

Assignment 1

Test the model in the path diagram to evaluate the effects of media exposure on beliefs, attitudes and behavior with respect to a target issue.

Variables

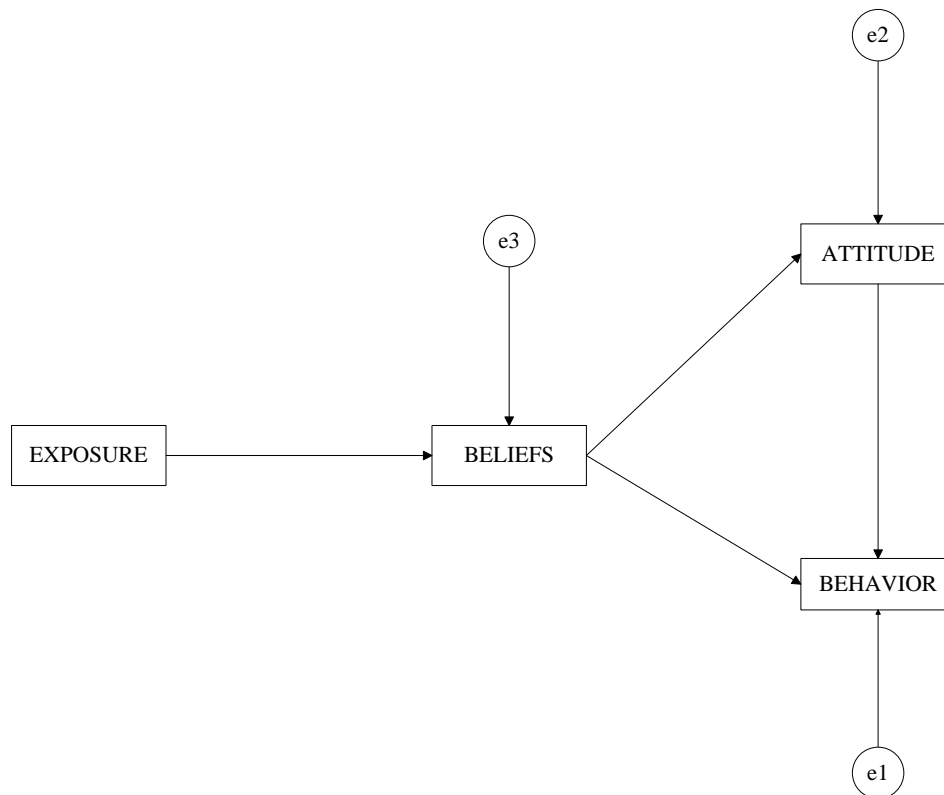
1. Amount of media exposure (EXPOSURE): This was measured on a 1 to 5 scale, with higher numbers indicating greater exposure (1 = none, 2 = a little, 3 = moderate, 4 = quite a bit, 5 = extensive)

2. Favorability of beliefs and perceptions about the issue (BELIEFS): This was scored from -3 to +3 with higher numbers indicating more positive belief structures (-3 = very unfavorable, -2 = moderately unfavorable, -1 = slightly unfavorable, 0 = neutral, +1 = slightly favorable, +2 = moderately favorable, +3 = very favorable)

3. Attitude toward the issue (ATTITUDE): This was a measure of overall affect and was also scored on a -3 to +3 favorability scale, as described above.

4. Positive/negative behavior with respect to issue (BEHAVIOR): This was a measure of how favorable the individual's behavior was with respect to the issue. It was also scaled on a -3 to +3 scale, as above.

Chi square = 1.936 with 2 degrees of freedom



Assignment 2

- E1 = Source is knowledgeable
- E2 = Source gives good advice
- E3 = Source is an expert
- E4 = Source is well regarded by experts
- T1 = Source is honest
- T2 = Source is unbiased

Test a two factor measurement model of expertise and trustworthiness. Use T1 and E1 as marker variables. What is the estimated correlation between trustworthiness and expertise?

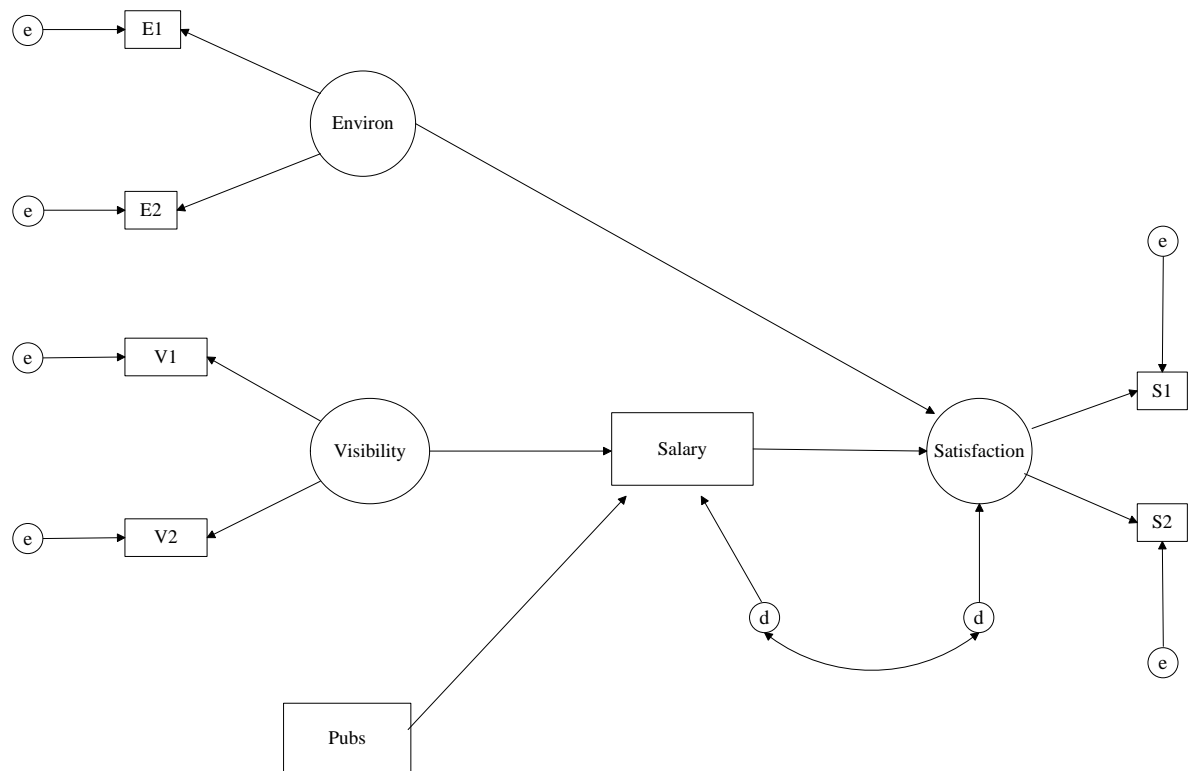
Chi square = 5.094 with 8 degrees of freedom

Assignment 3

Fit the model and use S1, E1, V1 as reference variables

Y1 = Salary (in hundreds)
S1 = Job Satisfaction 1 (1 to 10)
S2 = Job Satisfaction 2 (1 to 10)
E1 = Self Rating of Environ (1 to 10)
E2 = Colleague Rating of Environ (1 to 10)
V1 = FA Citations (units of 10)
V2 = OA Citations (units of 10)
P1 = Number of publications

Chi square = 8.268 with 14 degrees of freedom



Exogenous Variables are Correlated

Assignment 4

A researcher is interested if levels of stress differ for middle school aged children in different grades. He obtains three indicators of stress. Each scale is a 100 point scale, with higher scores indicating higher stress. The stress measure is a combined index of the number of stressful events the child experienced in the past 6 months and how distressing the child found each event. Every week the child wrote down in a diary stressful events that happened to him or her during that week and then rated how stressful each one was on a scale of 1 = a little bit, 2 = a moderate amount, 3 = quite a bit and 4 = very much. The sum of the scores across all events written down by the child was the stress index.

Analyze the data using the methods discussed in class and compare levels of stress in the different groups. Write the results up and be prepared to interpret them.

Chi square = 3.346 with 4 degrees of freedom

Assignment 5

A researcher is interested in the effects of stress on negative self image in middle school aged children. She wants to know if the effect of stress on image varies as a function of the grade of the student (6th versus 7th versus 8th). She obtains three indicators of stress and three indicators of negative self image. Each is measured on a 100 point scale, with higher scores indicating higher stress and higher scores indicating a more negative self image. Past research suggests that a 5 unit increase on the self image scale is consequential and adversely affects school performance in non-trivial ways. The stress measure is a combined index of the number of stressful events the child experienced in the past 6 months and how distressing the child found each event. Every week the child wrote down in a diary stressful events that happened to him or her during that week and then rated how stressful each one was on a scale of 1 = a little bit, 2 = a moderate amount, 3 = quite a bit and 4 = very much. The sum of the scores across all events written down by the child was the stress index.

Analyze the data using the methods discussed in class and compare the impact of stress on image for all possible pairs of groups. Write the results up and be prepared to interpret them.

Chi square for model with equal form = 20.408 df = 24

Chi square for model with equal metrics = 22.671 df = 32