

Neuropsychological Rehabilitation (PSYC33H3 S)
University of Toronto, Scarborough
Winter 2016

Course Directors: Dr. Eva Svoboda
Dr. Sharon Jankey

Office Hours: By appointment (1 hour
before or after class; online or phone)

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Office Hours: By appointment (in person or
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Course Websites: <https://portal.utoronto.ca>

Class Time and Location: Thursdays 9:00 am – 11:00 am; BV 361

Objective: Interventions in the field of Neuropsychological Rehabilitation are discussed against a backdrop of evidence-based practice, relevant neuropsychological and psychological theory and research. The course examines interventions across a number of cognitive domains including memory (healthy aging, mild cognitive impairment, dementia and amnesia), executive function, behavioural and emotional disorders. Other relevant topics in neuropsychological rehabilitation are also covered including program evaluation, neuroplasticity, behaviour management, psychotherapeutic interventions, adjustment to disability from the patient and family perspectives and roles within the multidisciplinary team.

Recommended Text: Publication Manual of the American Psychological Association, 6th Ed.

Evaluation:

Evaluation	Due dates	Content	Course weight (%)
Midterm exam Research paper	February 25 March 31	Lectures + required readings 20 page (max) paper detailing the design and evaluation of an intervention for a neuropsychological deficit. This can be a case or group study from topics covered in class.	30% 30%
Final exam	TBD	ALL lectures and readings	40%

Exam Format: Midterm and final examinations will include multiple choice and short answer questions. Information from lectures and readings will be tested on both midterm and final exams. The final exam is cumulative on ALL material covered in the course. However more emphasis will be placed on material covered since the midterm.

Missed Exam Policy: Students who miss the midterm exam will have their grade prorated over the research paper and final exam. The prorating option will NOT be granted unless the instructor(s) receives appropriate documentation, such as a signed medical certificate or college registrar's note within one week of the missed exam. There will be no make-up exam for missed midterms.

Date	Topic	*Required Readings
Jan 7	-Course overview: content, layout, marking scheme -What is neuropsychological rehabilitation? Dr. Eva Svoboda	Wilson (2008). Neuropsychological rehabilitation Wilson (2011). Cutting edge' developments in neuropsychological rehabilitation and possible future directions
Jan 14	Memory Intervention – moderate to severe memory impairment Dr. Eva Svoboda	Svoboda (2012). PDA and smartphone use by individuals with moderate-to-severe memory impairment: application of a theory-driven training programme. Ptak (2010). Cognitive rehabilitation of episodic memory disorders: from theory to practice.
Jan 21	Memory Intervention Older Adults, MCI and Dementia Dr. Eva Svoboda	Troyer (2008). Changing everyday memory behaviour in amnesic mild cognitive impairment: A randomized controlled trial Glisky (2008). Memory rehabilitation in older adults
Jan 28	Behaviour Management in ABI and dementia Dr. Sharon Jankey	Sabaz (2014). Prevalence, comorbidities, and correlates of challenging behavior among community-dwelling adults with severe traumatic brain injury: a multicenter study. Camp (2006). Spaced Retrieval: A model for dissemination of a cognitive intervention for persons with dementia.
Feb 4	Program Evaluation Dr. Eva Svoboda	Cicerone (2011). Evidence-based cognitive rehabilitation: updated review of the literature from 2003 through 2008. Perdices (2009). Single-subject designs as a tool for evidence-based clinical practice: Are they unrecognized and undervalued?
Feb 11	Concussion/executive function assessment and rehabilitation Guest speaker: Dr. Sabrina Lombardi; Toronto Rehabilitation Institute	McCrory (2013). Consensus statement on concussion in sport: the 4th International Conference on Concussion in Sport held in Zurich. Levine (2011). Rehabilitation of executive functioning in patients with frontal lobe brain damage with goal management training.
Feb 18	READING WEEK	NO CLASS
Feb 25	MIDTERM EXAM	All lectures and readings to date
Mar 3	Adjustment to Disability – Person and Family Perspectives Dr. Sharon Jankey	Austrom (2009). Long term caregiving: helping families of persons with mild cognitive impairment cope. Del-Pino-Casado (2011). Coping and subjective burden in caregivers of older relatives: a quantitative systematic review.
Mar 10	Psychotherapeutic Interventions in ABI Dr. Sharon Jankey	Hsieh (2012) Exploring variables associated with change in cognitive behavior therapy (CBT for anxiety following traumatic brain injury Ruff (2013) Selecting the appropriate psychotherapies for individuals with traumatic brain injury: What works and what does not?
Mar 17	Neuroplasticity Dr. Eva Svoboda	Claflin (2015). Emerging Treatments for Motor Rehabilitation After Stroke. Robertson (1999). Rehabilitation of brain damage: Brain plasticity and principles of guided recovery.
Mar 24	The Multidisciplinary Team in ABI Guest speakers: Team, West Park Healthcare Centre	Clarke (2013). The role of the multidisciplinary team care in stroke rehabilitation. Turner-Stokes (2011). Multi-disciplinary rehabilitation for acquired brain injury in adults of working age.
Mar 31	EXAM REVIEW & PAPER DUE	Last half of class open for discussion about applying to graduate school, psychology, rehabilitation field in general ...

Penalty for lateness: The research paper is due on March 31st. Email the paper to Ryan Howes by 11:59PM on the due date. The penalty for lateness is 5% per day.

Course Schedule

*Readings will be posted online.

Reading List

January 7

Wilson, B. A. (2011). Cutting edge' developments in neuropsychological rehabilitation and possible future directions. *Brain Impairment*, 12(1), 33–42.

Wilson, B. A. (2008). Neuropsychological rehabilitation. *Annual Review in Clinical Psychology*, 4, 141–162.

January 14

Svoboda, E., Richards, B., Leach, L., & Mertens, V. (2012). PDA and smartphone use by individuals with moderate-to-severe memory impairment: application of a theory-driven training programme. *Neuropsychological rehabilitation*, 22(3), 408-427.

Ptak, R., Van der Linden, M., & Schnider, A. (2010). Cognitive rehabilitation of episodic memory disorders: from theory to practice. *Frontiers in Human Neuroscience*, 4, 1-11.

January 21

Troyer, A. K., Murphy, K.J., Anderson, N.D., Moscovitch, M., & Craik, F.I.M. (2008). Changing everyday memory behaviour in amnesic mild cognitive impairment: A randomised controlled trial. *Neuropsychological Rehabilitation*, 18(1), 65-88.

Glisky, E.L. & Glisky, M.L. (2008). Memory rehabilitation in older adults. In D.T. Stuss, G. Winocur and I.H. Robertson (Eds.). *Cognitive Neurorehabilitation: Evidence and Application* (2nd ed.). (pp. 541-561). New York: Cambridge University Press.

January 28

Sabaz, M., Simpson, G. K., Walker, A. J., Rogers, J. M., Gillis, I. & Strettles, B. (2014). Prevalence, comorbidities, and correlates of challenging behavior among community-dwelling adults with severe traumatic brain injury: a multicenter study. *Journal of Head Trauma Rehabilitation*, 29(2): E19-30.

Camp, C.J. (2006). Spaced Retrieval: A model for dissemination of a cognitive intervention for persons with dementia. In Attix, D K. Welsh-Bohmer, K. A. (Eds). *Geriatric Neuropsychology* pp. 275-292, New York, NY, US: Guilford Publications

February 4

Cicerone, K. D., Langenbahn, D. M., Braden, C., Malec, J. F., Kalmar, K., Fraas, M., . . . Ashman, T. (2011). Evidence-based cognitive rehabilitation: updated review of the literature from 2003 through 2008. *Archives of Physical Medicine and Rehabilitation*, 92(4), 519-530.

Perdices, M., & Tate, R.L. (2009). Single-subject designs as a tool for evidence-based clinical practice: Are they unrecognized and undervalued? *Neuropsychological Rehabilitation*, 19(6), 904–927.

February 11

McCrory P, et al. (2013). Consensus statement on concussion in sport: the 4th International Conference on Concussion in Sport held in Zurich, November 2012. *British Journal of Sports Medicine*. 47, 250–258.

[read up until pg 6, Section 2]

Levine, B., Schweizer, T. A., O'Connor, C., Turner, G., Gillingham, S., Stuss, D. T., . . . Robertson, I. H. (2011). Rehabilitation of executive functioning in patients with frontal lobe brain damage with Goal Management Training. [Original Research]. *Frontiers in Human Neuroscience*, 5. doi: 10.3389/fnhum.2011.00009

March 3

Austrom, M. (2009) Long term caregiving: helping families of persons with mild cognitive impairment cope. *Current Alzheimer Research*, 6 (4), 392-8.

Del-Pino,-Casado, R., Frias-Osuna, A., Palomino-Moral, P., & Pancorbo-Hidalgo, P. (2011). Coping and subjective burden in caregivers of older relatives: a quantitative systematic review. *Journal of Advanced Nursing*, 67 (11), 2311-2322.

March 10

Hsieh, M, Ponsford, J.& Wong, D, (2012). Exploring variables associated with change in cognitive behavioral therapy (CBT) for anxiety following traumatic brain injury. *An International Multidisciplinary Journal*, 34 (5), 408-415.

Ruff , R. (2013). Selecting the appropriate therapies for individuals with traumatic brain injury: What works and what does not? *NeuroRehabilitation*, 32(4), 771-779.

March 17

Clafin, E. S., Krishnan, C., & Khot, S. P. (2015). Emerging Treatments for Motor Rehabilitation After Stroke. *The Neurohospitalist*, 5(2), 77-88.

[read each section broadly, pay attention to gist of each section]

Robertson, I. H., Murre, J.M.J. (1999). Rehabilitation of brain damage: Brain plasticity and principles of guided recovery. *Psychological Bulletin*, 125(5), 544-575.
[skim the technicalities of how analyses/theory was derived]

March 24

Clarke, D. (2013). The role of the multidisciplinary team care in stroke rehabilitation. *Progress in Neurology and Psychiatry*, 7, 5-10.

Turner-Stokes, L., Nair, A., Sedki, I., Disler, P., Wade, D. (2011). Multi-disciplinary rehabilitation for acquired brain injury in adults of working age. *The Cochrane Collaboration*. John Wiley & Sons, 1, 1-46.

Research Paper

Objectives

Writing a research paper will help you achieve three important objectives: (1) To expand your knowledge of neuropsychological and behaviour change interventions by focusing on an area that is of particular interest to you; (2) To further develop your skills as a critical reader of psychological research; and (3) To develop your scientific writing skills.

Research Paper: Design a neuropsychological/behaviour change intervention

General Requirements

In the research paper you should review critically an area of neuropsychological rehabilitation with respect to interventions designed to treat a neuropsychological/cognitive deficit covered in the course. Choose from the general topics of memory, behaviour, executive function, motor, etc. and decide on a deficit within one of these domains to address with a neuropsychological intervention. You will design an intervention to ameliorate the neuropsychological deficit of interest or associated psychological challenge (anxiety, depression, adjustment difficulties, lack of insight), evaluate the efficacy of your intervention (in which you will generate mock data) and critically discuss your findings in the context of the current literature in the field. A list of research topics chosen by prior students is provided.

Specific Requirements

- The research paper should be a maximum of 20 double-spaced pages in length (not including references, tables or figures generated).
- Use 12 point font, Times New Roman.
- You must have a minimum of 10 primary sources (journal articles) in your reference section. The references should be mainly from the 1990s and 2000s.

Required Sections of the Research Paper

The research paper should be written as if it were a peer-reviewed journal article, in proper APA format.

Abstract. One paragraph, approximately 120 words in length, that briefly describes the area of investigation, type of participant(s), the presenting problem, the nature of the intervention and lastly the results and the significance of those results. Put the abstract on a separate page immediately following the title page.

Introduction. This section should describe the disorder, its deficits, and why it is important to address them. The research area and findings from previous intervention studies should be briefly reviewed. The literature review should also discuss an issue or question that needs to be addressed in that area and provide a clear rationale for the proposed study. The hypotheses should be clearly stated.

Methods: This section should include a description of the participant(s) and their presenting problem, inclusion/exclusion criteria, a description of any equipment and how it was used, research design, a description of how the intervention was applied, assessment or outcome measures used, time intervals and the independent and dependent variables measured.

Results (mock data you generate). This section should describe your findings. You will generate mock data based upon what you might reasonably expect to have happen. Provide a table or a graph to represent the data along with a verbal explanation of the results. Although no statistics are required for the paper, for each description or finding, if applicable, please state whether the difference or change was significant. Similarly this should be indicated in the figure and/or table.

Discussion. Discuss and review your findings in the context of what is currently known in the field. Include an explanation of how well the results fit the specific hypotheses, limitations of the study, and other theoretical issues. Try to highlight the significance / contribution of your research to the field and suggest future directions/investigations.

References. You must have at least 10 primary sources (journal articles). The references should be mainly from the 1990s and 2000s.

Use APA Format

You should use the guidelines for scientific writing that have been developed by the American Psychological Association (APA). It is recommended that you consult the Publication Manual, 6th edition of the APA to determine the appropriate methods for citing research in your research paper and for creating your list of references.

Neuropsychological Rehabilitation
Some research topics chosen by previous students

Multiple Sclerosis and Attention: A Computer Training Program for Sustained Attention Deficits in Multiple Sclerosis Patients

Improving memory in old age by positive self stereotyping

The Effect of Constraint-induced Movement Therapy and Limb Activation Training on Adolescent Patients with Motor Neglect

Motor Error Awareness Therapy and Goal Management Training in Early-stage Huntington's Disease Patients: A Novel Approach to Motor Disturbances

The Efficacy of Limb Activation Training for the Treatment of Upper-Body Hemiplegia Associated with Unilateral Visual Hemineglect

Antioxidants and Focused Memory Training: An Attempt to Impede the Progression from MCI to Alzheimer's Disease

Improving sustained attention and goal-focused behaviour in TBI with mindfulness-based training exercises

Increasing the Autonomy of Amnesic Individuals: An Errorless Learning/Vanishing Cues intervention

Memory and Lifestyle Intervention in MS Patients

A multifaceted approach to rehabilitation for MCI patients

Employing Video Games to Maximize Spontaneous Recovery of Cognitive Functions in Traumatically Brain Injured Individuals

The effects of education, concentration and motivation in the cognitive rehabilitation of elderly with late-life depression

Parkinson's Disease and Freezing of Gait Phenomenon: Let's dance.

Effect of stress on cognitive functions and stress management in patients with cognitive disorders

Naturalistic neuropsychological rehabilitation of the Traumatically Brain-Injured Individuals

Behavioural Approaches to the treatment of a patient with Pick's Disease