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MASTER'S THESIS PRESENTATION

# Modeling Ecological Momentary Assessment Data Using Mixed-Effects Location-Scale Model and Time Varying Effects Model

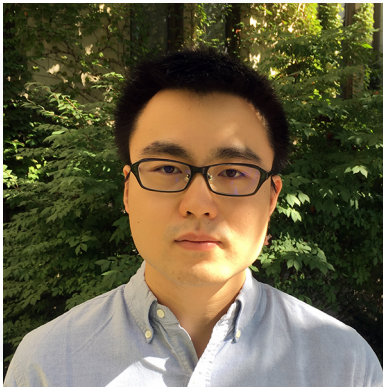
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April, 21, 2021  
9:20 AM, CDT

WHERE

Via ZOOM

ZOOM information will be provided in the email announcement for this seminar.



**Yan (Adam) Zhang, MS candidate**

Ecological Momentary Assessment (EMA) studies make use of modern technologies such as smartphones to repeatedly sample subjects' behavior and state in real time. These studies produce intensively measured longitudinal data with large numbers of observations per subject, and are well suited to address research questions in psychology and public health while assuring a degree of ecological validity. This paper highlights two analytical approaches to EMA data. Mixed-effects location-scale jointly model the mean and variance of the response variable while accounting for individual heterogeneity. Time-varying effects model on the other hand estimates dynamic, nonlinear associations between variables by estimating coefficients as functions of time. Theoretical and analytical properties of these methods are described alongside simulation studies and real data analysis examples to illustrate their strengths and weaknesses in practice.

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