

## 7.1: Mediation and Moderation Models

### Learning Objectives

At the end of this section you should be able to answer the following questions:

- Define the concept of a moderator variable.
- Define the concept of a mediator variable.

As we discussed in the lesson on correlations and regressions, understanding associations between psychological constructs can tell researchers a great deal about how certain mental health concerns and behaviours affects us on an emotional level. Correlation analyses focus on the relationship between two variables, and regression is the association of multiple independent variables with a single dependant variable.

Some predictor variables interact in a sequence, rather than impacting the outcome variable singly or as a group (like regression).

Moderation and mediation is a form of regression that allows researchers to analyse how a third variable effects the relationship of the predictor and outcome variable.

PowerPoint: Basic Mediation Model

Consider the Basic Mediation Model in this slide:

- [Chapter Seven – Basic Mediation Model](#)

We know that high levels of stress can negatively impact health, we also know that a high level of social support can be beneficial to health. With these two points of knowledge, could it be that social support might provide a protective factor from the effects of stress on health? Thinking about a sequence of effects, perhaps social support can mediate the effect of stress on health.

Mediation is a more complicated extension of multiple regression procedures. Mediation examines the pattern of relationships among three variables (Simple Mediation Model), and can be used on four or more variables.

### Examples of Research Questions

Here are some examples of research questions that could use a mediation analysis.

- If an intervention increases secure attachment among young children, do behavioural problems decrease when the children enter school?
- Does physical abuse in early childhood lead to deviant processing of social information that leads to aggressive behaviour?
- Do performance expectations start a self-fulfilling prophecy that affects behaviour?
- Can changes in cognitive attributions reduce depression?

PowerPoint: Three Mediation Figures

Consider the Three Figures Illustrating Mediation from the following slides:

- [Chapter Seven – Three Mediation Figures](#)

Looking at this conceptual model, you can see the direct effect of X on Y. You can also see the effect of M on Y. What we are interested in is the effects of X on Y, accounting for the effects of M.

An example mediation model is that of the mediating effect of health-related behaviours on conscientiousness and overall physical health. Conscientiousness, or the personality trait associated with hardworking has relationship with overall physical health, but if an individual is hardworking, but does not perform health-related behaviours like exercise or diet control, then they are likely to be less healthy. From this, we can assume that health-related behaviours mediates the relationship between conscientiousness and physical health.

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