



Developmental Pathways to Young Adulthood Marijuana Use

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INTRODUCTION

- Marijuana is the most commonly used illicit substance among young adults (Johnston, O'Malley, Bachman, & Schulenberg, 2012).
- Researchers have previously investigated developmental predictors of marijuana use (e.g., Carlo et al., 2011; Falls et al., 2011; Flory, Lynam, Milich, Leukefeld, & Clayton, 2004; Windle & Wiesner, 2004).
- There is very little research, however, on:
 - developmental pathways beginning in early childhood leading to early adult marijuana use, and
 - the process by which core developmental contexts early in life (e.g., parent-child, peer, school) interact across time to influence marijuana use in early adulthood.

PURPOSE

To investigate the longitudinal (early childhood to early adolescence) effects of parenting, peer, and school factors on the prediction of marijuana use in early adulthood.

METHOD

Participants

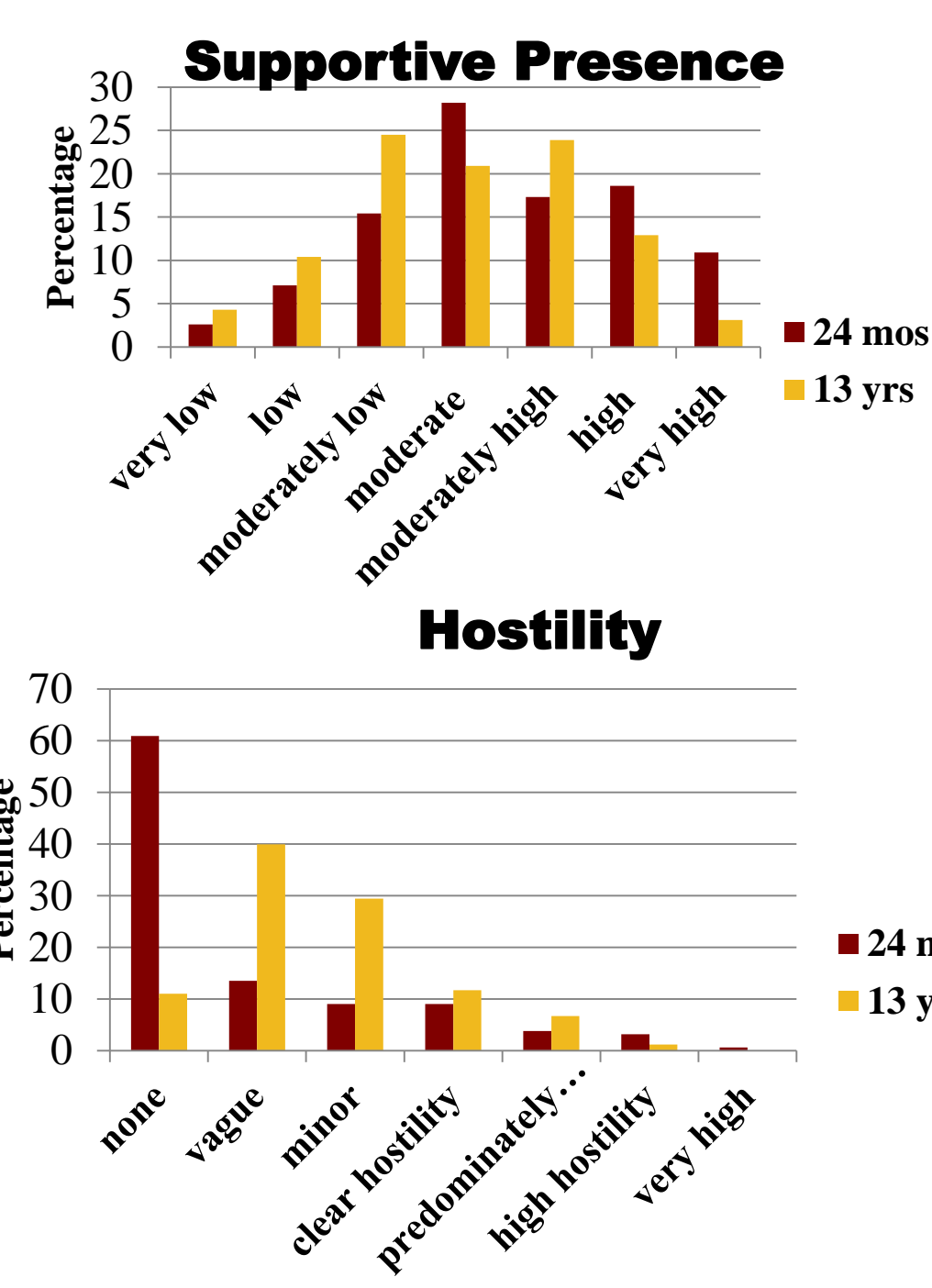
- Firstborn children of low-income mothers
- Only participants with outcome data at 23 year included in analysis
 - $N = 175$ (92 males, 83 females)

Measures

Predictor Variables

Parenting: 24 months & 13 years

- Coder rated 7-pt. scales from video-taped lab observations
 - Tool tasks at 24 months
 - Interaction tasks at 13 years
- **Maternal Supportive Presence**
 - Supportive, provides secure base
 - 24 months: $M = 4.52, SD = 1.53$
 - 13 years: $M = 4.02, SD = 1.45$
- **Maternal Hostility**
 - Cold, rejecting
 - 24 months: $M = 1.92, SD = 1.44$
 - 13 years: $M = 2.67, SD = 1.15$

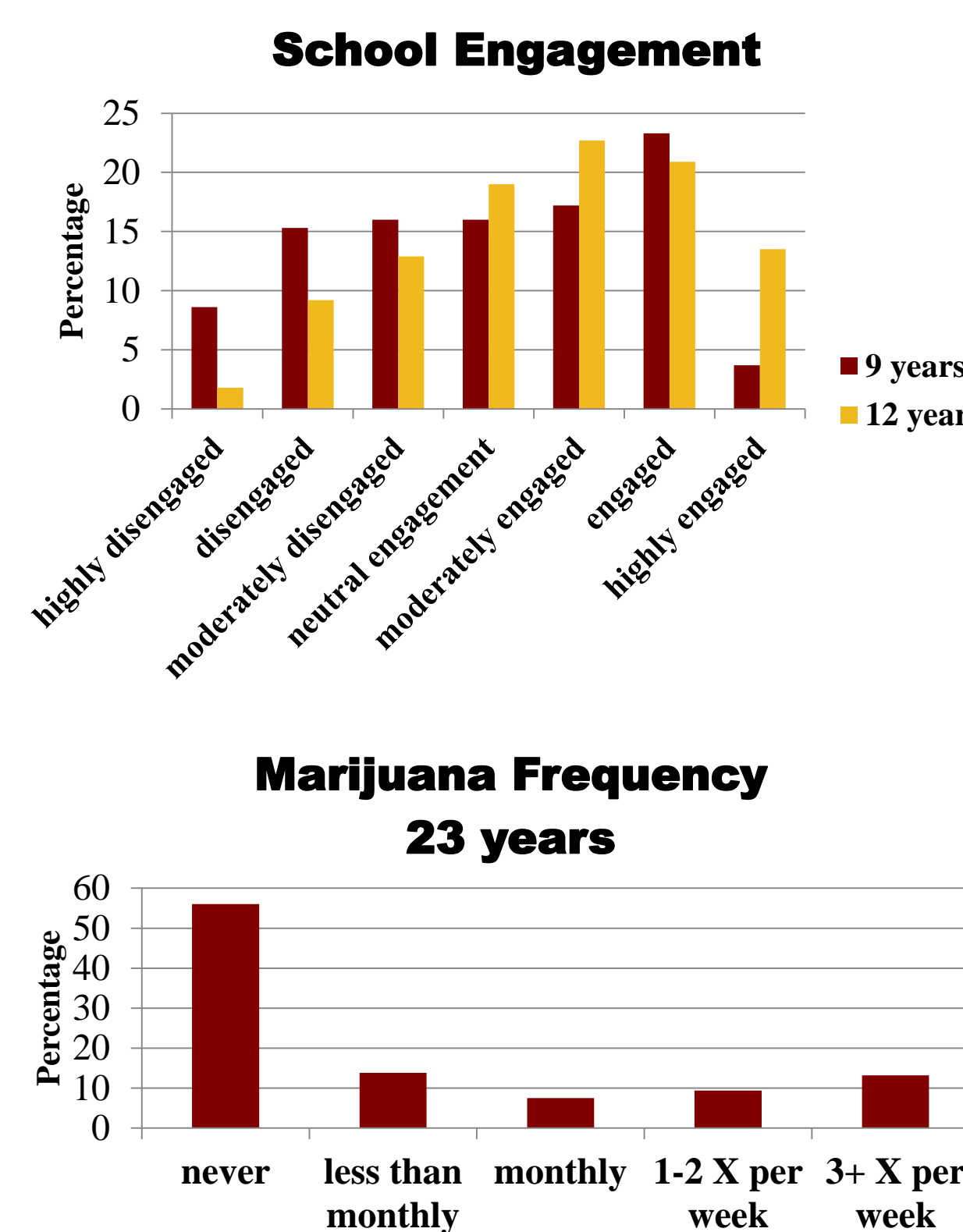


Peer Competence: 9 & 12 years

- Teacher ranking
- Has social skills, friendships, leadership skills, popular
- 9 years: $M = 48.38, SD = 27.50$
- 12 years: $M = 54.51, SD = 27.45$

School engagement: 9 & 12 years

- Coder rated from teacher, parent, and child interviews
- Global measure of:
 - behavioral (e.g., attendance)
 - cognitive (e.g., motivation), and
 - emotional (e.g., attitudes).
- 9 years: $M = 4.05, SD = 1.73$
- 12 years: $M = 4.68, SD = 1.58$



Outcomes

Marijuana Use: 23 years

- Self-reported
- Frequency of current use
- $M = 1.10, SD = 1.48$

Controls

- Gender = male (1) or female (2)
- Prenatal SES: $M = 50.47, SD = 9.88$
- Mother's age at child's birth
 - range = 15- 34 years, $M = 20.65, SD = 3.55$

DATA ANALYSIS

- Tested predictors of the probability of marijuana use vs. non-use and the level of marijuana use for those who used in Mplus (Muthén & Muthén, 1998)
- Two-part (semi-continuous) model
 - MLR estimator
 - integration algorithm
- Missing data estimated using FIML
- All nested model paths included covariates & within-time cross-sectional correlations
 - Model 1: within domain model (black paths)
 - Model 2: cascade model (added blue paths)
 - Model 3: early effects model (added red paths)

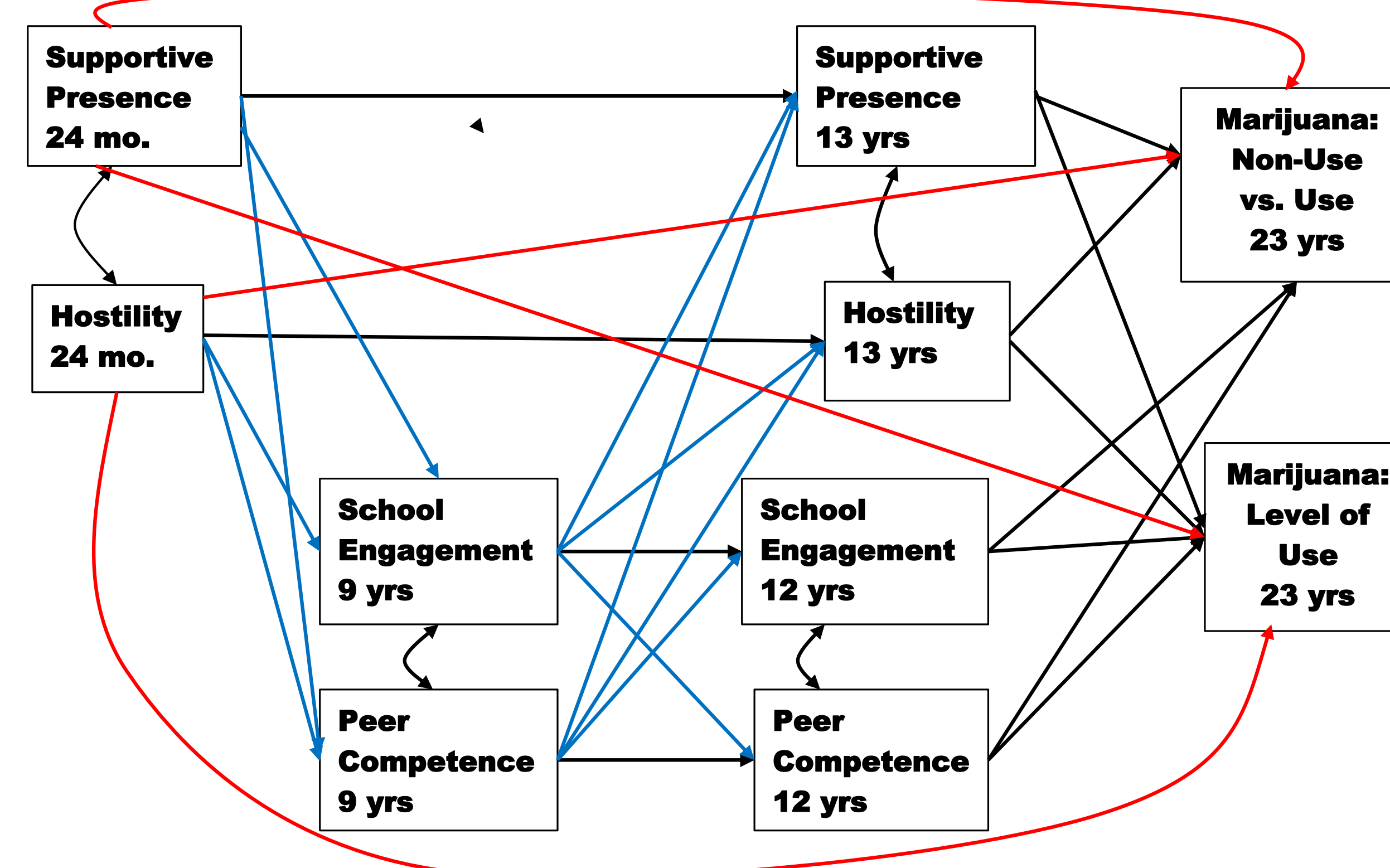


Figure 1. Path models examining marijuana use at 23 years. Model 1 (within domain model: black paths), Model 2 (full cascade model: blue paths), Model 3 (early effects model: red paths).

RESULTS

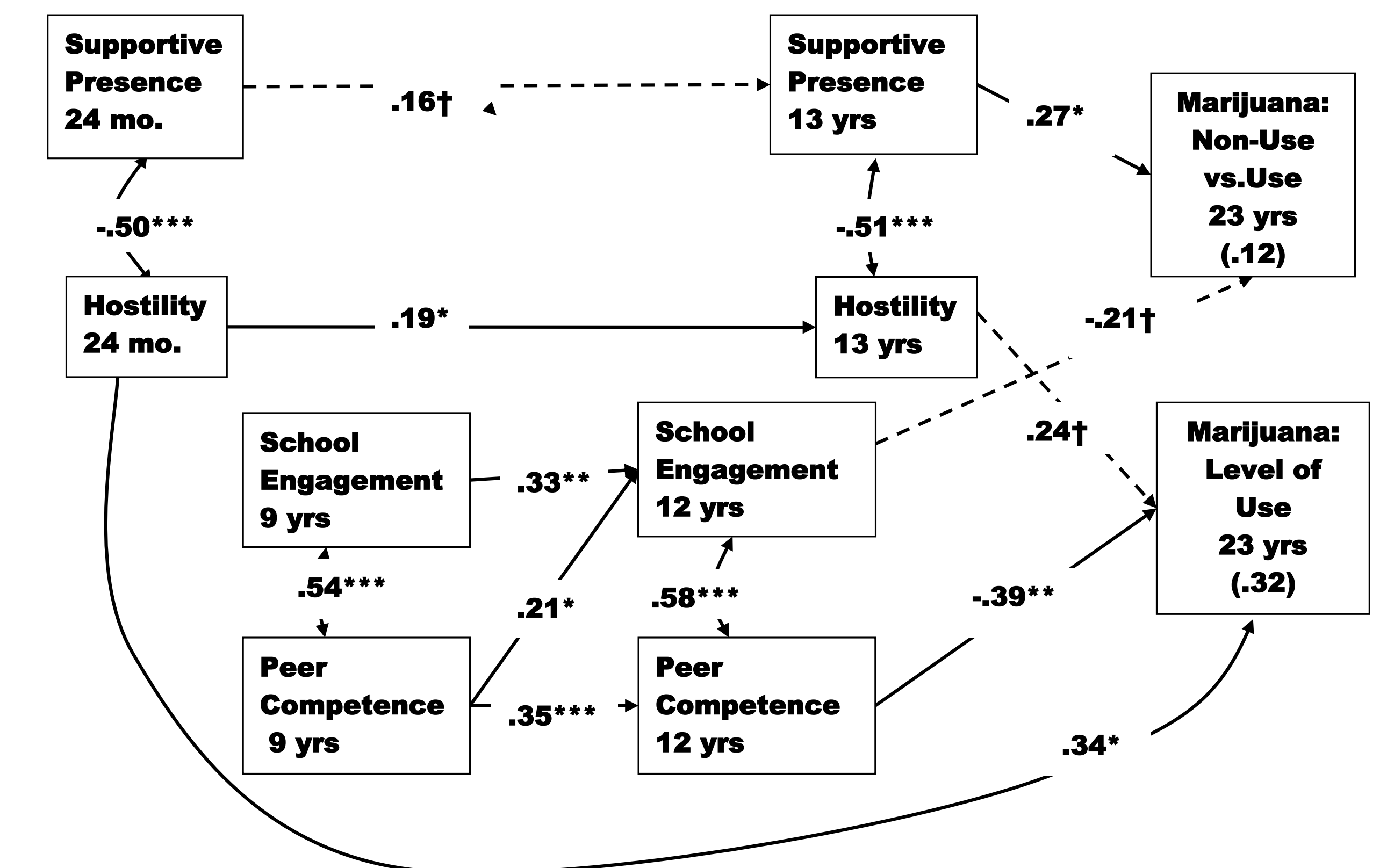


Figure 2. Standardized path coefficients for tested paths of full cascade with early effects two part (semi-continuous) path model predicting cannabis use at age 23. Note: R^2 values are in parentheses. Only significant paths are shown. $\dagger p < .10$; * $p < .05$; ** $p < .01$, *** $p < .001$

- Predicted marijuana use vs. non-use at 23 years:
 - 12% of the variance accounted for
 - maternal supportive presence at 13 years (OR = 1.45)
 - school engagement at 12 years (marginally, OR = .78)
- Predicted levels of marijuana use at 23 for those who used:
 - 32% of the variance accounted for
 - maternal hostility at 24 months (positively) and at 13 years (marginally, positively)
 - peer competence at 12 years (negatively)

DISCUSSION

- Higher levels of maternal supportive presence at 13 years and lower levels of school engagement (marginally) indicated a greater likelihood of using marijuana at 23 years.
- For those who used marijuana, higher levels of maternal hostility at 24 months and 13 years (marginally) and lower levels of peer competence at 12 years predicted higher levels of use.
- Findings suggest:
 - Important developmental contexts of childhood (family, peers, and school) have implications for cannabis use into early adulthood.
 - Importance of parent-child relationships in early childhood for later outcomes.

ACKNOWLEDGEMENTS

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Website of the Minnesota Longitudinal Study of Risk & Adaptation <http://www.cehd.umn.edu/icd/research/parent-child/>