

Barriers and Opportunities for Preventing Substance Use in Adolescence: Using Screening and Family-Based Intervention in Pediatric Primary Care



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- National Institute on Drug Abuse;
Special thanks to Belinda Sims
- Children's Hospital of Pittsburgh



Adolescent Substance Use Disorder (SUD)

- SU initiation before high school confers increased propensity for SUD
- Important to screen for SU risk before high school and provide preventive interventions for at-risk youth

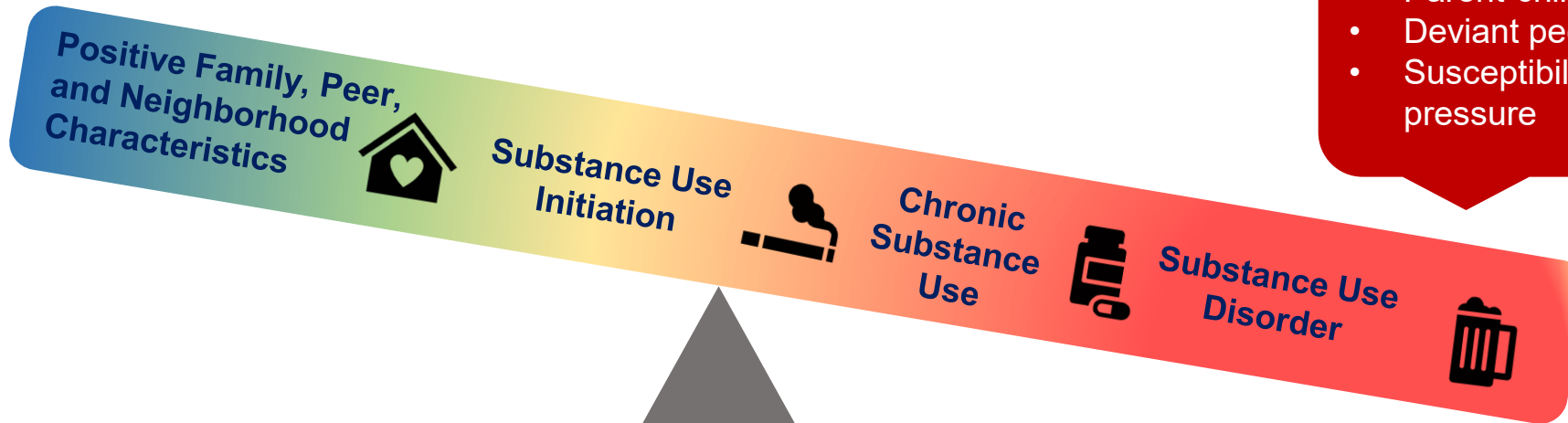
Family-Based Approaches to Preventing Adolescent SUD

Protective Factors

- Caregiver involvement
- Positive parent-child relationships
- Positive peer relationships

Risk Factors

- Parent-child conflict
- Deviant peers
- Susceptibility to peer pressure

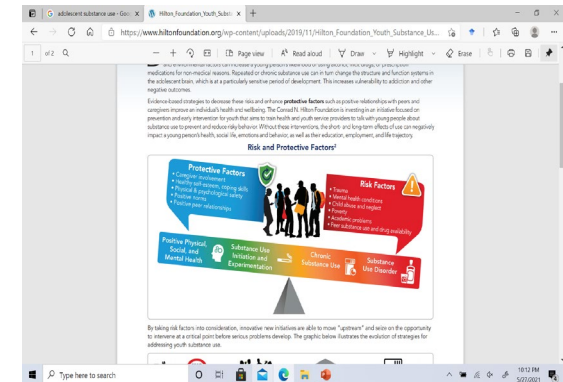


Barriers to Implementing Evidence-Based Interventions in Real World Settings

- One of the biggest challenges facing prevention science is how to scale up evidence-based prevention & intervention programs
- Limited uptake of evidence-based interventions in real-world community settings
- Disparities particularly pronounced for families in poverty and racial-ethnic minorities due to institutional and structural racism

Potential Opportunity

- Embed evidence-based interventions into existing service systems, such as primary care clinics, FQHCs
- **Benefits of Primary Care:**
 - Wide access and repeated exposure to children and families
 - Parents generally trust pediatricians as stewards of child healthcare
 - Sustainable funding resources/infrastructure



Barriers to SUD Prevention in Primary Care

- Barriers to SUD prevention in primary care
 - Insufficient time, unfamiliarity with a screen
 - lack of resources/training to manage positive screen
 - lack of effective intervention

SCREENING

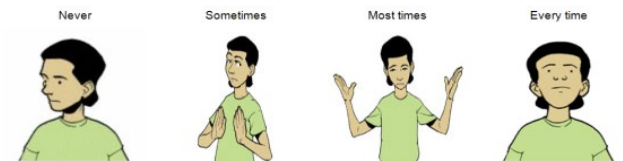
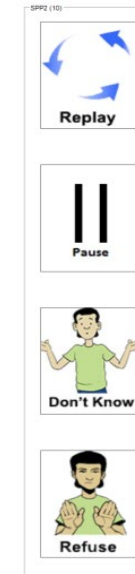
- Ridenour Youth Risk Index (YRI), short version of ALEXSA, takes 7 min for youth and parents to complete
- Measures risk of SUD based on longitudinal research
- Youth version is cartoon- and audio-based
- Does not disrupt patient flow

SUSCEPTIBILITY TO PEER PRESSURE

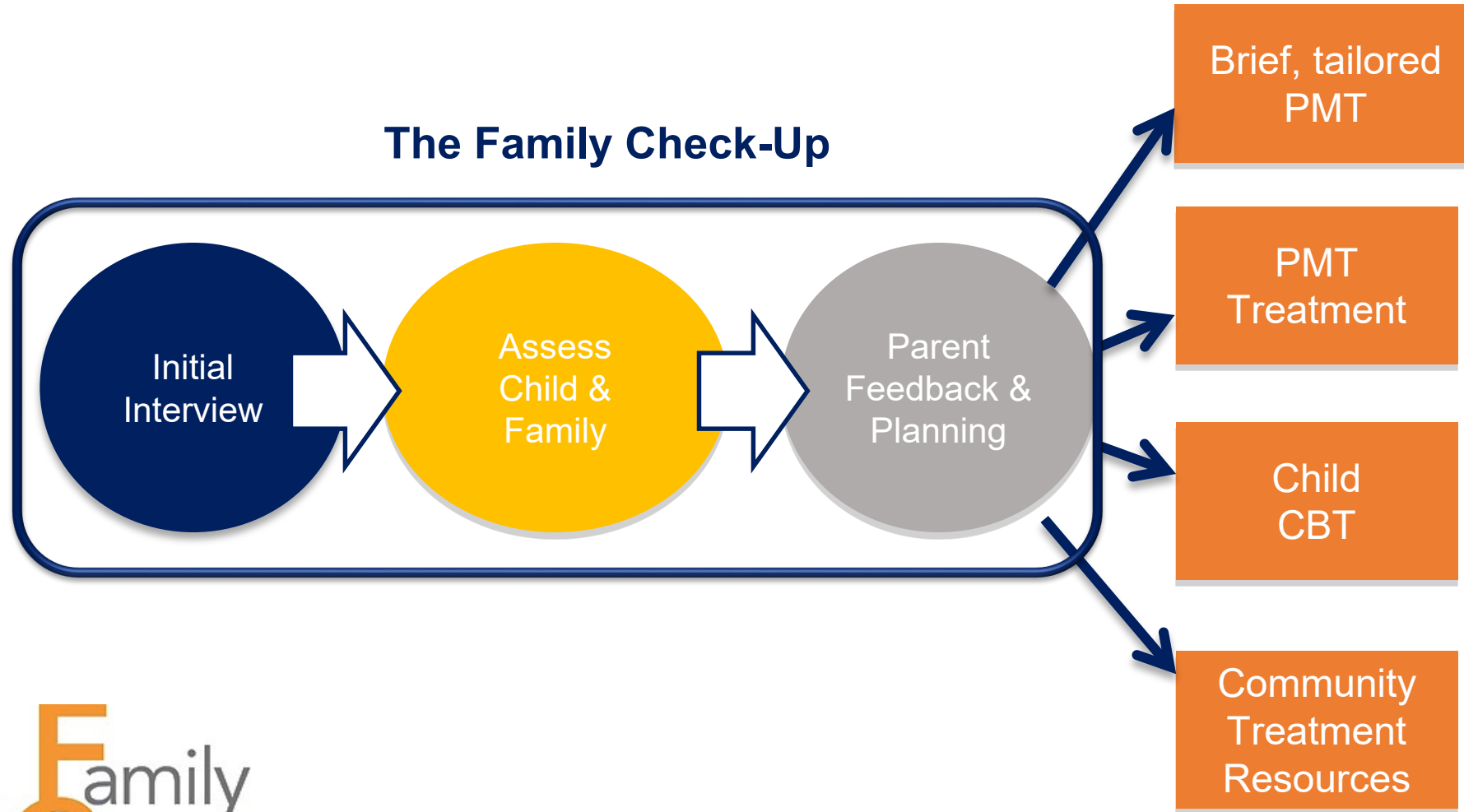


DISTRACTIBILITY

If your best friend invited you to watch a movie and you had to study for a test, would you go watch the movie anyway?



An Overview of the **Family Check-Up** and Follow-Up Services



Effects of the Early Adolescent Family Check-Up: Average 6 Sessions over 2 years and 25-50% Engagement

Outcome Domain	Intervention Effects	Period of Development	Authors
Behavioral	<ul style="list-style-type: none"> * Antisocial Behavior * Early Drug Use * Drug (ab)use * Problem behavior * High risk sex 	<ul style="list-style-type: none"> Age 11 to 19 Age 11 to 14 Age 11 to 23 Age 11 to 14 Age 11 to 22 	<ul style="list-style-type: none"> Van Ryzin et al, 2012 Dishion et al 2002 Veronneau et al., 2016 Stormshak et al, 2010 Caruthers et al 2013
Affective	<ul style="list-style-type: none"> * Depression * Depression 	<ul style="list-style-type: none"> Age 11 to 15 Age 11 to 14 	<ul style="list-style-type: none"> Connell et al, 2006 Fosco et al, 2014
Parenting	<ul style="list-style-type: none"> * Observed Monitoring * Reduced conflict 	<ul style="list-style-type: none"> Ages 11 to 14 Ages 11 to 16 	<ul style="list-style-type: none"> Dishion et al, 2003 Van Ryzin et al, 2012
Cognitive/Educational	<ul style="list-style-type: none"> * Improved grades and attendance 	<ul style="list-style-type: none"> Ages 11 to 17 	<ul style="list-style-type: none"> Stormshak et al 2010

Current Study

AIM 1: test the acceptability validity of the YRI screeners for identifying youth at risk for substance use (SU) and other problem behaviors

AIM 2: test the effectiveness of the FCU to reduce youth SU and established correlates of SU

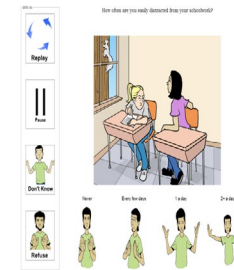


Fig 2 Sample ALEXSA

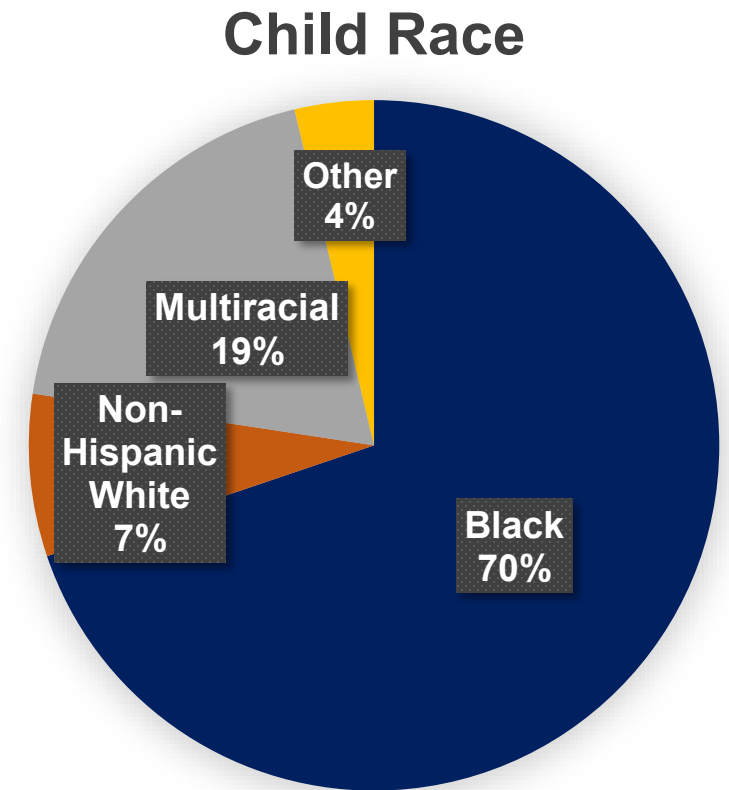
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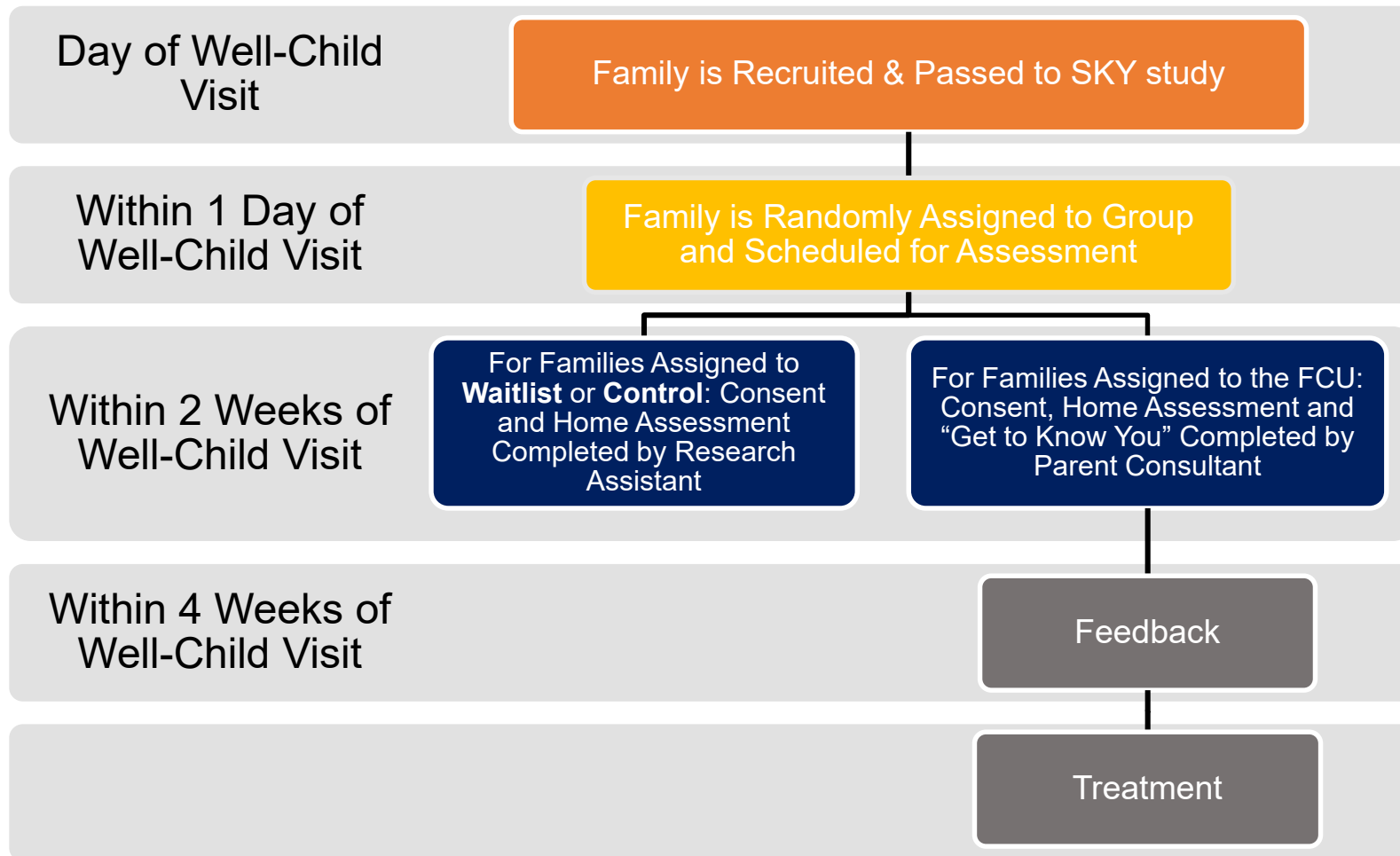
SAFE KEEPING YOUTH (SKY) STUDY

PEDIATRIC FCU IMPLEMENTATION

- N = 301 youth-caregiver dyads
- Youth Age: $M = 11.95$ years (10-13), $SD = 1.17$
- Screened in primary care clinic in Pittsburgh, PA serving 28% of county's Medicaid population
- Average household income: \$24,705 ($SD = \$19,629$)



STUDY FLOW: What happened after recruitment?



Randomization

Controls:

n = 259 at baseline
n = 196 at follow-up

FCU:

n = 123 at baseline
n = 105 at follow-up

RESULTS: SUMMARY OF FINDINGS

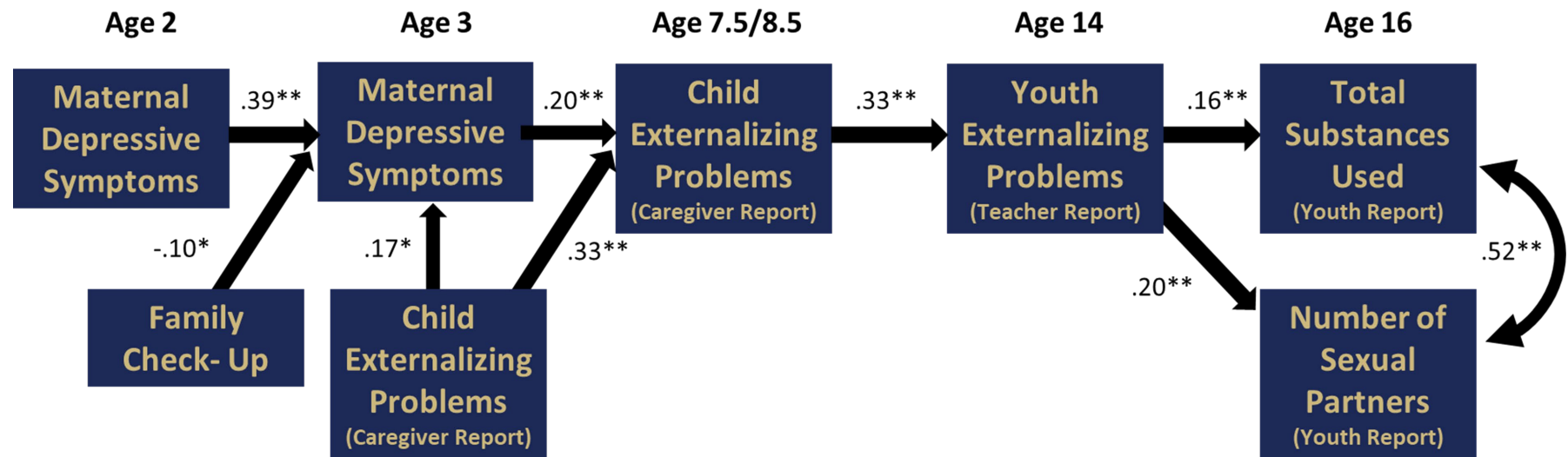
- Engagement: 93.5% randomly assigned to FCU in pediatric primary care completed it (i.e., ≥ 3 sessions) relative to 28%-40% rates found engaging in FCU from schools
- 12 months: 27.2% drank, 18.6% used tobacco, 15.6% used marijuana
- FCU reduced risk by 37% of initiating a new substance per substance used at baseline, even though by chance at baseline youth in intervention reported easier access to drugs
- Reduced risk of drinking frequency by 26%
- Reduced risk factors anxiety and deviancy tolerance

Preventing Adolescent Substance Use **Beginning in Early Childhood**

- NIDA-funded Early Steps Multisite Study randomly assigned 731 parents of 2-year-olds to FCU using WIC services at urban, suburban, & rural sites
- FCU offered 8 occasions thru age 10, including assessment of contextual and genetic risk
- In addition to identifying more than 40 intervention effects on different forms of child problem behavior, academic achievement, peer relations, and parental/family outcomes through age 14, recently uncovered intervention effects on adolescent substance use

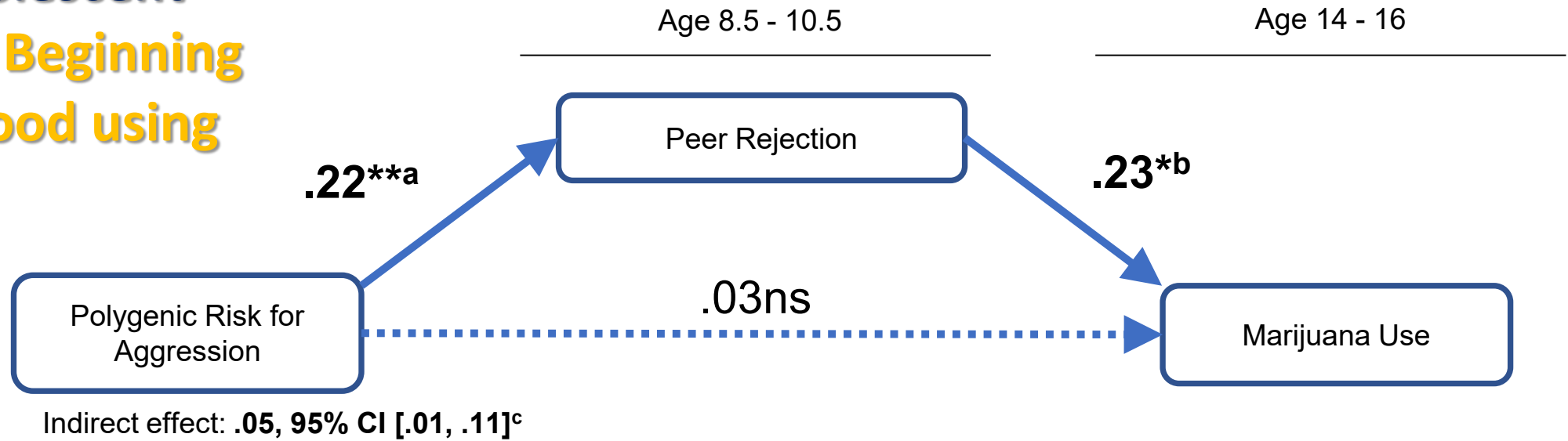
Preventing Adolescent Substance Use Beginning in Early Childhood using FCU

- Indirect effect from the FCU to age 16 substance use via improved maternal depressive symptoms and lower externalizing behaviors at ages 7.5/8.5 and 14
- ($\beta = -0.01$, $SE = 0.01$, $\beta = -0.01$, $p = 0.05$, $95\%CI [-0.01, 0.0]$).

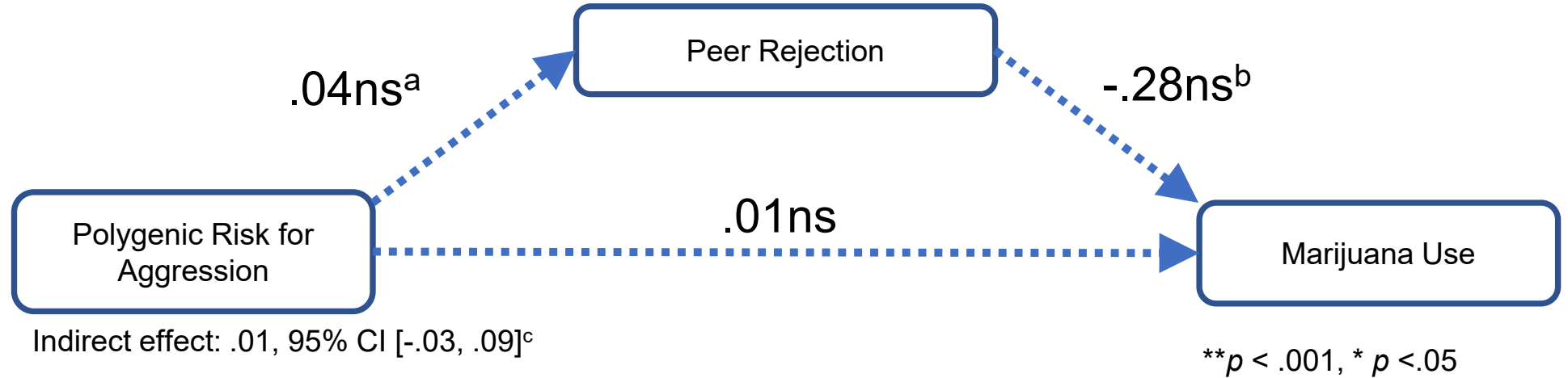


Preventing Adolescent Substance Use Beginning in Early Childhood using FCU

Control Group



Intervention Group

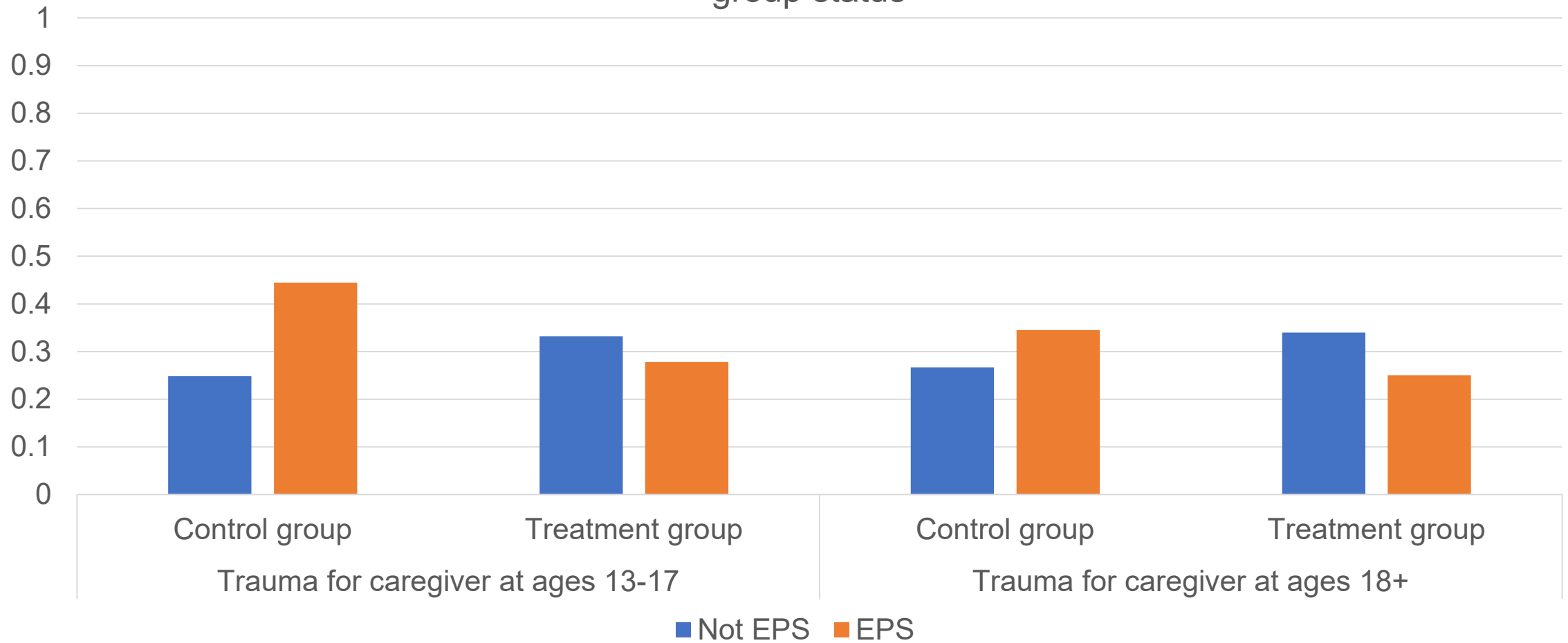


^a Difference across control/intervention groups: $\chi^2_{\text{difference}}(1) = 3.26, p = .07$

^b Difference across control/intervention groups: $\chi^2_{\text{difference}}(1) = 4.93, p = .026$

^c Difference across control/intervention groups: $B = .07, p = .047$

Percent of adolescents reporting use of marijuana based on mothers experiencing emotional, physical, and sexual trauma (EPS) by FCU intervention group status



KEY TAKEAWAYS

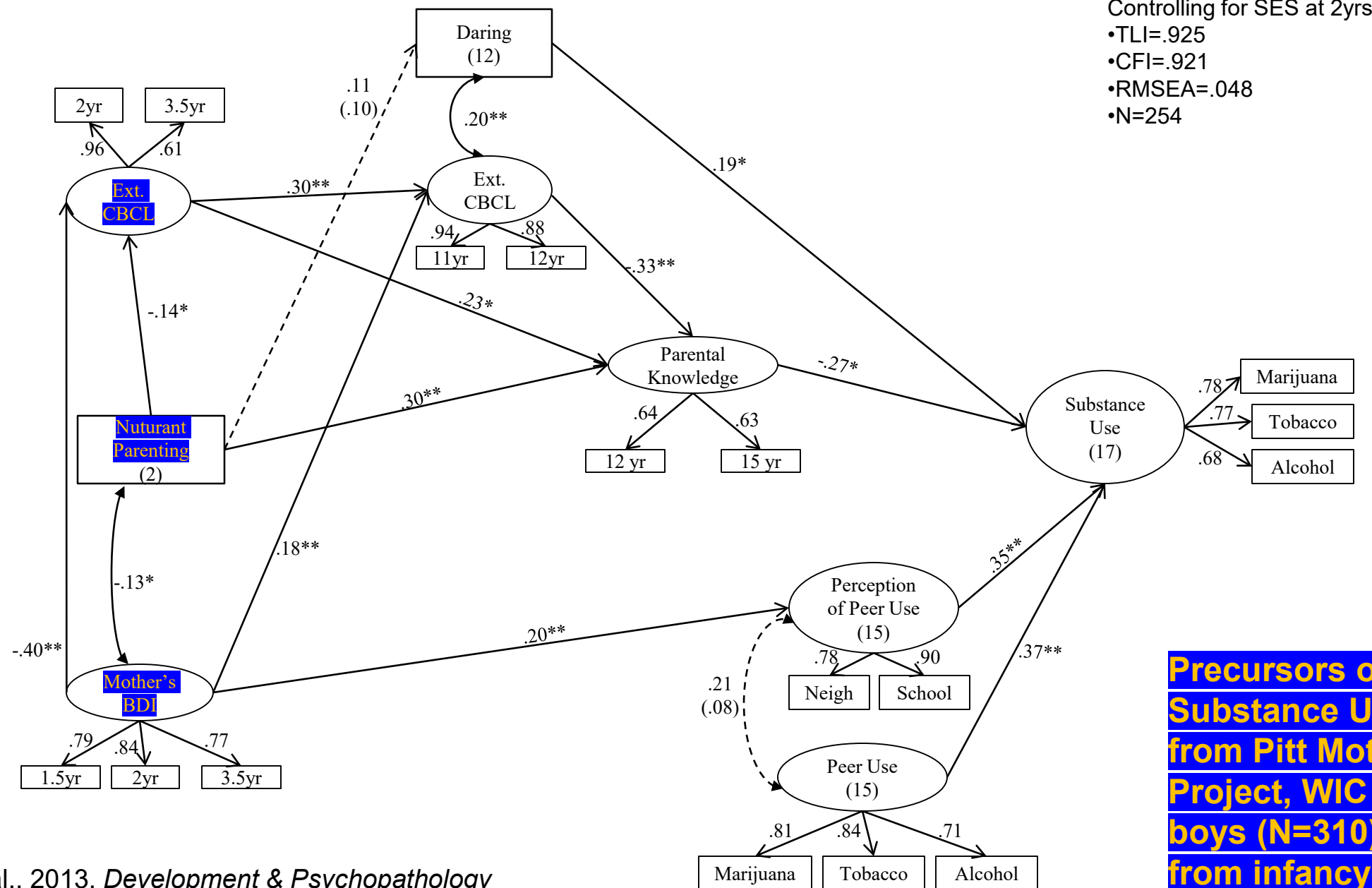
- Identification of youth at risk for SUD possible & feasible
- FCU reduced risk of youth substance use and related correlates (e.g., tolerance of deviance), especially for highest risk youth
- Possibility of embedding and scaling up evidence-based practices in existing service delivery systems
- Opens new doors for using primary pediatric care as vehicle for preventing adolescent substance use
- Note we currently have a licensed clinician providing FCU in outpatient pediatrics of Children's Hospital of Pittsburgh, where study conducted, billing via "family therapy CPT codes," accepted by Medicaid

Early Childhood

Emerging Adolescence

Mid Adolescence

Late Adolescence



Precursors of Adolescent Substance Use: Data from Pitt Mother & Child Project, WIC sample of boys (N=310) followed from infancy thru age 32