



**Murdoch Children's Research Institute**

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## What is the Evidence Base for Prevention in Adolescence?

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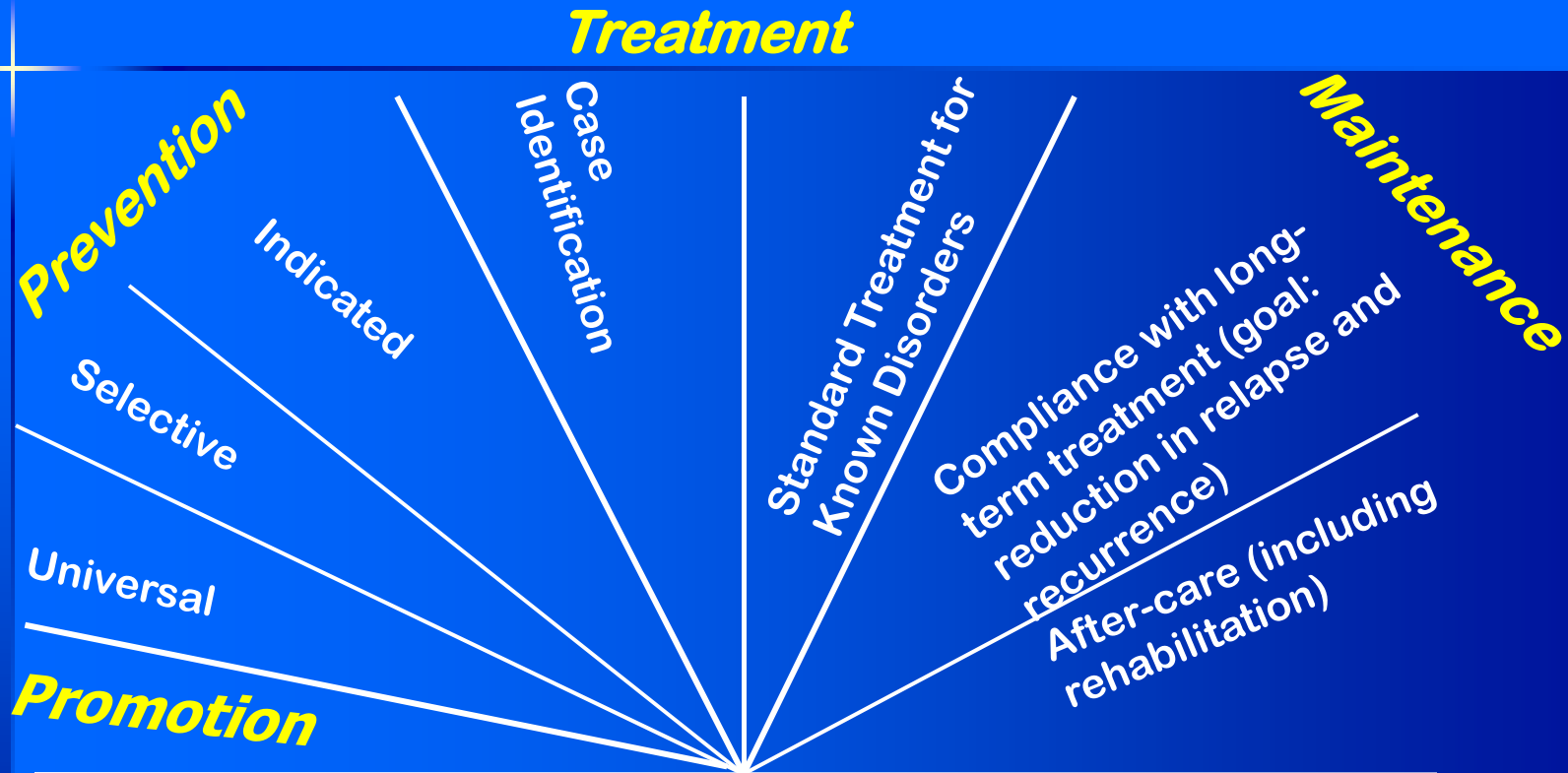
University of Washington

[sdrg.org](http://sdrg.org)

and the author group for the Prevention article in Lancet series  
on Adolescent Health: Abigail Fagan, Loretta E. Gavin, Mark T.  
Greenberg, Charles Irwin, David A. Ross, Daniel T.L. Shek



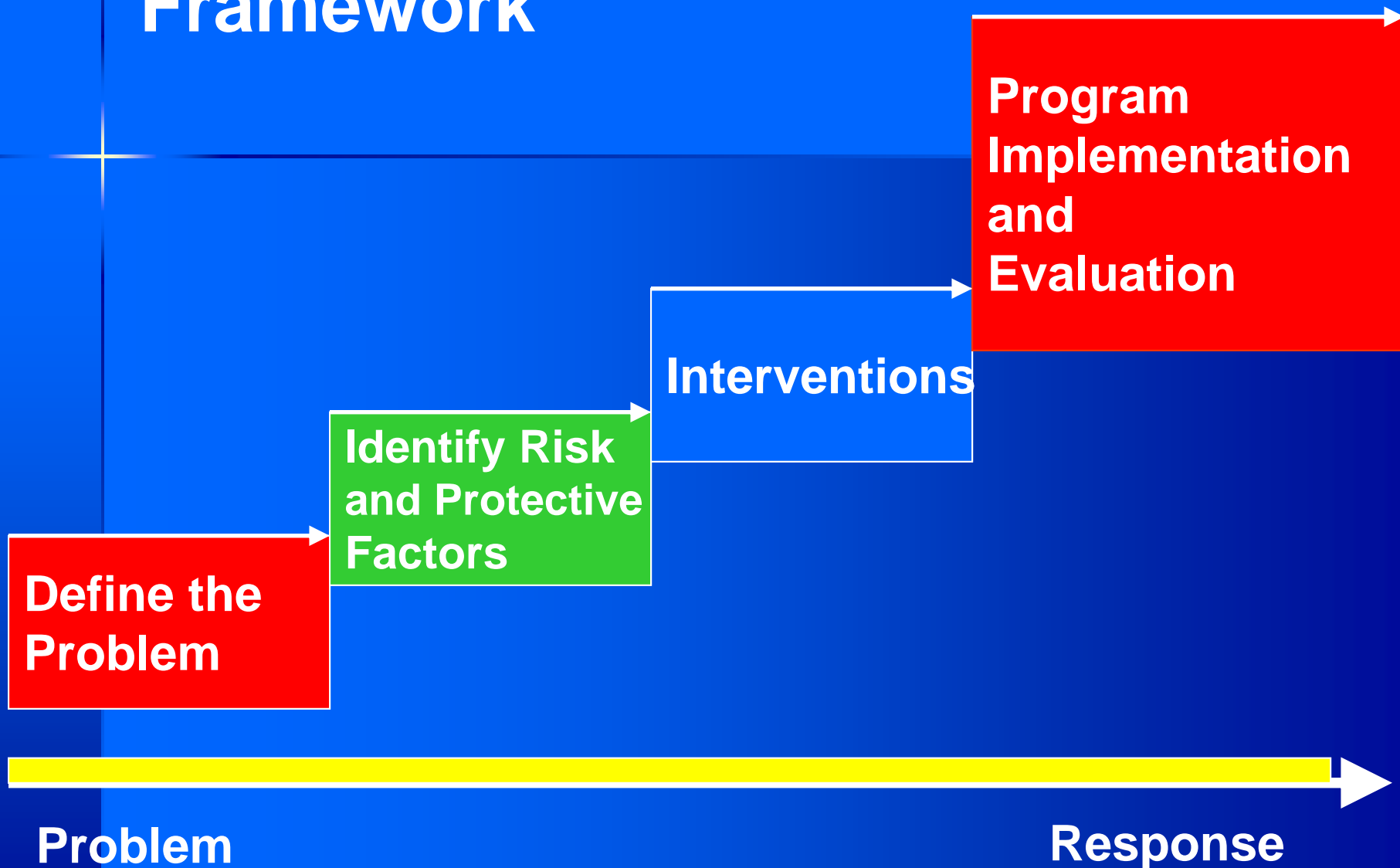
# Intervention Spectrum



Source: Institute of Medicine (2009). Preventing Mental, Emotional and Behavioral Disorders Among Young People. O'Connell, Boat & Warner (eds.) Washington DC: National Academy Press



# Prevention Science Framework





# Prevention Science Research Advances

## Etiology/Epidemiology of Problem Behaviors

- Identify risk and protective factors that predict problem behaviors and describe their distribution in populations.

## Efficacy Trials

- Design and test preventive interventions to interrupt causal processes that lead to youth problems.

## Prevention Services Research

- Apply lessons learned about etiology and effective interventions in real world settings.



# 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	✓				✓	
Availability of Firearms		✓			✓	
Community Laws and Norms Favorable Toward Drug Use, Firearms, and Crime	✓	✓			✓	
Media Portrayals	✓				✓	
Transitions and Mobility	✓	✓		✓		✓
Low Neighborhood Attachment and Community Disorganization	✓	✓			✓	
Extreme Economic Deprivation	✓	✓	✓	✓	✓	



# Risk Factors for Adolescent Problem Behaviors

## Risk Factors

	Substance Abuse	Delinquency	Teen Pregnancy	School Drop-Out	Violence	Depression & Anxiety
<b>Family</b>						
Family History of the Problem Behavior	✓	✓	✓	✓	✓	✓
Family Management Problems	✓	✓	✓	✓	✓	✓
Family Conflict	✓	✓	✓	✓	✓	✓
Favorable Parental Attitudes and Involvement in the Problem Behavior	✓	✓			✓	



# Risk Factors for Adolescent Problem Behaviors

Risk Factors	Substance Abuse	Delinquency	Teen Pregnancy	School Drop-Out	Violence	Depression & Anxiety
<b>School</b>						
Academic Failure Beginning in Late Elementary School	✓	✓	✓	✓	✓	✓
Lack of Commitment to School	✓	✓	✓	✓	✓	



# Risk Factors for Adolescent Problem Behaviors

Risk Factors	Substance Abuse	Delinquency	Teen Pregnancy	School Drop-Out	Violence	Depression & Anxiety
<b>Individual/Peer</b>						
Early and Persistent Antisocial Behavior	✓	✓	✓	✓	✓	✓
Rebelliousness	✓	✓		✓		
Friends Who Engage in the Problem Behavior	✓	✓	✓	✓	✓	
Favorable Attitudes Toward the Problem Behavior	✓	✓	✓	✓		
Early Initiation of the Problem Behavior	✓	✓	✓	✓	✓	
Constitutional Factors	✓	✓			✓	✓





# Protective Factors

## **Individual Characteristics**

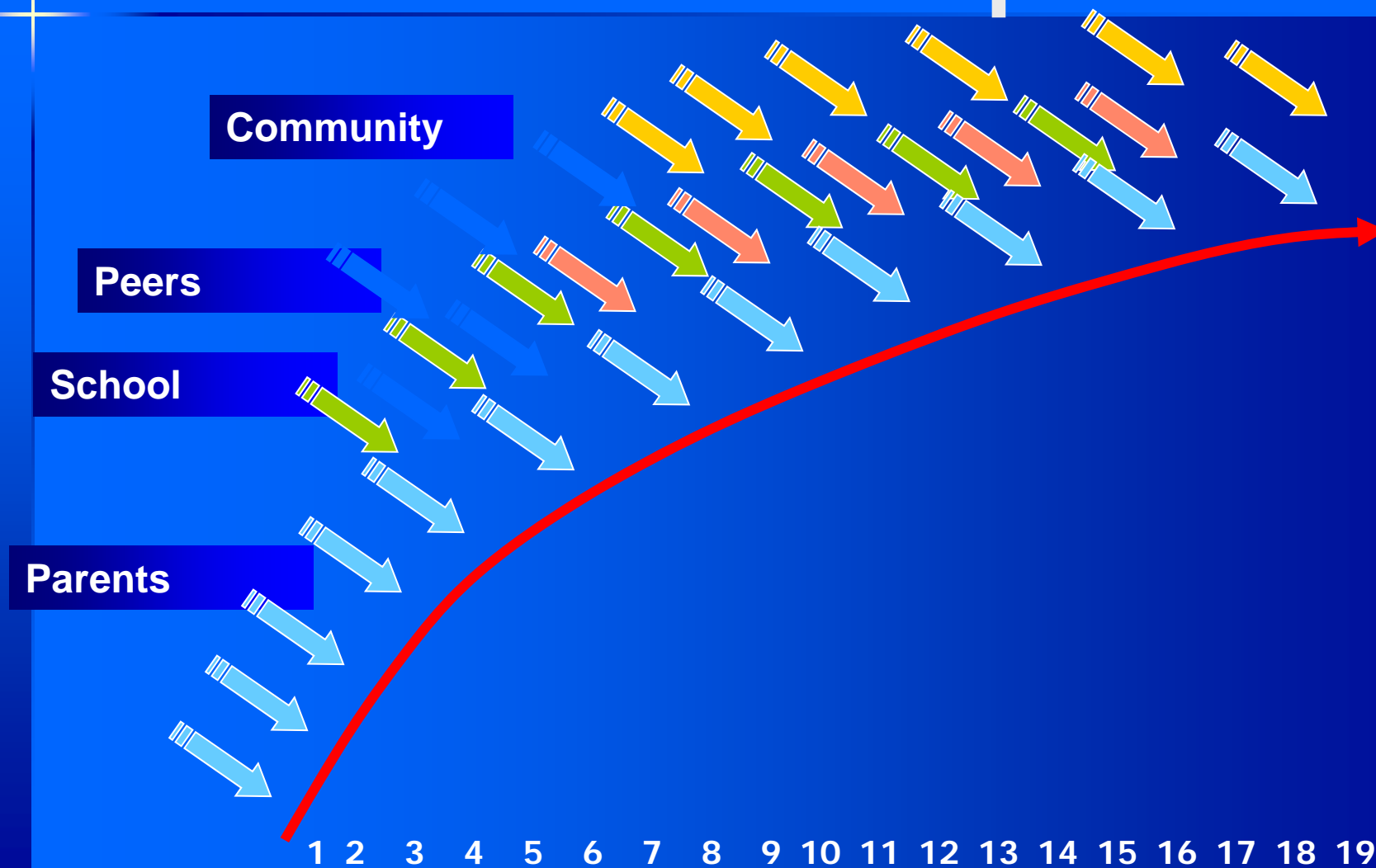
- High Intelligence
- Resilient Temperament
- Competencies and Skills

## **In each social domain (family, school, peer group and neighborhood)**

- Prosocial Opportunities
- Reinforcement for Prosocial Involvement
- Bonding
- Healthy Beliefs and Clear Standards

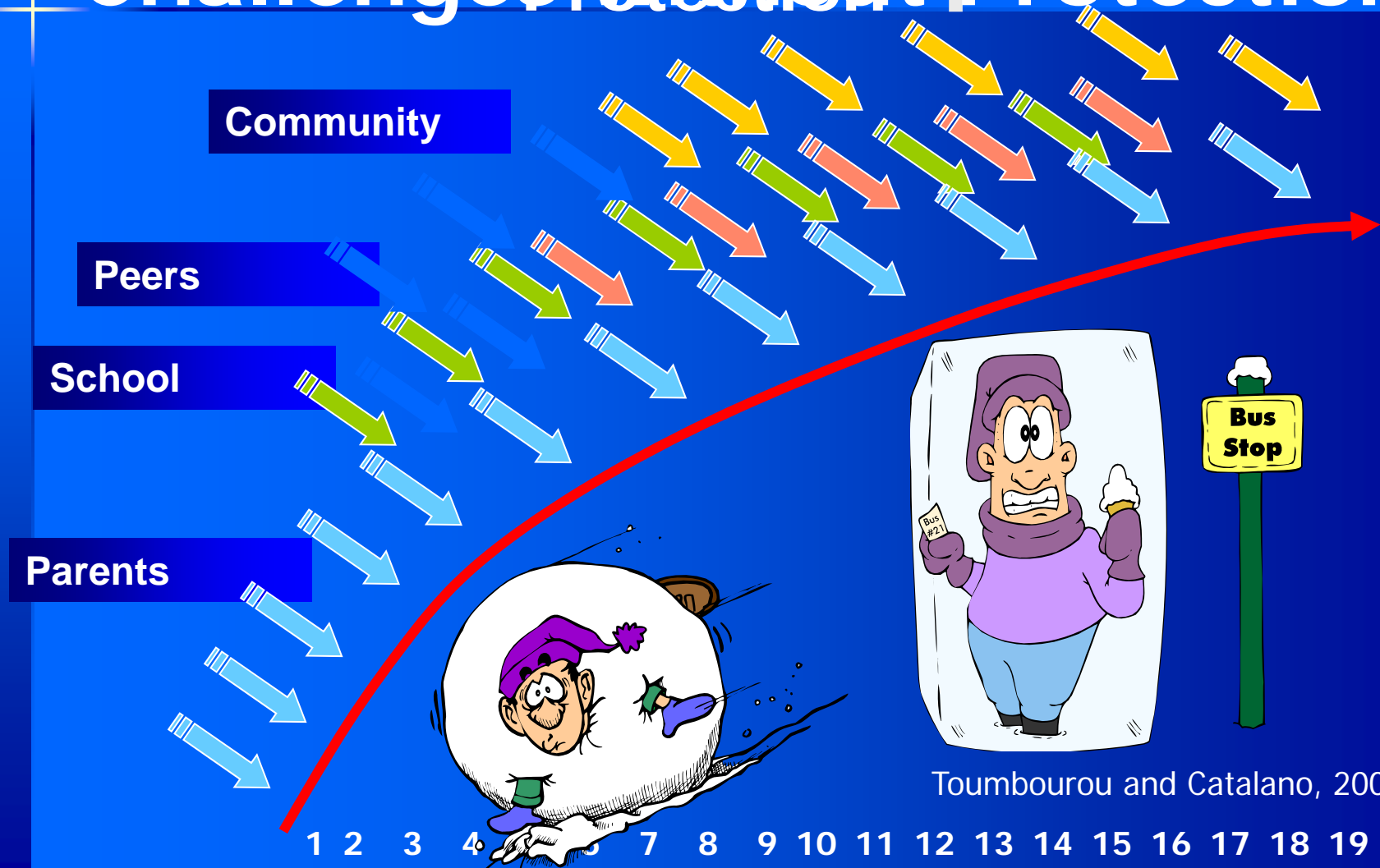


# Risk and Protective Factors Shaping Child and Adolescent Development



S D  
R G

# Risk and Protective Factors Snowball: Risk Accumulates Through Early Developmental Models of Problem Behavior without Adolescent Development Protection

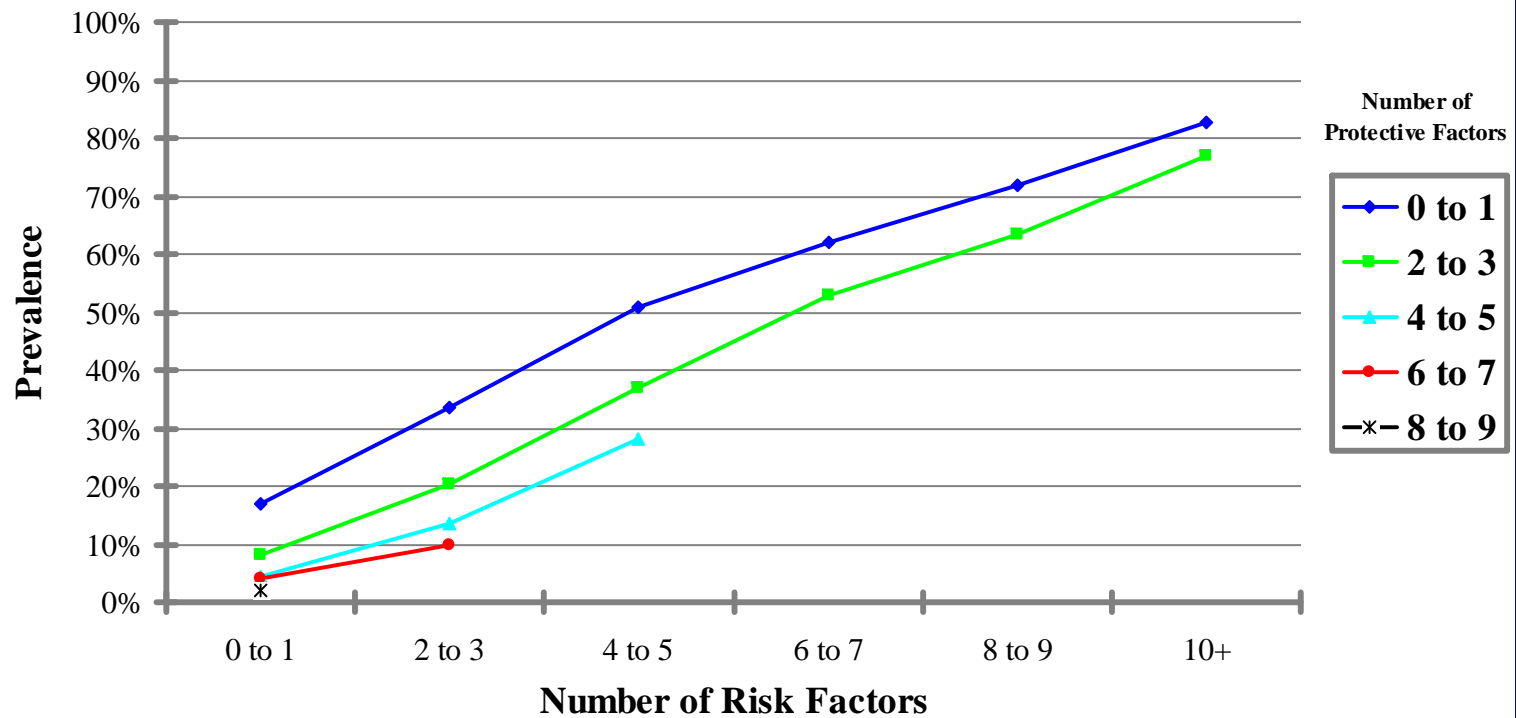


Toumbourou and Catalano, 2005



# Prevalence of 30 Day Alcohol Use by Number of Risk and Protective Factors

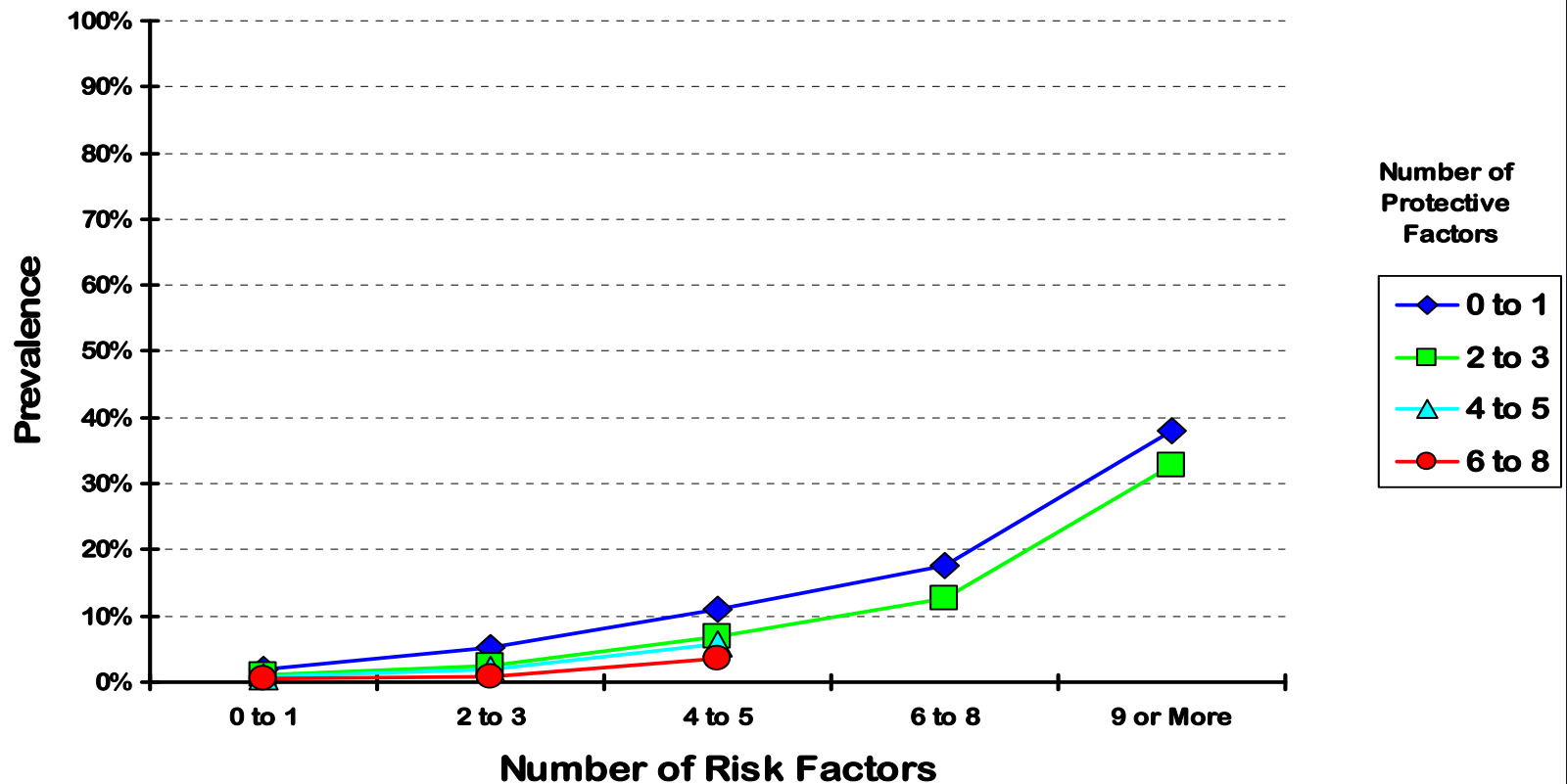
Six State Student Survey of 6th-12th Graders, Public School Students





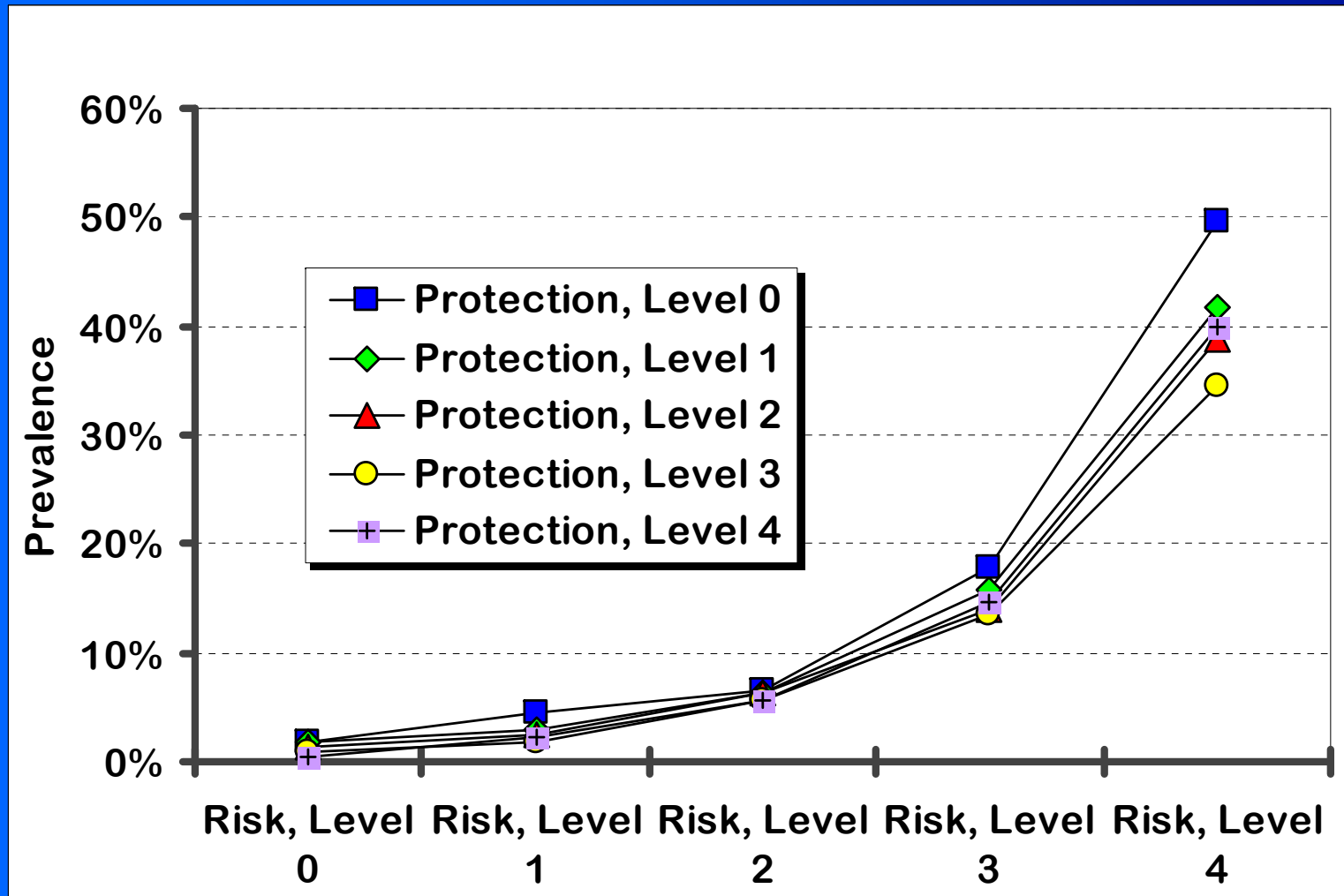
# Prevalence of Any Other Illicit Drug Use (Past 30 Days) By Number of Risk and Protective Factors

Six State Student Survey of 6th - 12th Graders,  
Public School Students



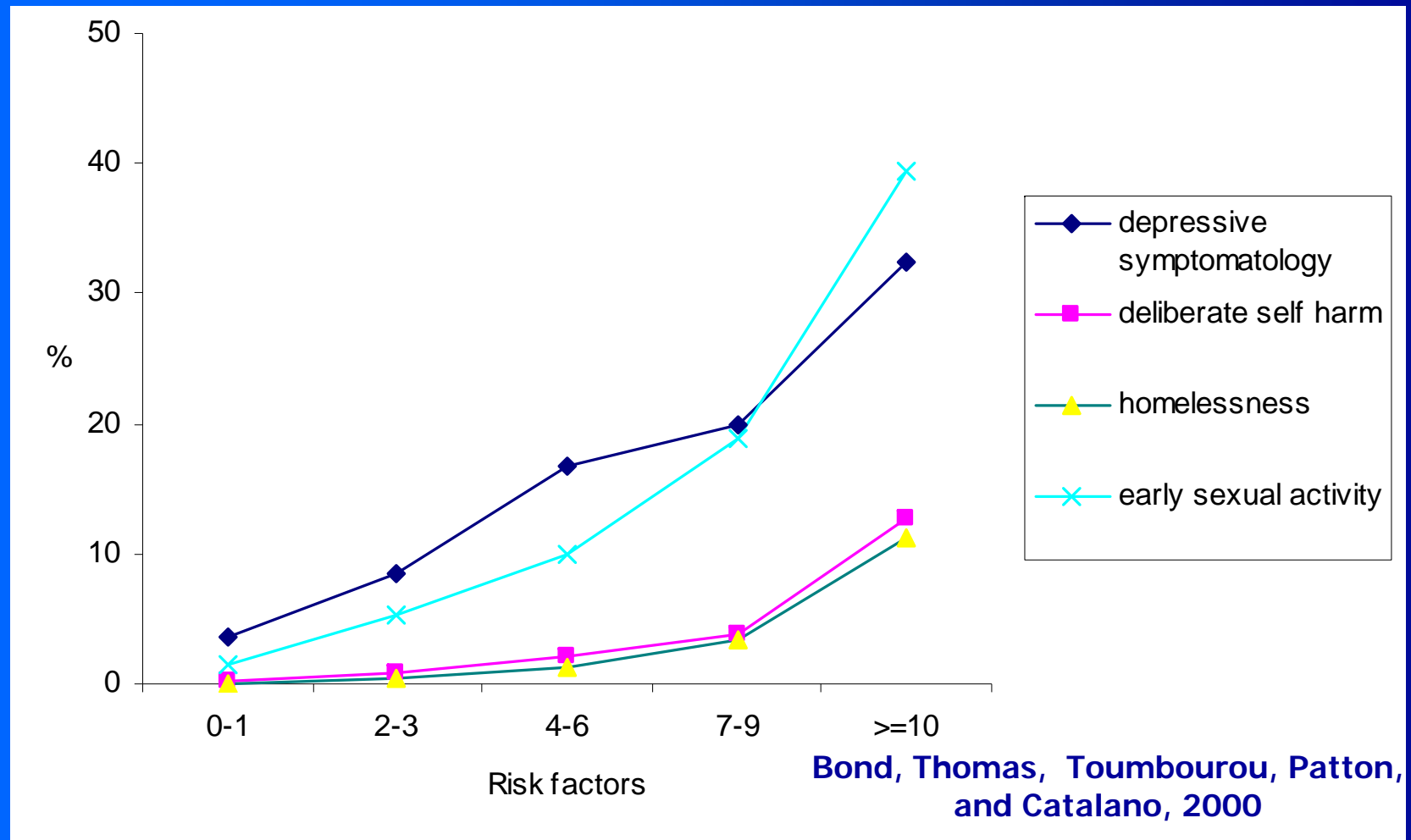


# Prevalence of "Attacked to Hurt" By Number of Risk and Protective Factors



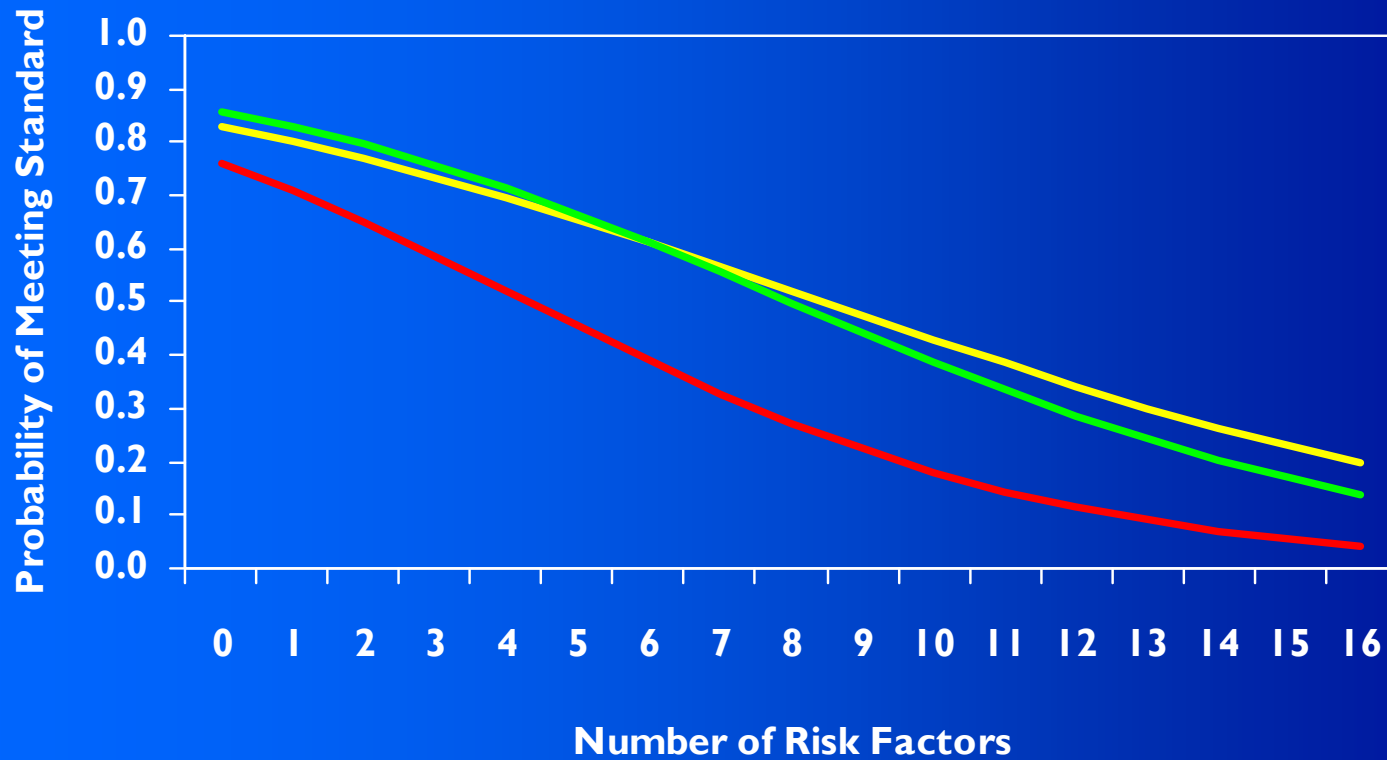


# Prevalence of Mental and Social Problems by Number of Risk Factors





# Number of School Building Risk Factors and Probability of Meeting WASL Standard (10<sup>th</sup> Grade Students)

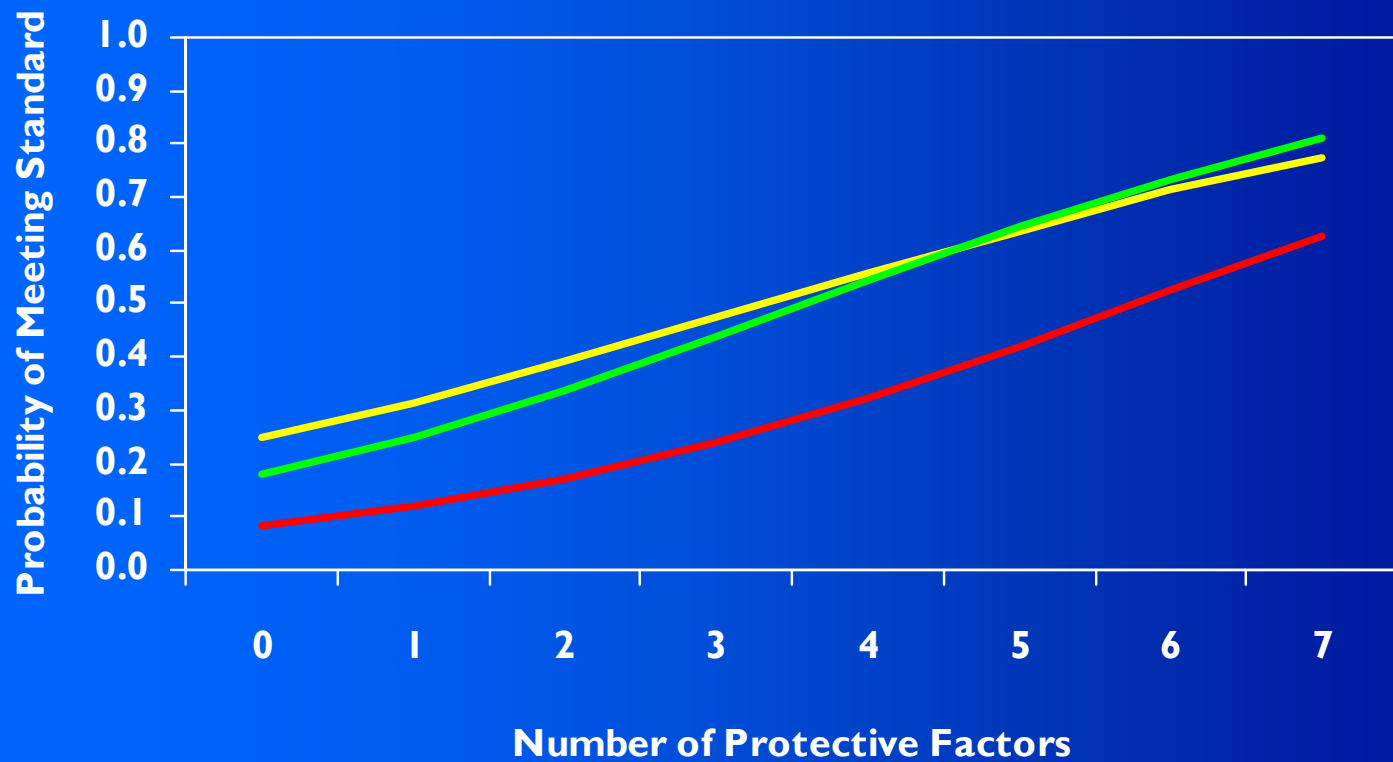


— Math — Reading — Writing





# Number of School Building Protective Factors and Probability of Meeting WASL Standard (10<sup>th</sup> grade students)

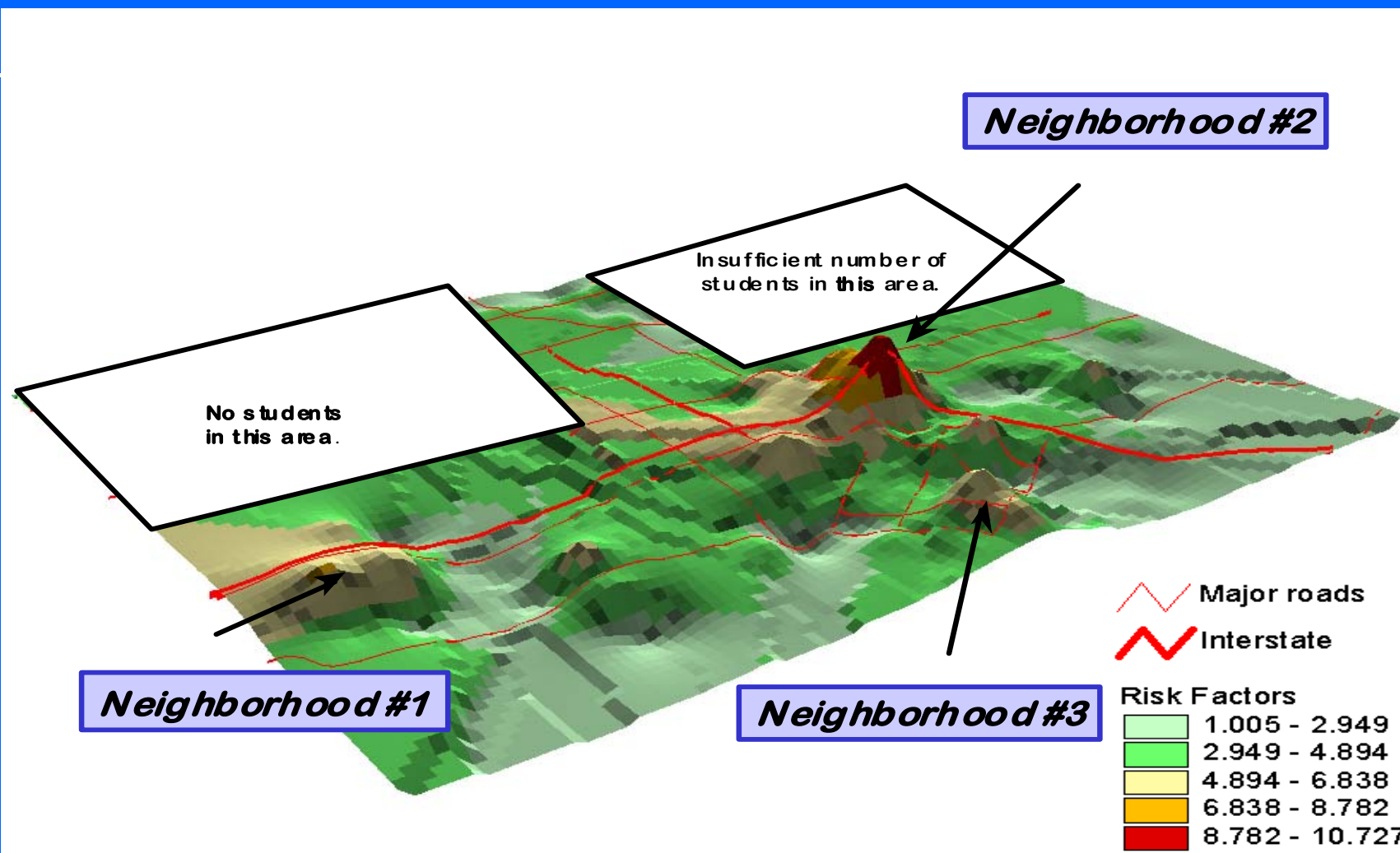


— Math — Reading — Writing



# Why a Place Based Approach?

## Communities Vary in Risk Exposure





# Prevention Science Research Advances

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# Effectiveness of Prevention Policies and Programs Reviewed in 7 Areas

Violence

Substance Misuse (excluding Tobacco)

HIV/STI

Unintended Pregnancy

Traffic Crashes and Risky Driving

Obesity

Mental Health

# What is an efficacious intervention?

## Evaluation Quality

- At least one randomized controlled trial OR a quasi-experimental trial without design flaws

## Impact

- Impact on adolescent problem behavior
- Absence of any negative effects

## Intervention Specificity

- Population of focus is clearly defined
- Risk and protective factors that program seeks to change are identifiable

## Implementation Tools

- Training materials are available
- Information on the financial and human resources required



# Prevention Policy Example Raising the Minimum Legal Drinking Age



Traffic Crashes  
Risky Alcohol  
Use

Drink Driving

Raise Min.  
Legal  
Drinking Age

Reduced Alcohol  
Consumption,  
Reduced Crashes  
Crash Injury, and  
Fatalities

Problem

Response

Wagenaar and Toomey, 2002



# Prevention Program Example

## Nurse Family Partnership

**Poor Birth  
And Early  
Childhood  
Outcomes**

Risk: Poor Diet  
And Drug Use  
Prot.: Parenting  
Competence  
And Bonding

Protocol for  
Nurse Visits  
During  
Pregnancy And  
2 yrs. Post Birth

Mom: Less welfare  
More employment,  
Fewer Arrests and  
Subsequent Births,  
<Interval Between births  
Child: Less Child  
Abuse/Neglect, Less  
Arrests at 15



**Problem**

Olds et al., 2002

**Response**



# Wide Ranging Approaches Have Been Found To Be Efficacious

Prevention Programs/Policies	Violence	Drug Use	HIV STI	Unintended Pregnancy	Vehicle Crash Risk	Obesity	Mental Health
1. Prenatal & Infancy Programs(eg., NFP)		✓		✓			
2. Early Childhood Education	✓	✓					
3. Parent Training	✓	✓			✓		✓
4. After-school Recreation	✓						
5. Mentoring with Contingent Reinforcement		✓					
6. Cognitive Behavior Therapy							✓
7. Classroom Organization, Management and Instructional Strategies	✓	✓		✓			✓
8. Classroom Curricula	✓	✓		✓		✓	✓





# Wide Ranging Approaches Have Been Found To Be Efficacious

Prevention Programs/Policies	Violence	Drug Use	HIV STI	Unintended Pregnancy	Vehicle Crashes	Obesity	Mental Health
9. Community Based Skills Training/Motivational Interviewing			✓	✓			
10. Cash Transfer for School Fees/Stipend				✓			
11. Multicomponent Positive Youth Development	✓			✓			
12. Policies (eg., MLDA)		✓			✓		
13. Community Mobilization	✓	✓					
14. Medical Intervention			✓	✓			
15. Law Enforcement					✓		
16. Family Planning Clinic				✓			



# Criteria for Selection of Illustrative Programs

- Randomized or quasi-experimental designs
- Statistically significant effect on problem behaviors during adolescence at least one year post intervention
- Operate during childhood or adolescence
- Examples address both snowball and snowstorm risk patterns
- Some diversity in global context



# Illustrative Efficacious Prevention Policies Age 12-18

- **Adolescent Access to Contraceptives** (Brindis et al., 2003; Foster et al., 2006; Boonstra et al., 2010; Guldi, 2008; Zavodny, 2004; Kearney & Levine, 2009)
- **Graduated Driver Licensing** (Shope, 2007)
- **Increased Taxes on Alcohol** (Wagenaar et al., 2009; Elder et al., 2010)
- **Minimum Legal Drinking Age 21** (Wagenaar & Toomey, 2002)