



# COVARIANCE OF PROBLEM BEHAVIORS IN ADOLESCENCE

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# Key Points



1. Problem behaviors are highly correlated
2. Covariance between problem behaviors is stronger in adolescence than in earlier or later periods.
3. Shared risk and protective factors underlie multiple problem behaviors.
4. Implications for prevention:
  - n Intervene early – at developmental point that targeted risk factors predict later problem behaviors.
  - n Focus on shared risk and protective factors for diverse problem behaviors.
  - n Focus risk reduction and protection enhancement efforts on populations exposed to greatest cumulative risk.

# Problem behavior in adolescence



- .. Around 1 in 5 young people (14-20%) have a current disorder
- .. Estimated \$247 billion in annual costs
- .. Costs to multiple sectors – education, justice, health care, social welfare
- .. Costs to the individual and family

# Prevalence of problem behavior in adolescence

- Motor vehicle crashes are one of the leading causes of death between ages 15-19 (Centers for Disease Control, 2006).
- Delinquency peaks in the mid to late teenage years (Farrington, 2009)
  - ⌘ Among 12th graders in 2008,
    - n 48% have used some illicit drug in their lifetime,
    - n 72% have consumed alcohol, and
    - n 20% are current smokers (Johnston et al., 2009).
  - ⌘ Approximately 50% of all sexually transmitted infections occur between the ages of 15 and 24 and (CDC, 2002)
  - ⌘ 20-30% of adolescents report not using a condom or other contraceptive the last time they had sexual intercourse (Hoeffferth, 1990; Santelli, Lowry, Brener, & Robin, 2000).

# Consequences of problem behavior



- Problem behavior has a number of implications for youth development:
  - ✘ Failure to complete high school
  - ✘ Underemployment
  - ✘ Incarceration
  - ✘ Long term substance abuse
  - ✘ Sexually transmitted infections
  - ✘ Unplanned pregnancies

# Covariance of problem behaviors.



# Covariation among problem behaviors



## Delinquency

positively associated with

defiance – truancy – school misbehavior –  
problem sexual behavior – academic failure –  
high school drop out – teenage pregnancy –  
violence – risky driving

# Covariation among problem behaviors



## Substance Use

positively associated with

early initiation of sexual behavior –  
low contraceptive use – delinquency –  
academic failure – violence – risky driving

# Covariation among problem behavior



- Also relationships to health behaviors

Delinquency and Substance Use

related to

diETING – exercise – wearing a seat belt – anorexia

# Developmental specificity of covariance of problem behavior.



# Background



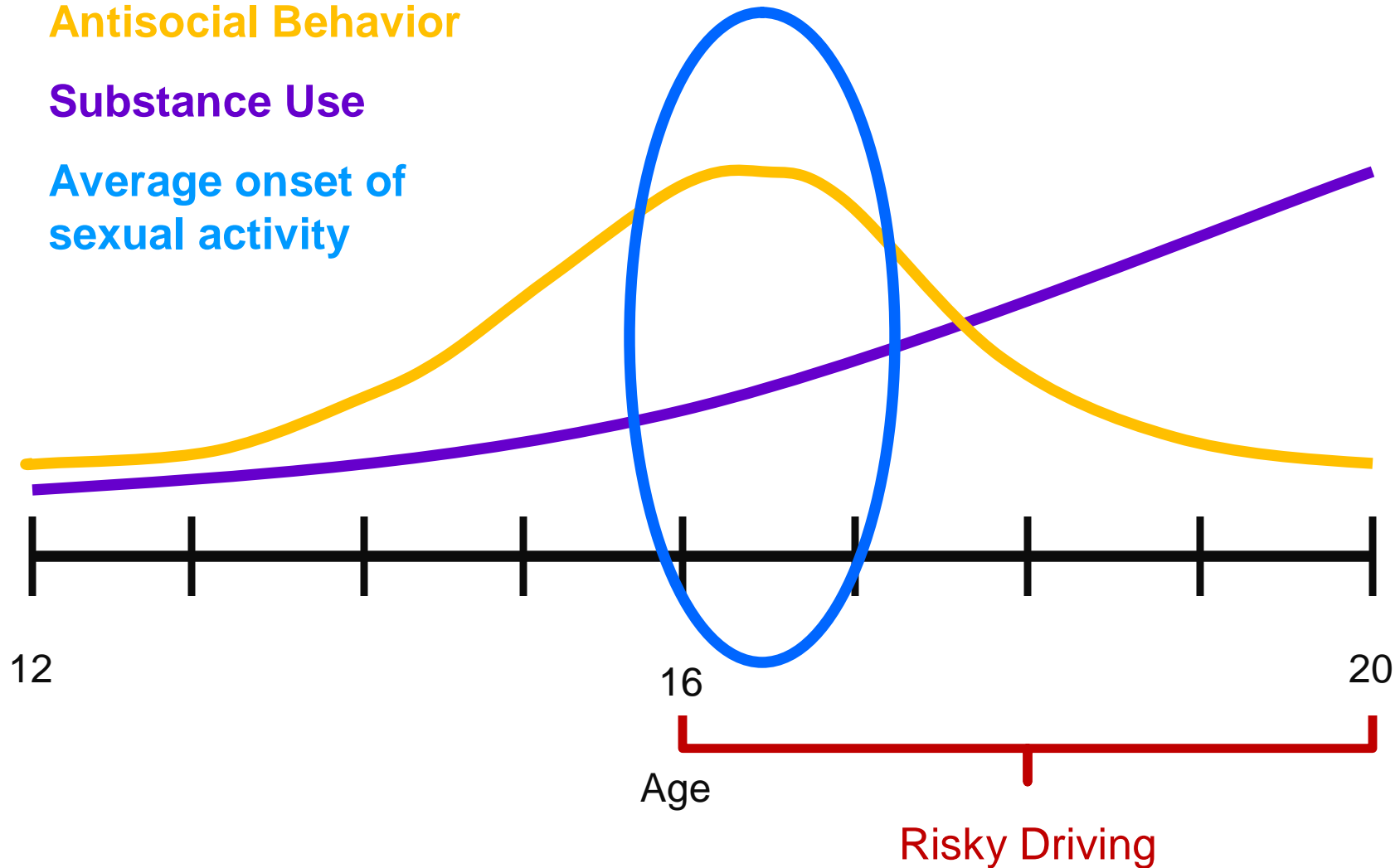
- Covariance stronger in adolescence than in earlier or later developmental periods
- Partially due to:
  - ⌘ Developmental nature of problem behavior
  - ⌘ Developmental sequencing of problem behavior

# Developmental pattern of problem behavior across adolescence

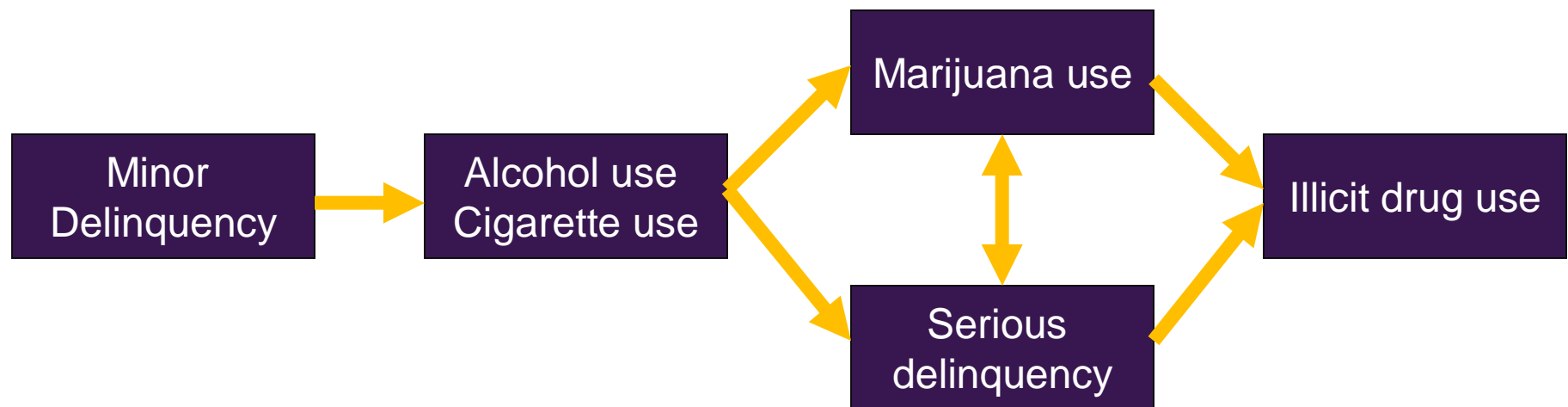
Antisocial Behavior

Substance Use

Average onset of sexual activity



# Typical developmental sequence of delinquency and substance use



# Risk and protective factors for problem behavior



# Advances in Prediction



- Longitudinal studies have identified predictors of mental, emotional and behavioral problems.

Risk factors.

- AND predictors of positive outcomes including avoidance of problem behaviors-

Promotive and protective factors.

# Risk Factors for Adolescent Problem Behaviors

Risk Factors	Substance Abuse	Delinquency	Teen Pregnancy	School Drop-Out	Violence	Depression & Anxiety
<b>Community</b>						
Availability of Drugs	<b>P</b>				<b>P</b>	
Availability of Firearms		<b>P</b>			<b>P</b>	
Community Laws and Norms Favorable Toward Drug Use, Firearms, and Crime	<b>P</b>	<b>P</b>			<b>P</b>	
Media Portrayals of Violence					<b>P</b>	
Transitions and Mobility	<b>P</b>	<b>P</b>		<b>P</b>		<b>P</b>
Low Neighborhood Attachment and Community Disorganization	<b>P</b>	<b>P</b>			<b>P</b>	
Extreme Economic Deprivation	<b>P</b>	<b>P</b>	<b>P</b>	<b>P</b>	<b>P</b>	

# Risk Factors for Adolescent Problem Behaviors

## Risk Factors

### Family

Family History of the Problem Behavior

✓ ✓ ✓ ✓ ✓ ✓

Family Management Problems

✓ ✓ ✓ ✓ ✓

Family Conflict

✓ ✓ ✓ ✓ ✓ ✓

Favorable Parental Attitudes and Involvement in the Problem Behavior

✓ ✓ ✓ ✓

### School

Academic Failure Beginning in Late Elementary School

✓ ✓ ✓ ✓ ✓ ✓

Lack of Commitment to School

✓ ✓ ✓ ✓ ✓

### Individual/Peer

Early and Persistent Antisocial Behavior

✓ ✓ ✓ ✓ ✓ ✓

Alienation and Rebelliousness

✓ ✓ ✓

Friends Who Engage in the Problem Behavior

✓ ✓ ✓ ✓ ✓

Favorable Attitudes Toward the Problem Behavior

✓ ✓ ✓ ✓

Early Initiation of the Problem Behavior

✓ ✓ ✓ ✓ ✓

Constitutional Factors

✓ ✓ ✓ ✓ ✓

Substance Abuse

Delinquency

Teen Pregnancy

School Drop-Out

Depression & Anxiety

Violence

# Promotive and Protective Factors



- Individual Characteristics
  - High Intelligence
  - Resilient Temperament
  - Competencies and Skills
- In social domains of family, school, peer group and neighborhood
  - Prosocial Opportunities
  - Reinforcement for Prosocial Involvement
  - Bonding
  - Clear Standards for Healthy Behavior

# Key findings about risk and protective factors



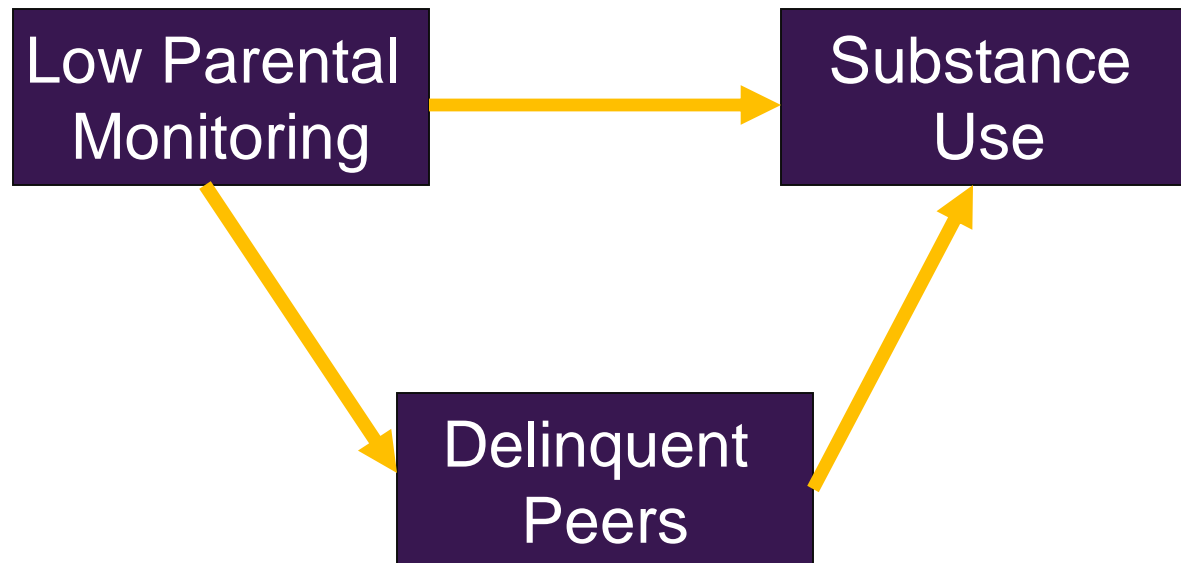
- Found in communities, families, schools, peer groups and individuals
- Many of the same factors predict substance abuse, violence, and other health and behavior problems
- Consistency in effects across cultures, race, and sex in samples from U.S., Australia, and the Netherlands
- Protective factors reduce effects of risk exposure on problem behaviors

# Key findings about risk and protective factors

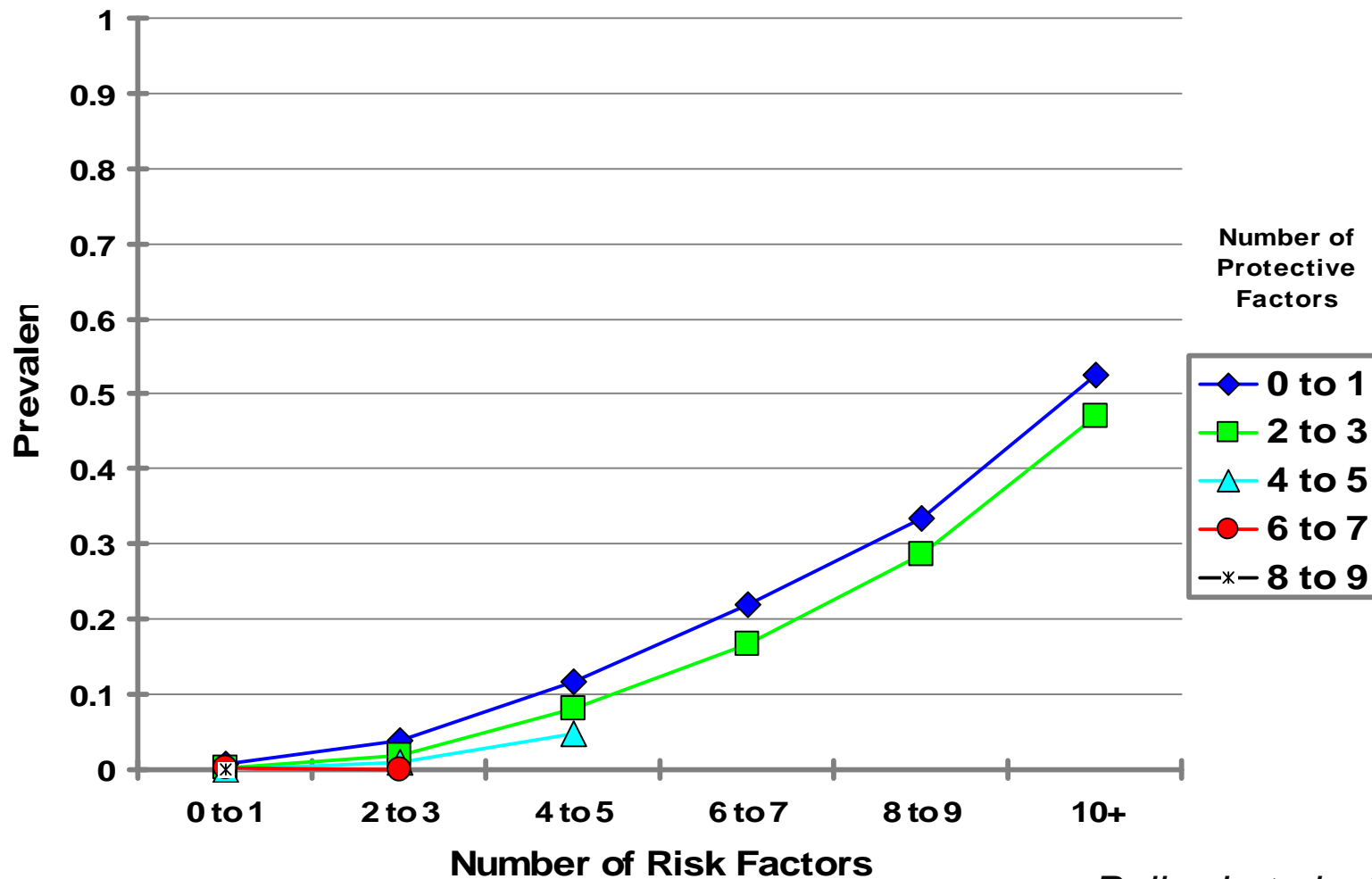


- Variation in strength of prediction across development.
- Some factors have both direct and indirect effects.
- Cumulative effects of exposure to multiple risks.
- Low levels of protection typically found in presence of high levels of risk exposure.

# Direct and indirect effects of risk factors

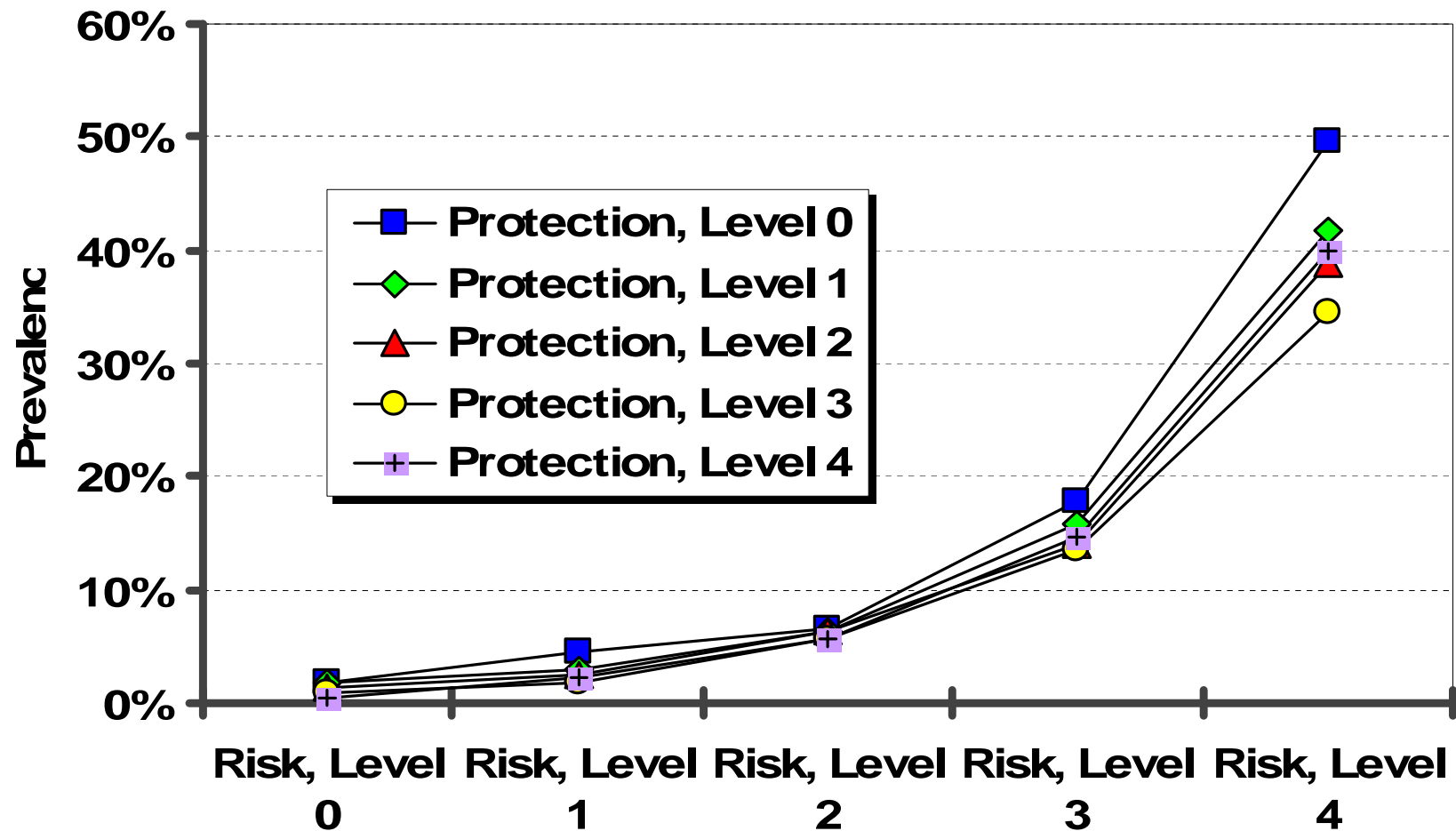


# Cumulative Effects: Prevalence of Marijuana Use in Last 30 Days by Exposure to Risk and Protective Factors



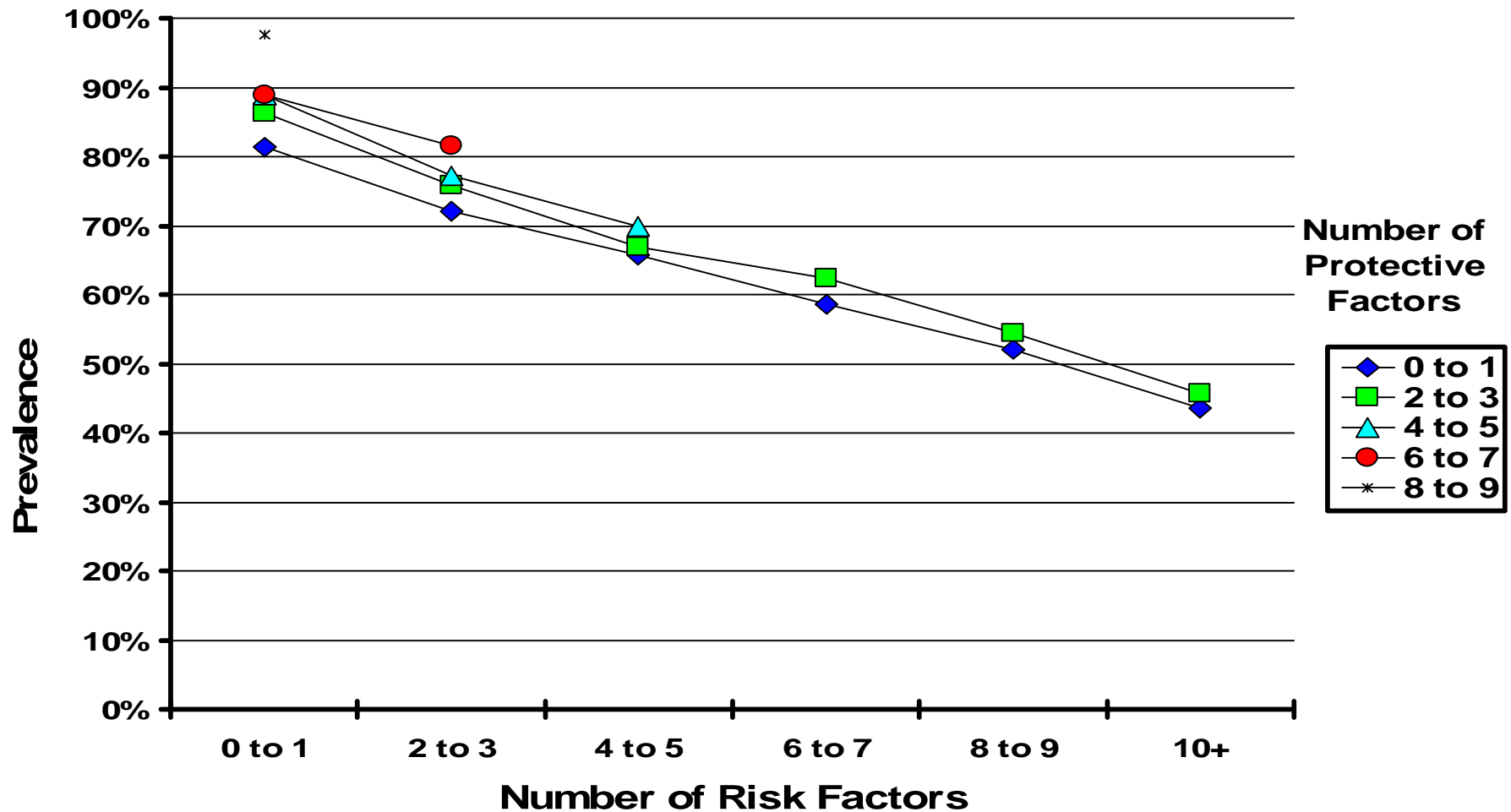
*Pollard et al., 1999*

# Prevalence of "Attacked to Hurt" By Risk and Protection Levels



*Pollard et al., 1999*

# Prevalence of Academic Success By Exposure to Risk and Protective Factors



*Pollard et al., 1999*

# Implications

- Interventions that address shared risk factors for multiple problem behaviors by strengthening promotive and protective factors can reduce a variety of future behavior problems.
  - ✕ Examples of interventions:
    - n Communities That Care
    - n Early Childhood Education
    - n Good Behavior Game
    - n Guiding Good Choices
    - n Incredible Years
    - n Life Skills Training
    - n Linking Interests of Families and Teachers
    - n Nurse Family Partnerships
    - n Seattle Social Development Project



# Shared Risk Factors Addressed By the Seattle Social Development Project

		Substance Abuse	Delinquency
<b>Risk Factors</b>			
<b>Family</b>			
	Family History of the Problem Behavior	✓	✓
X	Family Management Problems	✓	✓
X	Family Conflict	✓	✓
X	Favorable Parental Attitudes and Involvement in the Problem Behavior	✓	✓
<b>School</b>			
X	Academic Failure Beginning in Late Elementary School	✓	✓
X	Lack of Commitment to School	✓	✓
<b>Individual/Peer</b>			
X	Early and Persistent Antisocial Behavior	✓	✓
	Alienation and Rebelliousness	✓	✓
X	Friends Who Engage in the Problem Behavior	✓	✓
X	Favorable Attitudes Toward the Problem Behavior	✓	✓
X	Early Initiation of the Problem Behavior	✓	✓
	Constitutional Factors	✓	✓

Family

School

Individual/Peer



# Seattle Social Development Project

## *Core components*

- *Teacher In-Service Training*
- *Parent Workshops*
- *Child Social, Cognitive and Emotional Skills Training*





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# Effects of SSDP Interventions on Multiple Outcomes Over Time

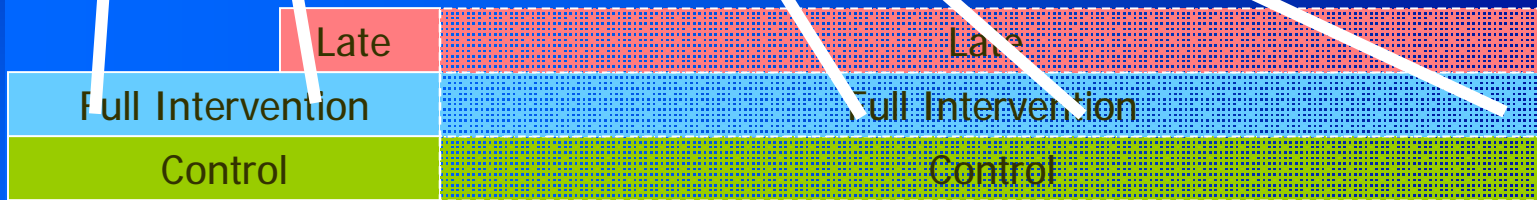
Hawkins et al. 1999, 2005; 2008; Lonczak et al., 2002.

By the start of the intervention  
At the intervention  
grad  
• bc  
• girls **less self-destructive**

By age 21, four outcomes

By age 21, broad significant effects were found on **positive adult functioning**:

- more high school graduates
- more attending college
- better **emotional and mental health**
- fewer with a **criminal record**
- less **drug selling**
- less **co-morbid diagnosis** of substance abuse and mental health disorder
- **reduced school misbehavior**



Grade

1 2 3 4 5 6 7 8 9 10 11 12

Age

7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

# Recommendations



- Recognize and address interrelatedness of problem behaviors
- To prevent future behavior problems, intervene early – at the developmental point that targeted risk factors predict later problem behaviors.
- Focus on shared risk and protective factors for diverse problem behaviors.
- Reduce risk and build protection in populations exposed to greatest cumulative risk.