



# CoCo Seminar Series

## Fall 2022

### COVID-19, Exercise Frequency and Mental Distress

**Dr. Lina Begdache, Associate Professor, Health and Wellness Studies**

**Dr. Zeynep Ertem, Assistant Professor, Systems Science and Industrial Engineering**

**Anseh Danesharasteh, PhD candidate, Industrial and Systems Engineering  
Binghamton University**



**Wednesday November 2, 2022 12:00-1:00pm EDT**

**Hybrid (EB-T1 & Zoom; meeting link available on <http://coco.binghamton.edu/>)**

The COVID-19 pandemic produced life disturbances and loss of routine which affected diet and sleep quality as well as physical exercise frequency. Interestingly, mental distress was higher even in those who exercised. The purpose of this study was to assess exercise frequency in relation to different levels of mental distress severity in men and women while accounting for working days and weekends. A de-identified secondary data set was analyzed. Regression analyses produced models of the different stages of COVID-19 in relation to physical exercise frequency and mental distress levels. Margin analysis generated predictive models that could be used prophylactically to customize physical exercise frequencies in men and women to reduce their risk of mental distress during future pandemics. Mental distress during the lockdown and after ease of restrictions was associated with different physical exercise frequencies, with a noticeable difference between men and women. During a pandemic, sedentary men are more likely to be mentally distressed during working days. Nevertheless, moderately active, but not very active women, may be less distressed during pandemic weekends. These findings may provide a framework to optimize mental health during different stages of a pandemic by customizing physical exercise frequencies based on gender and time of the week.

Dr. Lina Begdache is an Associate Professor in Health and Wellness Studies at Binghamton University. She received her PhD in Cell and Molecular Biology with a Neuroscience concentration from Binghamton University. She is a Registered-Dietitian Nutritionist, a Certified Nutrition-Specialist-Scholar, a Certified Dietitian Nutritionist and a Fellow of the Academy of Nutrition and Dietetics. Her research depicts and models the links between dietary and lifestyle factors (such as exercise, stress, sleep, and substance use) in relation to mental distress (anxiety and depression) and brain function. She specializes in gender differences and age groups as brain morphology differs across these groups.

Dr. Zeynep Ertem is an Assistant Professor in Systems Science and Industrial Engineering at Binghamton University. She received her PhD in industrial and systems engineering at Texas A&M University. Her expertise is in data analytics in healthcare systems, epidemic disease modelling, network optimization, discrete optimization, social networks and health systems optimization. Her recent papers were published in high-impact journals such as Nature Medicine, PLOS Computational Biology, Social Networks, and also highlighted by several U.S. news outlets.

For more information, contact Hiroki Sayama ([sayama@binghamton.edu](mailto:sayama@binghamton.edu)).

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