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Prof. Sheng-Hsuan Lin / Institute of Statistics

Methodology: Epidemiology, biostatistics, causal inference, mediation analysis, time-varying system
Application: decision science, outcome research, psychiatry, behavior addiction, heart rate variability.

My research interest focuses on employing causal inference theory to mediation and interaction analysis in time-varying system, and applying statistical methods to Epidemiology and biomedical research.

Methodology:

1. Causal mediation analysis with time-varying and multiple mediators (Fig 2)
2. Integration of mechanistic interaction and causal interaction
3. Method of mechanism investigation on ecological datasets

Application on Epidemiology and medicine:

1. Effect mechanism of genetic/cardio vascular factors on Alzheimer disease (with Erasmus Medical Center, Rotterdam, Netherlands)
2. Effect mechanism of religion and mortality (with Harvard University)
3. Interaction between Hepatitis B and C infection on liver cancer (with Academia Sinica)
4. Effect mechanism of industrialization on public health (with China Medical University)
5. Smartphone addiction and portable medical device (with NHRI and NTU Hospital)

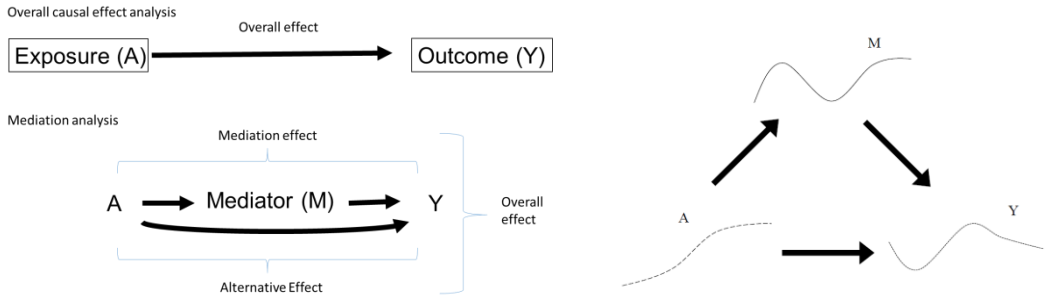

Figure 1：(Left) Overall effect analysis and mediation analysis
(Right) Mediation analysis under time-varying system

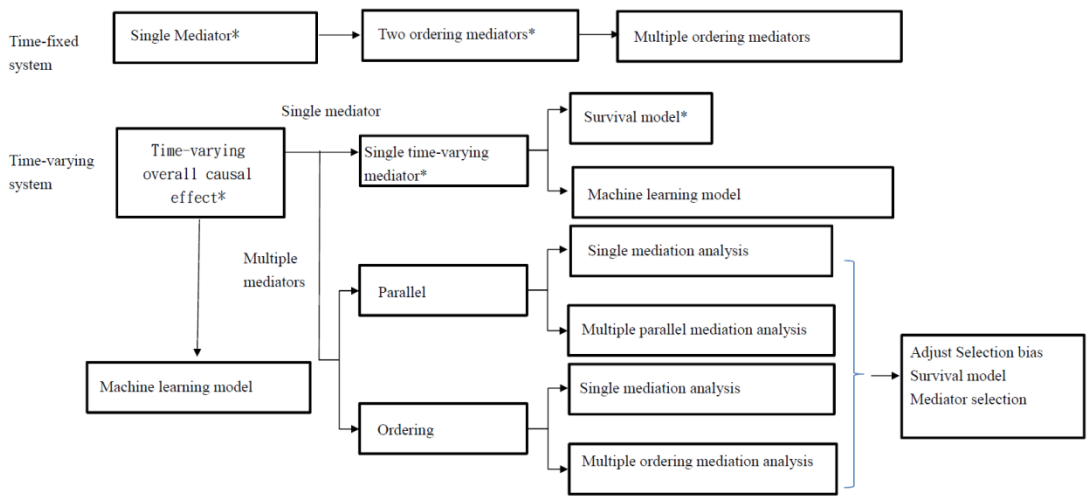

Figure 2. Research proposal about mediation analysis.
*: topic covered by previous literature