PSY 315H: Structural Equation Modeling

Fall 2019 (Andrew Conway)

DA 3

You are interested in the Investment Model (Rusbult, 1980), and if there are predictors of relationship satisfaction, and in turn relationship stability, that are unique to romantic partners who also have children (besides rewards, costs, and relationship alternatives – since you didn’t measure those).

 Using the data “PSY315H - DA Full SR Data.csv” to construct a structural regression model (i.e., a full SEM) that reflects the investment model (at least how you are going to test it).  Specifically, your model will include five latent constructs: (a) satisfaction as a parent, (b) partner responsiveness, (c) romantic relationship satisfaction, (d) commitment, and (e) relationship stability. See the notes at the bottom for more information. From what you know about the investment model, as well as the theoretical extension you are hoping to provide to it, you hypothesize the following relationships between latent constructs:

1. *Satisfaction as a parent* and *partner responsiveness* are correlated with each other.
2. *Satisfaction as a parent*and p*artner responsiveness* both predict *relationship satisfaction.*
3. *Relationship satisfaction*predicts *Commitment.*
4. *Commitment*predicts *Relationship Stability*.

**For this assignment, conduct the following analyses:**

1. Test the *measurement model* for those five constructs (all 5 latent factors should be present in your measurement model test). (you do not need to provide a model figure for the measurement model, as long as you report the necessary fit indices).
2. Run the model using the paths specified above.
3. Modify the model:
   1. Check your modification indices to see whether there are any paths that can improve your model fit. Modification indices are paths that SEM programs suggest in order to reduce the chi-square value. Select the top two paths that would improve the model by proposing a regression pathway from one latent factor to another and add them to your model (i.e., do not add correlational paths in your model, and do not add paths to error variables within your model)
   2. Refer to the lavaan package documentation for how to run modification indices. We can discuss how to do this in our TA sessions as well.
   3. Hint: The “modindices()” function might be of some help, you can type “?modindices” for more information.

**Write a summary of your results and discussion with all necessary tables and figures embedding in appropriate points in your text.**

**\*Notes about the indicator variables in your model:**

* Satisfaction as a parent (3 items, Parent 1-3) is coded so that higher numbers mean greater satisfaction
* Partner responsiveness (3 items, PR 1-3) is coded so that higher numbers mean one’s partner is more responsive to the respondent’s needs.
* Relationship satisfaction (3 items, RS 1-3) is coded such that higher numbers mean greater romantic relationship satisfaction.
* Because of the peculiar coding scheme of this scale, commitment (3 items, Commit 1-3) is coded such that *lower* numbers mean greater commitment.
* Relationship stability (4 items, Stability 1-4) is coded so that higher numbers mean greater relationship stability.