



THE UNIVERSITY OF TEXAS AT AUSTIN
SCHOOL OF SOCIAL WORK

Psychosocial Mechanisms of Smoking Abstinence among Smokers of Low Socioeconomic Status

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Overview

- State of tobacco use and disparities among low socioeconomic status (SES) smokers
- Explanatory model of drug use and health behavior
- Recent work testing aspects of this model among:
 - Peripartum women in relapse prevention counseling
 - Low SES smokers in cessation counseling
- Summaries and Implications

State of Tobacco Use and Disparities

- 2010 adult smoking prevalence rate, 19.3%
(CDC, 2012)
- Profound disparities in prevalence by race, gender, and especially SES.
 - “[SES] is commonly conceptualized as the social standing or class of an individual or group. It is often measured as a combination of education, income and occupation.” (APA, 2013)

State of Tobacco Use and Disparities

- Smoking prevalence rates by SES indicators, 2009

Education	Women	Men	Total
GED	44.8	53.2	49.1
Diploma	21.5	29.0	25.1
Some College	21.0	26.1	23.3
Undergraduate Degree	9.9	12.4	11.1
Graduate Degree	6.3	4.9	5.6

Poverty Status	Women	Men	Total
Below	28.7	34.2	31.1
At or Above	16.7	22.2	19.4

State of Tobacco Use and Disparities

- Thus, smoking is becoming increasingly concentrated within lower SES groups (Gilman et al., 2003)
- Lower SES is related to:
 - Higher level of nicotine dependence (Siahpush et al., 2006)
 - Smoking bans at home and work (Shopland et al., 2006)
 - Decreased likelihood of quitting (Barbeau et al., 2004; CDC, 2012; Reid, et al, 2010)

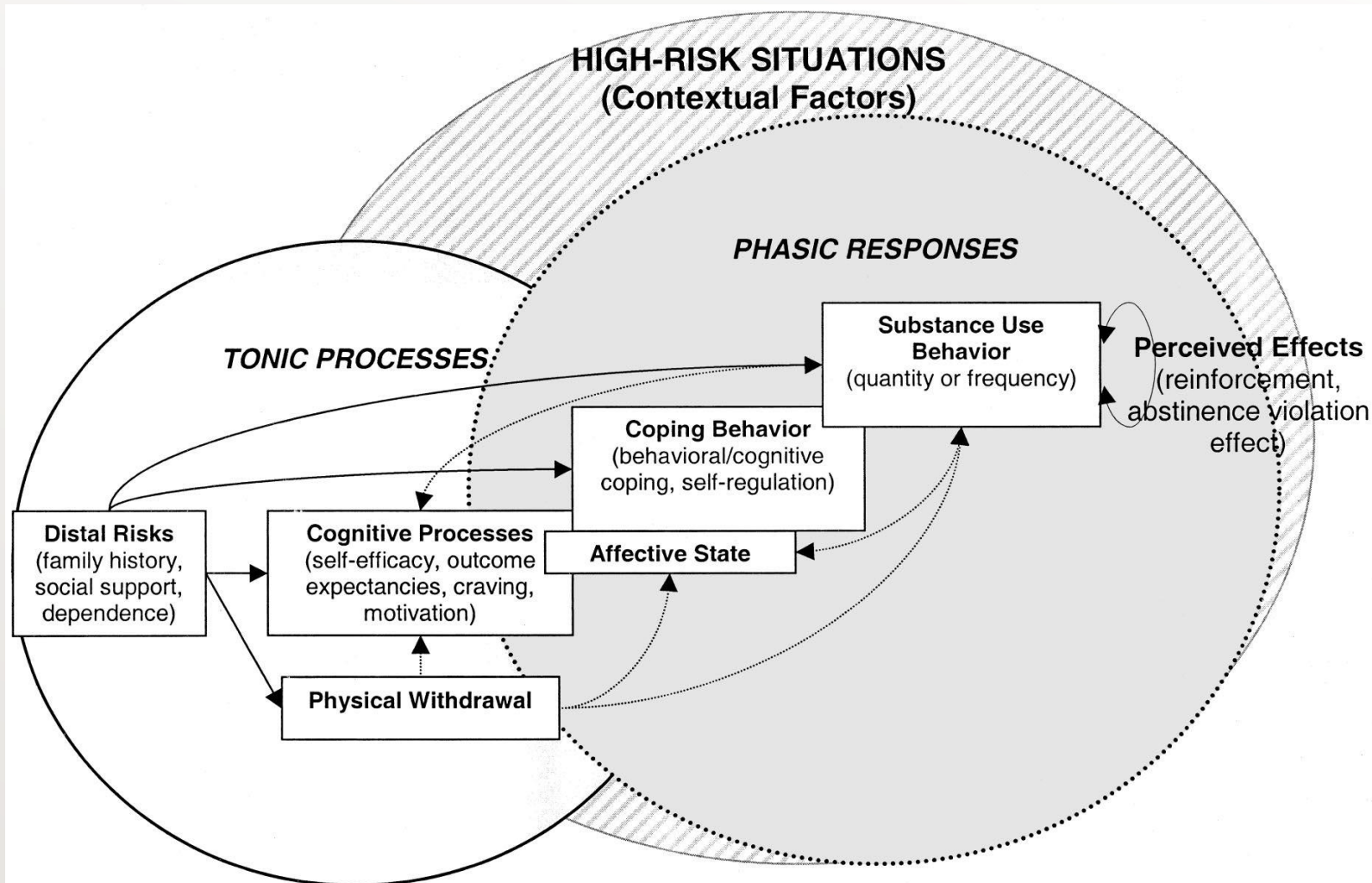
State of Tobacco Use and Disparities

- We know very little about:
 - 1) What mediates the relationship between SES and smoking cessation?
 - 2) How do multiple mechanisms of cessation come together to affect smoking among low SES smokers?

State of Tobacco Use and Disparities

- Increased knowledge in these areas may
 - Highlight potential treatment targets within this disadvantaged population
 - Improve current smoking cessation interventions
 - Ultimately lead to increased cessation success and reduce tobacco related health disparities and disease burden in low SES groups

Social-Cognitive Model of Drug Use



What mediates the relationship between SES and smoking cessation?

Study 1

MECHANISMS LINKING SES AND POST-PARTUM SMOKING RELAPSE

BUSINELLE MS, KENDZOR DE, REITZEL LR, VIDRINE JI, **CASTRO Y**, MULLEN PD, VELASQUEZ MM, COFTA-WOERPEL L, CINCIRIPINI PM, GREISINGER AJ, & WETTER DW. PATHWAYS LINKING SOCIOECONOMIC STATUS AND POSTPARTUM SMOKING RELAPSE. *ANN BEHAV MED*. 2012 OCT 20. [EPUB AHEAD OF PRINT].

Study Overview

- Data from “Project MOM” (Reitzel, et al. 2009)
 - Randomized clinical trial evaluating a treatment for reducing postpartum smoking relapse among women who quit smoking during pregnancy
 - Recruited at 30-33 weeks
 - Quit smoking during pregnancy or within 2 months prior
- Provided relapse prevention counseling
- Baseline SES and mediators, 8 weeks postpartum abstinence status

Analyses

- Structural Equation Modeling using mean and variance adjusted weighted least squares (WLSMV)
- Four models were developed based on theoretical models and tested to determine a model that would best fit the current data.
 - SES was controlled for race/ethnicity, age, partner status, # previous births
 - Relapse status was controlled for treatment group

Study Measures

- Outcome: Relapse status at 8 weeks post-partum
- Predictors: Four Latent Variables

SES

- Educational Level
- Employment Status
- Insurance Status

Negative Affect

- Positive And Negative affect Schedule, Negative Affect subscale (PANAS-NA)
- Center for Epidemiological Studies Depression Scale (CES-D)
- Perceived Stress Scale (PSS)

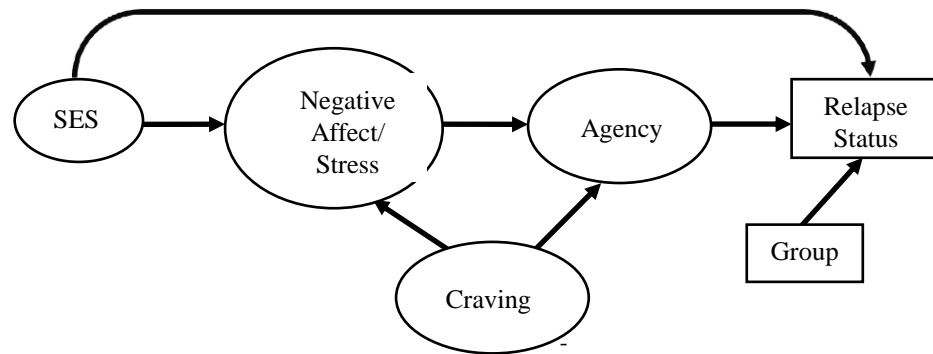
Agency

- Self-efficacy/Confidence Scale (SECS) affect/social situations
- SECS negative affect situation
- SECS habit/craving situations
- Affective Information Processing Questionnaire (AIPQ)

Craving

- Wisconsin Smoking Withdrawal Scale, Craving Subscale items:
- Urge to smoke
 - Thoughts about smoking
 - Desire to smoke
 - Focus on smoking cues

Hypothesized Models



Model 1

$$\chi^2(43, N = 251) = 54.59, p = .11$$

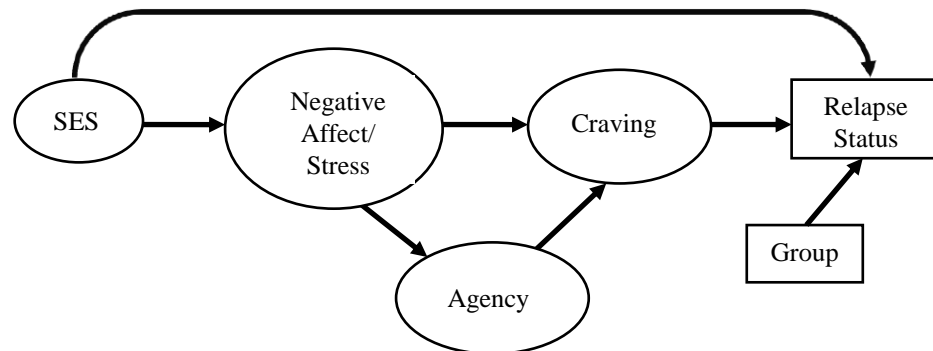
$$CFI = .959$$

$$TLI = .967$$

$$RMSEA = .033$$

$$WRMR = .83$$

$$BIC = 15520.94$$



Model 3

$$\chi^2(45, N = 251) = 53.90, p = .17$$

$$CFI = .969$$

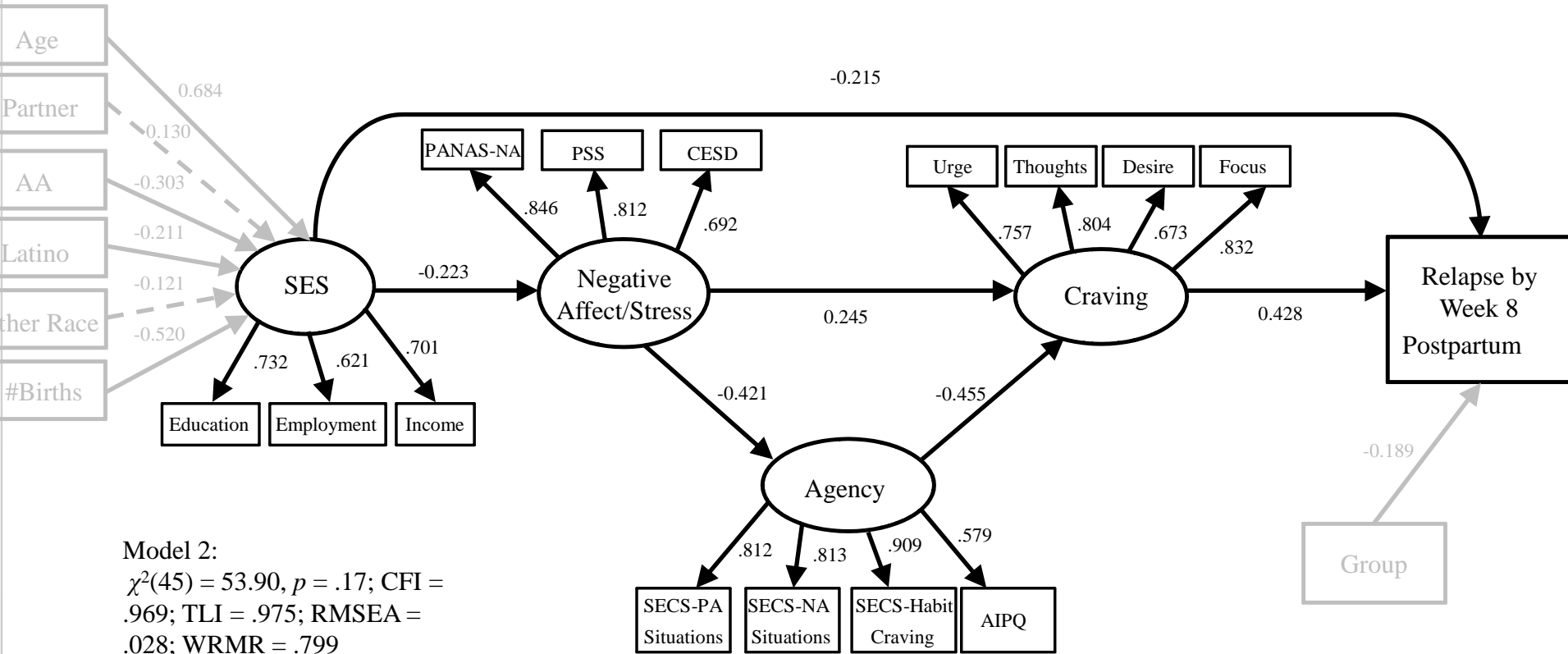
$$TLI = .975$$

$$RMSEA = .028$$

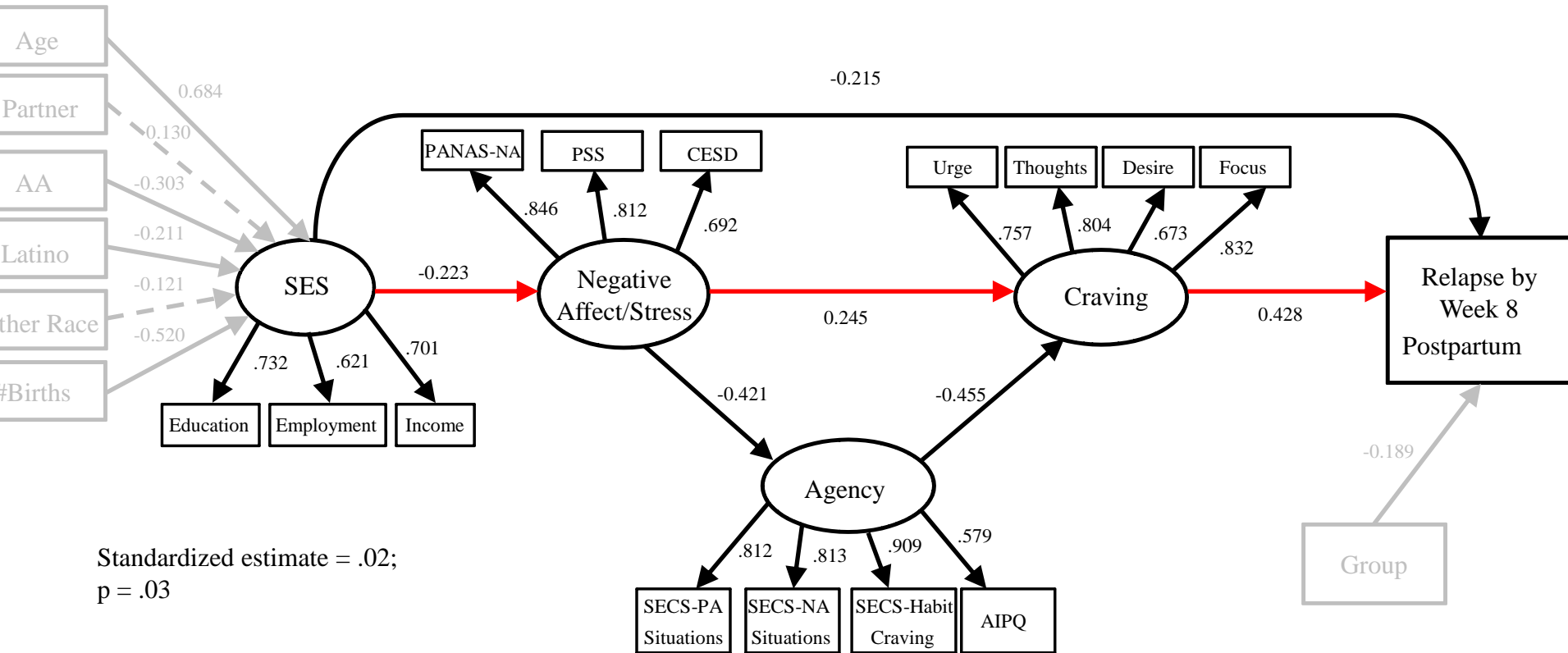
$$WRMR = .79$$

$$BIC = 15520.94$$

Results: The Final Model

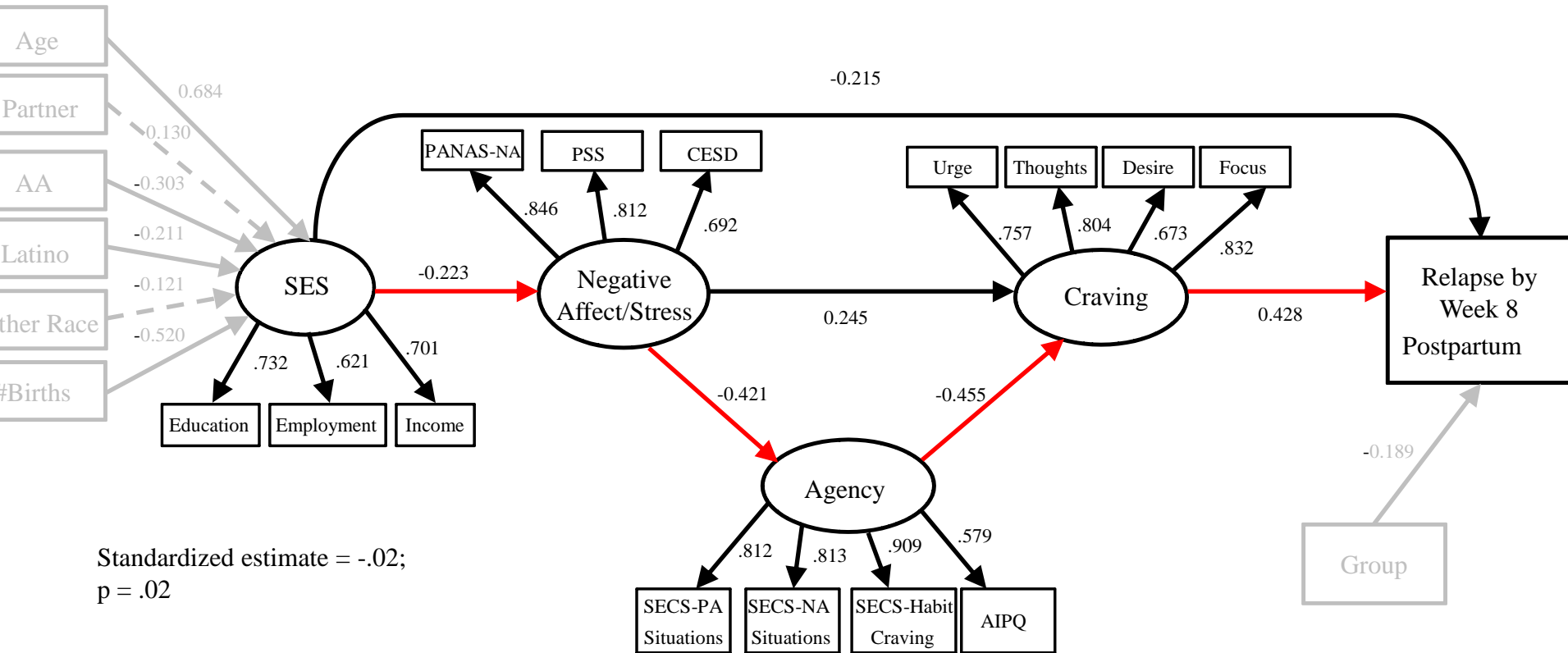


Results: The Final Model



Standardized estimate = .02;
p = .03

Results: The Final Model



Standardized estimate = -.02;
p = .02

Study 1 Summary

- Identified negative affect, agency, and craving as mediators of SES-relapse relationship
- Craving as sole direct pathway to relapse
 - Important even long after cessation
 - Craving as important treatment target in relapse prevention
- Limitations: special population, mostly cross-sectional, not a comprehensive test of model

How do multiple mechanisms of cessation come together to affect smoking among low SES smokers?

Study 2

RECIPROCAL RELATIONS AMONG MECHANISMS OF SMOKING CESSATION

CASTRO Y, CANO MA, MAZAS CA, BUSINELLE MS, CORREA-FERNANDEZ V, HEPPNER WL, & WETTER DW. A CROSS-LAGGED PANEL ANALYSIS OF FIVE INTRAPERSONAL DETERMINANTS OF SMOKING CESSATION. MANUSCRIPT IN PREPARATION.

Study Overview

- Data from Project CARE: a longitudinal cohort study of low SES smokers in treatment
- Received smoking cessation counseling and NRT
- Assessed on several psychosocial variables at baseline and follow-ups
- Data from 2-weeks pre-quit, quit day, and 1-week post-quit

Analyses

- Cross-lagged panel path analysis using WLSMV
- Initial fully-cross lagged model was tested for fit
- Paths systematically removed and each resulting model tested for fit
 - DIFFTEST for significant loss of fit
 - Most parsimonious model that fit the data.

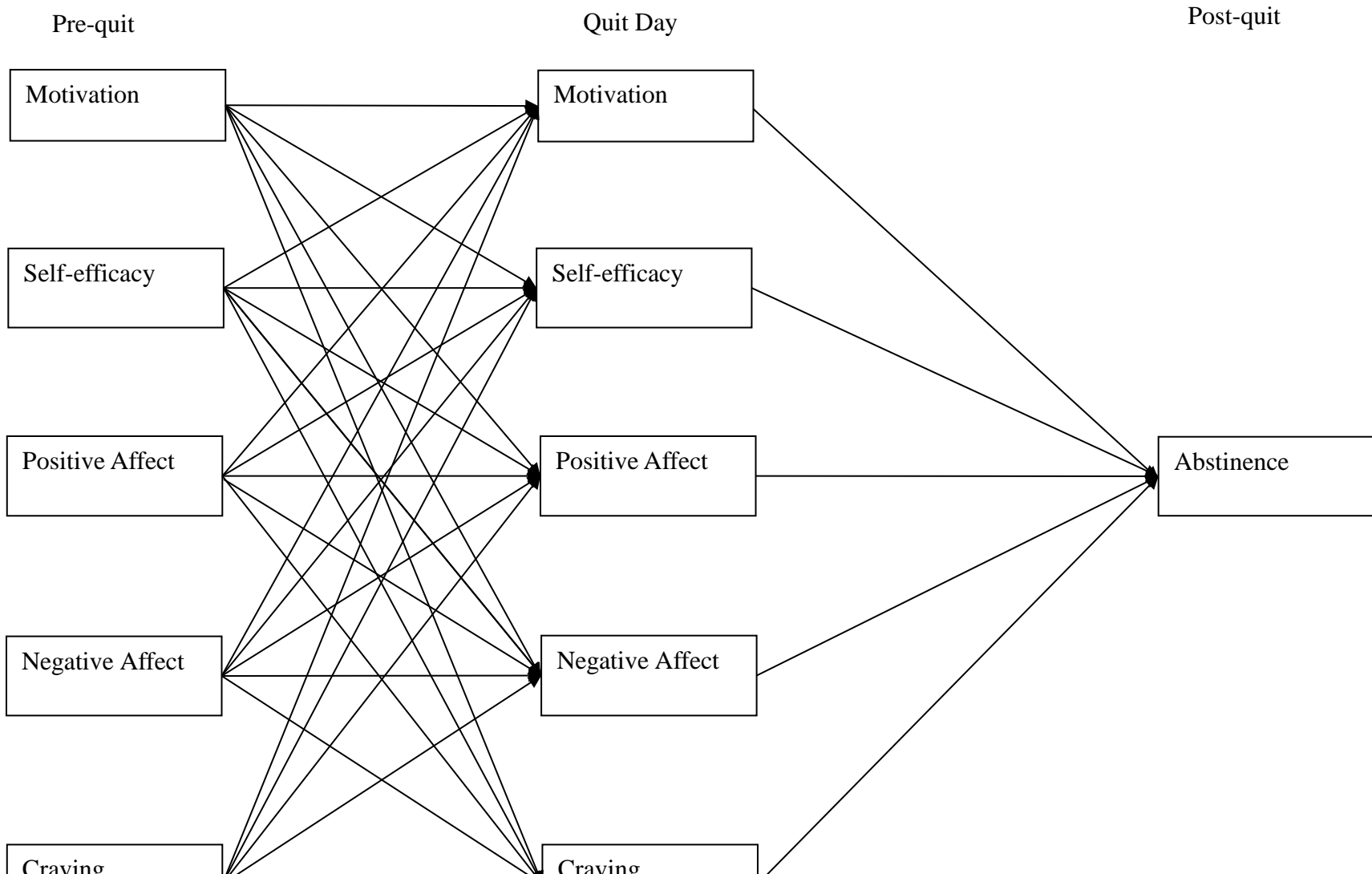
Study Measures

- Motivation—Five-item measure adapted from Heppner, et al., 2010
- Self-efficacy—SECS total score
- Positive Affect—PANAS Positive Affect subscale
- Negative Affect—PANAS Negative Affect subscale
- Craving—WSWS Craving subscale

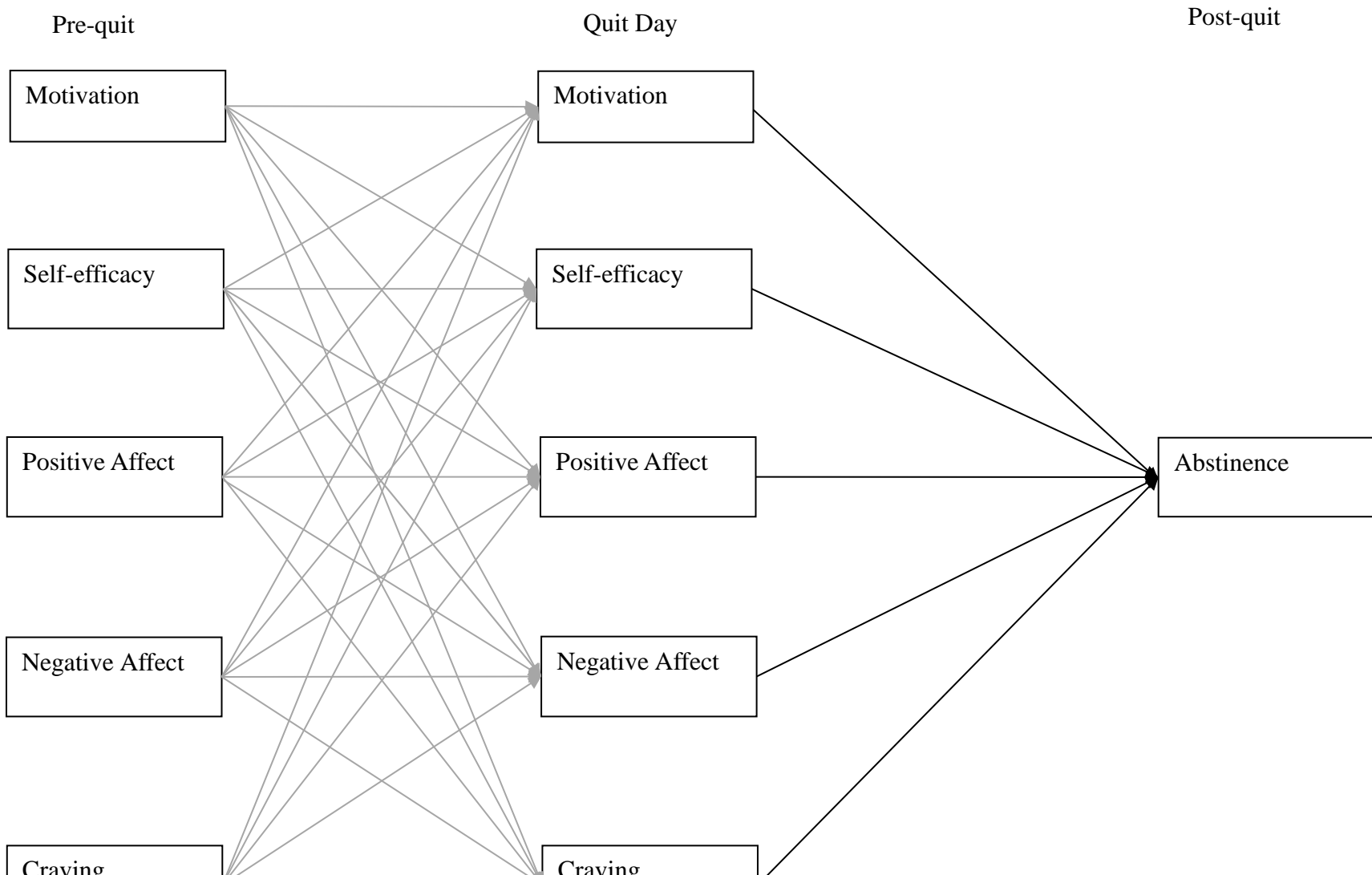
Participant Characteristics (N = 434)

Characteristic	% or M (SD)
Race/ethnicity	32% African American/Black 30% Hispanic/Latina 32% White
Male	46.8%
Age	41.2 (11.2)
Years of Education	12.9 (2.0)
Married/Living with Partner	34.3%
Income (< 20000)	58%
Unemployed	41.6%
Cigarettes per day	21 (10.3)

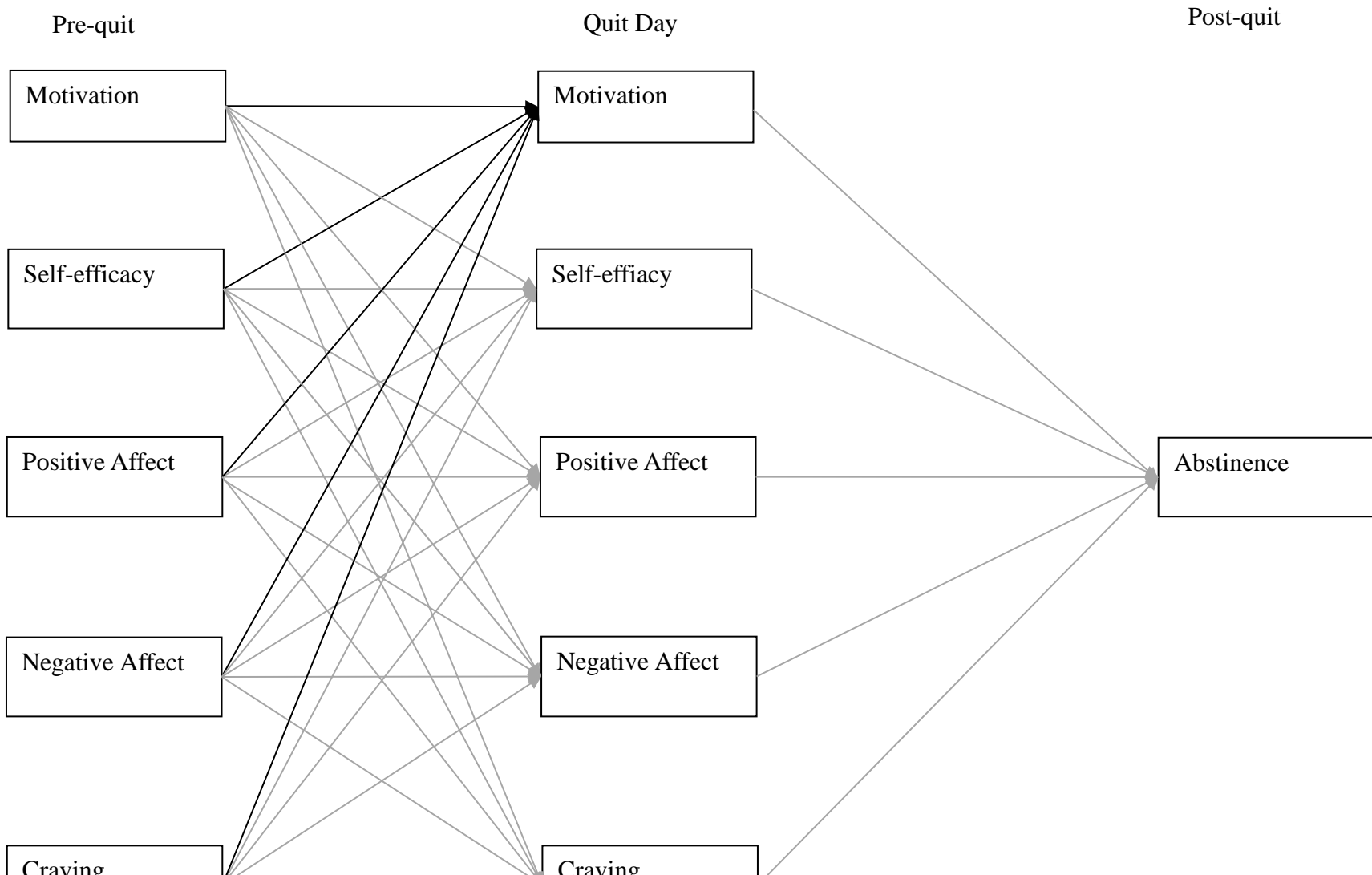
Hypothesized Model



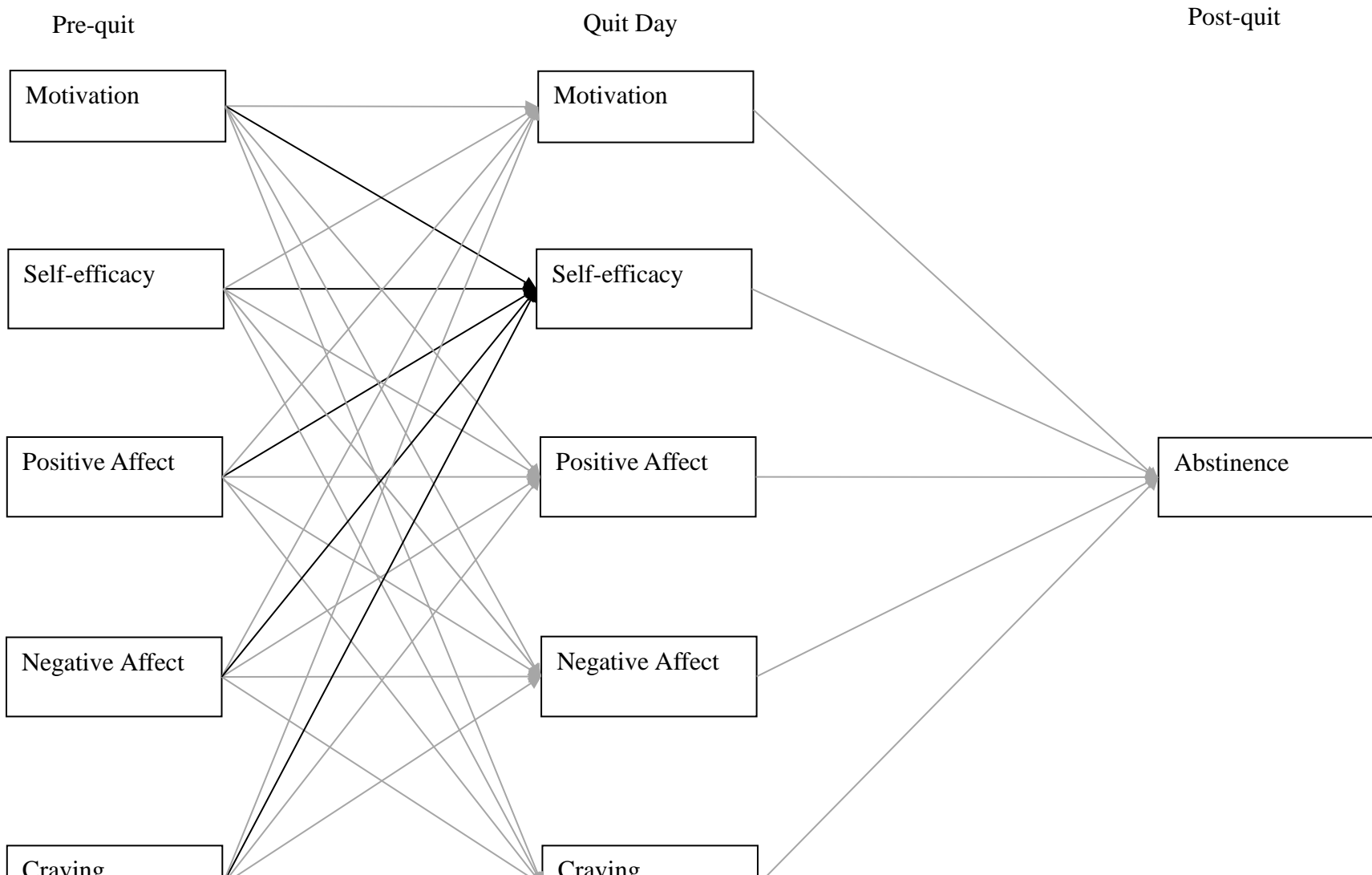
Hypothesized Model



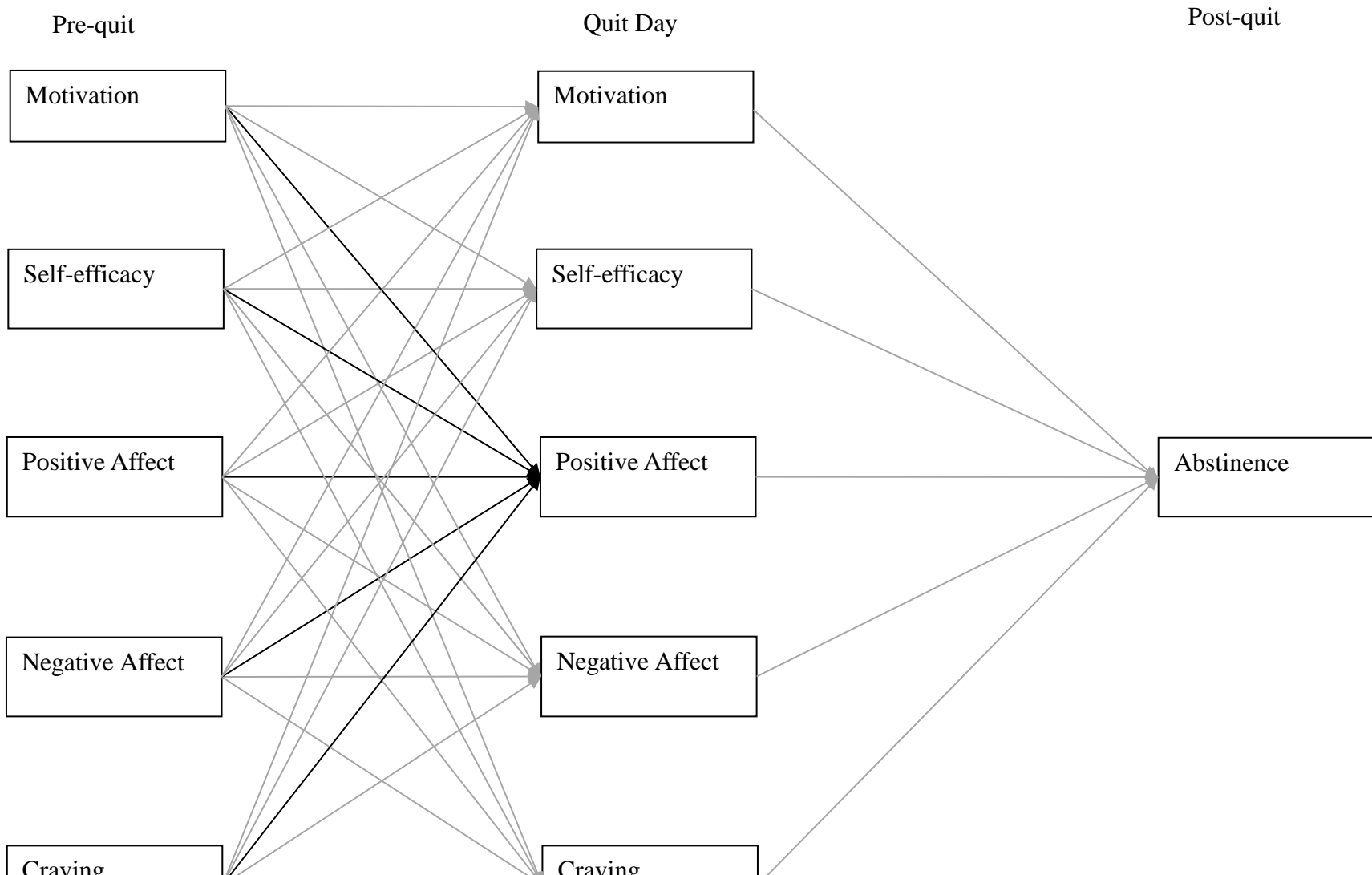
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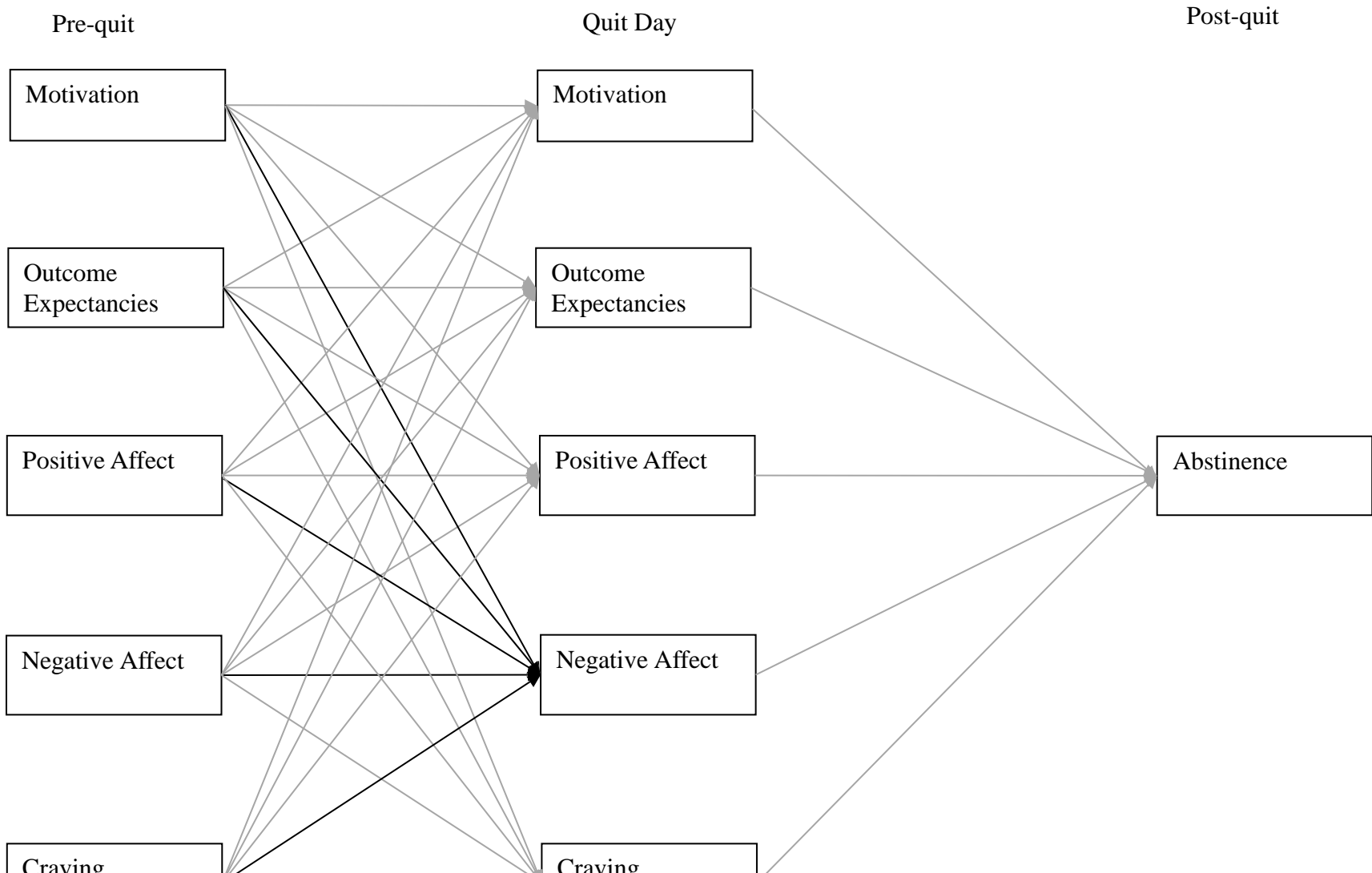
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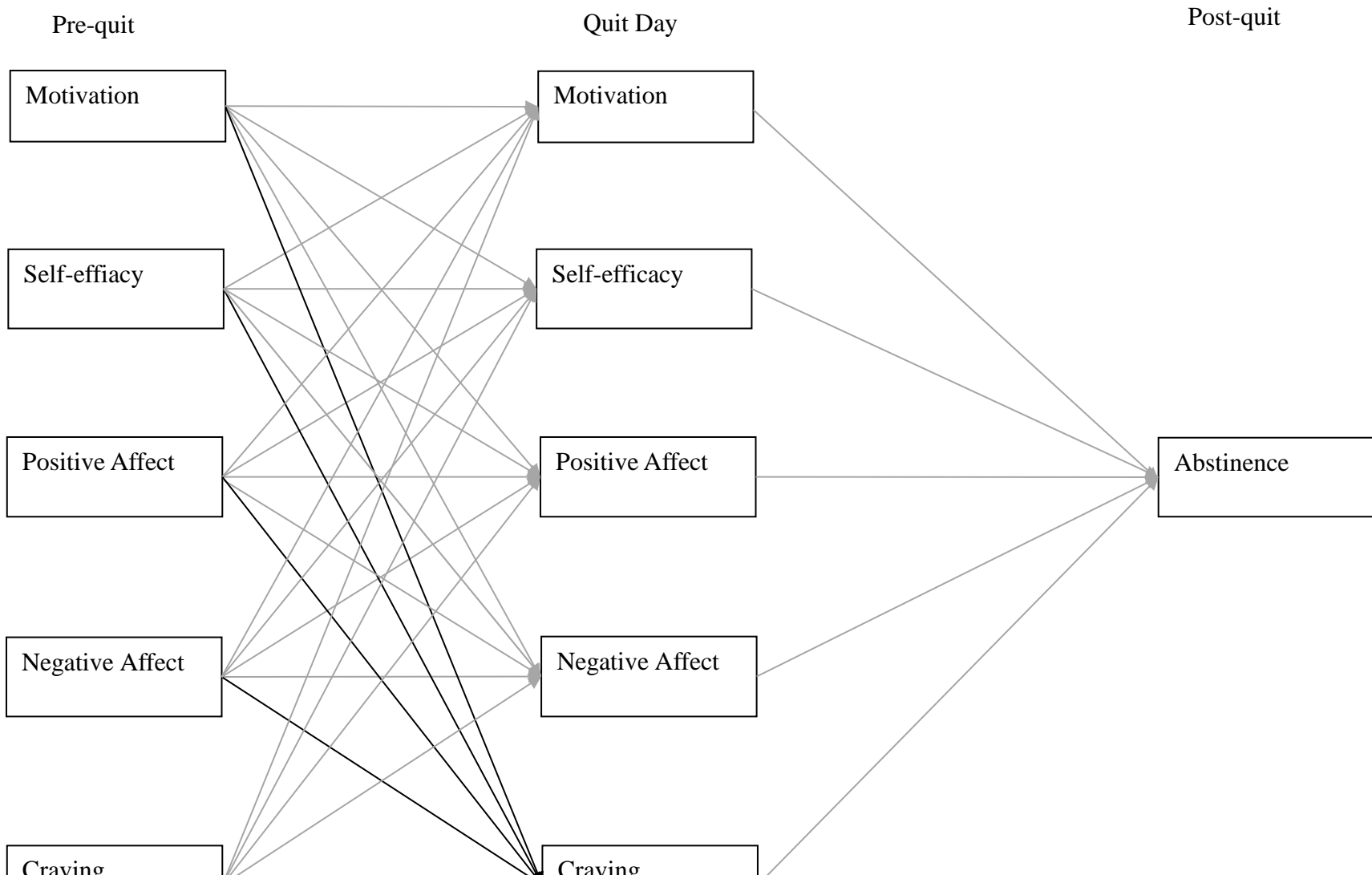
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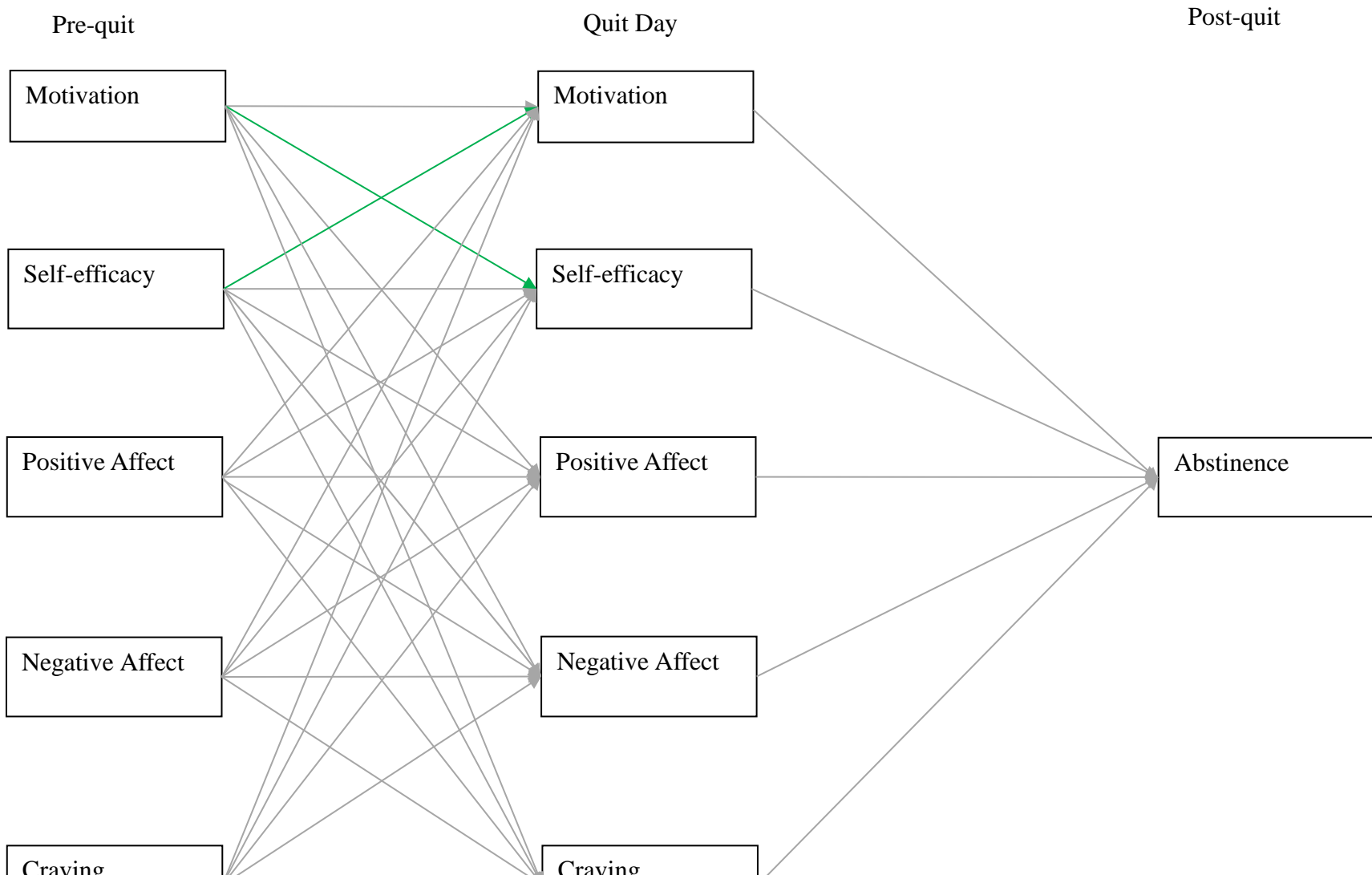
Hypothesized Model



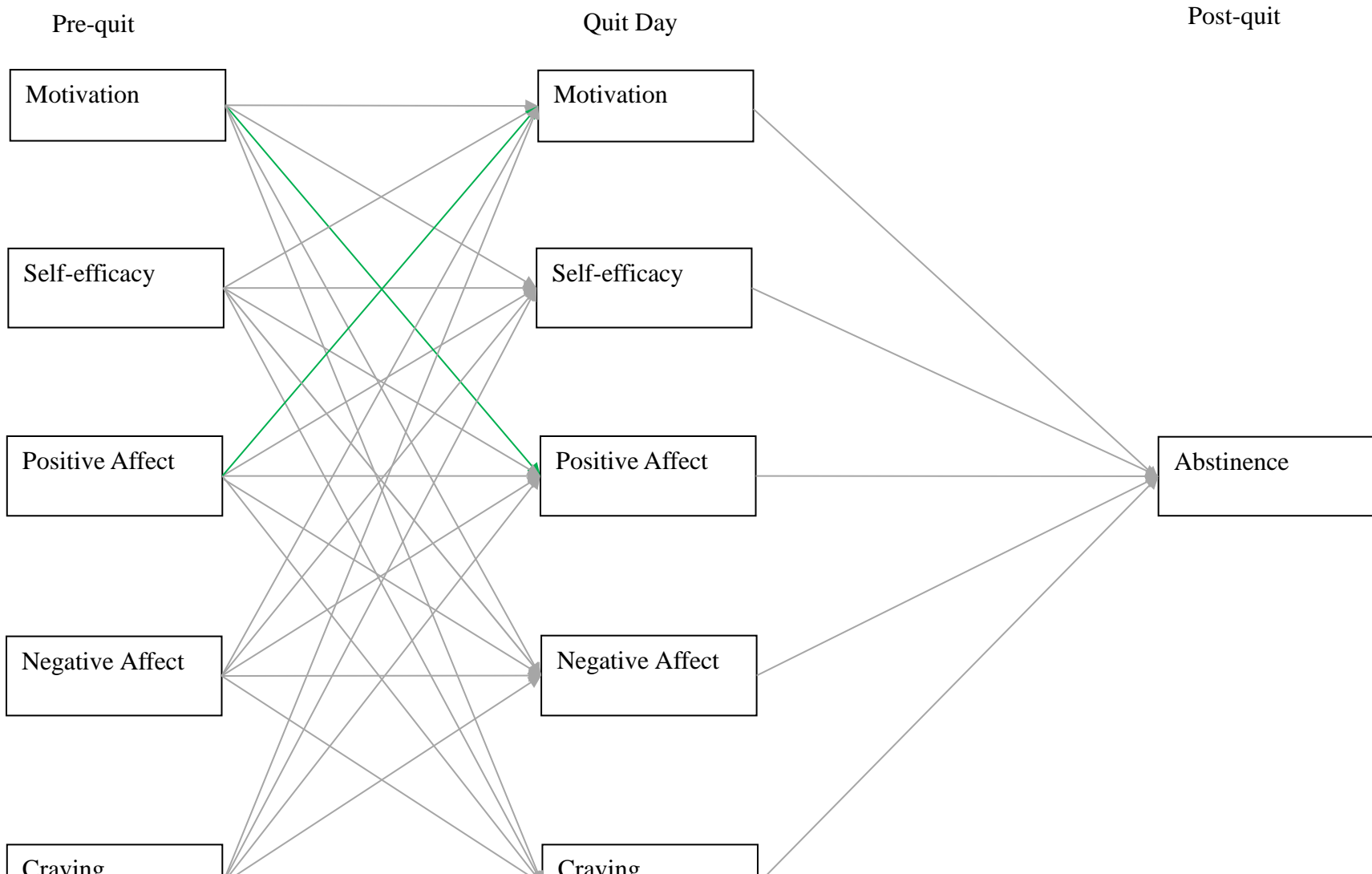
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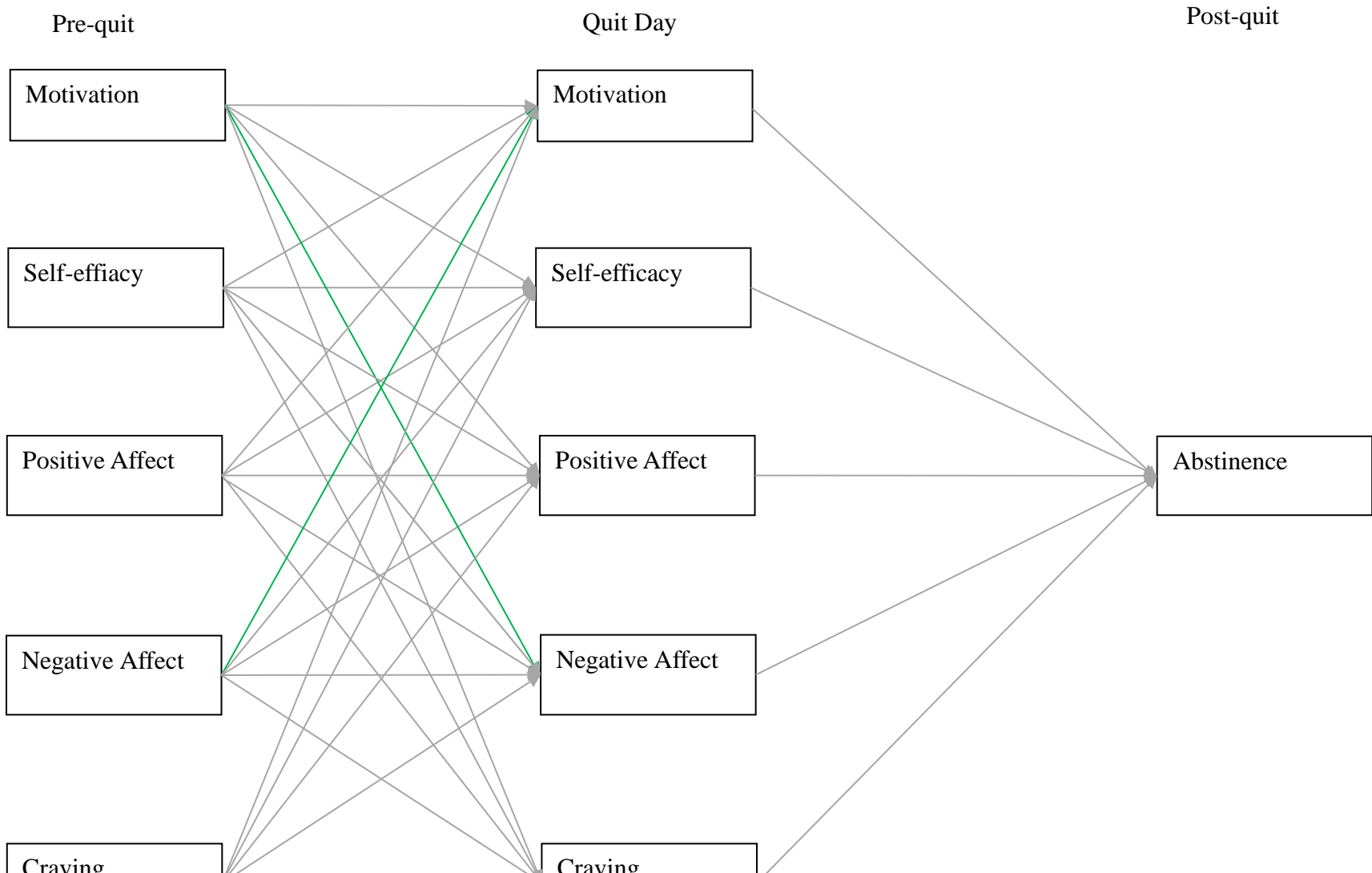
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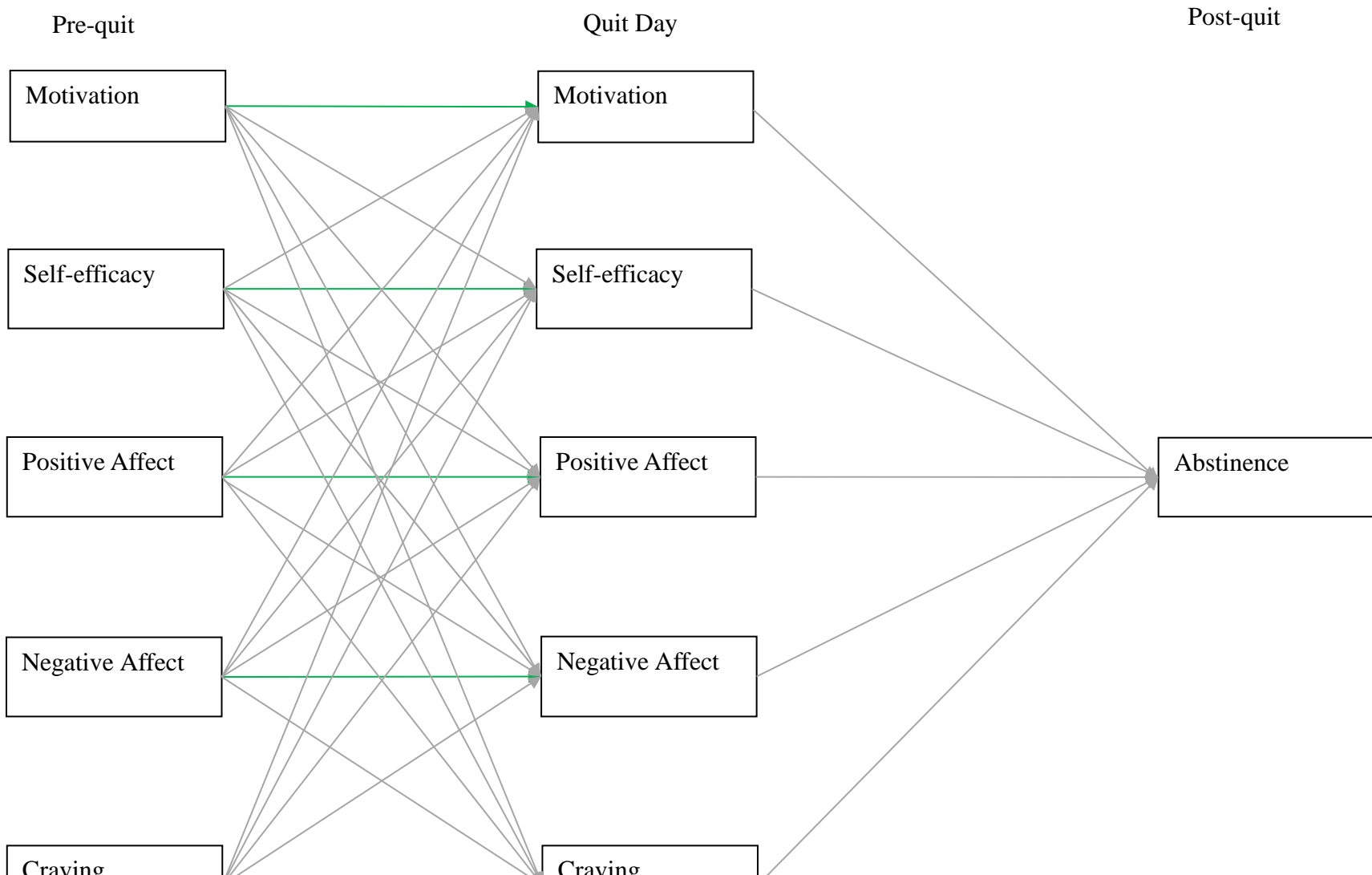
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Hypothesized Model



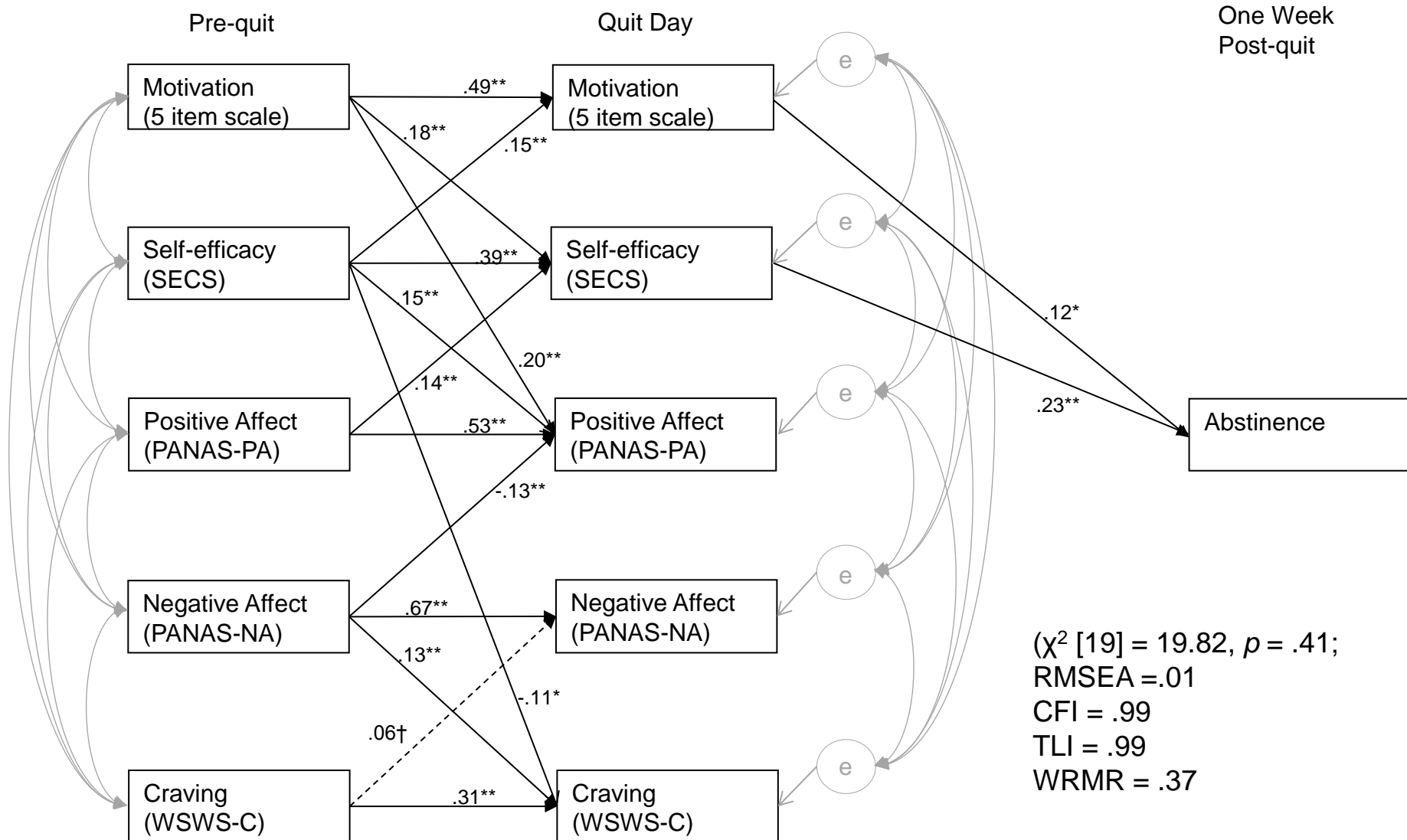
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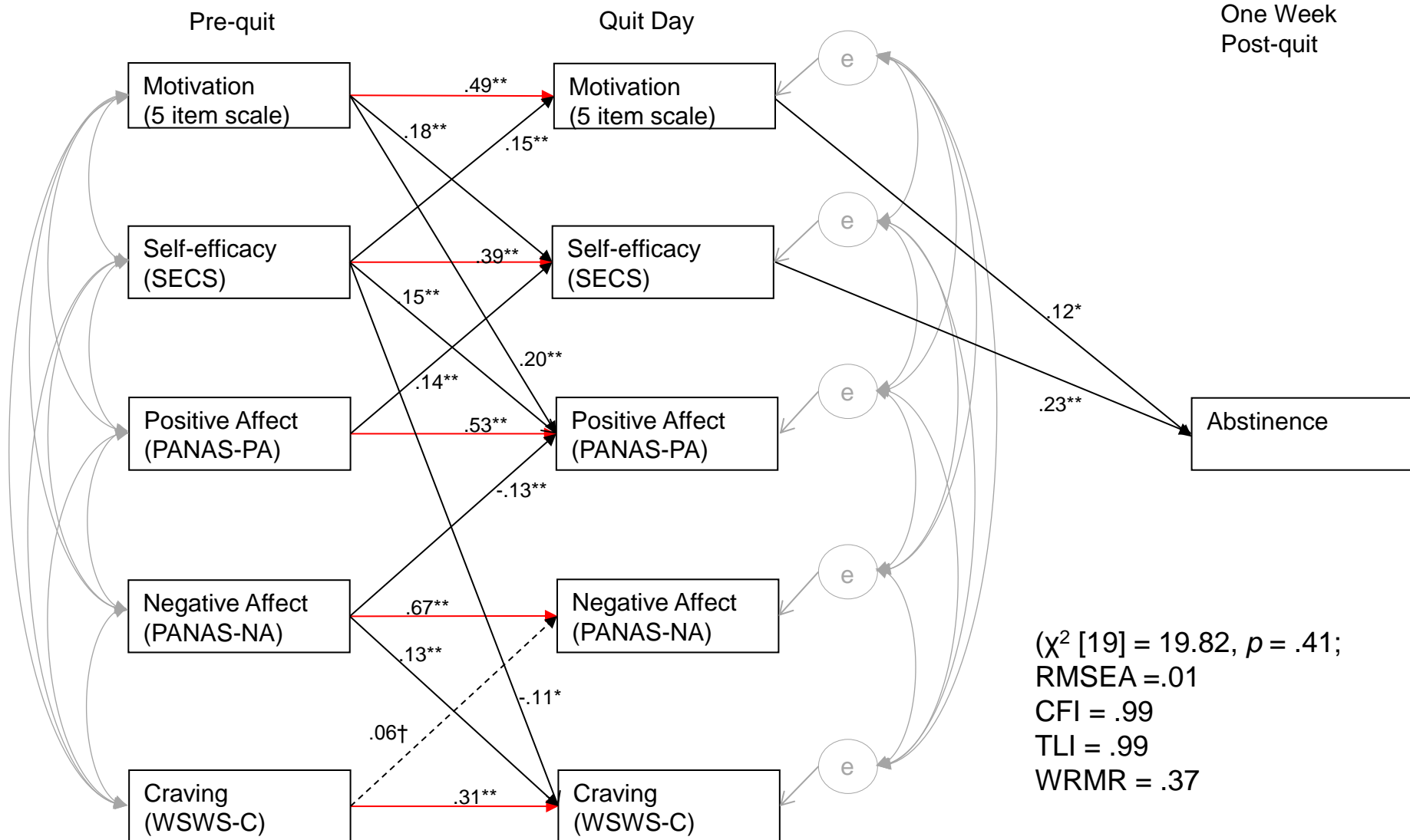
Results: Hypothesized Model

- “Good” fit of the cross-lagged model
 - ($\chi^2 [5] = 8.91, p = .11; RMSEA = .04, CFI = .99, TLI = .98; WRMR = .24$)
- 15 paths were systematically removed
 - Most parsimonious model
 - Good fit for the data

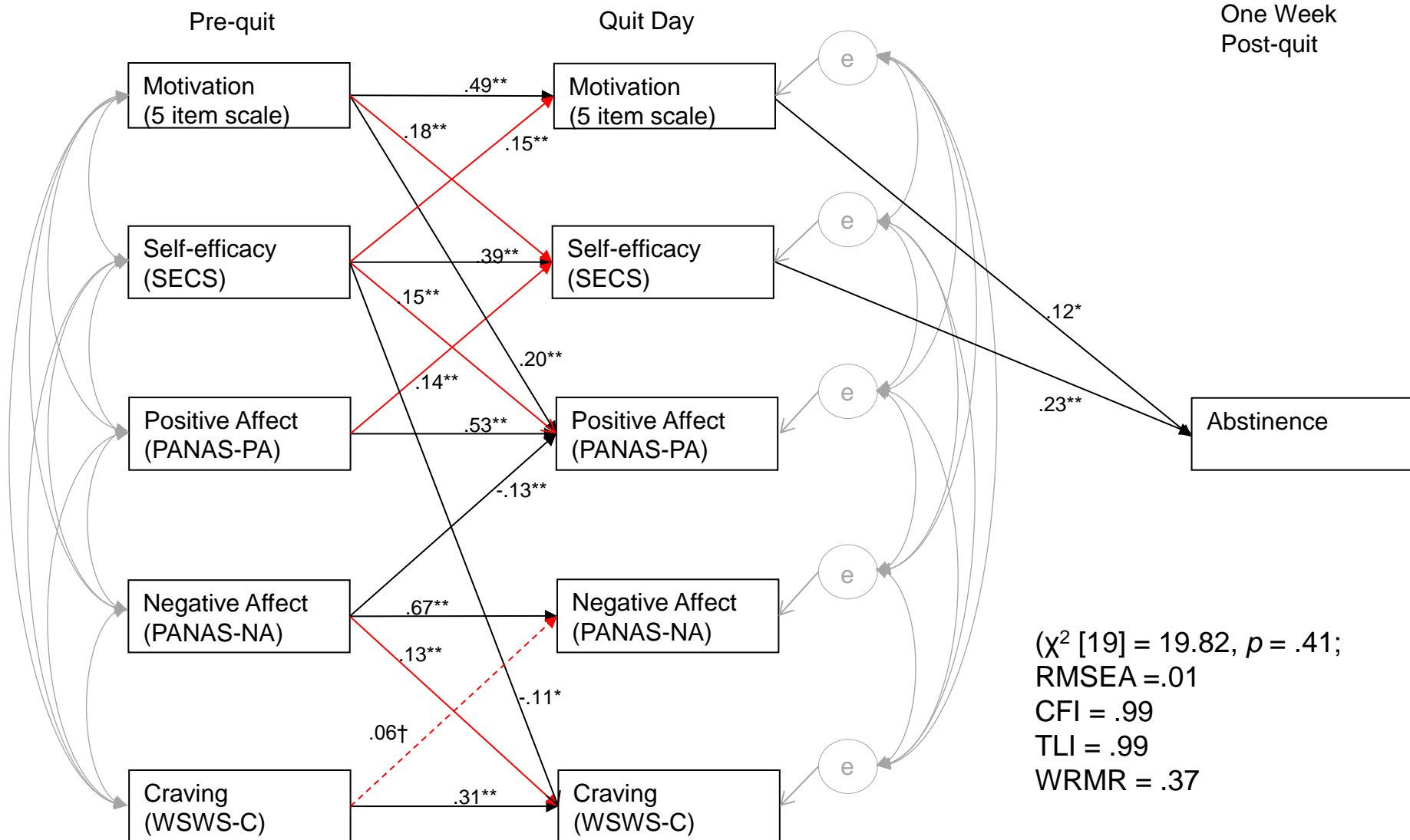
Results: Final Model



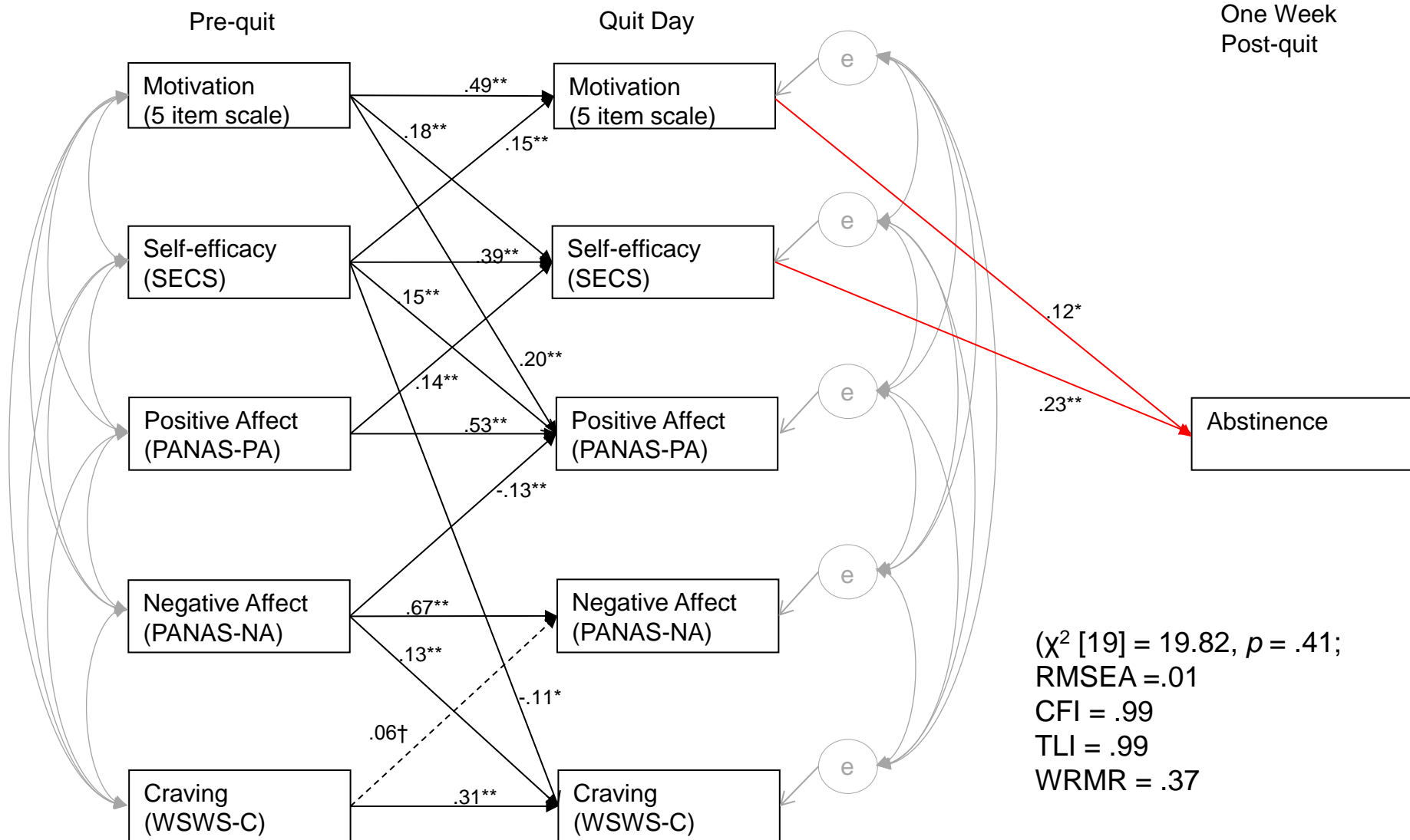
Results: Final Model



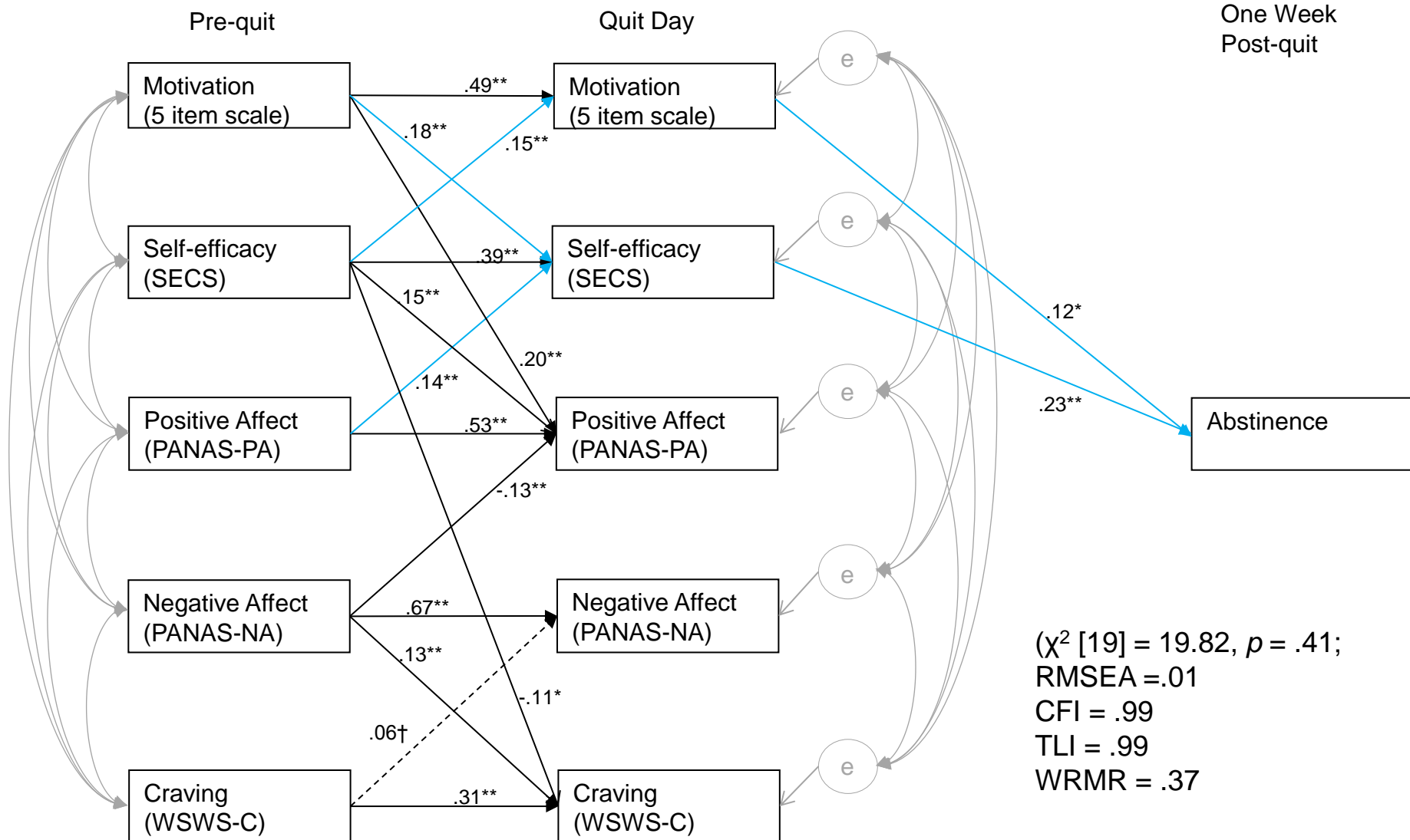
Results: Final Model



Results: Final Model



Results: Final Model



Study 2 Summary

- Motivation and SE; SE and PA; NA and Craving to have reciprocal effects
 - Affirms prominent drug treatment model
 - Novel treatment target in PA?
- Only motivation and SE directly affect cessation
 - Consistent with Motivational Interviewing
- Limitations: short time span; not a comprehensive test of model

General Summary/Conclusions

- Identified some mechanisms of SES-relapse relation
- Within Low-SES smokers, gained insight on interrelationships of those mechanisms
- Highlighted potential treatment targets among Low SES smokers
- Many novel findings in need of replication
- Future models might consider role of contextual and interpersonal factors

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