

NYSPI Biostatistics Seminar Series¹

Conceptualizing and Empirically testing for Meditation: Baron Kenny and Beyond

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Abstract

Research questions involving mediating variables are commonly studied in psychiatry. A few examples from just two years of work at NYSPI by Dr. Wall include: Does childhood abuse lead to changes in neurobehavioral domains (e.g. cue reactivity, response to rewards) that then lead to poor decision making? Among Israelis, do differences in social drinking norms explain the connection between being from the Former Soviet Union and alcohol use disorders? In OCD treatment patients, how much of the relationships between baseline characteristics such as treatment readiness and good outcomes is mediated by treatment adherence? In a randomized study of complicated grief psychotherapy vs. treatment as usual, what were the key therapy targeted factors that changed (e.g. avoidance, self-blame, negative thoughts) in order to change overall grief symptomology?

The seminal mediation paper by Baron and Kenny (1986) laid out empirical steps to demonstrate whether there was evidence to say that a causal relationship between an exposure and an outcome

¹ The PI Biostatistics Seminar Series is held on Tuesdays at New York State Psychiatric Institute. If you are interested in receiving regular announcements for our seminars in the future, or if you need further information, please contact Kelly Roska (roskake@nyspi.columbia.edu, (212) 543-5589).

was mediated, at least partially, by measured mediators. In this tutorial, using real examples, we will introduce and demonstrate the Baron and Kenny method for identifying mediators. We will describe different ways of estimating and testing the indirect (or mediated) causal effect and we will articulate what assumptions have to hold in order for these estimates to be valid. This is an introductory talk and as such we will not go into details about other more advanced causal estimation methods including instrumental variables, propensity score, principal stratification, inverse probability weighting and marginal structural models. Nevertheless we will very briefly describe what can possibly be gained from using other more advanced methods.