

Health Psychology and Kinesiology – KINE - 3000

Course Instructor: Paul Ritvo, Ph.D., Professor

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Course Description: This course revolves around a key question: are we exerting optimal efforts to be healthy and to advance the health of people we influence? Health psychology serves to define what optimal efforts are and why we might or might not make them.

Much, if not most, health service is now provided online with the increased connectivity changing the informational dynamics significantly. Our connectivity emphasizes programming that focuses on self-healing and self-health management.

Our COVID experience has also emphasized the communal nature of health and responsibilities for personal risk reductions (or increases) and effects on others. While vaccination is a currently dominant issue, it's clear that every health decision affects the health of intimates, friends, fellow citizens and family members.

Furthermore, the evolution of physical and mental monitoring technology, via 'wearables' and online interfaces has accelerated how much we learn from and apply bio-behavioural measurement in the pursuit of health.

In this course, we investigate how to use existing research to advance health from the perspective of self-controlled behaviours and their fluctuations in daily life.

Course Organization: 2 x 1.5 hours weekly: remote - lectures, guest lectures, class discussions, required readings, research participation. This is a hybrid course meaning that all course materials are provided online and that class attendance, other than for exams, is optional.

Required Reading: Peer reviewed journal articles are assigned. Each is provided on the e-Class site for downloading or through Zoom address [below]

Zoom Meeting

<https://yorku.zoom.us/j/2727629659>

Meeting ID: 272 762 9659

One tap mobile

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Dial by your location

+1 587 328 1099 Canada

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+1 778 907 2071 Canada

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Meeting ID: 272 762 9659

Find local number: <https://yorku.zoom.us/j/9659272762>

Join by SIP

2727629659@zoomcrc.com

Join by H.323

69.174.57.160 (Canada Toronto)

65.39.152.160 (Canada Vancouver)

Evaluation: 2 exams during the regular semester (50% of final grade); 1 final exam during the exam period (46%); participation (4%) in either a long (3 hour) online mindfulness session hosted by Dr. Ritvo (& 3 x's 500 word subjective reflections) or an ethically approved research study by York, U of Toronto, UHN affiliated hospitals (Toronto General, Princess Margaret, Toronto Western), or Centre for Addiction and Mental Health)

Once again, the final grade for the course will be based on the following items weighted as indicated:

Midterm #1: 23%

Midterm #2: 23%

Research Participation: 4%

Final Examination: 50%

Lecture	Date	Readings 1 - Slides	Readings 2 - Articles
1. The why of what we will study	Tuesday, Jan. 10	Slides	

<p>2. Telomeres & Stress – Exacerbation-Reduction – Multi-Modal & Exercise Interventions</p>	<p>Thursday Jan. 12</p>	<p>Slides</p>	<p>Effect of comprehensive lifestyle changes on telomerase activity and telomere length in men with biopsy-proven low-risk prostate cancer: 5-year follow-up of a descriptive pilot study</p> <p>Ornish et al. 2013 Lancet Oncology Volume 14, Issue 11, October 2013, Pages 1112-112</p> <p>Aerobic exercise lengthens telomeres and reduces stress in family caregivers</p> <p>Puterman et al. 2018 Psychoneuroendocrinology Volume 98, December 2018, Pages 245-252</p>
<p>2. Mitochondria & Stress Exacerbation-Reduction</p>	<p>Tuesday, Jan 17</p>	<p>Slides</p>	<p>Acute psychological stress increases serum circulating cell-free mitochondrial DNA</p> <p>Trumpff, C. et al., 2019 Psychoneuroendocrinology 106 (2019) 268–276</p>
<p>3. Telomeres & Stress Reduction (Meditation)</p>	<p>Thursday, Jan 19</p>	<p>Slides & video</p>	<p>Intensive meditation training, immune cell telomerase activity, and psychological mediators</p> <p>Jacobs et al. 2011 – Psychoneuroendocrinology Volume 36, Issue 5, June 2011, Pages 664-68</p>
<p>4. Mitochondria & Healthy Eating (Mediterranean Diet)</p>	<p>Tuesday, Jan 24</p>	<p>Slides</p>	<p>Insulinemic Potential of Lifestyle Is Inversely Associated with Leukocyte Mitochondrial DNA Copy Number in US Adults -</p> <p>Yang et al. 2020 - J Nutr. Aug; 150(8): 2156–2163.</p> <p>Mediterranean diet reduces endothelial damage and</p>

			<p>improves the regenerative capacity of endothelium</p> <p>Marin et al., American Journal of Clinical Nutrition 2011 011;93:267–74.</p>
5. Mitochondria & Exercise	Thursday, Jan 26	Slides	<p>Decreased circulating mtDNA levels in professional male volleyball players.</p> <p>Nasi et al., 2016. International journal of sports physiology and performance 11 (1), 116–121.</p> <p>Plasma cell-free mitochondrial DNA declines in response to prolonged moderate aerobic exercise.</p> <p>Shockett et al., 2016. Physiological reports 4 (1), e12672.</p> <p>Repeated bouts of exhaustive exercise increase circulating cell free nuclear and mitochondrial DNA without development of tolerance in healthy men</p> <p>Stawski et al. 2017.. PLoS One 12, e0178216.</p>

<p>6. Telomeres & Sleep</p>	<p>Tuesday, Jan 31</p>	<p>Slides</p>	<p>The history of sleep apnea is associated with shorter leukocyte telomere length: the Helsinki Birth Cohort Study</p> <p>Savolainen et al. Sleep Medicine Volume 15, Issue 2, February 2014, Pages 209-212</p> <p>Randomized Controlled Trial of Mindfulness Meditation for Chronic Insomnia</p> <p>Ong et al. <i>Sleep</i>, Volume 37, Issue 9, 1 Janember 2014, Pages 1553–1563,</p>
<p>7. Telomeres and Healthy Cognition</p>	<p>Thursday Feb 2</p>	<p>Slides</p>	<p>Wandering Minds and Aging Cells</p> <p>Epel et al. Clinical Psychological Science 1(1) 75– 83 2013</p> <p>Zen meditation, Length of Telomeres, and the Role of Experiential Avoidance and Compassion</p> <p>Alda et al. <i>Mindfulness</i> (2016) 7:651–659 DOI 10.1007/s12671-016-0500-5</p>
<p>8. Online - Mental Health Interventions</p>	<p>Tuesday Feb 7</p>	<p>Slides</p>	<p>Online Mindfulness-Based Cognitive Behavioral Therapy Intervention for Youth With Major Depressive Disorders: Randomized Controlled Trial</p> <p>Ritvo et al., <i>J Med Internet Res</i> 2021, v. 23, iss. 3 e24380</p>
<p>9. Online - Type 2 Diabetes Interventions (Pragmatic Trial for a Modest Income Population)</p>	<p>Thursday Feb 9</p>	<p>Slides</p>	<p>Health coaching intervention with and without smartphone support reduces HbA1c in Type 2 diabetic patients from a lower SES community: A randomized controlled trial.</p>

			Wayne et al. Journal of Medical Internet Research, 2015 17(10),e224. doi: 10.2196/jmir.4871
Midterm Exam Part 1	Tuesday Feb. 14	Midterm 1 – Part 1	Exam Administration
Midterm Exam Part 2 Article-Based (Printed articles can be brought to exam)	Thursday Feb 16	Midterm 1 – Part 2	Exam Administration
No Classes During Reading Week	Reading Week Feb 18 - 24		
10. Online – Text Message Intervention for Medication Adherence In Patients with HIV - AIDS	Tuesday Feb 28	Slides	Effects of mobile phone short- message service (SMS) on antiretroviral treatment (ART) adherence in Kenya (WeTel Kenya1): A randomised trial. Lester et al., 2010 The Lancet, 27(9755), 1838-1845
11. The Wearable Revolution and Health: Systematic Review	Thursday March 2	Slides	Wearable Technology and Physical Activity Behavior Change in Adults With Chronic Cardiometabolic Disease: A Systematic Review and Meta-Analysis Kirk Chang et al. 2018 J of Health Promotion

<p>12. Flow – Psychology of Optimal Experience</p>	<p>Tuesday March 7</p>	<p>Slides</p>	<p>Flow (PDF) – the psychology of optimal experience –</p> <p>Mihaly Csikszentmihalyi</p> <p>Development and Validation of a Scale to Measure Optimal Experience: The Flow State Scale</p> <p>Jackson and Marsh Journal of Sport & Exercise Psychology, 1996, 18, 17-35</p>
<p>13. Brain Health & Nutrition</p>	<p>Thursday March 9</p>	<p>Slides</p>	<p>Probiotic supplementation can positively affect anxiety and depressive symptoms: a systematic review of randomized controlled trials.</p> <p>Pirbaglou et al. Nutrition Research. 2016</p>
<p>14. Mindfulness Virtual Communities, Healthy Student Initiative & Mental Health at York University</p>	<p>Tuesday March 14</p>	<p>Slides</p>	<p>A Mindfulness-Based Intervention for Student Depression, Anxiety, and Stress: Randomized Controlled Trial</p> <p>Ritvo et al. 2021</p> <p>JMIR Ment Health 2021 vol. 8 iss. 1 e23491</p>
<p>15. Polyvagal Theory & Heart Rate Variability – Intervention Research</p>	<p>Thursday March 16</p>	<p>Slides</p>	<p>Heart rate variability enhanced in controls but not in maladaptive perfectionists during brief mindfulness meditation following stress induction: A stratified-randomized trial.</p> <p>Azam et al. 2015 International Journal of Psychophysiology, 98(1), 27-24.</p> <p>Meaning in life and vagally-mediated heart rate variability: Evidence of a</p>

			quadratic relationship at baseline and vagal reactivity differences Dang et al. 2021 International Journal of Psychophysiology
16. Healthy Thinking -& Conscientiousness	Tuesday March 21	Slides	Childhood Conscientiousness and Leukocyte Telomere Length 40 Years Later in Adult Women—Preliminary Findings of a Prospective Association Edmonds et al. 2015 PLoS ONE 10(7): e0134077. doi:10.1371/journal.pone.0134077
Pre-midterm exam 2 Review	Thursday March 23	Slides	
MidTerm 2 - Part 1 Multiple Choice - Slide-Based (Printed slides cannot be brought to class)	Tuesday March 27		
MidTerm #2 - Part 2 Multiple Choice Article-Based (Printed articles can be brought to exam)	Thursday March 30		
Pre-Final Review	Tuesday April 4	Slides	
Pre-Final Review (Last Class)	Thursday April 6	Slides	
Final Exam	During regular exam period		

Grading: The grading scheme for the course conforms to the 9-point grading system used in undergraduate programs at York (e.g., A+ = 9, A = 8, B+ = 7, C+ = 5, etc.). Assignments and tests* will bear either a letter grade designation or a corresponding number grade (e.g. A+ = 90 to 100, A = 80 to 90, B+ = 75 to 79, etc.)

(For a full description of York grading system see the York University Undergraduate Calendar - <http://calendars.registrar.yorku.ca/2010-2011/academic/index.htm>)

All students are expected to familiarize themselves with the following information, available on the Senate Committee on Academic Standards, Curriculum & Pedagogy webpage (see Reports, Initiatives, Documents) - <https://secretariat.info.yorku.ca/files/CourseInformationForStudentsAugust2012-.pdf>

- Senate Policy on Academic Honesty and the Academic Integrity Website
- Ethics Review Process for research involving human participants
- Course requirement accommodation for students with disabilities, including physical, medical, systemic, learning and psychiatric disabilities
- Student Conduct Standards
- Religious Observance Accommodation