MEMORIAL UNIVERSITY

Faculty of Science

Office of the Dean
St. John's, NL Canada A1B 3X7
Tel: 709 864 8154 Fax: 709 864 3316
deansci@mun.ca www.mun.ca/science

MEETING OF THE FACULTY COUNCIL OF THE FACULTY OF SCIENCE

A regular meeting of the Faculty Council of the Faculty of Science will be held on Wednesday, January 20, 2021, at 1:00 p.m. by Webex.

AGENDA

1. **Regrets**
2. **Adoption of the Minutes of December 2, 2020**
3. **Business Arising from the Minutes**
4. **Correspondence:** None
5. **Presentation by Dr. Florian Villaumé, Memorial Centre for Entrepreneurship re 2021 Mel Woodward Cup**
6. **Reports of Standing Committees**:
   - **A. Undergraduate Studies Committee**: No business.
   - **B. Graduate Studies Committee:**
     - **a.** Department of Earth Sciences, Request for Approval of a Graduate Course, EASC 6110, Machine Learning and Data Analysis in the Geosciences, Paper 6.B.a (pages 6-12);
     - **b.** Department of Psychology, Special Topics course, PSYC 6121, Special Topics in Health Psychology II, approved by the committee and presented to Faculty Council for information only, Paper 6.B.b (pages 13-23).
   - **C. Library Committee:**
7. **Reports of Delegates from Other Councils**
8. **Discussion on equity, diversity and inclusion**
9. **Report of the Dean**
10. **Question Period**
11. **Adjournment**

Travis Fridgen, Ph.D.
Acting Dean of Science

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FACULTY OF SCIENCE
FACULTY COUNCIL OF SCIENCE
Minutes of Meeting of December 2, 2020

A meeting of the Faculty Council of the Faculty of Science was held on Wednesday, December 2, 2020, at 1:00 p.m. using Webex.

FSC 2803 **Present**

Biochemistry
M. Berry, R. Bertolo, V. Booth, J. Brunton, S. Harding, S. Mayengbam, M. Mulligan, J. Park

Biology
J. Burke, S. Dufour

Chemistry
R. Collins, C. McCarthy, S. Pansare

Computer Science
Y. Chen, C. Hyde, V. Prado da Fonseca

Earth Sciences
A. Langille, G. Layne, A. Malcolm, M. Miskell, P. Morrill. S. Strowbridge

Mathematics & Statistics
J. Dawe, D. Harvey, JC Loredo-Osti, S. Mantyka, D. Pike, T. Stuckless, S. Sullivan

Ocean Sciences
C. Parrish

Physics & Physical Oceanography
C. Deacon, E. Demirov, M. Morrow, J. Pittman, I. Saika-Voivod

Psychology
M. Courage, D. Hallett, T. Reardon, A. Swift-Gallant, C. Thorpe, C. Walsh

Dean of Science Office
J. Blundell, S. Browne, S. Bungay, K. Foss, T. Fridgen, A. Highsted, G. Jackson, G. Kenny, T. Mackenzie, V. MacNab

Graduate Students
A. Alfosool

FSC 2804 **Regrets**:
X. Duan, J. Lagowski, D. McIlroy, K. Poduska

FSC 2805 **Adoption of Minutes**
Moved: Minutes of the meeting of November 18, 2020, meeting be adopted (Sullivan/Blundell). **Carried.**

FSC 2806 **Business Arising:** None

FSC 2807 **Correspondence:** None

FSC 2808 **Reports of Standing Committees:**

A. Undergraduate Studies Committee:

Presented by Shannon Sullivan, Chair, Undergraduate Studies Committee

- **a.** Department of Computer Science, add link to CRW Calendar section (Sullivan/Bungay) **Carried.**
- **b.** Department of Ccomputer Science, amend pre-requisites for COMP 3201 (Sullivan/Bungay) **Carried.**
- **c.** Department of Computer Science, amend pre-requisites for COMP 4304 (Sullivan/Bungay) **Carried.**
- **d.** Department of Computer Science, amend Dissertation wording for joint honours programs in Geography, Pure Mathematics and Statistics
- **e.** Department of Computer Science, amend pre-requisites and co-requisites for COMP 2006, 2007 and 2008 (Sullivan/Bungay) **Carried.**
- **f.** Department of Computer Science, amend pre-requisites for COMP 3550 (Sullivan/Bungay) **Carried.**
- **g.** Department of Computer Science, amend pre-requisites for COMP 3602 (Sullivan/Bungay) **Carried.**
- **h.** Department of Computer Science, amend Statistics pre-requisites for COMP 3200, 3202, 3401, 4550 and 4766 (Sullivan/Bungay) **Carried.**
- **i.** Department of Computer Science, amend Computer Science programs required Statistics course to reflect updated Computer Science course pre-requisite (Sullivan/Bungay) **Carried.**
- **j.** Department of Computer Science, change reference to Computer Science undergraduate handbook location (Sullivan/Bungay) **Carried.**
- **k.** Department of Computer Science, add reference to Computer Science online major application form (Sullivan/Bungay) **Carried.**
- **l.** Department of Computer Science, delete Supplementary Examinations (Sullivan/Bungay) **Carried.**
- **m.** Department of Economics, amend program Joint Major in Economics (Co-operative) and Statistics (Sullivan/Mackenzie) **Carried.**

n. Department of Psychology, amend pre-requisites/co-requisites for major courses PSYC 2930, 3050, 3100, 3251, 3350, 3450, 3510, 3511, 3650, 3900, 4750, 3810, 3820, 3830, 4661, 4770, 4910, 4980, 499A/B (Sullivan/Courage) **Carried.**

o. Department of Psychology, amend pre-requisites/co-requisites for non-restricted courses PSYC 2010, 2020, 2030, 2100, 2150, 2151, 2540, 2800, 2810, 2920, 3533 (Sullivan/Courage) **Carried.**

p. Department of Psychology, amend programs, Admission to Majors Programs, Admission to Honours Programs, Requirements for Major in Psychology, Requirements for a Major in Behavioural Neuroscience (BSc only), Requirements for Honours in Behavioural Neuroscience (BSc only) (Sullivan/Courage) **Carried.**

B. Graduate Studies Committee: No business

C. Nominating Committee: No business.

D. Library Committee: No business.

FSC 2809 Report of the Dean

Presented by Travis Fridgen, Acting Dean

1. Remote Teaching Discussion

Sharene and Keith Power will be hosting a discussion of remote teaching tomorrow from 12-1 (Thursday, December 3). Keith will talk about the results of the student survey and then hopefully get into a discussion about what worked with respect to remote instruction.

2. Delay to the start of the Winter Semester

The University has decided to delay the beginning of classes for the winter semester from January 6th to January 11th, which will give faculty and staff much-needed time to prepare their courses. Co-op placements will not be affected by this. Details came out on Newsline. One item of note is that the classes missed for Good Friday, will be rescheduled to Saturday March 27, but will not be mandatory for students, nor can evaluations happen on that day. University reopens on January 5.

3. Snow Days

The default for snow days this winter will be that even if campus closes, instruction will go ahead. However, if a faculty member needs to cancel instruction/tests etc. then this should be communicated to students via Brightspace or whatever method faculty have chosen to communicate with their students. Because our winter semester is remote and we have students all over Canada (and the world) who may experience inclement weather, power outages, etc. at different times than St. John's, please be reminded to be accommodating and flexible with due dates. Also, for synchronous forms of instruction, the best practice is to record these sessions and have them posted on Brightspace, which can be done automatically if you are using WebEx. An announcement on this from the University will be forthcoming.

4. Back to Campus

The back to campus initiative for all non-academic staff has been paused and will not resume before the new year. Departments should continue to plan for this initiative which will not begin before January.

FSC 2810 Question Period

The link for the discussion on December 3 with S. Bungay and K. Power regarding remote teaching will be re-sent to departments today.

The final exam schedule has been published and most exams have a two hour time limit. Instructors can be flexible with the window they allow for the completion of their exam(s). Some instructors are even opening the exam for 24 hours.

FSC 2811 Adjournment

The meeting adjourned at 1:48 p.m.

Thu 1/14/2021 9:53 AM

Graham Layne <gdlayne@mun.ca>

EASC 6110 Machine Learning and Data Analysis in the Geosciences

To Kenny, Gail

You replied to this message on 1/14/2021 9:54 AM.
We removed extra line breaks from this message.

Message: EASC 6110 Machine Learning and Data Analysis in the Geosciences_P_vf.pdf (168 KB)

Gail-

The above course has been approved by Graduate Studies Committee.

Attached is the final version of the proposal considered by the Committee - for posting with the Faculty Council agenda.

Graham

MEMORIAL UNIVERSITY

SCHOOL OF GRADUATE STUDIES

Request for Approval of a Graduate Course

Adobe Reader, minimum version 8, is required to complete this form. Download the latest version: http://get.adobe.com/reader. (1) Save the form by clicking on the diskette icon on the upper left side of the screen; (2) Ensure that you are saving the file in PDF format; (3) Specify where you would like to save the file, e.g. Desktop; (4) Review the How to create and insert a digital signature webpage for step by step instructions; (5) Fill in the required data and save the file; (6) Send the completed form by email to: sgs@mun.ca.

To: Dean, School of Graduate Studies
From: Faculty/School/Department/Program
Subject: ☑ Regular Course ☐ Special/Selected Topics Course

Course No.: EASC 6110

Course Title: Machine Learning and Data Analysis in the Geosciences

I. To be completed for all requests:

A. Course Type:
☑ Lecture course
☐ Laboratory course
☐ Directed readings
☐ Lecture course with laboratory
☐ Undergraduate course[1]
☐ Other (please specify)

B. Can this course be offered by existing faculty? ☑ Yes ☐ No

C. Will this course require new funding (including payment of instructor, labs, equipment, etc.)? ☐ Yes ☑ No
If yes, please specify: N/A

D. Will additional library resources be required (if yes, please contact munul@mun.ca for a resource consultation)? ☐ Yes ☑ No

E. Credit hours for this course: 3

F. Course description (reading list required):
See attached.

G. Method of evaluation:

	Percentage	
	Written	**Oral**
Class tests		
Assignments	50	
Other (specify): Project	50	
Final examination:		
Total	100	

[1] Must specify the additional work at the graduate level

II. **To be completed for special/selected topics course requests only**

For special/selected topics courses, there is no evidence of:

	Instructor's initials
1. duplication of thesis work	_____
2. double credit	_____
3. work that is a faculty research product	_____
4. overlap with existing courses	_____

Recommended for offering in the Fall Winter Spring 20___

Length of session if less than a semester:

III. **This course proposal has been prepared in accordance with General Regulations governing the School of Graduate Studies**

Alison Malcolm Digitally signed by Alison Malcolm Date 2020 11 30 08 29 58 -03'30'

Course instructor _____ Date _____

Approval of the head of the academic unit _____ Date _____

IV. **This course proposal was approved by the Faculty/School/Council**

Secretary, Faculty/School/Council _____ Date _____

II. To be completed for special/selected topics course requests only

For special/selected topics courses, there is no evidence of:

Instructor's initials

1. duplication of thesis work _____
2. double credit _____
3. work that is a faculty research product _____
4. overlap with existing courses _____

Recommended for offering in the Fall Winter Spring 20 ___

Length of session if less than a semester:

III. This course proposal has been prepared in accordance with General Regulations governing the School of Graduate Studies

Steve Piercey Digitally signed by Steve Piercey Date: 2020.11.30 09:54:16 -03'30'

Course instructor _____ Date

Greg Dumpson Nov. 30, 2020

Approval of the head of the academic unit _____ Date

IV. This course proposal was approved by the Faculty/School/Council

_____ _____

Secretary, Faculty/School/Council Date

EASC 6110: Machine Learning and Data Analysis in the Geosciences

Learning outcomes

To gain a basic understanding of the various artificial intelligence methods used in the geo-sciences.
To gain an appreciation of how these methods can be useful in the geo-sciences; to experience what they can (and cannot) do.

Topics covered

Refresher on concepts (e.g., univariate & multivariate statistics, correlation, regression, discriminant analysis) and algorithms (e.g., principal component analysis) in "classic" statistics.
Modern algorithms for discriminant classification and pattern recognition (non-linear; e.g., supervised, neural nets, random forest, naïve Bayes).
Modern algorithms for dimensionality reduction and clustering (non-linear; e.g., unsupervised, k-means, self-organizing maps).
All of above illustrated using examples from the geo-sciences (e.g., exploration vectors or footprint from geochemical data; data mining of legacy, heterogeneous geological survey data repositories; predictive geological mapping from geophysical data; classification and prediction of rock units from well-logs and seismic data; machine learning algorithms as an alternative to deterministic inversion in geophysics).

Instruction method

Reverse classroom approach of assigning readings, or topics to be researched, with the participants coming to class prepared to present and discuss the assigned readings or topics.

Resources

Various software packages, languages and environments, e.g., Orange (https://orange.biolab.si), Python and Python Jupyter notebooks.

Prerequisites

No specific courses are required as prerequisites for this course. However, a certain level of mathematical and computational comfort is necessary; interested students are encouraged to contact the instructor(s) to discuss their background if they are unsure.

Exercises

The methods discussed in class will be applied to various data-sets. These data-sets will include geochemical and geophysical data-sets acquired previously by the instructors during the course of their respective research, from organized publicly available data-sets (Geological Survey of NL, Geological Survey of Canada), and from mining publicly available data-bases (Geological Survey of NL). Roughly one exercise per week is anticipated. A written report for each exercise is expected.

Project

Each student will undertake a project, which will comprise a research project on a subject of their choosing relevant to the subject area of this course, and which will be selected and defined in consultation with the course instructor(s). A written report and an oral presentation are expected.

Assessment

Exercises	50%
Project	50%

Reading list

Relevant papers from the literature, such as:

Bauer, K., G. Munoz, and I. Moeck, 2012, Pattern recognition and lithological interpretation of collocated seismic and magnetotelluric models using self-organizing maps, Geophysical Journal International, 189, 984–998.

Bedini, E., 2012, Mapping alteration minerals at Malmbjerg molybdenum deposit, central East Greenland, by Kohonen self-organizing maps and matched filter analysis of HyMap data, International Journal of Remote Sensing, 33, 939–961.

Bérubé, C. L., G. R. Olivo, M. Chouteau, S. Perrouty, P. Shamsipour, R. J. Enkin, W.A. Morris, L. Feltrin, and R. Thiémongea, 2018, Predicting rock type and detecting hydrothermal alteration using machine learning and petrophysical properties of the Canadian Malartic ore and host rocks, Pontiac Subprovince, Québec, Canada, Ore Geology Reviews, 96, 130–145.

Carneiro, C. C., S. J. Fraser, A. P. Crosta, A. M. Silva, and C. E. M. Barros, 2012, Semi- automated geologic mapping using self-organizing maps and airborne geophysics in the Brazilian Amazon, GEOPHYSICS, 77, K17–K24.

Chen, S., K. Hattori, and E. C. Grunsky, 2016, Multivariate statistical analysis of the REE-mineralization of the Maw Zone, Athabasca Basin, Canada, Journal of Geochemical Exploration, 161, 98s–111s.

Grunsky, E. C., 1986, Recognition of alteration in volcanic rocks using statistical analysis of lithogeochemical data, Journal of Geochemical Exploration, 25, 157–183.

Harris, J. R., and E. C. Grunsky, 2015, Predictive lithological mapping of Canada's North using Random Forest classification applied to geophysical and geochemical data, Computers & Geosciences, 80, 9–25.

Harris, J. R., L. Wilkinson, and M. Bernier, 2001, Analysis of geochemical data for mineral exploration using a GIS—A case study from the Swayze greenstone belt, northern Ontario, Canada, Geological Society, London, Special Publications, 185, 165–200.

Harris, J. R., L. Wilkinson, and E. C. Grunsky, 2000, Effective use and interpretation of lithogeochemical data in regional mineral exploration programs: Application of Geographic Information Systems (GIS) technology, Ore Geology Reviews, 16, 107–143.

Harris, J. R., L. Wilkinson, E. C. Grunsky, K. Heather, and J. Ayer, 1999, Techniques for analysis and visualization of lithogeochemical data with applications to the Swayze greenstone belt, Ontario, Journal of Geochemical Exploration, 67, 301–334.

Hood, S. B., M. J. Cracknell, and M. F. Gazley, 2018, Linking protolith rocks to altered equivalents by combining unsupervised and supervised machine learning, Journal of Geochemical Exploration, 186, 270–280.

Kohonen, T., 1982, Self-organized formation of topologically correct feature maps: Biological Cybernetics, 43, 59–69.

Kuhn, S., M. J. Cracknell, and A. M. Reading, 2018, Lithologic mapping using Random Forests applied to geophysical and remote-sensing data: A demonstration study from the Eastern Goldfields of Australia, GEOPHYSICS, 83, B183–B193.

Kuhn, S., M. J. Cracknell, and A. M. Reading, 2019, Lithological mapping in the Central African Copper Belt using Random Forests and clustering: Strategies for optimised results, Ore geology reviews, 112, 103015.

Porwal, A., I. González-Álvarez, V. Markwitz, T. C. C. McCuaig, and A. Mamuse, 2010, Weights-of-evidence and logistic regression modeling of magmatic nickel sulfide prospectivity in the Yilgarn Craton, Western Australia, Ore Geology Reviews, 38, 184–196.

Rodriguez-Galiano, V., M. Sanchez-Castillo, M. Chica-Olmo, and M. Chica-Rivas, 2015, Machine learning predictive models for mineral prospectivity: An evaluation of neural networks, random forest, regression trees and support vector machines, Ore Geology Reviews, 71, 804–818.

Templ, M., P. Filzmoser, and C. Reimann, 2008, Cluster analysis applied to regional geochemical data: Problems and possibilities, Applied Geochemistry, 23, 2198–2213.

Xiong, Y., R. Zuo, and E. J. M. Carranza, 2018, Mapping mineral prospectivity through big data analytics and a deep learning algorithm, Ore Geology Reviews, 102, 811–817.

Thu 1/14/2021 10:04 AM
Graham Layne <gdlayne@mun.ca>
RE: PSYC 6121 Special Topics in Health Psychology II - Approved

To Kenny, Gail

We removed extra line breaks from this message.

Message: PSYC 6121 Special Topics_R-OPT+6121Syllabus_P_vF.pdf (248 KB)

Gail-

The above course has been approved by Graduate Studies Committee.

Attached is the final version of the proposal considered by the Committee - for posting with the Faculty Council agenda.

Graham

MEMORIAL UNIVERSITY

SCHOOL OF GRADUATE STUDIES

Request for Approval of a Graduate Course

Adobe Reader, minimum version 8, is required to complete this form. Download the latest version: http://get.adobe.com/reader. (1) Save the form by clicking on the diskette icon on the upper left side of the screen; (2) Ensure that you are saving the file in PDF format; (3) Specify where you would like to save the file, e.g. Desktop; (4) Review the How to create and insert a digital signature webpage for step by step instructions; (5) Fill in the required data and save the file; (6) Send the completed form by email to: sgs@mun.ca.

To: Dean, School of Graduate Studies
From: Faculty/School/Department/Program
Subject: ☐ Regular Course ☑ Special/Selected Topics Course

Course No.: PSYC 6121

Course Title: Special Topics in Health Psychology II

I. To be completed for all requests:

A. Course Type:
☐ Lecture course
☐ Laboratory course
☑ Directed readings
☐ Lecture course with laboratory
☐ Undergraduate course[1]
☐ Other (please specify)

B. Can this course be offered by existing faculty? ☑ Yes ☐ No

C. Will this course require new funding (including payment of instructor, labs, equipment, etc.)? If yes, please specify: ☐ Yes ☑ No

D. Will additional library resources be required (if yes, please contact munul@mun.ca for a resource consultation)? ☐ Yes ☑ No

E. Credit hours for this course: 3

F. Course description (reading list required):
This course provides a second option for students in the Health and Wellness area to take a course related to their content area (in addition to PSYC 6120), as these students are required to take two such courses.

G. Method of evaluation:

	Percentage	
	Written	**Oral**
Class tests		
Assignments	100	1. Research study design 40% 2. Manuscript write up 60%
Other (specify):		
Final examination:		
Total	100	

[1] Must specify the additional work at the graduate level

II. To be completed for special/selected topics course requests only

For special/selected topics courses, there is no evidence of:

		Instructor's initials
1.	duplication of thesis work	KH
2.	double credit	KH
3.	work that is a faculty research product	KH
4.	overlap with existing courses	KH

Recommended for offering in the Fall [ ] Winter [x] Spring [ ] 2021

Length of session if less than a semester:

III. This course proposal has been prepared in accordance with General Regulations governing the School of Graduate Studies

Kellie Hadden — December 8, 2020

Course instructor — Date

Mary L Courage — 09-12-20

Approval of the head of the academic unit — Date

IV. This course proposal was approved by the Faculty/School/Council

Secretary, Faculty/School/Council — Date

Creation of Special Topics Course
PSYC 6121 – Special Topics in Health Psychology II

Rationale:

For our M.Sc. program, students are required to do two content courses in their area on top of their other requirements. For the Health and Wellness area, we have been using PSYC 6120 - Special Topics in Health Psychology as one of these courses, but we would like to create another course so that students can take a second special topics course on a different topic. We have that problem with a student right now who is taking PSYC 6120 right now and wants to take another special topics course in the Winter but cannot because it is listed as the same course even though the content is quite different. For this reason, we are proposing that we create a new course and call it PSYC 6121 - Special Topics in Health Psychology II. This would help the current student and will also make it less likely that future students have this problem.

Books not included in the Reference List

Field, A. P., Miles, J., & Field, Z. (2012). Discovering Statistics Using R. Sage Publications Ltd.

Mate, G. (2018). In the realm of hungry ghosts: close encounters with addiction (revised ed.). Vintage Canada.

Muller, R. T. (2010). Trauma and the Avoidant Client: Attachment-Based Strategies for Healing (1st ed.). W.W. Norton & Company, Inc.

Real, T. (1997). I don't want to talk about it: overcoming the secret legacy of male depression (1st ed.). Simon & Schuster, Inc.

Smyth, P. (2017). Working with High-Risk Youth: A Relationship-based Practice Framework. Routledge.

Van Der Kolk, B. (2014). The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma. Penguin Random House, LLC.

References

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Bowlby, J. (1969). *Attachment and loss: Vol. 1 Attachment* (2nd ed. ed.). London, Hogarth Press.

Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and Anger*. New York : Basic Books.

Bowlby, J. (1979). *The making and breaking of affectional bonds*. London : Tavistock Publications.

Bowlby, J. (1980). *Attachment and Loss: Vol. 3. Loss: Sadness and Depression*. Basic Books.

Bowlby, J. (1988). *A Secure Base: Clinical Applications of Attachment Theory*. Routledge.

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment : theory, research, and clinical applications*. New York : Guilford Press.

Brown, L. S., & Wright, J. (2003). The relationship between attachment strategies and psychopathology in adolescence. *Psychology and Psychotherapy: Theory, Research and Practice*, *76*(4), 351-367.

Caldwell, J. G., & Shaver, P. R. (2012). Exploring the Cognitive-Emotional Pathways between Adult Attachment and Ego-Resiliency. *Individual Differences Research*, *10*(3), 141-152. http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,url,uid&db=a9h&AN=80415604&site=ehost-live&scope=site

Canty, A., & Ripley, B. D. (2020). *boot: Bootstrap R (S-Plus) Functions.*

Cicchetti, D., Rogosch, F. A., Lynch, M., & Holt, K. D. (1993). Resilience in maltreated children: Processes leading to adaptive outcome. *Development and psychopathology*, *5*(4), 629-647.

Cicchetti, D., & Sroufe, L. A. (2000). The past as prologue to the future: The times, they've been a-changin'. *Development and psychopathology*, *12*(3), 255-264.

Cleverley, K., & Kidd, S. A. (2011). Resilience and suicidality among homeless youth. *Journal of Adolescence*, *34*(5), 1049-1054.

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*(1), 155-159. https://doi.org/10.1037/0033-2909.112.1.155

Corcoran, M., & McNulty, M. (2018). Examining the role of attachment in the relationship between childhood adversity, psychological distress and subjective well-being. *Child Abuse & Neglect*, *76*, 297-309. http://www.sciencedirect.com/science/article/pii/S0145213417304271

Darling Rasmussen, P., Storebø, O. J., Løkkeholt, T., Voss, L. G., Shmueli-Goetz, Y., Bojesen, A. B., Simonsen, E., & Bilenberg, N. (2019). Attachment as a Core Feature of Resilience: A Systematic Review and Meta-Analysis. *Psychological Reports*, *122*(4), 1259-1296. https://doi.org/10.1177/0033294118785577

Davison, A. C., & Hinkley, D. V. (1997). *Bootstrap Methods and Their Applications*. Cambridge University Press. http://statwww.epfl.ch/davidson/BMA/

Derogatis, L. R. (1994). *SCL-90-R: Administration, Scoring and Procedures Manual*. National Computer Systems, Inc.

Embleton, L., Lee, H., Gunn, J., Ayuku, D., & Braitstein, P. (2016). Causes of Child and Youth Homelessness in Developed and Developing Countries: A Systematic Review and Meta-analysis. *JAMA Pediatrics*, *170*(5), 435-444. http://archpedi.jamanetwork.com/article.aspx?doi=10.1001/jamapediatrics.2016.0156

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149-1160. https://doi.org/10.3758/brm.41.4.1149

Fraley, R. C. (2012, November 1). *Information on the experiences in close relationships-revised (ECR-R) adult attachment questionnaire*. Retrieved February 1 from http://labs.psychology.illinois.edu/~rcfraley/measures/ecrr.htm

Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology*, *78*(2), 350-365. http://search.ebscohost.com/login.aspx?direct=true&db=pdh&AN=2000-13328-012&site=ehost-live&scope=site

Gaetz, S. A., O'Gradym, B., Kidd, S., & Schwan, K. (2016). *Without a home: the National Youth homelessness survey*. Canadian Observatory on Homelessness Press. http://proxy.library.carleton.ca/loginurl=https://www.deslibris.ca/ID/10065874

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Hawkins-Rodgers, Y. (2007). Adolescents adjusting to a group home environment: A residential care model of re-organizing attachment behavior and building resiliency. *Children and Youth Services Review, 29*(9), 1131-1141. http://www.sciencedirect.com/science/article/pii/S0190740907000710

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MEMORIAL UNIVERSITY

PSYCH 6121 – Special Topics in Health Psychology II

Instructor: Dr. Kellie Hadden
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COURSE OBJECTIVES:

In this course, the student will learn how to develop a research project using a data from another study. The main objectives of this course will be to learn how to: (1) identify a research problem in the at-risk youth literature associated with variable in an existing dataset, (2) conduct the study using the dataset and write a manuscript to be submitted to a peer reviewed journal, (3) the study should make an original contribution to the research literature.

The student will meet regularly with the Dr. Hadden to help guide their project and manuscript development.

REQUIRED READING:

- The required readings will be a thorough review of the literature in the area of at-risk youth, which will be conducted by the student.

EVALUATION:

1. Research study design %40
2. Manuscript write up %60