



Engagement & Disengagement in Addiction Recovery Homes

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SCRA Biennial - 2015



Digital Copy of Slides

engagementresearch
.org

Oxford House

13,000+
Residents



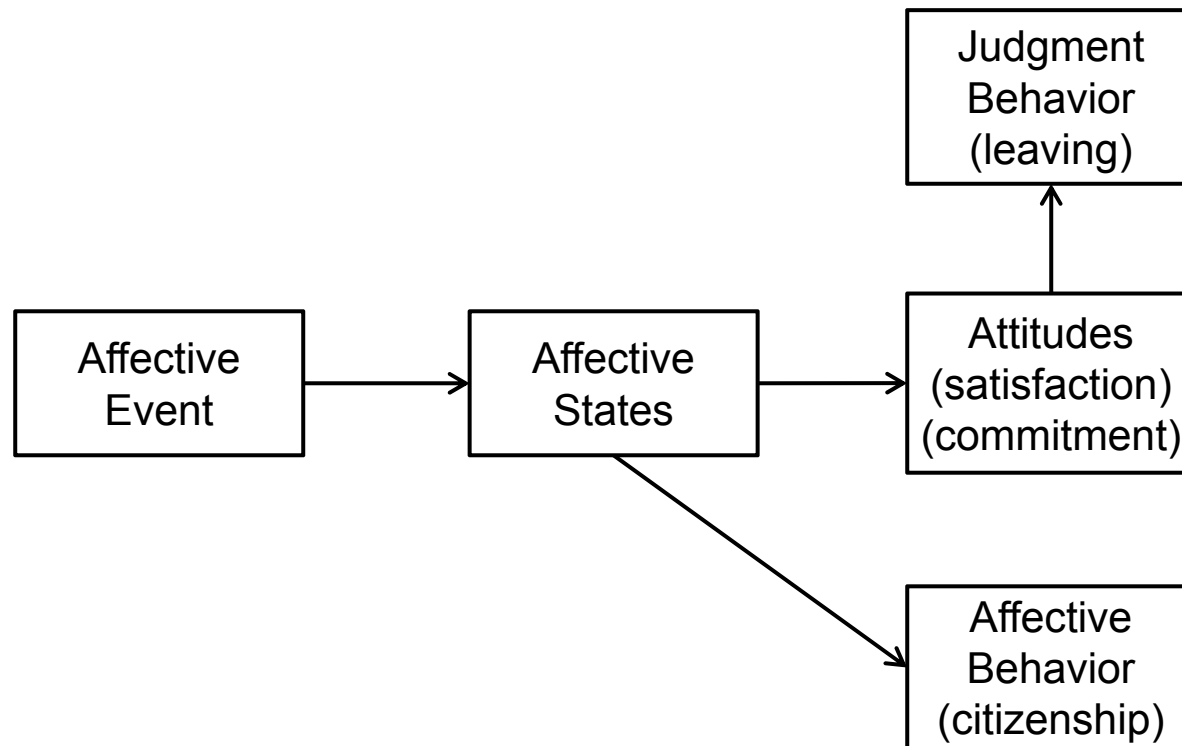
1600+
Houses

45 States
Australia, Canada
England & Ghana

Organizational Perspective

- Affective Events Theory
 - Affective process through which behavior is influenced

Affective Events Theory



Ecological Perspective

- P-E fit

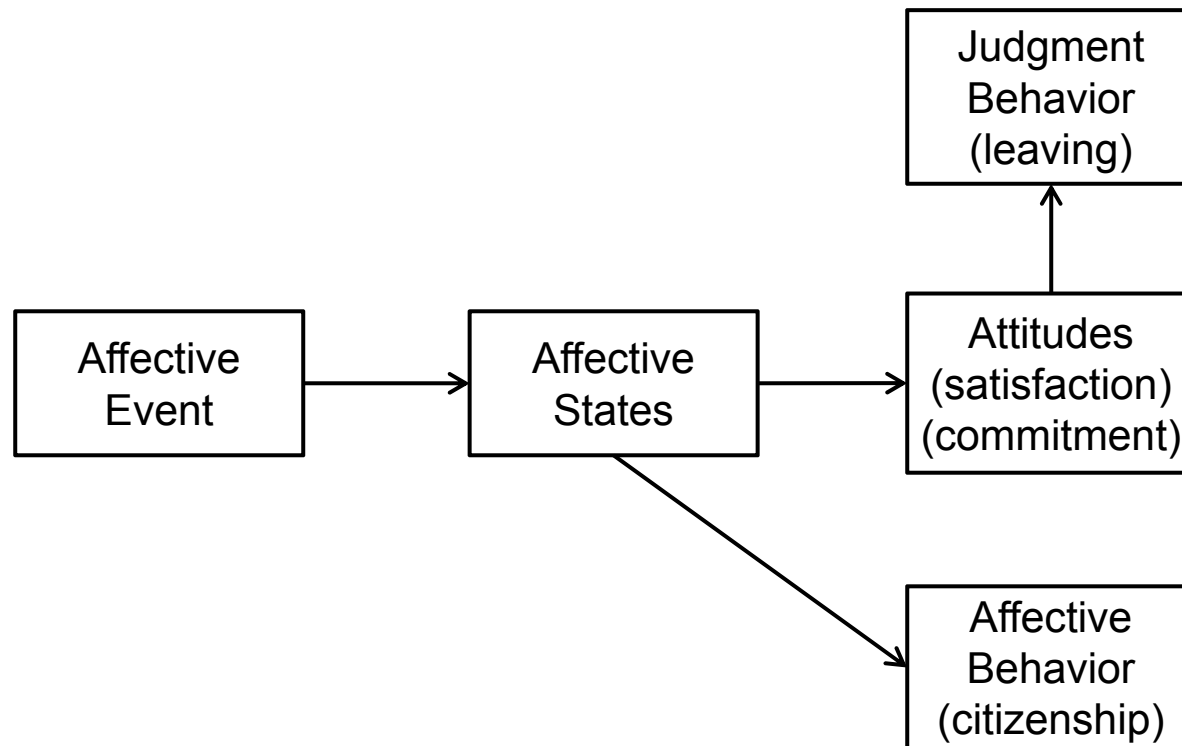
(French & Kahn, 1962; Rappaport, 1977)

- Components

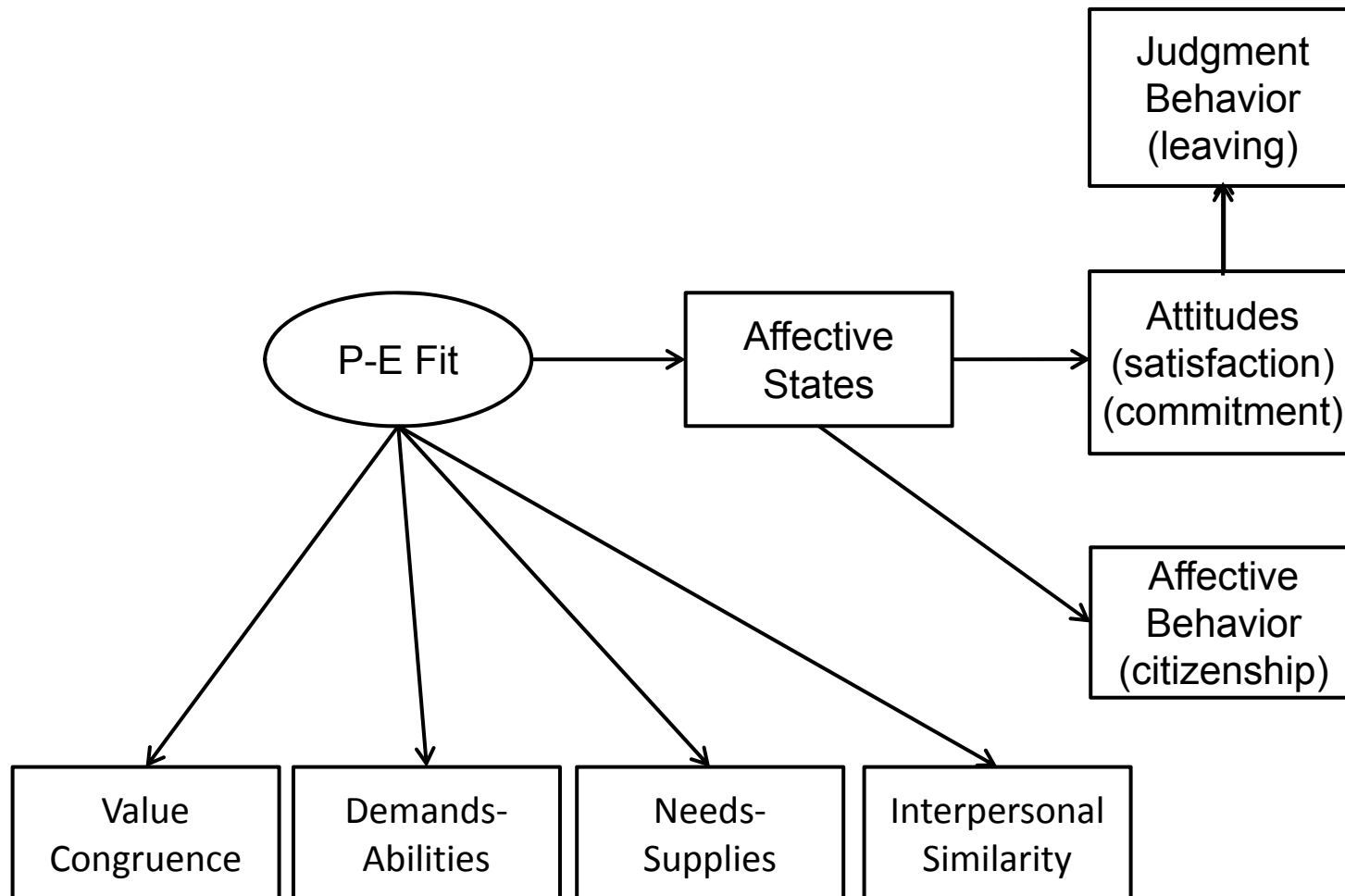
(Muchinsky & Monahan, 1987)

- Value Congruence
 - Needs-Supplies
 - Demands-Abilities
 - Interpersonal Similarity

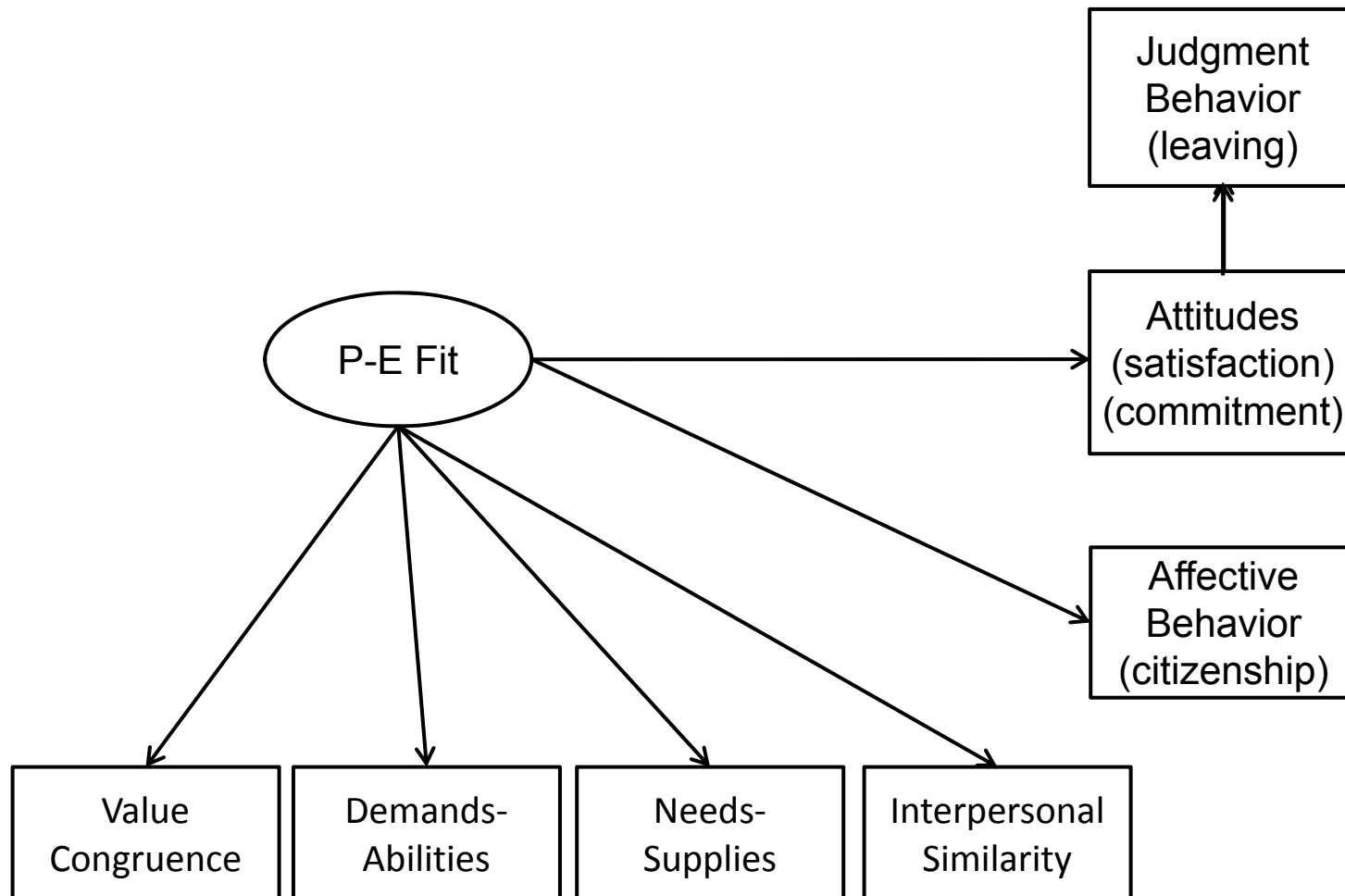
Affective Events Theory



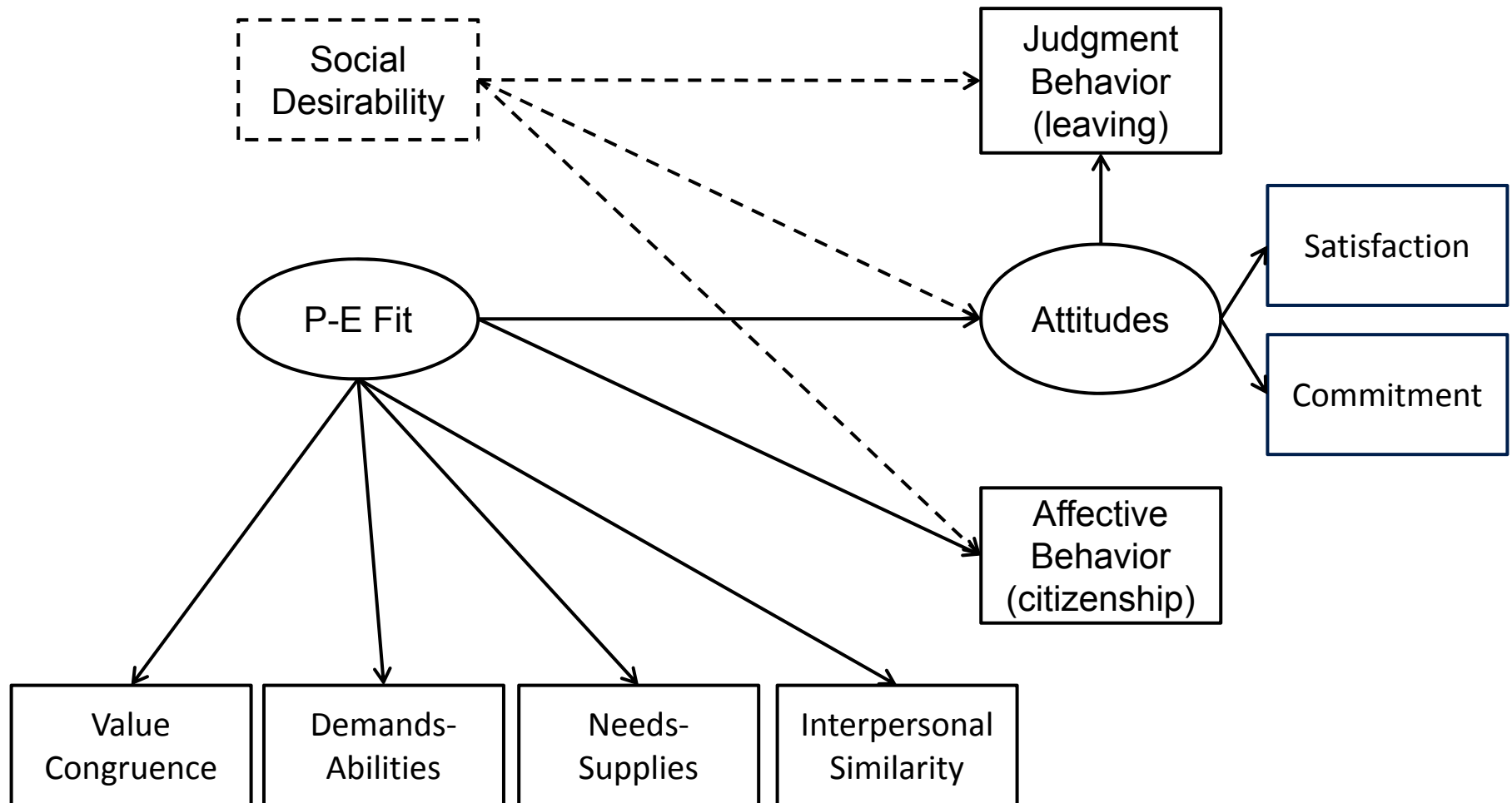
Affective Fit Model



Affective Fit Model



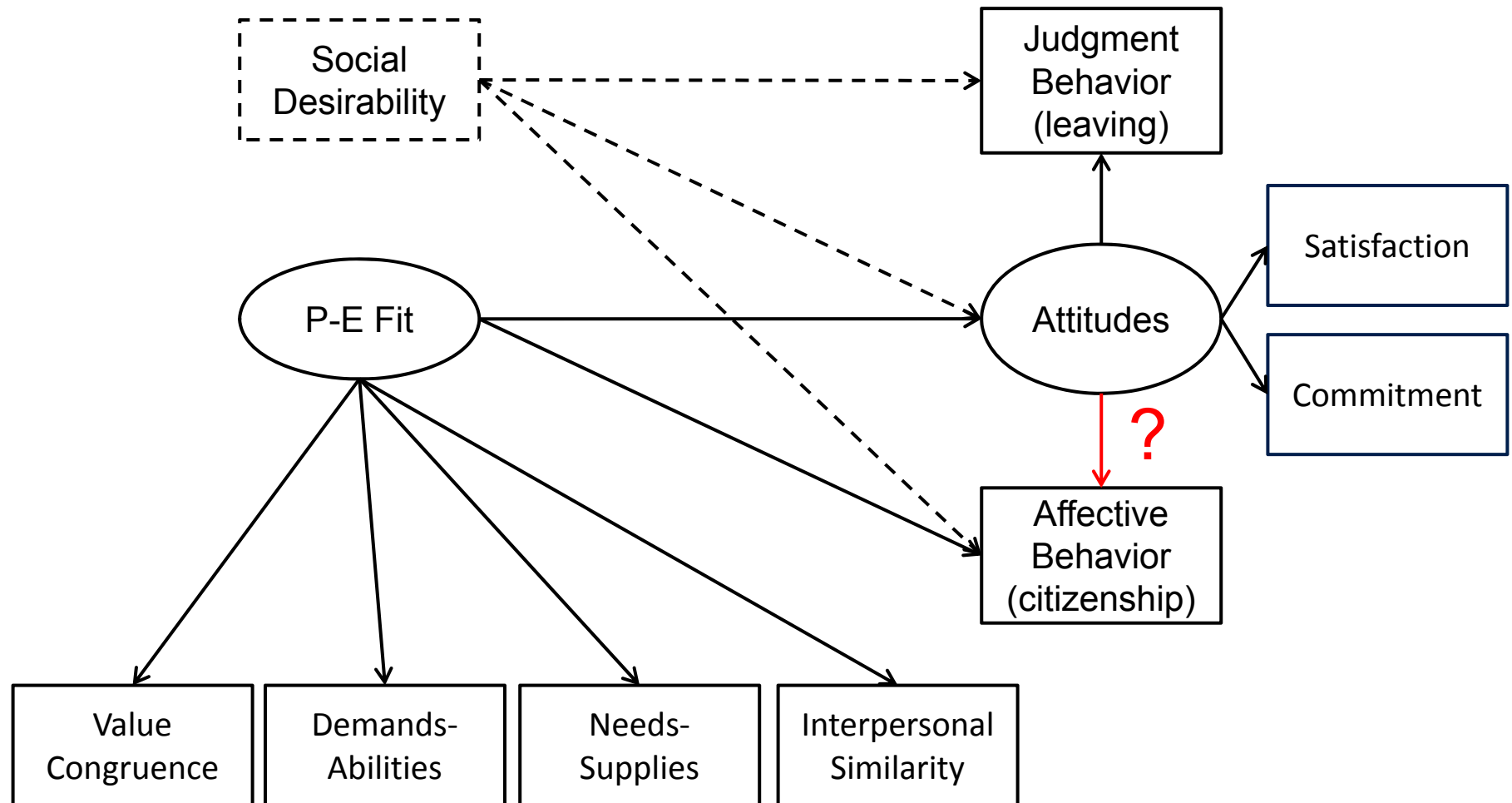
Affective Fit Model



Alternative Affective Model

- **Morale** Organ (1997)
 - Attitudes influence citizenship behavior
- **Cognitive Dissonance**
 - Positive attitudes congruent w/ supportive behavior

Alternative Affective Model



Study Design

- Cross-sectional national survey
 - Mutual-help addiction recovery homes
- Random sample by house
 - 95% of houses agreed
 - $n_j = 82$
 - 48% individual response rate
 - $n_i = 296$

Sample Characteristics

- Mostly Male
- Mostly White
- Middle Aged
- About a Year of Residence

Assessment of Dependency

Observed Variables	Null ICC
Social Desirability	0.02
Citizenship Behavior	0.04
Commitment	0.11
Satisfaction	0.07
Tenure	0.14
Interpersonal Similarity	0.08
Value Congruence	0.03
Demands-Abilities	0.09
Needs-Supplies Fit	0.05

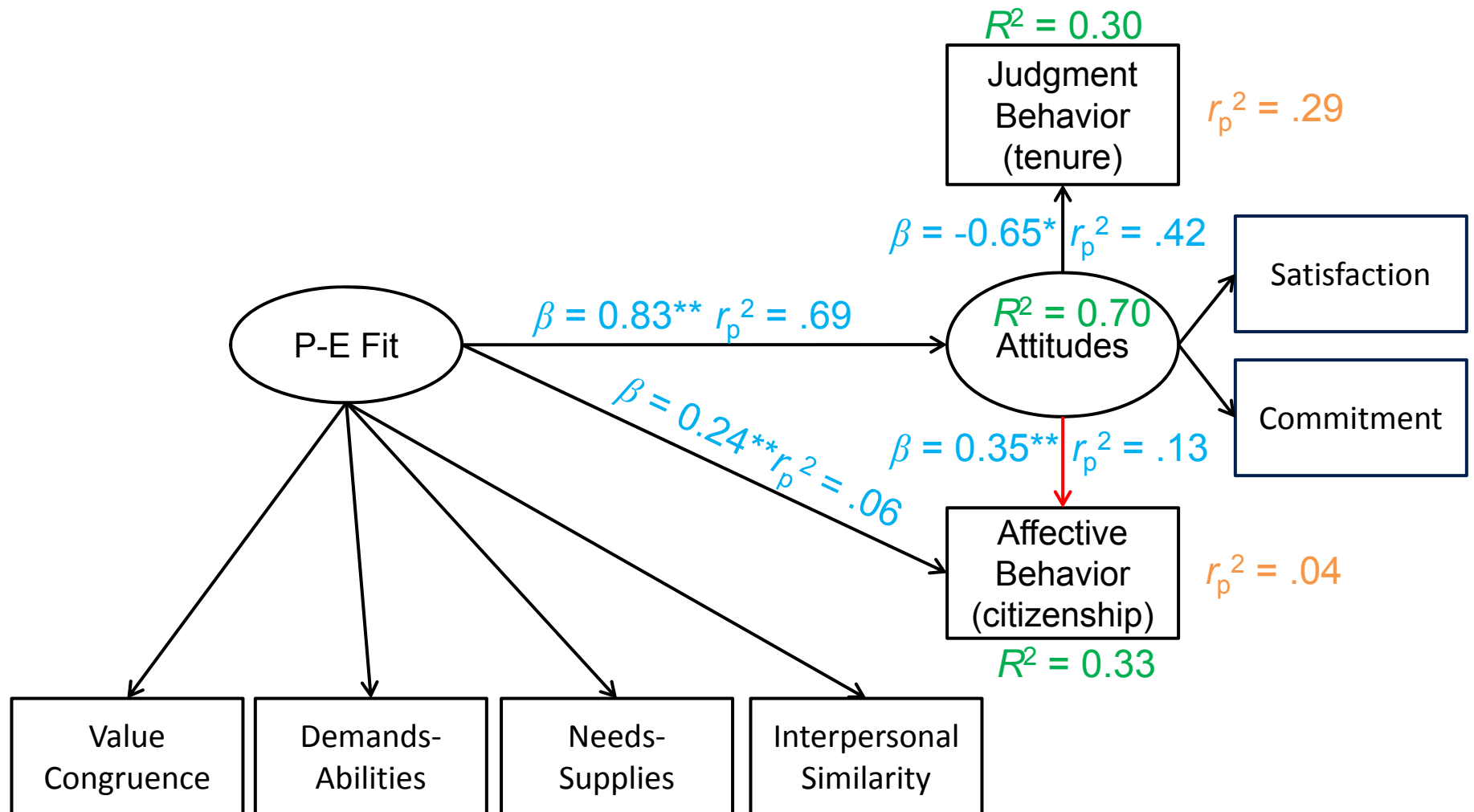
MSEM Approach

- Multilevel SEM in *Mplus*
 - 2 Competing models
- Fit Criteria (Hu & Bentler, 1999)
 - CFI \approx 0.95
 - RMSEA \approx 0.06
 - SRMR \approx 0.08

Assessment of Model Fit

	χ^2_{SB}	<i>df</i>	CFI	RMSEA	RMSEA [LB, UB]	SRMR
Measurement	17.02*	8	0.99	0.06	0.00, 0.15 ¹	0.03
AET Model	36.31*	22	0.99	0.05	0.02, 0.09	0.03
Adapted Model ¹	30.57	21	0.99	0.04	0.02, 0.08	0.03
¹ $\Delta\chi^2_{SB}(1) = 4.16, p = 0.04$						

Assessment of Model Parameters

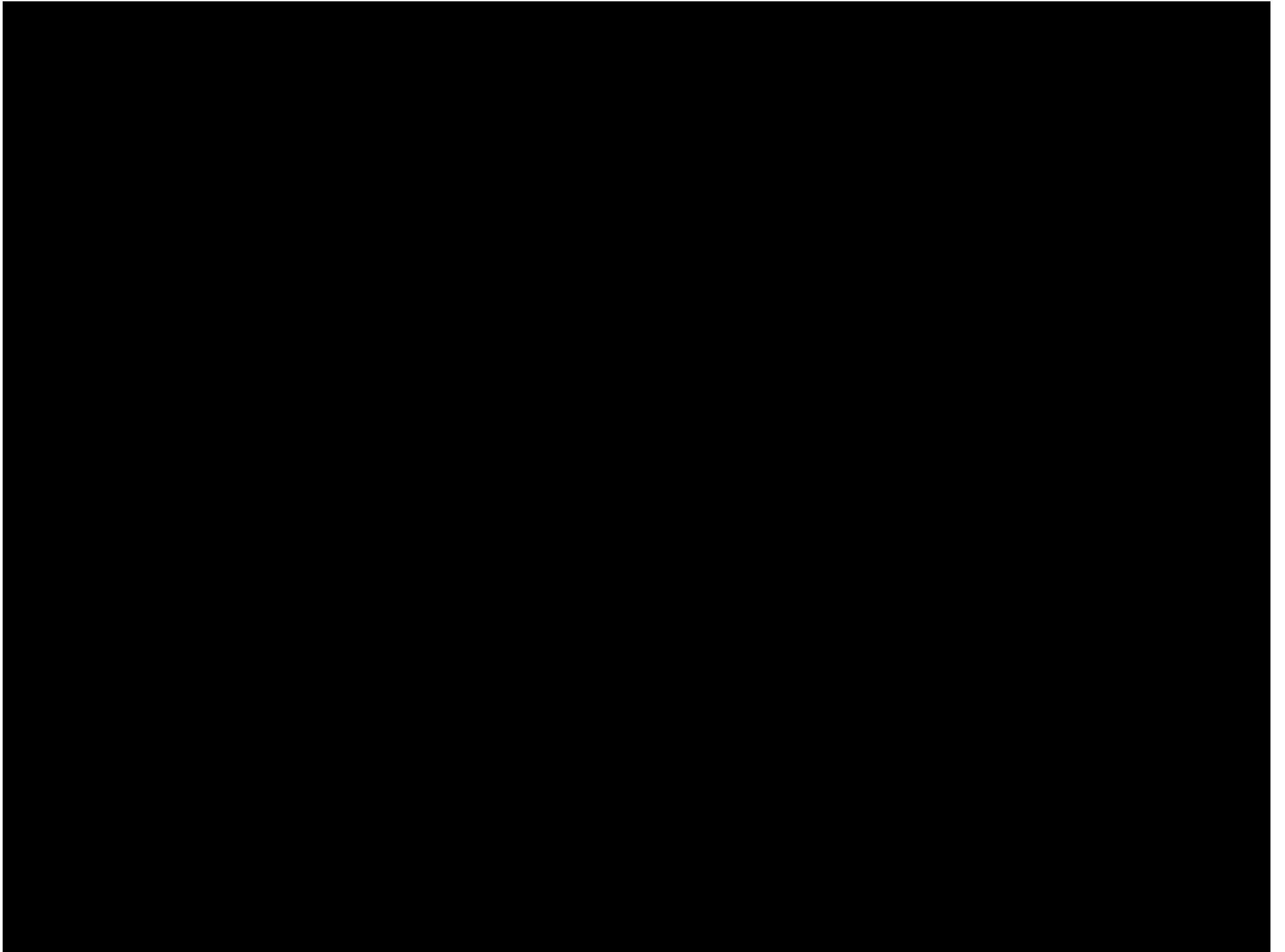


Limitations

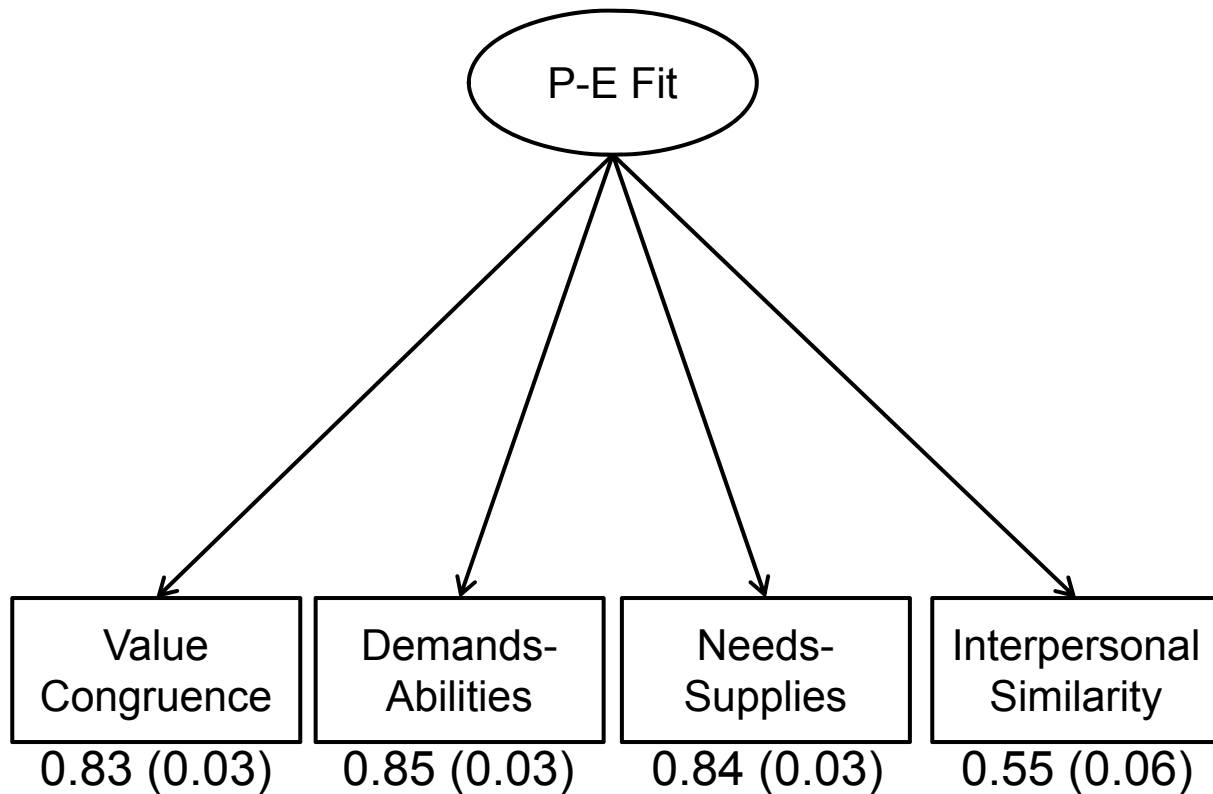
- Self-report
 - Self-reports of citizenship are accurate
(Khalid & Ali, 2005)
 - Controlled for social desirability
- Cross-sectional design
 - Directionality & causation not certain
- Affective experience assumed
 - Empirical support but cannot confirm

Conclusions

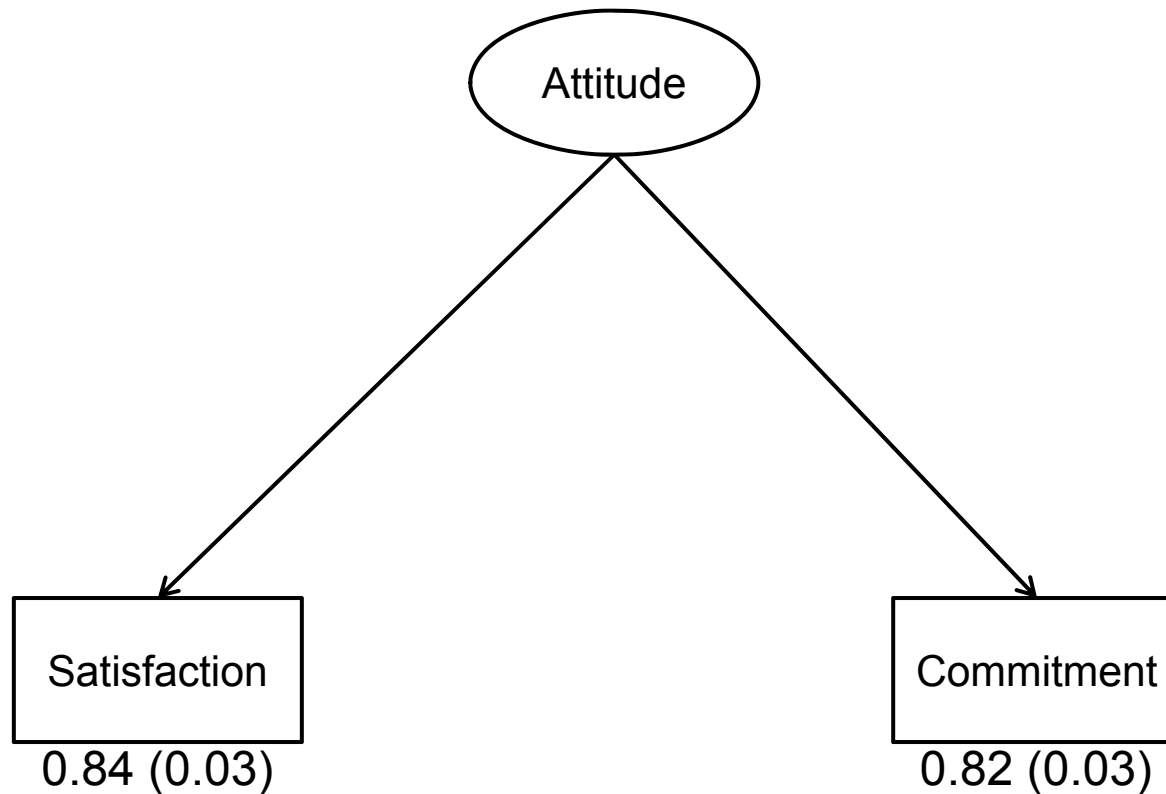
- Organic communities
 - AET useful for engagement & disengagement
- Some modifications may be needed
 - Moral model
 - Cognitive dissonance
- Experiences of fit
 - Engagement
 - Disengagement



Measurement Model



Measurement Model



Citizenship Measure

- Helping subscale of extra-role behavior measure
(Van Dyne and LePine, 1998)
 - I help orient new residents to this Oxford House

Subjective P-E Fit Measures

- Multidimensional P-E fit
 - Cable & DeRue (2002)
 - Value Congruence
 - My personal values match my Oxford House's values and culture
 - Needs-Supplies Fit
 - There is a good fit between what my Oxford House offers me and what I am looking for in a recovery home
 - Demands-Abilities Fit
 - The match is very good between the demands of my Oxford House and my personal skills

Subjective P-E Fit Measures

- Interpersonal similarity
 - General Environment Fit Scale (GEFS)
(Beasley et al., 2012)
 - The other residents of my Oxford House are similar to me

Affective Commitment Measure

- Affective attachment
- Affective commitment subscale
(Meyer & Allen, 1997)
 - I really feel as if this Oxford House's problems are my own

Satisfaction Measure

- Subscale from the Michigan Organizational Assessment Questionnaire
(Cammann et al., 1983)
 - All in all, I am satisfied with my Oxford House

Social Desirability Measure

- Marlowe-Crowne Version C

(Reynolds, 1982)

- No matter who I am talking to, I am always a good listener

Measure Type

Observed Variables	#	Type	Min	Max
Social Desirability	13	T/F	0=False	1=True
Citizenship Behavior	7	Likert	1=Strongly Disagree	7=Strongly Disagree
Affective Commitment	6	Likert	1=Strongly Disagree	7=Strongly Disagree
Satisfaction	3	Likert	1=Strongly Disagree	7=Strongly Disagree
Interpersonal Similarity	3	Likert	1=Strongly Disagree	5=Strongly Disagree
Value Congruence	3	Likert	1=Strongly Disagree	5=Strongly Disagree
Demands-Abilities	3	Likert	1=Strongly Disagree	5=Strongly Disagree
Needs-Supplies Fit	3	Likert	1=Strongly Disagree	5=Strongly Disagree

Internal Consistency

Measures	ω_w
Citizenship	0.74
Satisfaction	0.77
Demands-Abilities Fit	0.78
Needs-Supplies Fit	0.79
Interpersonal Similarity	0.79
Social Desirability	0.88
Value Congruence	0.90
Affective Commitment	0.91

Summary of Results

- Good fit for adapted model
 - About 1/3 of citizenship behavior explained
 - Over 2/3 of mediating variables explained
- Small to large effects of P-E fit
 - Direct effects
 - Large effect on attitude
 - Small effect on citizenship
 - Indirect Effects
 - Large indirect on tenure through attitude
 - Small indirect effect on citizenship through attitude
- Medium to large effects of attitude
 - Large effect of attitude on tenure
 - Medium effect of attitude on citizenship

Preliminary Analyses

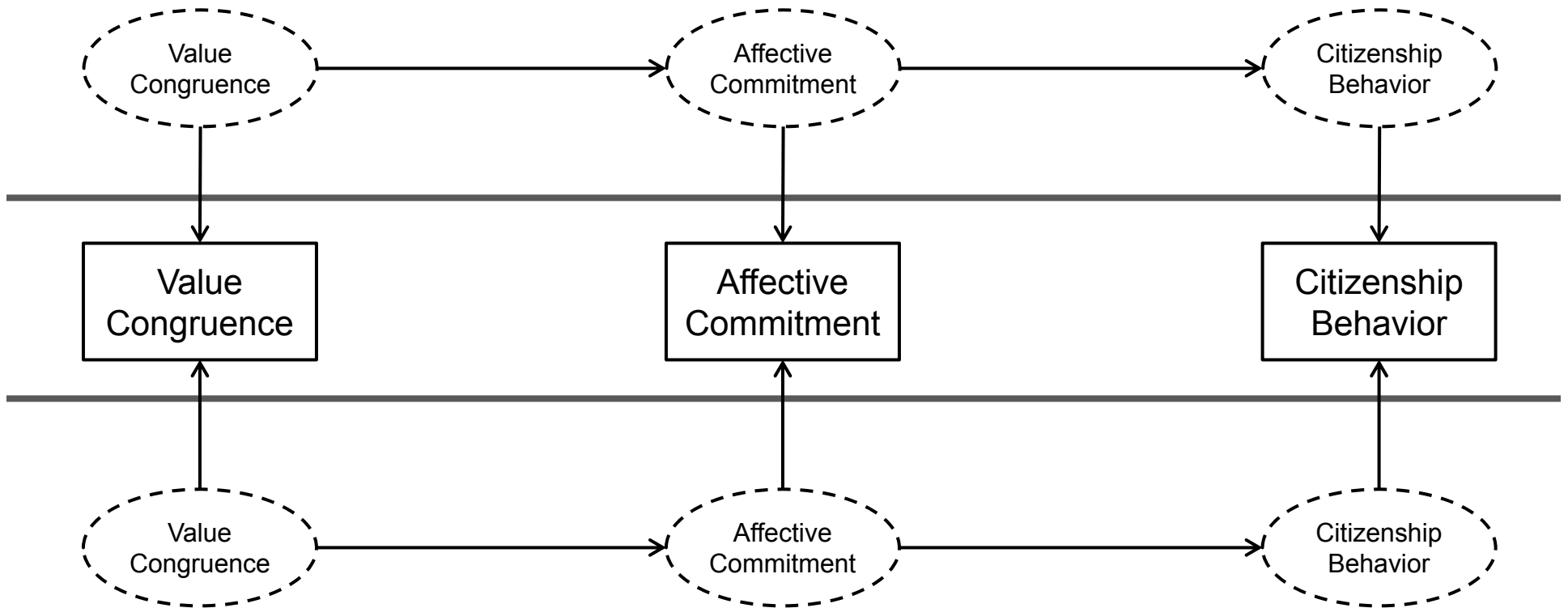
- 2.1% missing data
 - Full Information Maximum Likelihood (FIML)
- Assumption of normality violated
 - MLR estimator

Between-Group Variance

Observed Variables	Null ICC
Needs-Supplies Fit	0.01
Citizenship	0.02
Value Congruence	0.03
Satisfaction	0.04
Affective Commitment	0.05
Demands-Abilities Fit	0.07
Interpersonal Similarity	0.07
Social Desirability	0.08

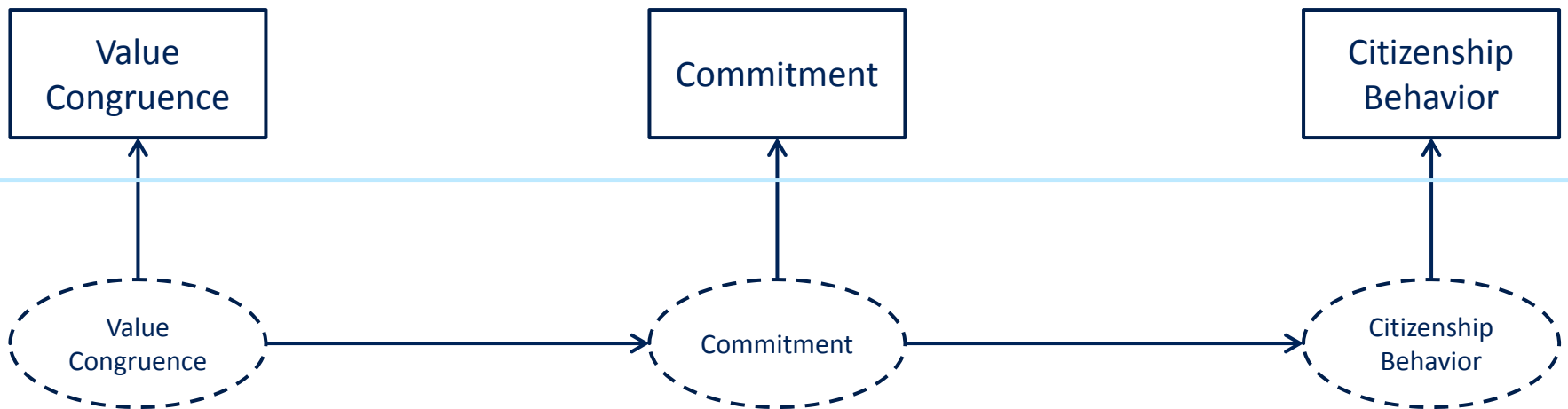
Multilevel SEM

Between-Group Variance



Within-Group Variance

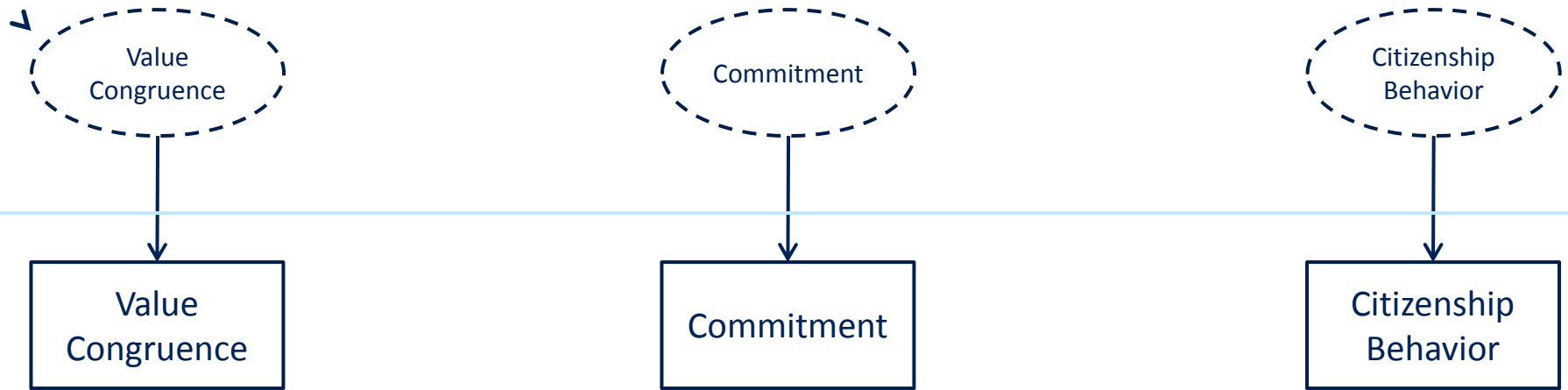
3. Theoretical w/i Model



Within Model

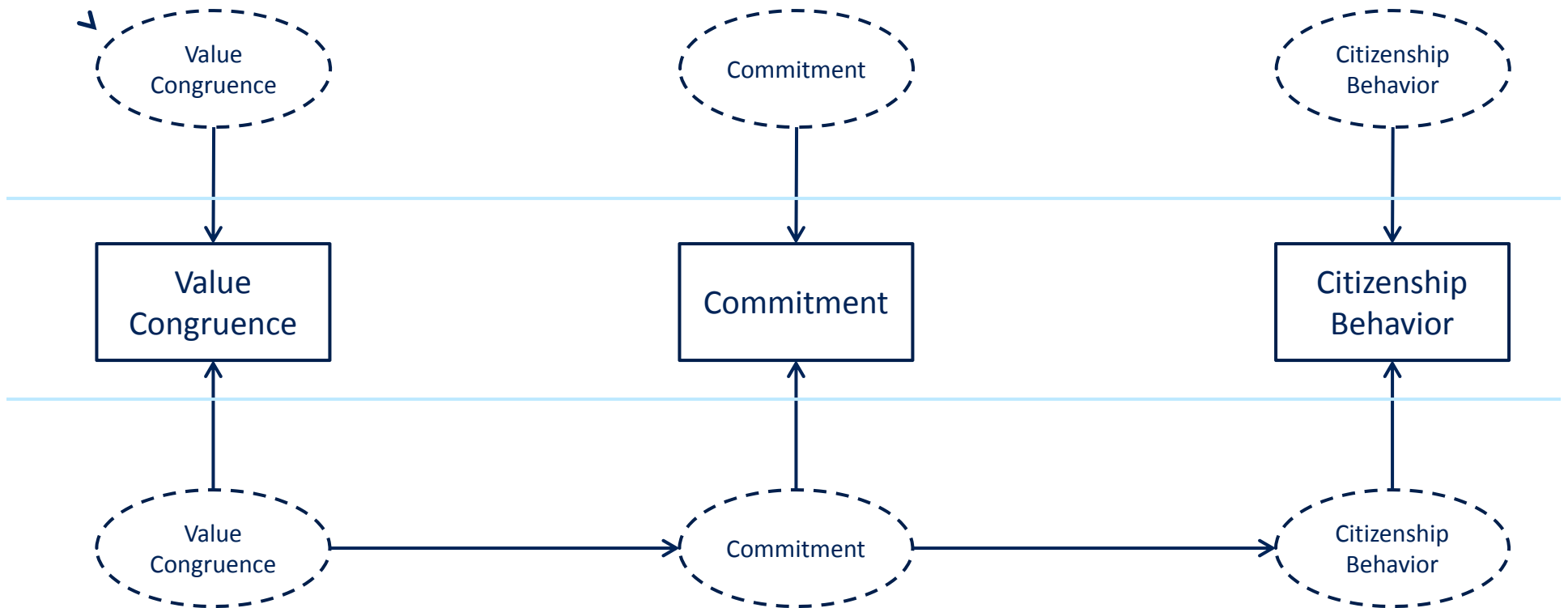
4. Theoretical b/t Model

Between Model



3. Theoretical Combined Model

Between Model

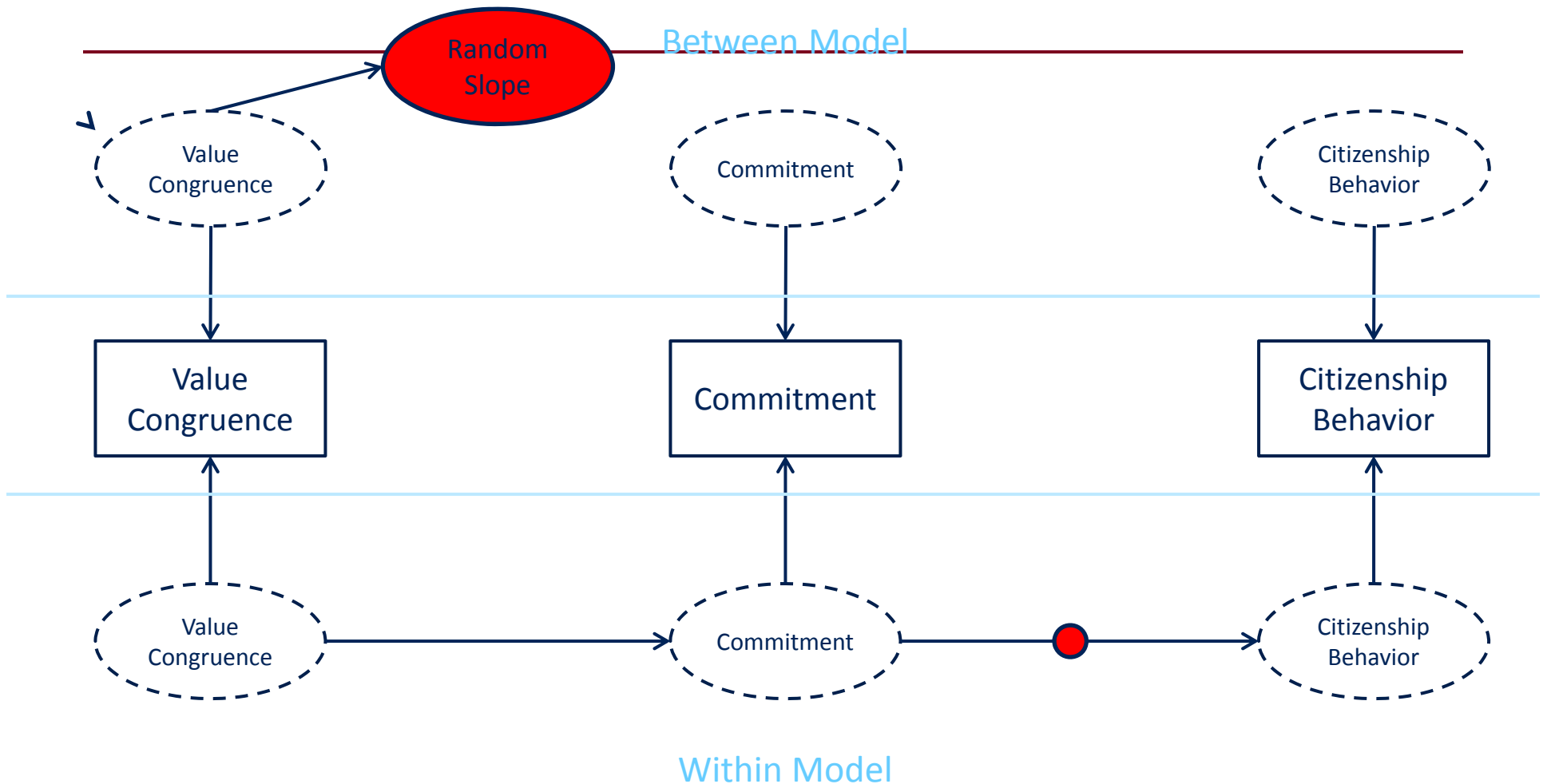


Within Model

Preliminary Analyses

- Within-Group Correlations
 - Range, 0.15 - 0.70
 - Average, 0.44
- Between-Group Correlations
 - Range, 0.09 - 0.72
 - Average, 0.35

6. Random Coefficients



6. Random Coefficients

Loglikelihood

H0 Value	-1074.838
H0 Scaling Correction Factor	0.9723

for MLR

Information Criteria

Akaike (AIC)	2175.675
Bayesian (BIC)	2223.249
Sample-Size Adjusted BIC	2182.024

6. Random Coefficients

Two-Tailed

	Estimate	S.E.	Est./S.E.	P-Value
Between Level				
S1 ON				
OHFITVC	0.327	0.112	2.905	0.004
Intercepts				
S1	1.099	0.454	2.421	0.015

Unresolved Issues

- Sample & Power Estimation
- Model Fit Approaches
- Model Fit Statistics
- Balancing of Cluster Sizes
- 3+ Levels

Unresolved Issues - Saturation

- “In the MODEL command, the following variable is a y-variable (endogenous) on the BETWEEN level and an x-variable (exogenous) on the WITHIN level.
- This variable will be treated as a y-variable on both levels: OHGEFIS”
- Any discrepancy is treated as a y-variable on both levels

Other Topics

- Convergence Problems
- Power Analysis & Sample Size
- Alternative Estimators (MLR default)
 - MUMML, Bayes
- Random Starting Seeds
- Interval Estimates
 - Bayes
 - Monte Carlo

Time Allocation

- 2 minute opening (1-2 slides)
- 1 minute logistics – hold questions etc. (1 slide)
- 1 minutes outline (1 slide)
- 7 minute background (7 slides)
- 7 minutes methods (7 slides)
- 10 minutes results (10 slides)
- 2 minutes limitations (1 slide)
- 5 minutes future directions w/ theory (3 slides)
- 2 minutes wrap-up review (1 slide)
- 15 minutes Q&A

Q&A Tips

- It is generally easier to let someone else chair/manage the session
- Listen very carefully to the questions, taking quick notes if needed.
- If you really don't understand a question, ask the questioner to reformulate it.
- If a question is not completely clear to you, restate what you think was asked and answer your restated question.
- You can also ask, after you've finished your reply, if you've adequately answered. (Don't do this for every question, however, or if you have nothing more to say.)
- If you understand the question and don't know the answer, say so.
- Answer each question as fully as possible, but don't go on for five minutes.
- If there is a lull in the questioning and a further thought comes to you on a previous question, add your additional thought.
- Do not praise or assess the quality of the questions. (i.e. say, "What a great question!") If you do it in response to every question, you'll seem foolish, if you praise only some you risk insulting those whose questions you don't praise.
- If there's hostility in a question asked, ignore the hostility and answer the question.

Talk Questions

- Review potential questions to prepare for with Lenny
- Centering
- Latent vs Non-Latent Meaning & Decision
- Omega vs. Alpha
- How effect sizes were calculated
- Why MSEM instead of MLM?
- Is mutual-help always helpful?
- How will I follow longitudinally?
- How will I integrate longitudinal into MSEM?
- What about parameter coefficients?
- Why social desirability and why Marlowe Crown?
- What other mutual-help groups would I study?
- Why close on RMSEA & SRMR?
- What about outliers?

Talk Questions

- Setting-level predictors I'm interested in
- Linearity between satisfaction and citizenship
- How I tried to increase response rates
- Implications of representativeness for the model
 - Less women
 - Less African American
- How Affective Events Theory and model can be applied to the broader community
- Is some of this related to sense of community—other comm psy concepts?
- Confidence intervals for parameters
- Sufficient power for model?

Organizational Perspective

- Organizational Citizenship Behavior

(Organ, Podsakoff, & MacKenzi, 2006)

- Sportsmanship
- Organizational loyalty
- Organizational compliance
- Individual initiative
- Civic virtue
- Self-development
- Helping

Enhancing Response Rates

- Support letter from Paul Malloy
- Briefer surveys
- Compensation rate
- Local reminders
- 2nd copy for non-respondents
- Non-conditional compensation
- (Edwards et al., 2002)

Concerns

- No 2nd level constructs or paths in model
- Segregated model fit instead of saturation
- Conceptual instead of theoretical
 - Integrate theory in discussion
 - Remind Megan and others to look for this and methods
- Not sure how much it really advances the field
- No longitudinal modeling and limited knowledge of longitudinal MLM
- Omega total instead of hierarchical
- Why MSEM over adjusting standard error or segregated
 - Biased parameter estimates?
- Tenure & Personality papers
- Not knowing how to prep graduate courses
- Calculation of effects—direct, indirect, total
- Understanding of specification errors, biases, etc
 - Design bias – measurement
- Not sure how much it really advances the field
- No longitudinal modeling and limited knowledge of longitudinal MLM
- Tenure & Personality papers
- Not knowing how to prep graduate courses

Randomization Check

- Similarities to national data
 - Similar age
 - Similar regions of the U.S.
- Differences from national data
 - More women
 - More Euro-American
 - In recovery homes longer

Representativeness

Demographics	Sample	SD	National	<i>t</i>	<i>df</i>	<i>p</i>
Age	39.56	12.01	36.20	1.49	286	0.14
Meetings/week	3.78	2.09	5.10	-10.49	278	<0.001
Months of sobriety	17.39	19.34	14.50	2.52	284	0.01
Months of residency	13.01	18.13	10.10	2.73	288	0.007

Representativeness

Demographics	Sample	National	χ^2	df	p
Men	58.98% (174)	74.55% (9494)			
Women	41.01% (121)	25.45% (3241)	37.68	1	<0.001
Men's Houses	60.98% (50)	73.95% (1192)			
Women's Houses	39.02% (32)	26.05% (420)	7.17	1	0.007
White	70.99% (208)	56%	26.72	1	<0.001
Unemployed	19.80% (58)	8%	55.39	1	<0.001
Never Married	54.08% (159)	45%			
Separated	12.59% (37)	18%			
Divorced	27.55% (81)	33%			
Married	5.78% (17)	4%	40.48	3	0.002

Representativeness

Region	Sample	National	χ^2	df	p
Northeast	12.05% (10)	11.93% (169)			
Midwest	10.84% (9)	15.38% (218)			
South	46.99% (39)	39.31% (557)			
West	30.12% (25)	33.80% (473)	2.79	3	0.43

Descriptive Statistics

Observed Variables	<i>n</i>	Min	Max	Mean	<i>SD</i>	<i>SE</i>
Social Desirability	292	0	13	6.67	3.23	0.19
Citizenship Behavior	291	2	7	5.86	0.96	0.06
Commitment	292	2	7	5.26	1.10	0.06
Satisfaction	293	2	7	6.14	1.01	0.06
Interpersonal Similarity	291	1	5	3.42	0.96	0.06
Value Congruence	291	1	5	3.88	0.76	0.04
Demands-Abilities	293	1	5	3.96	0.80	0.05
Needs-Supplies Fit	293	1	5	4.01	0.70	0.04

Normality

Observed Variables	Skew	SE	STD	Kurtosis	SE	STD
		Skew	Skew		Kurtosis	Kurtosis
Social Desirability	0.12	0.14	0.86	-0.82	0.28	-2.93
Citizenship Behavior	-0.77	0.14	-5.50	0.27	0.29	0.93
Commitment	-0.34	0.14	-2.43	-0.34	0.28	-1.21
Satisfaction	-1.39	0.14	-9.93	1.64	0.28	5.86
Interpersonal Similarity	-0.13	0.14	-0.93	-0.59	0.29	-2.03
Value Congruence	-0.25	0.14	1.79	-0.33	0.29	1.14
Demands-Abilities	0.63	0.14	4.50	0.32	0.28	1.14
Needs-Supplies Fit	-0.32	0.14	-2.29	-0.03	0.28	-0.11
Social Desirability	0.12	0.14	0.86	-0.82	0.28	-2.93

Initial w/i Correlations

Latent Components	SD	CB	Com	Sat	IS	VC	DA	C
Social Desirability	1							
Citizenship Behavior	0.27	1						
Commitment	0.22	0.44	1					
Satisfaction	0.28	0.41	0.67	1				
Interpersonal Similarity	0.16	0.31	0.36	0.36	1			
Value Congruence	0.16	0.36	0.58	0.56	0.46	1		
Demands-Abilities	0.18	0.42	0.58	0.60	0.40	0.66	1	
Needs-Supplies Fit	0.14	0.42	0.53	0.53	0.45	0.64	0.69	1

Initial b/t Correlations

Latent Components	SD	CB	Com	Sat	IS	VC	DA	C
Social Desirability	1							
Citizenship Behavior	-0.13	1						
Commitment	-0.07	0.95	1					
Satisfaction	0.14	0.77	0.90	1				
Interpersonal Similarity	-0.18	0.74	0.59	0.23	1			
Value Congruence	0.06	0.96	0.95	0.84	0.60	1		
Demands-Abilities	-0.17	0.40	0.36	0.27	0.02	0.49	1	
Needs-Supplies Fit	0.27	0.86	0.85	0.74	0.53	0.94	0.58	1

Final w/i Correlations

Latent Components	SD	CB	Com	Sat	IS	VC	DA	C
Social Desirability	1							
Citizenship Behavior	0.27	1						
Commitment	0.22	0.45	1					
Satisfaction	0.28	0.43	0.69	1				
Interpersonal Similarity	0.17	0.33	0.39	0.39	1			
Value Congruence	0.16	0.39	0.61	0.59	0.48	1		
Demands-Abilities	0.19	0.44	0.60	0.62	0.41	0.67	1	
Needs-Supplies Fit	0.15	0.44	0.55	0.55	0.47	0.66	0.70	1

Final b/t Correlations

Latent Components	SD	CB	Com	Sat	IS	DA	C
Social Desirability	1						
Citizenship Behavior	-0.43	1					
Commitment	-0.26	0.86	1				
Satisfaction	0.09	0.36	0.72	1			
Interpersonal Similarity	-0.28	0.60	0.25	-0.37	1		
Demands-Abilities	-0.25	-0.25	-0.24	-0.31	-0.41	1	
Needs-Supplies Fit	0.39	0.36	0.44	0.18	0.09	0.23	1

Resources

- Barbara Byrne
Structural Equation Modeling with Mplus
- Hancock & Mueller
Structural Equation Modeling: A Second Course
- Little, Bovard, & Card
Modeling Contextual Effects in Long. Studies
- Kris Preacher <http://www.quantpsy.org/pubs.htm>
- Steve Miller “Things Statistical”
<http://personalityandemotion.com/>