

FUNCTIONING VS. SYMPTOMS

HOW CAN WE BEST MEASURE OUTCOME?

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DISCLOSURE

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SYMPTOMS AND FUNCTIONING

- Evidence in support of CBT for anxiety disorders
(Deacon & Abramowitz, 2004; Olatunji et al., 2010)
- Focus on symptom levels as the primary outcome
- How do we know that symptom reduction leads to improved functioning?
 - Is the directionality of our thinking reversed?
- Do improvements in *functioning* lead to reductions in symptoms?

HYPOTHESES

- Symptoms and functioning are equally important predictors of each other
- This relationship will remain at 6, 12, and 18 month follow-ups

METHODS

- 1,004 participants were recruited from 17 primary care sites
- All participants (CALM and TAU) were included in the current study
- Symptom measures:
 - Anxiety Sensitivity Inventory (ASI; Reiss et al., 1986)
 - Brief Symptom Inventory (BSI; Derogatis et al., 1983)
 - Patient Health Questionnaire (PHQ-8; Spitzer et al., 1999)
- Functioning measures
 - Short Form-12 oblique subscales for physical and mental functioning (Ware et al., 1995)
 - Sheehan Disability Scale (SDS; Sheehan, 1983)

ANALYTIC STRATEGY

- EQS-Structural Equation Modeling Software (Bentler, 2006)
- Cross-lagged panel model (Martens & Haase, 2006)

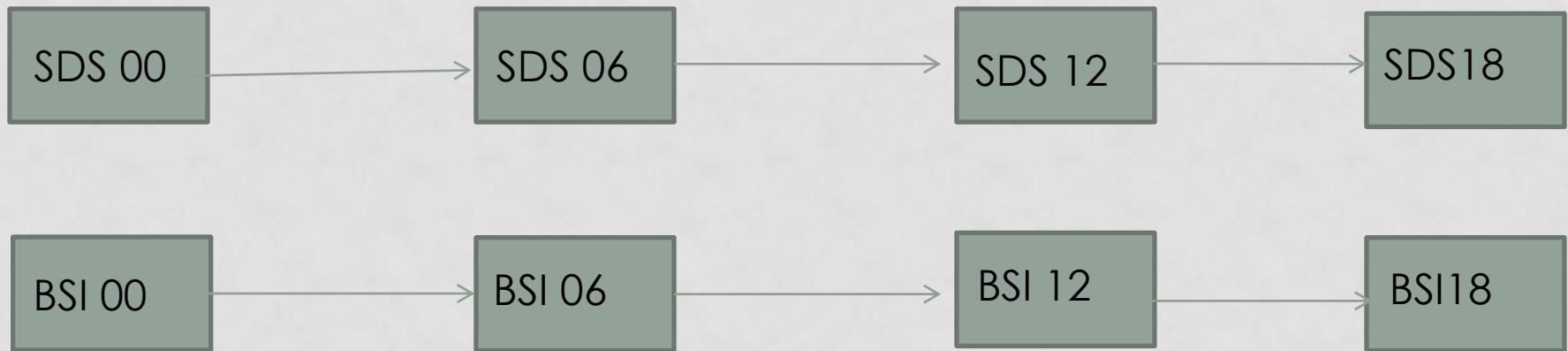
ANALYTIC PLAN

- EQS-Structural Equation Modeling Software (Bentler, 2006)
- Cross-lagged path analysis

Step 1

- Autoregressive model

AUTOREGRESSIVE EXAMPLE



ANALYTIC PLAN

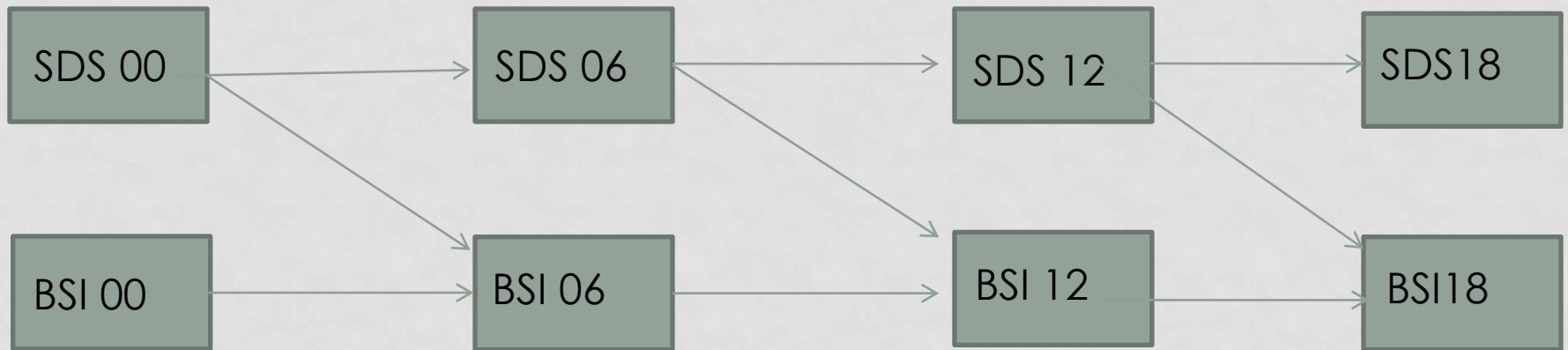
Step 1

- Autoregressive model

Step 2

- Functioning → Symptoms

FUNCTIONING → SYMPTOMS



ANALYTIC PLAN

Step 1

- Autoregressive model

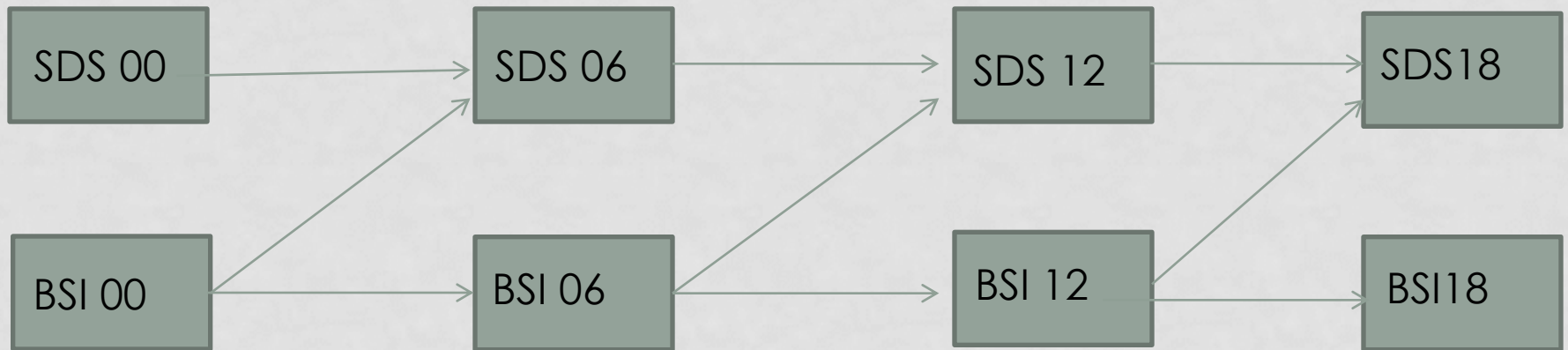
Step 2

- Functioning → Symptoms

Step 3

- Symptoms → Functioning

SYMPTOMS → FUNCTIONING



ANALYTIC PLAN

Step 1

- Autoregressive
- (BSI 00→BSI 06, BSI 06→BSI 12)

Step 2

- Functioning→symptoms
- (SDS 00→BSI 06, SDS 06→BSI 12)

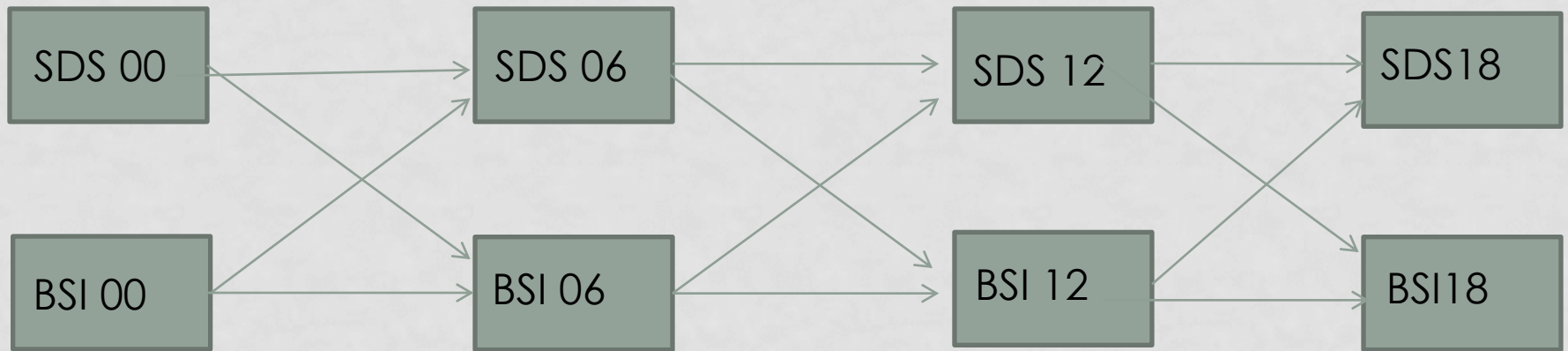
Step 3

- Symptoms→functioning
- (BSI 00→SDS 06, BSI 06→SDS 12)

Step 4

- Full Model
- Deviance change of Step 2 to 4;
- Deviance change of Step 3 to 4

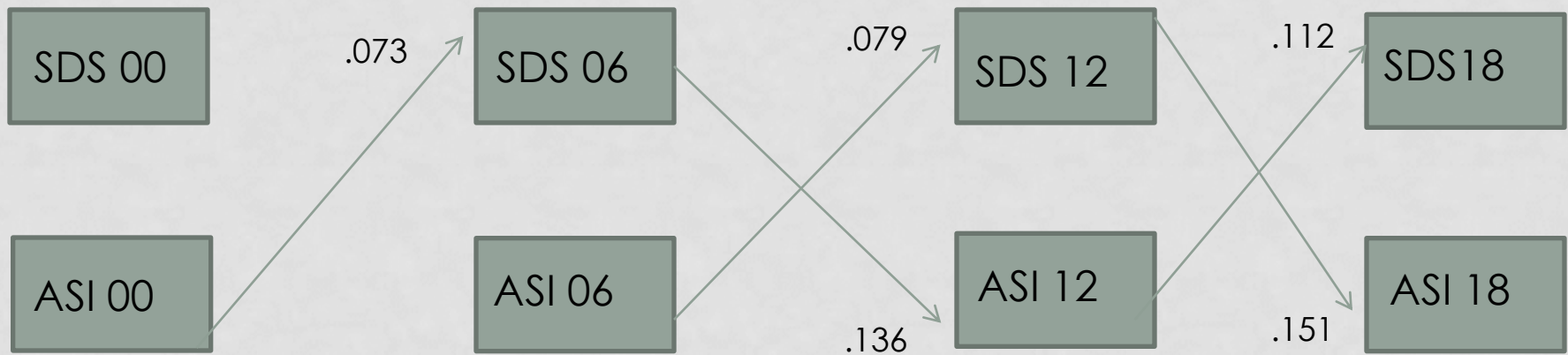
FULL MODEL



ANALYTIC STRATEGY

- Errors allowed to correlate at the same time-point
- Modification indices:
 - Include paths from baseline to all follow-up points of same measure
- Diagrammed paths do not include coefficients from autoregressive model

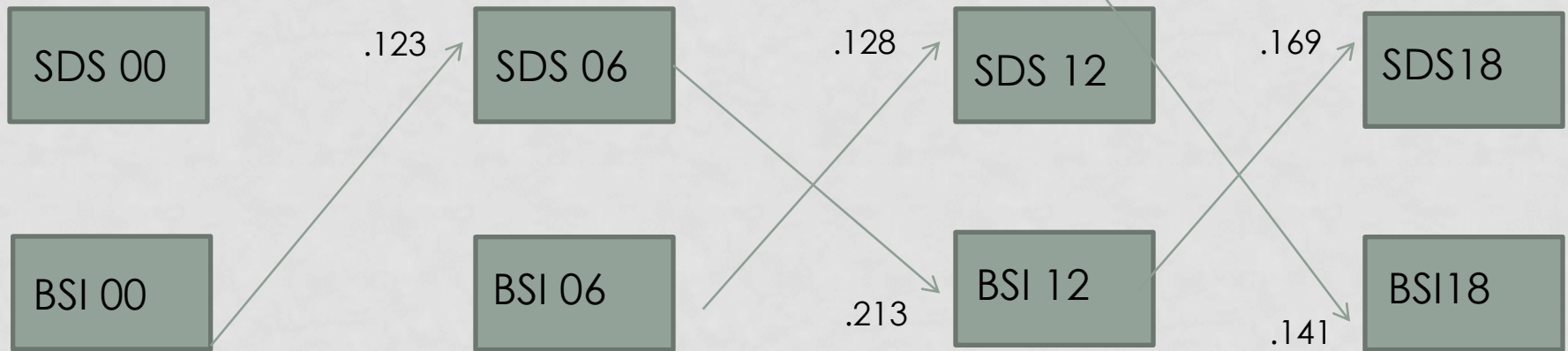
ASI AND SDS



Fit Indices:

BENTLER-BONETT NORMED FIT INDEX = 0.955 (Over .95 is "good")

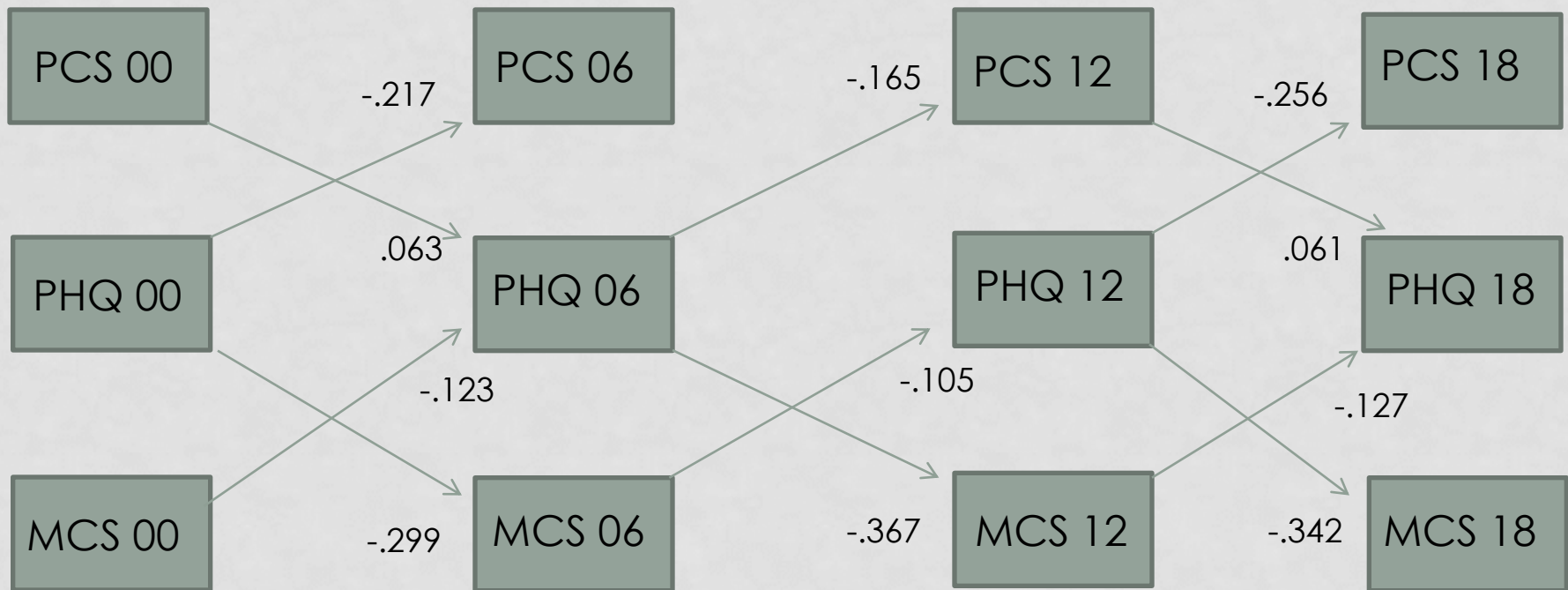
BSI AND SDS



Fit Indices:

BENTLER-BONETT NORMED FIT INDEX = 0.957 (Over .95 is "good")

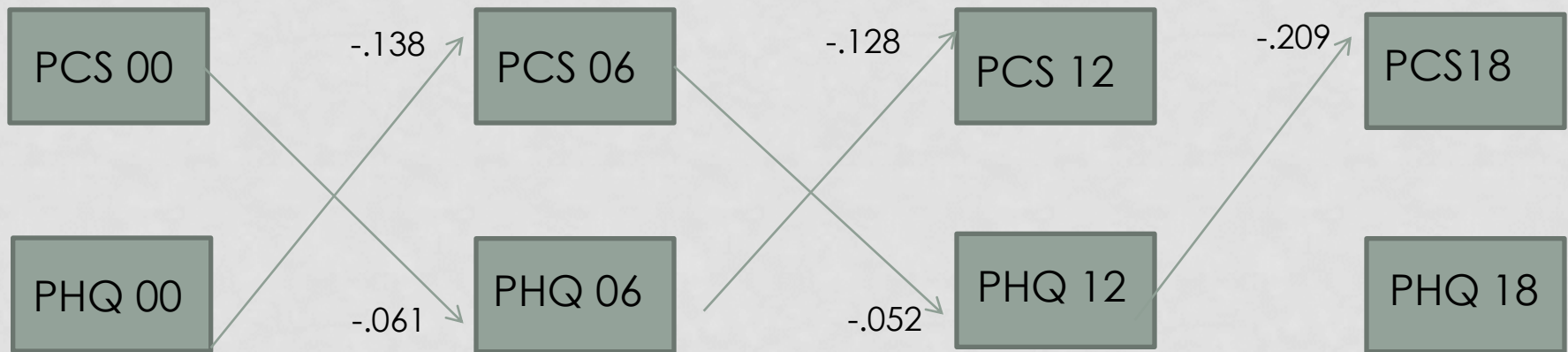
PCS, MCS, PHQ



Fit Indices:

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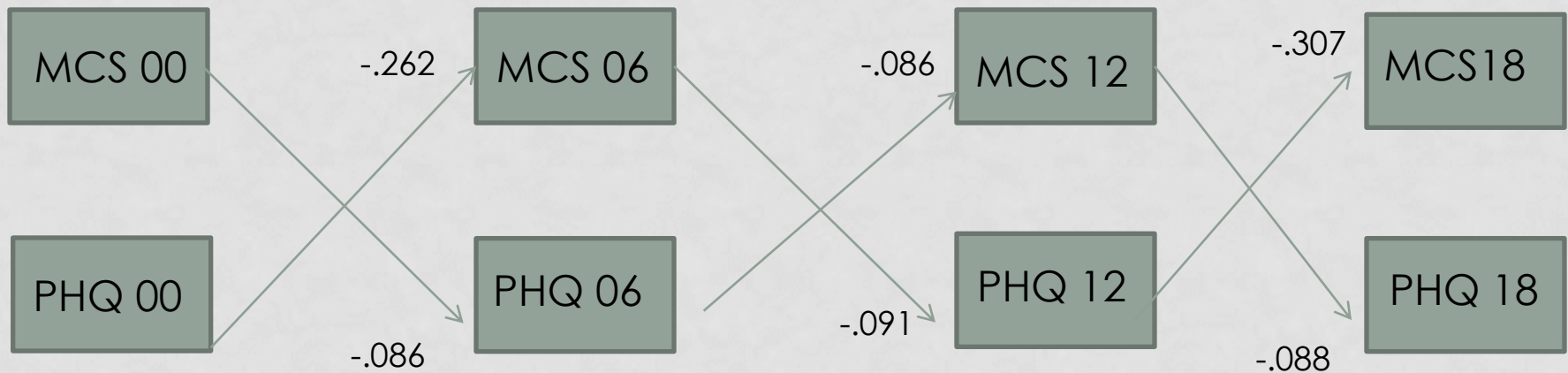
PCS AND PHQ



Fit Indices:

BENTLER-BONETT NORMED FIT INDEX = 0.970 (Over .95 is "good")

MCS AND PHQ



Fit Indices:

BENTLER-BONETT NORMED FIT INDEX = 0.976(Over .95 is "good")

DISCUSSION

- Symptom reduction is important to improving functioning, vice versa
- Treatments should therefore focus on both
- RCT should measure both
- Clinicians do not need to wait until symptoms improve to work on functioning

REFERENCES

- Deacon, B.J., Abramowitz, J.S. (2004). Cognitive and Behavioral Treatments for Anxiety Disorders: A review of meta-analytic findings. *Journal of Clinical Psychology, 60*, 429-441.
- Derogatis, L. R., & Melisaratos, N. (1983). The Brief Symptom Inventory: an introductory report. *Psychological Medicine, 13*(03), 595-605.
- Olatunji, B., Cisler, J.M, Deacon, B.J. (2010). Efficacy of cognitive behavioral therapy for anxiety disorders: a review of meta-analytic findings. *Psychiatric clinics of North America, 33*, 557-577.
- Martens, M.P., Haase, R.F. (2006). Advanced applications of structural equation modeling in counseling psychology research. *The Counseling Psychologist, 34*, 878-911.
- Reiss, S., Peterson, R. A., Gursky, D. M., & McNally, R. J. (1986). Anxiety sensitivity, anxiety frequency, and the prediction of fearfulness. *Behavior research and therapy, 24*, 1-8.
- Sheehan, D. V. (1983). *The anxiety disease*. New York: Scribner.
- Spitzer, R. L., Kroenke, K., & Williams, J. B. W. (1999). Validation and utility of a self-report version of PRIME-MD: The PHQ primary care study. Primary care evaluation of Mental Disorders. Patient Health Questionnaire. *JAMA: The Journal of the American Medical Association, 282*, 1737-1744.
- Ware, J.E., Kosinski, M., Keller, S.D. (1995). SF12: How to score SF12 Physical and Mental Health Summary Scales, 2nd edition, Boston, MA: The Health Institute, New England Medical Center.