

The Intergenerational Transmission of Substance Use: Lessons and Directions

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In collaboration with numerous colleagues
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Developmental Course

- **Adolescent Onset**
 - Especially Alcohol, Cigarettes, Inhalants
- **Peaks in Emerging Adulthood**
 - Grant (1997) NLAES: 11% of 18-24 Past Year DSM IV Alcohol Dependence
- **Normative Declines:** Early to mid-20s (Adult roles)
- **Important transitions:** entry into middle school, high school, leaving home, college, adult roles

Adolescent Risk

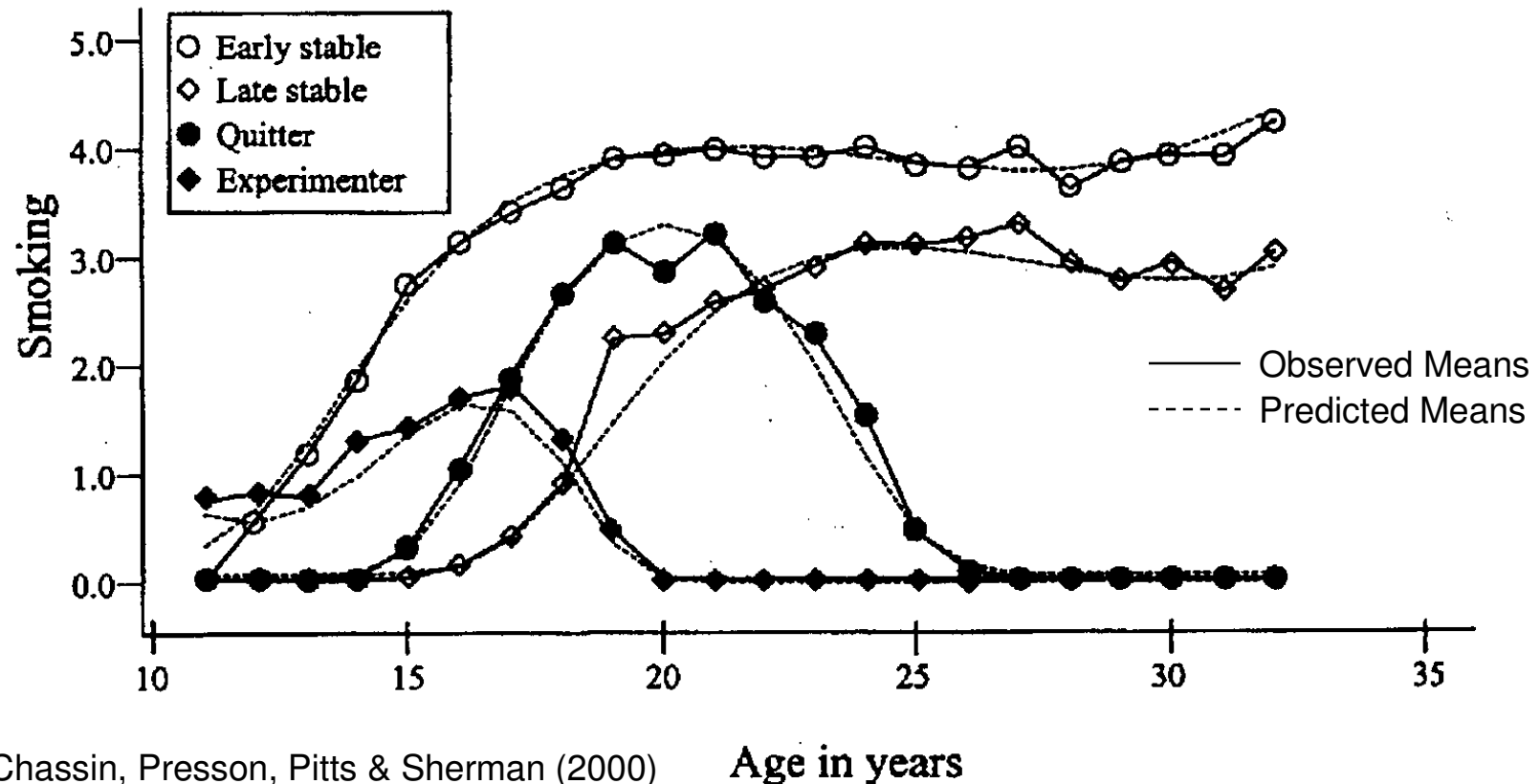
Importance of Peers and Social Rewards

- Immature Inhibitory Processes
- Increased Risk Taking + Sensation Seeking
- Independence + Signaling Adulthood
- Stress, Sleep, Mood Regulation
- Differential Sensitivity to Substance Use Effects
- Increased Reward Sensitivity

Multiple Trajectories

- But ----Multiple Trajectories
- Heterogeneity in
 - Onset
 - Slope
 - Persistence

Trajectories of Tobacco Use

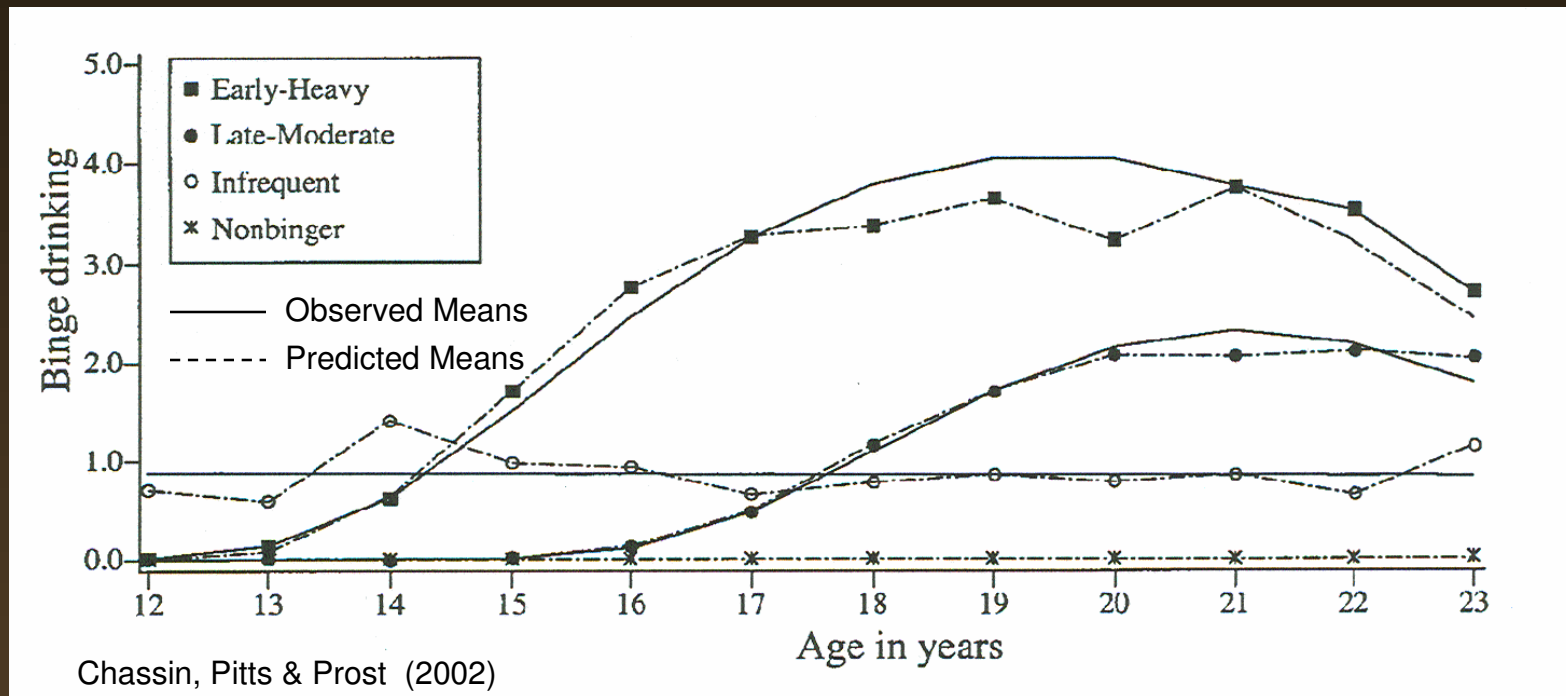


Chassin, Presson, Pitts & Sherman (2000)

Age in years

Smoking Scores as a function of age for each of the four empirically identified smoking trajectory groups. Values of the smoking variable: 0=not currently smoking; 1=up to monthly smoking; 2= up to weekly smoking; 3= weekly or more smoking but 10 or fewer cigarettes a day; 4=weekly or more smoking of 11-20 cigarettes per day; 5= weekly or more smoking of 20 or more cigarettes per day. ES=12% LS=16% Abs=60%

Trajectories of Binge Drinking



Growth curve trajectories of binge drinking from adolescence through emerging adulthood. Observed frequencies of binge drinking (past year) ranged from 0 (none) to 5 (1-2 times a week). Nonbinger group, N=176, 39.5% of the sample. Early-heavy group, N=93, 20.9% of the sample. Late-moderate group, N=134, 30% of the sample. Infrequent group, N=43, 9.6% of the sample.

Early Onset Group

- Steep escalation and high risk for problems
- Deviance Prone: Impulsive, Sensation Seeking,
Dysregulated: Cognitive, Affective, Behavioral
- Family History of Use
- Adolescent onset itself may accelerate use?

Late Onset

- Leaving Home
- College as a risky environment-
 - Drinking--more drinking, more bingeing, less dependence (buffered from family and work consequences?)
 - Smoking- 28-30% “current” smokers

Early Group: Does Age of Onset accelerate use?

- Just a Marker for Risk?
- Effects on Peer Affiliations? School? Coping?
--But Animal Data also show
- Adolescents are Less Sensitive to Some
Substance Use Effects
 - Cues to Limit Intake (e.g., Spear & Varlinskaya, 2005,
Motor Impairment, sedation)
- But—More Sensitive to Others
 - Reinforcing effects (e.g., social facilitation)

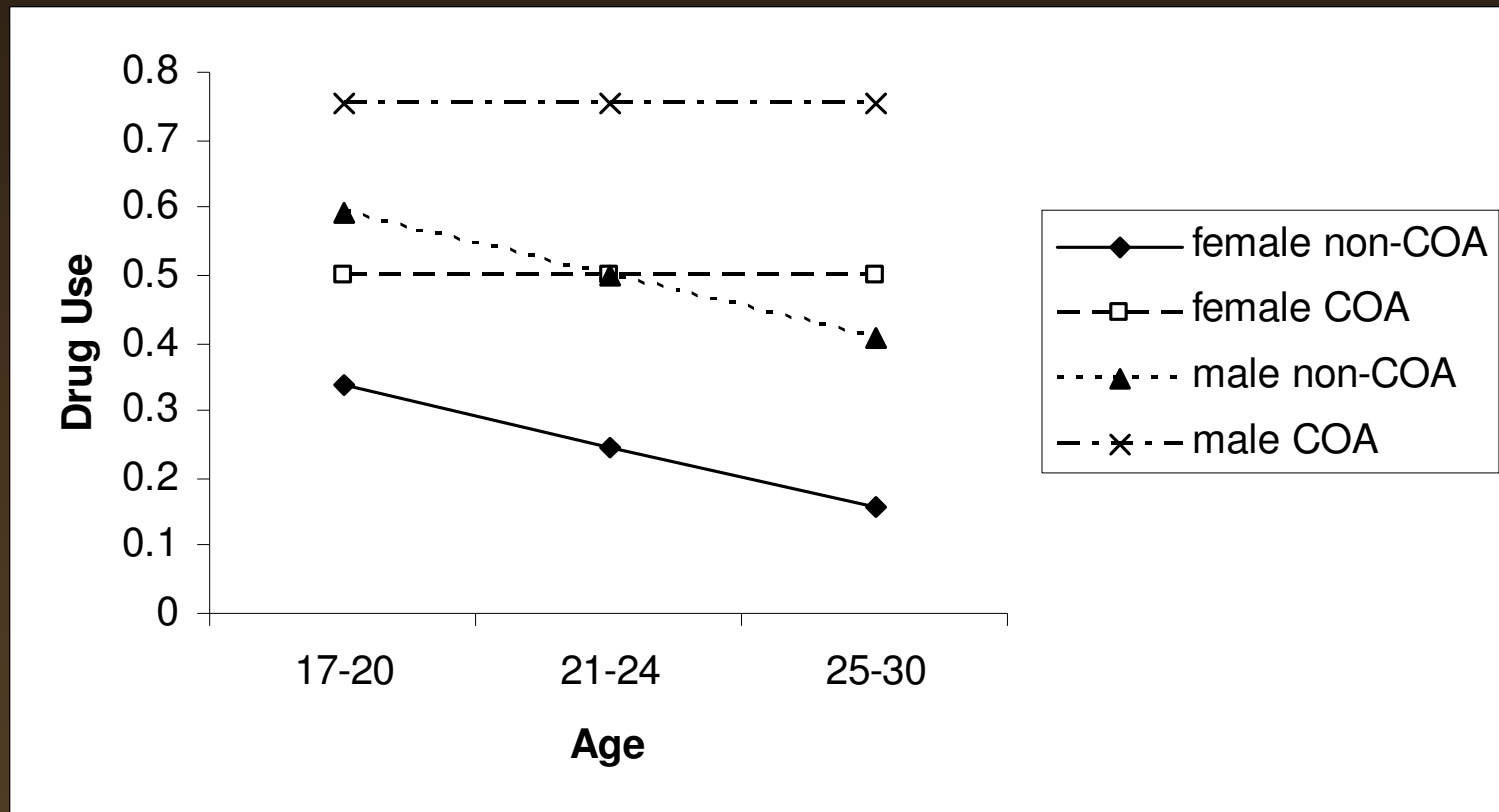
Parent Substance Use is Important

- 25% exposed by age 18 to parent alcoholism (Grant, 2000)
- 9.8% kids ages 10-17 live with parent dependent on drugs or alcohol (NHSDA 1996)
- 22% of Parents are Current Smokers (Child Trends 2003)

Parent Alcoholism Related to multiple indices of Dysregulation

- Diminished P300
- Psychophysiological reactivity
- Sensation Seeking
- Impulsivity, Low Constraint
- Diminished potentiation of emotion-related startle by negative stimuli
- Executive Inhibition (Stop-Signal, older)

Parent Alcoholism Is Related to Persistence of Use (COAs do not “mature out”)



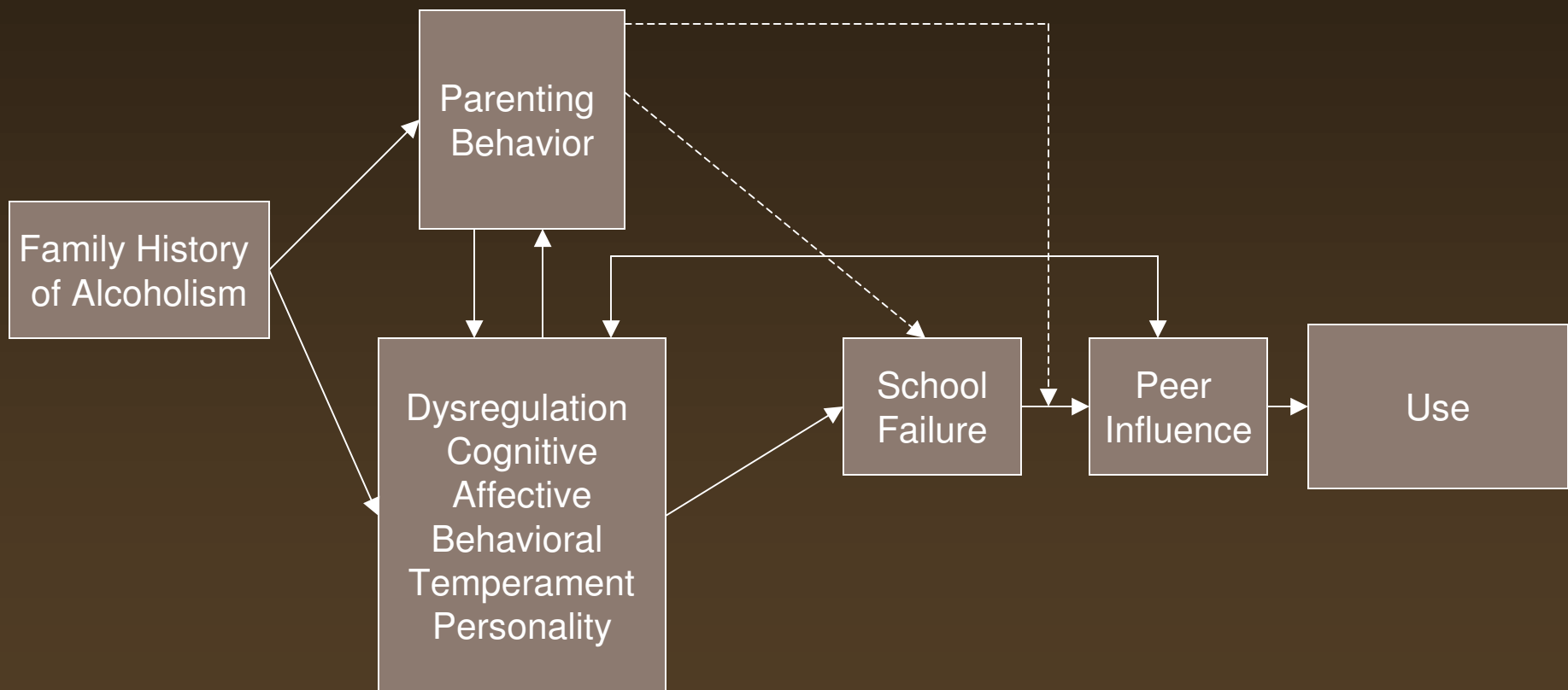
Flora & Chassin (2005)

Parent Alcoholism Raises Risk for Substance Use Disorders

	COA	Control	OR
• Alcohol	52.6%	25.3%	3.28
• Drug	21.1%	8.8%	2.79
• (Abuse/Dependence at median age=20)			

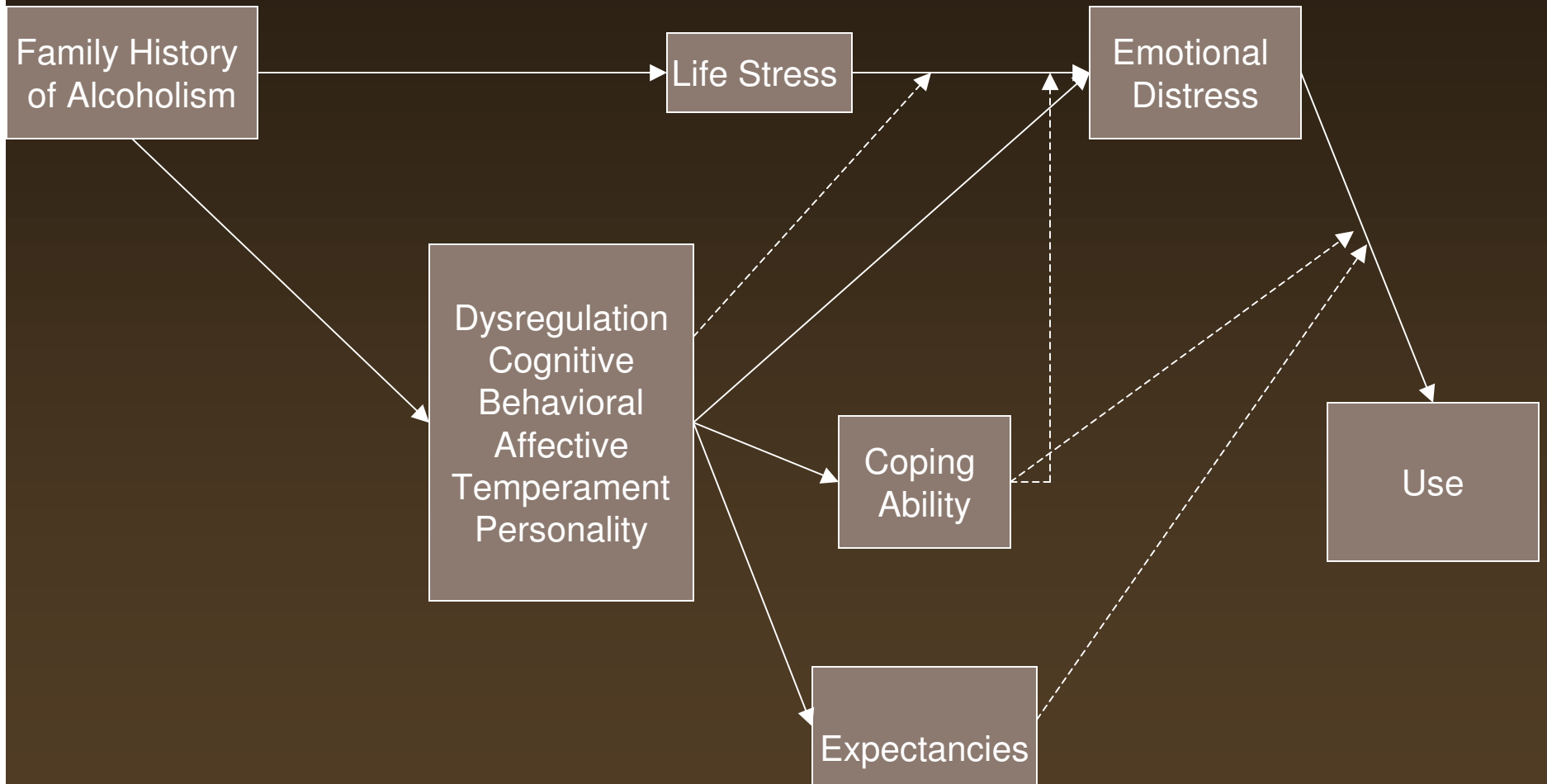
Multiple Pathways into Use: Deviance Proneness

(adapted from Sher, 1991)



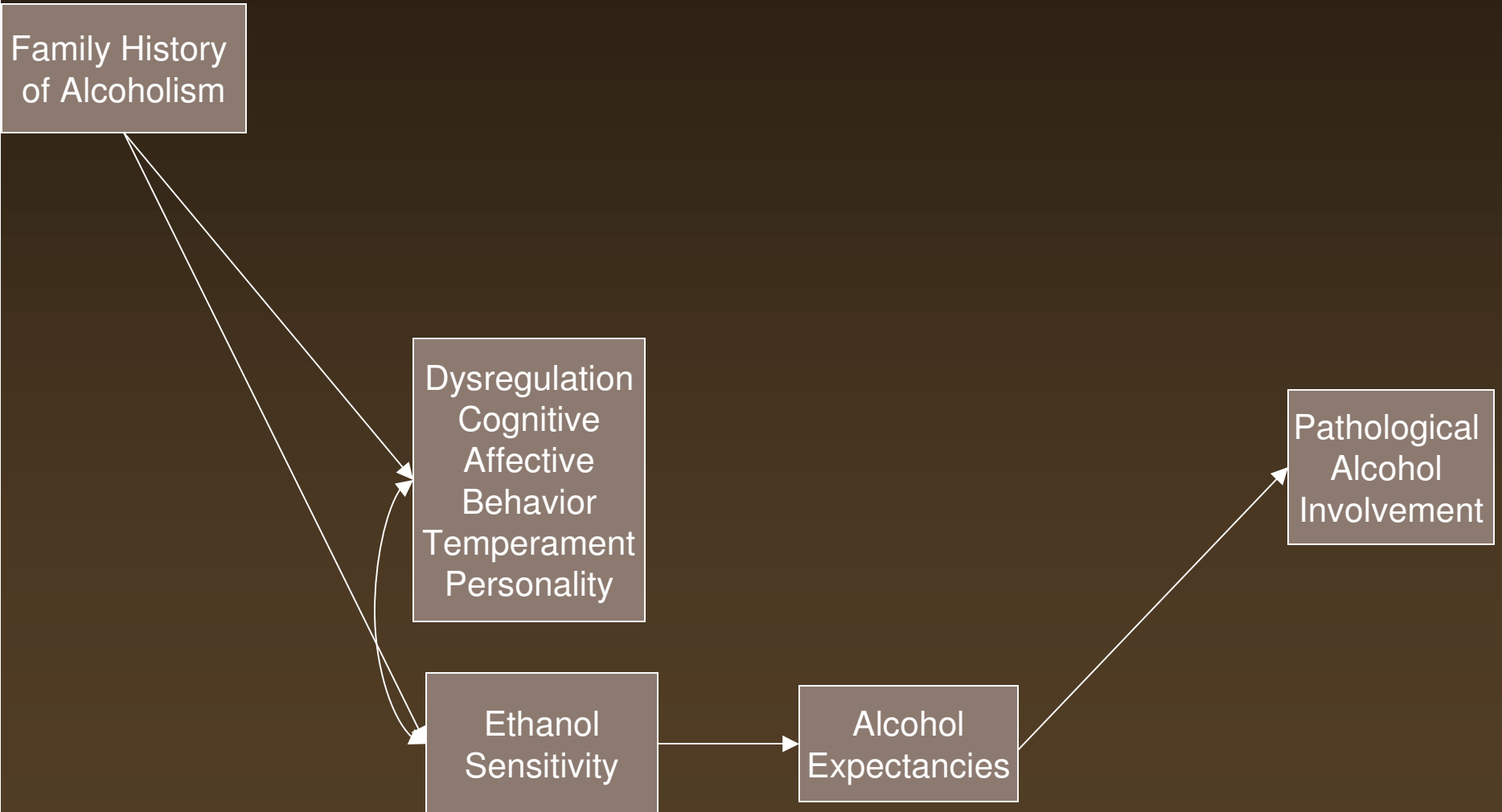
Stress and Negative Affect

(adapted from Sher, 1991)

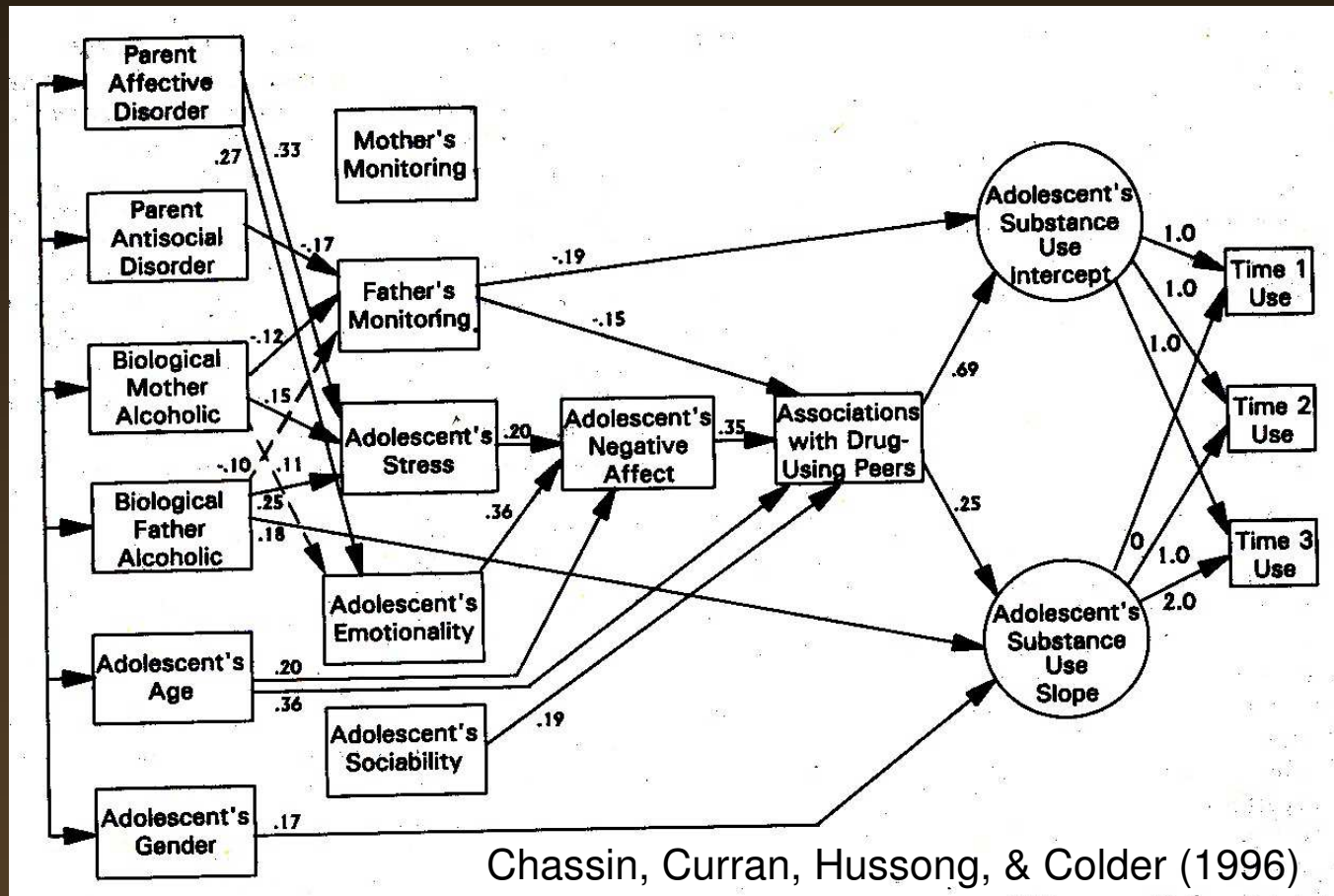


Alcohol Effects

(adapted from Sher 1991)

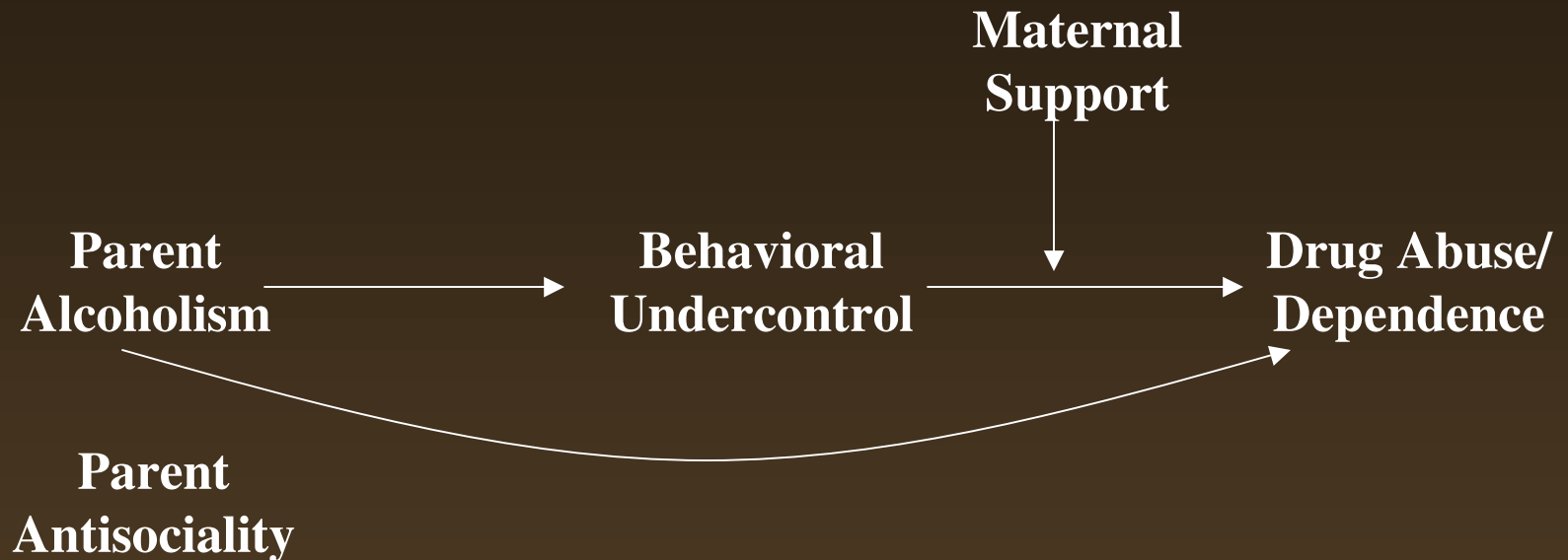


Testing Sher's Pathways



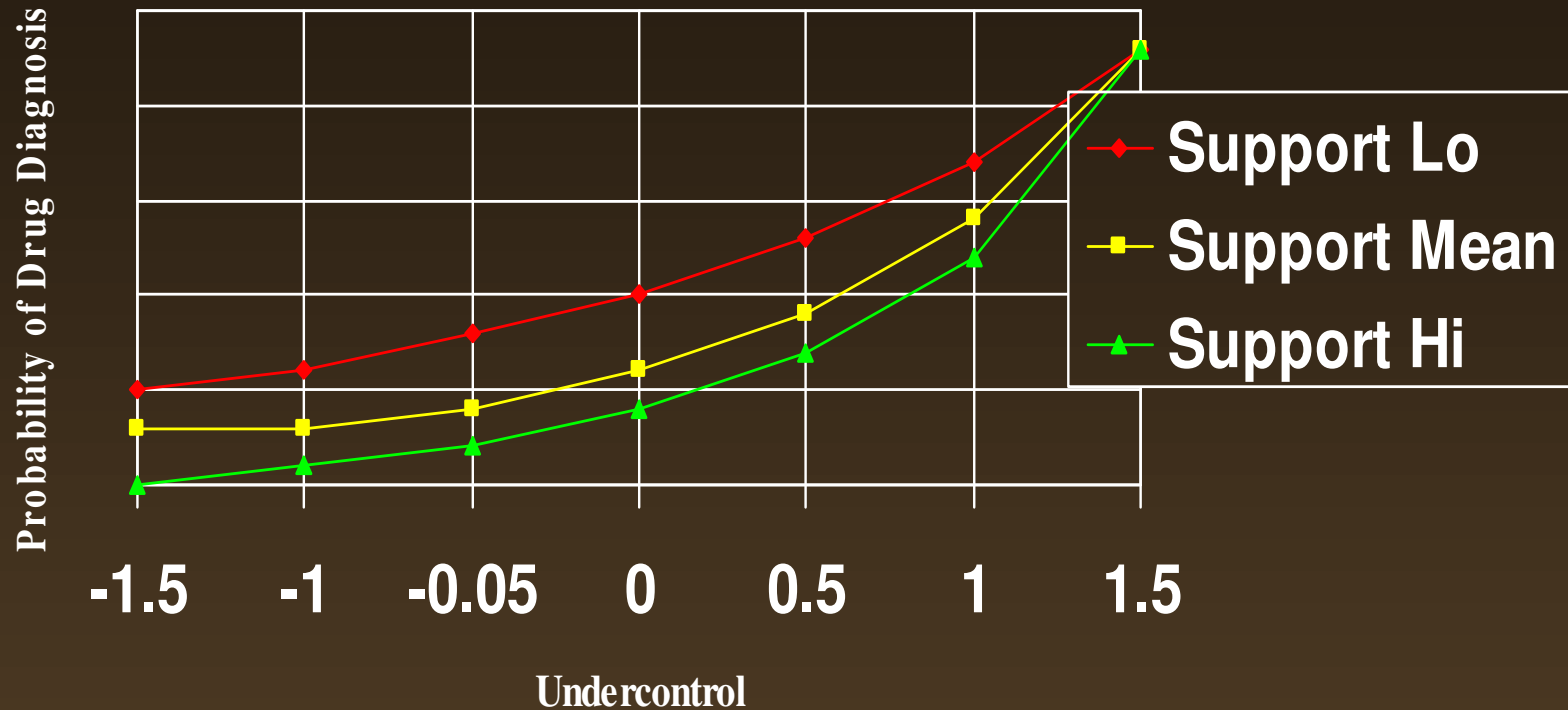
Standardized path coefficients are shown. For solid lines, $p < .05$; for dashed lines, $p < .10$; $\chi^2(62, N=316)=88.6, p=.01$, Tucker-Lewis Fit Index=.95, Comparative Fit Index=.98

Is Parenting a Protective Factor?



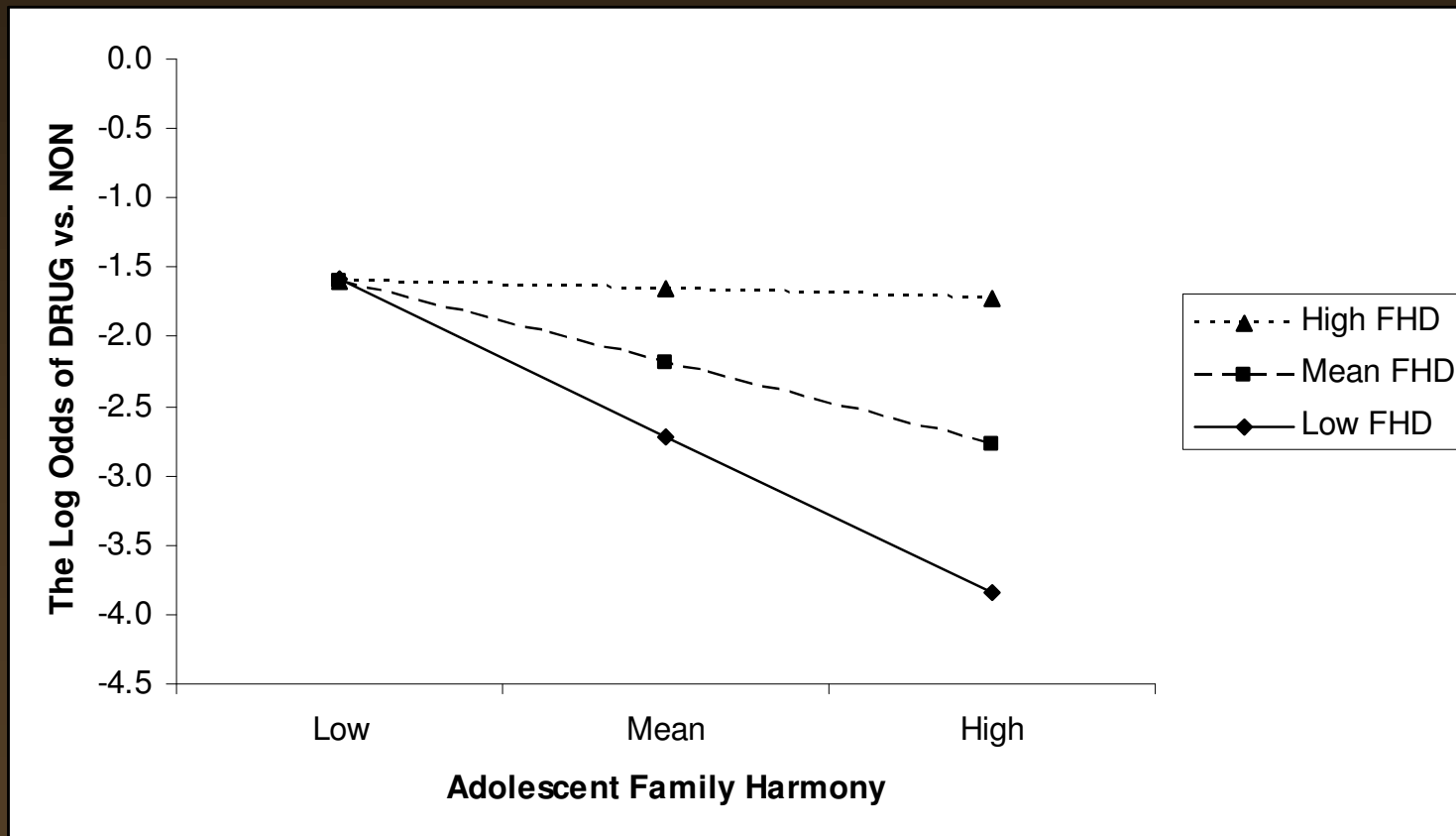
- Adolescents' perceptions of maternal support interact with behavioral undercontrol to predict later drug diagnoses

But—not the classic “buffering” effect



- Interaction is “protective but reactive” (Luthar et al., 2000)
- Protection is lost at the highest levels of behavioral undercontrol (King & Chassin, 2004)

Protective (but Reactive) Effects of Family Harmony



Zhou *et al.* (in press)

Theoretical Frameworks

- Developmental Psychopathology
 - Relation to normal development and psychopathology
- Heterogeneity-Multiple Trajectories & Pathways
- BioPsychoSocial Models- Multiple Levels
 - Genetic models & genetically informed designs
 - Neuroscience: Cognitive, Affective, & Behavioral Reactivity, Regulation & their interactions
 - Substance use effects
 - Socialization: Behavior in Micro & Macro Context

Substance Use Research in an Agenda on Adolescence

- Substance Use as an Important Outcome of Development
 - Cognitive, Affective, and Behavioral Regulation, Coping, Cognition, Reward Response, Stress Response, Developmental Task Achievement
- Substance Use as an Influence on Development
- Substance Use is an Important Health Behavior
 - Causes of mortality-accident, homicide, suicide
 - Tobacco Use
- Families as a context for intervention

Research Areas to Study

- Effects of Early Use
 - Later Use
 - Cognition, Memory, ECF
 - Arousal and Regulation of Arousal
 - Reward Circuitry and Mood Regulation
 - Stress Response

- >Methodological Issues in Human Research
 - Are they pre-existing?
 - Are these effects of use or family history (other?)
 - Are they long-lasting?
 - Need to Consider Multiple Substances

More Research Areas

- The development of cognitive, affective, and behavioral regulation
 - Response to incentive, motivation, socialization
 - Regulation of arousal and reactivity of arousal
 - Executive Inhibition- Effortful Control of Behavior and Attention (Nigg, 2005)
 - Better Task Analysis— (Stout et al., 2005)
- Family Influences—Socialization Studies
- Prevention Science-
 - can we influence the mediators? tailor to them?
 - Family as one context— highest risk families?

Some Questions for Intervention

- Modify mediators or go around??
 - Tailor to Mediators?
- Focus on Substance Use or General Competence/Resilience?
- Families as a Context for Intervention?
- What about families at the highest level of risk?

Substance-Specific Socialization

Power of General vs Substance-Specific Socialization?

How to socialize what you are not?

- “Do as I say” –Kids’ perceptions vs. parents’
- What is communicated? (IAT)

What about parents who stop using?

Delucia et al. (2001) -Family Environment vs Child Outcome

Chassin et al. (2000) -depends on other parent