bridged by the common theme of personality and psychopathology, with particular focus upon obsessive-compulsive conditions and social anxiety. These include the following: 1) Personality dimensions and psychopathology in clinical and nonclinical populations, 2) Points of continuity (e.g., cognition, emotion regulation and competencies) across clinical and subclinical anxiety conditions and their associations with adaptive behaviour, 3) Models of heterogeneity of obsessive-compulsive disorders, and 4) Diathesis stress models of cause and perpetuation. A specific focus for me has been upon a particular feature of obsessive compulsive experience - the feeling that things are "not just right" - and its links with other psychological variables (i.e., aesthetic preferences, cognition, personality).

Relevant References:


Possible Thesis Topics:

Social anxiety and social and emotional competencies: Etiology and functional implications.

Relevant courses for these research topics include PSYC 2310H(236H) and 337H and PSYC 2300H(240H) and3300H(341H).