

# QUANTITATIVE DATA ANALYSIS II

## MULTIVARIATE REGRESSION

A two-day course introducing OLS regression and logistic regressions (binary and multinomial), elaboration models, covering spurious relationships, intervening variables, partial explanations, suppressors and interaction effects. The workshop will combine lectures and hands-on practice in the statistical software package, SPSS.



**A/P VINCENT CHUA**  
NUS ASSOCIATE PROFESSOR



### Course Outline

- Difference between random controlled experiments and observational studies
- Foundations and simple linear regression
- Multiple linear regression with continuous and categorical outcomes (e.g. OLS regression and Binary & Multinomial logistic regression)
- Transformation of dependent variables that are not normally distributed
- The thinking behind 'control' variables and the link to elaboration models
- Elaboration models – Discussion of a) spurious relationship, b) intervening relationship, c) partial explanation, d) suppression effect, and e) interaction effects



### Who Should Attend?

This course is designed for researchers and practitioners, including data analysts working in applied environments.



### Prerequisites

Participants should have a basic understanding of social statistics. E.g. means, medians and modes, including some familiarity with bivariate modes of data analysis.

### ABOUT THE INSTRUCTOR

A/P Vincent Chua is an Associate Professor in the Department of Sociology and Anthropology at the National University of Singapore (NUS) and a Steering Committee Member of the Centre for Family and Population Research (CFPR). He got his PhD from the University of Toronto in Sociology in 2010. His research areas are in social networks, education, and ethnic stratification. His work has appeared in publications such as *Social Networks*, *Social Science Research*, *Sociological Perspectives*, *Current Sociology*, *Comparative Sociology*, *American Behavioral Scientist*, *Sociology of Education*, and *the Sage Handbook of Social Network Analysis*. He has taught the graduate level quantitative data analysis course at the Department of Sociology in NUS for several years now. In 2013 and 2017 he won the Faculty Excellence Teaching Award. In 2017, he won the Annual Excellence Teaching Award (University).



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