



PTTC

Prevention Technology Transfer Center Network

Funded by Substance Abuse and Mental Health Services Administration

Applying Prevention Science to Practice: A Collaborative Opportunity

Zili Sloboda, Sc.D., President

Applied Prevention Science International



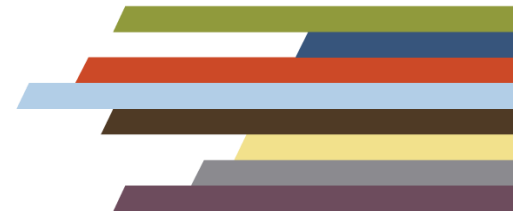
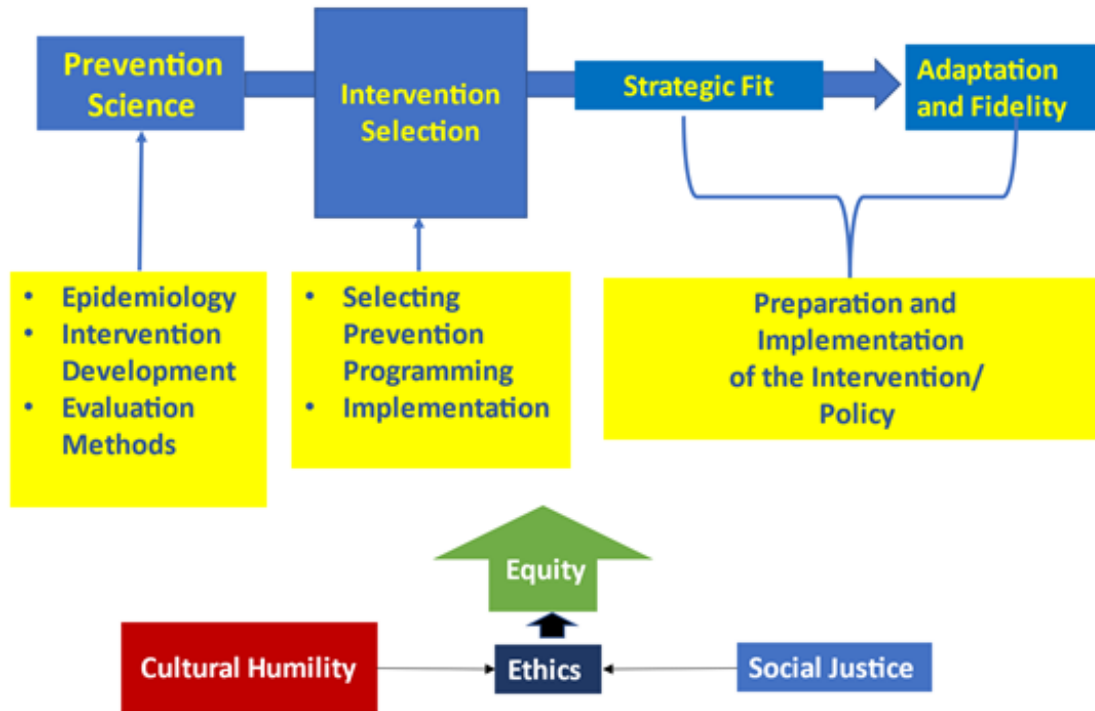
Presenter:

Zili Sloboda, Sc.D., President

Applied Prevention Science International

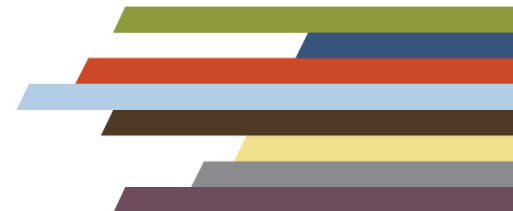
Introduction

This Self-Paced Course—Selecting Prevention Programming and Interventions



Learning Objectives

- 1) Define prevention science
- 2) Identify multiple risk and protective factors that can be present throughout the lifespan
- 3) Explain what makes a prevention strategy “evidence-based” and why it is important in implementation



**We Now Have the
Knowledge and Tools to
Prevent Substance Use
and Progression to
Substance Use
Disorders—**

**LET'S PUT THEM TO
WORK!**

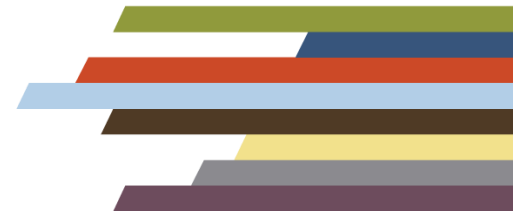


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



Prevention

- Prevention is the application of prevention science to address the health and **safety of individuals** through improving socialization processes to **enhance** self-realization and **participation in society**.

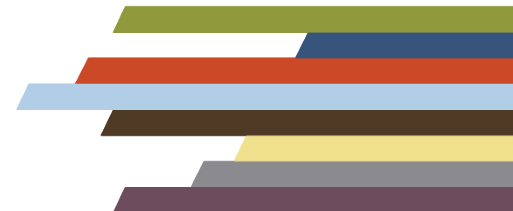
Source: UNODC, 2017



PTTC Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



Defining Prevention Science

- Prevention science identifies:
 - the determinants of behaviors that protect or put at risk the social, emotional, and physical health of individuals, families, communities;
 - the processes as to how these determinants operate; and,
 - the strategies that effectively intervene when trajectories are negative and reinforce those trajectories that are positive.
- Is multi-disciplinary including the epidemiological, social, psychological, behavioral, medical, statistical, and neurobiological sciences

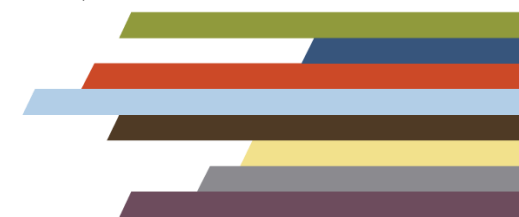
Sources: Standards of Knowledge for the Science of Prevention, Society for Prevention Research, 2011; APSI, 2019; National Prevention Science Coalition, 2019.



PTTC Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration

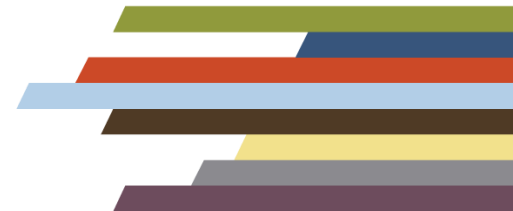


Applied Prevention Science International



Prevention Science: Why Is It Important?

- Prevention science provides the knowledge regarding:
 - Who is affected by the behavior of interest and what are their characteristics (e.g., gender, age, geographic location)
 - Who is vulnerable and what makes them vulnerable?
 - What are the consequences of these behaviors over time?
 - How do you intervene effectively with the individual or the environment to reduce the risk of initiation or continuation of these behaviors?



WHO IS VULNERABLE AND WHAT MAKES THEM VULNERABLE?

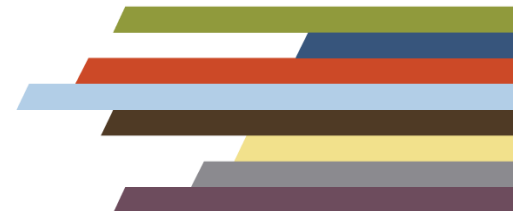


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



Development and Vulnerability

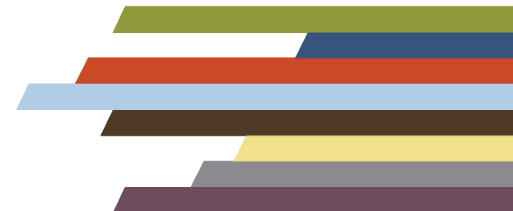


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration

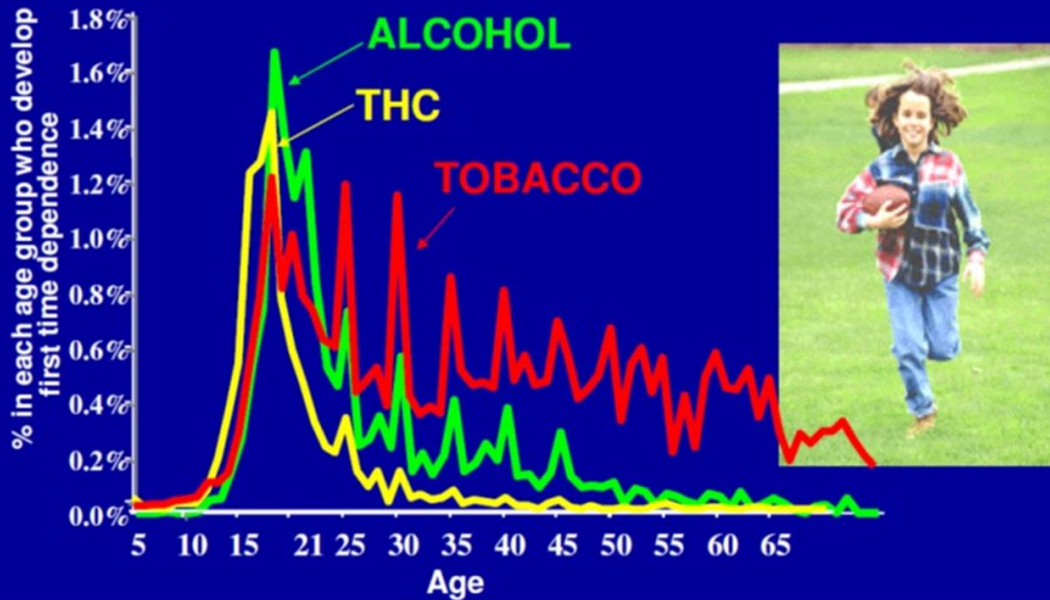


Applied Prevention Science International



Developmental Nature of Substance Use

Addiction Is A Developmental Disease
often starts in childhood and adolescence



Age at **alcohol**, at **tobacco**, and at **cannabis** dependence as per DSM IV

NIAAA National Epidemiologic Survey on Alcohol and Related Conditions, 2003.



PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International

Human Development Phases

- Each stage of human development is associated with growth of intellectual and language development, cognitive, emotional and psychological functioning and social competency skills
- Disruption of this growth can make the individual more vulnerable to problems such as substance use
- ***Early intervention can prevent poor life decisions and the onset of substance use and dependence and other behavioral problems***

Source: Campello, G. Etiological Factors in Substance use, UNODC, Prevention, Treatment and Rehabilitation. Presentation.



PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



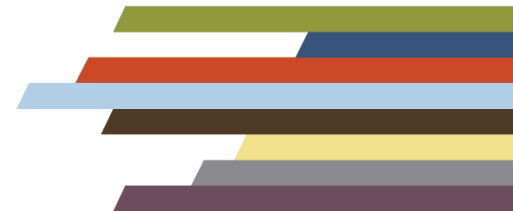
Applied Prevention Science International



Prevention

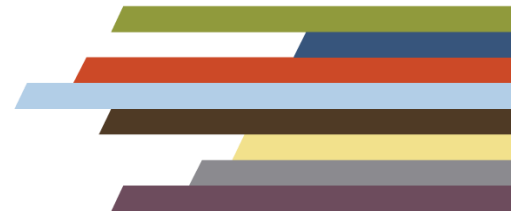
Socialization – An Important Prevention Process

- Human infants are born without any culture.
- Socialization is a process of transferring culturally acceptable attitudes, norms, beliefs and behaviors and to respond to such cues in the appropriate manner.
- Since socialization is a lifelong process, the individual will be socialized by a large array of different socializing agents (e.g., parents, teachers, peer groups, religious leaders, economic and political organization through laws and policies, and virtual agents, such as mass media).



Socialization Teaches Norms and Behavior

- Socialization is the process for internalizing social norms and values that define or govern conduct and behavior particularly self-regulation through:
 - Behavioral interventions
 - Environmental interventions



Risk and Protective Factors: Background (1/2)

- In the mid-1970s, several longitudinal studies were conducted that followed cohorts of early adolescents into adulthood that examined factors that were related to substance use initiation
- In 1992 two significant works summarized this research on factors related not only to the **initiation of substance use but also to the progression from use to abuse**

Source: Hawkins, J.D., Catalano, R.F., & Miller, J.Y. (1992); Glantz, M.D. & Pickens, R.W. (1992)

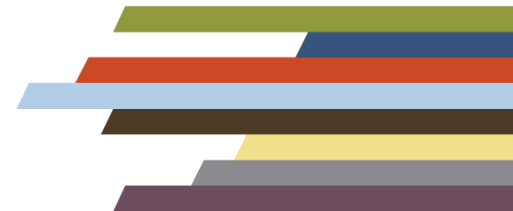


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration

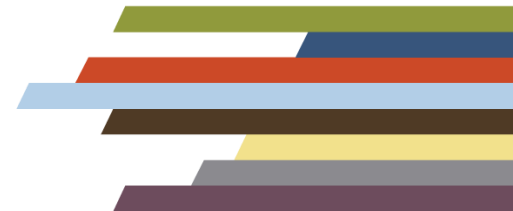


Applied Prevention Science International



Risk and Protective Factors: Background (2/2)

- **Risk factors – Measures of behavior or psychosocial functioning** (including attitudes, beliefs, and personality) associated with increased risk to use psychoactive substances
- **Protective factors – Measures that appear to prevent the use of psychoactive substances or reduce the untoward negative effects of risk**, include strong bonding to family, school, community and peers that hold prosocial attitudes and support prosocial behaviors.



Examples of risk and protective factors

Risk factors	Protective factors
Childhood factors <ul style="list-style-type: none">■ birth injury/disability/low birth weight■ insecure attachment■ poor social skills	<ul style="list-style-type: none">■ social skills■ attachment to family■ school achievement
Family factors <ul style="list-style-type: none">■ poor parental supervision and discipline■ parental substance abuse■ family conflict and domestic violence■ social isolation/lack of support networks	<ul style="list-style-type: none">■ supportive caring parents■ parental employment■ access to support networks
School factors <ul style="list-style-type: none">■ school failure■ negative peer group influences■ bullying■ poor attachment to school	<ul style="list-style-type: none">■ positive school climate■ sense of belonging/bonding■ opportunities for some success at school and recognition of achievement
Community factors <ul style="list-style-type: none">■ neighbourhood violence and crime■ lack of support services■ social or cultural discrimination	<ul style="list-style-type: none">■ access to support services■ community networking■ participation in community groups

Adapted from Durkin (1998) and National Crime Prevention (1999)

Source: www.community.nsw.gov.au/about_us/news_and_publications/inside...

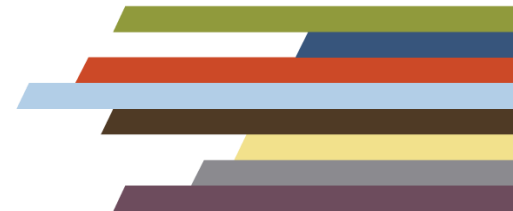


PTTC

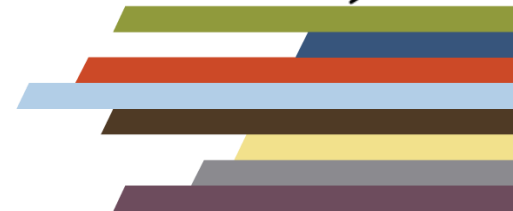
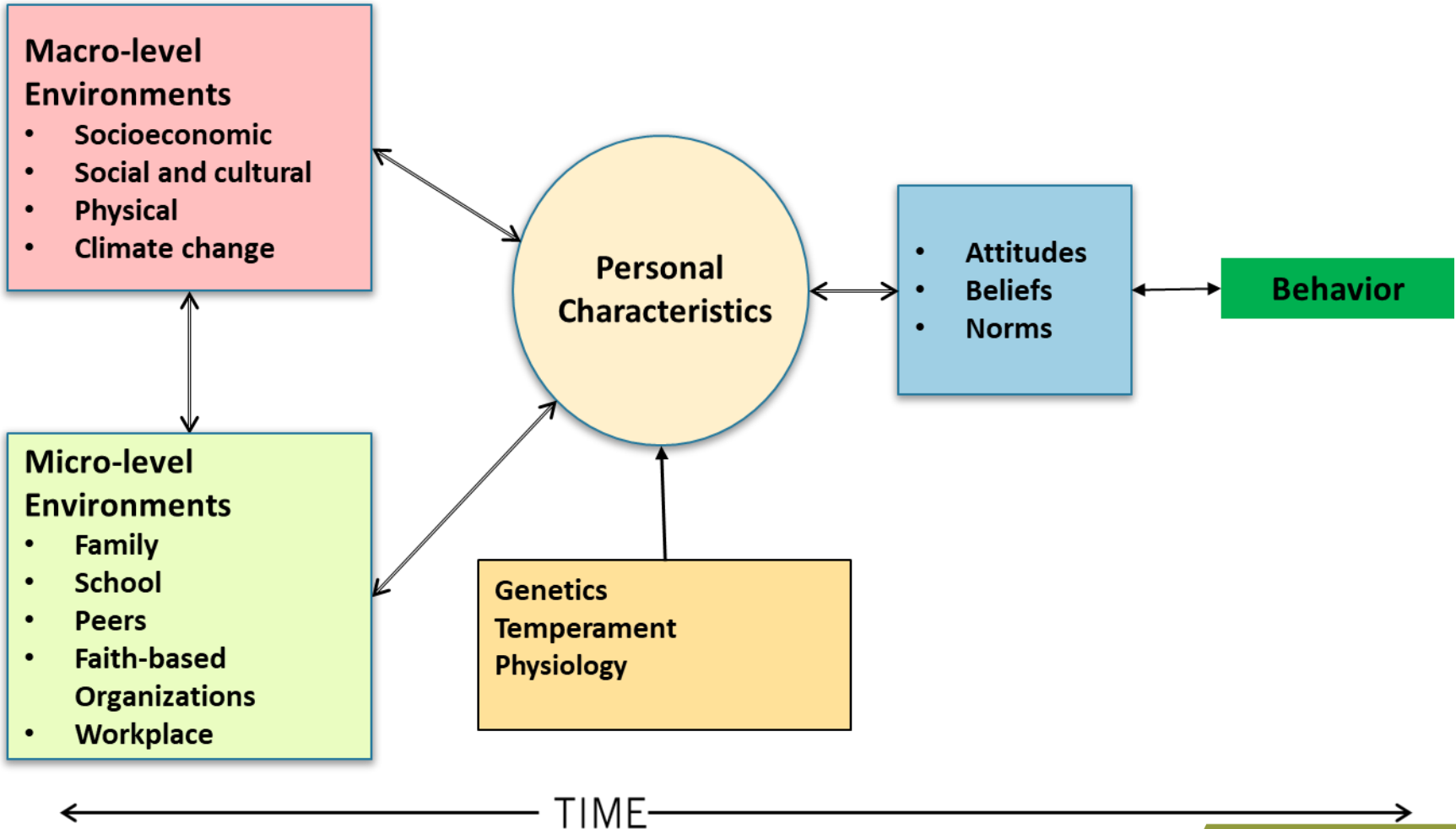
Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



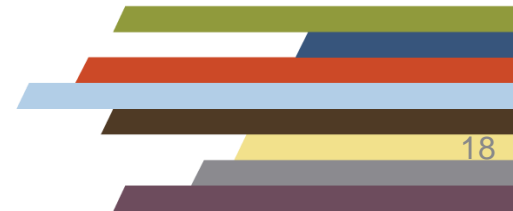
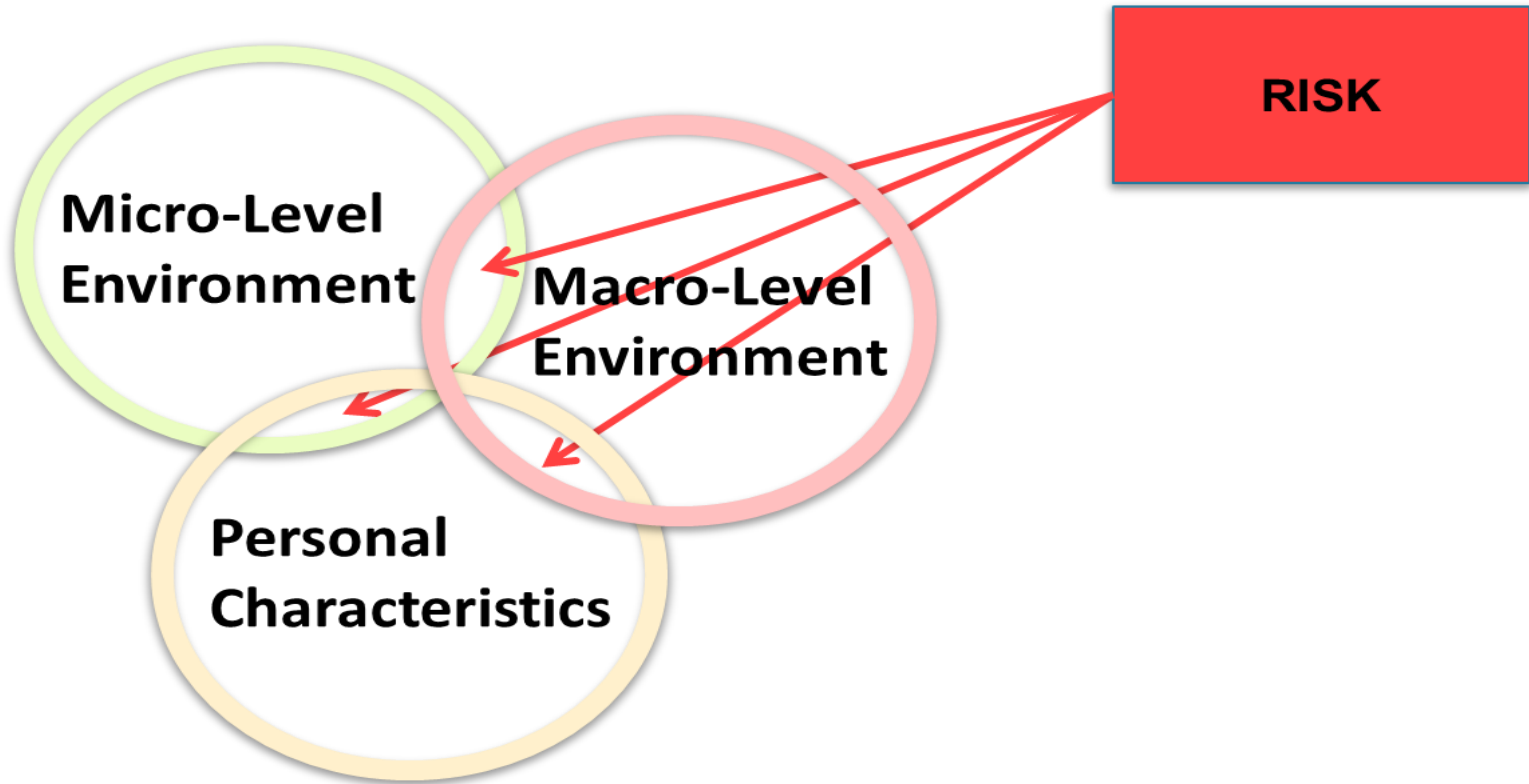
Applied Prevention Science International



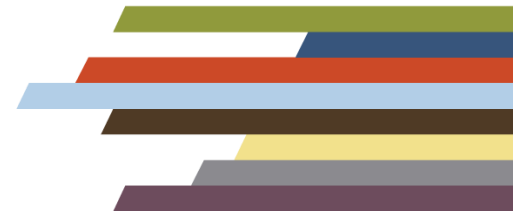
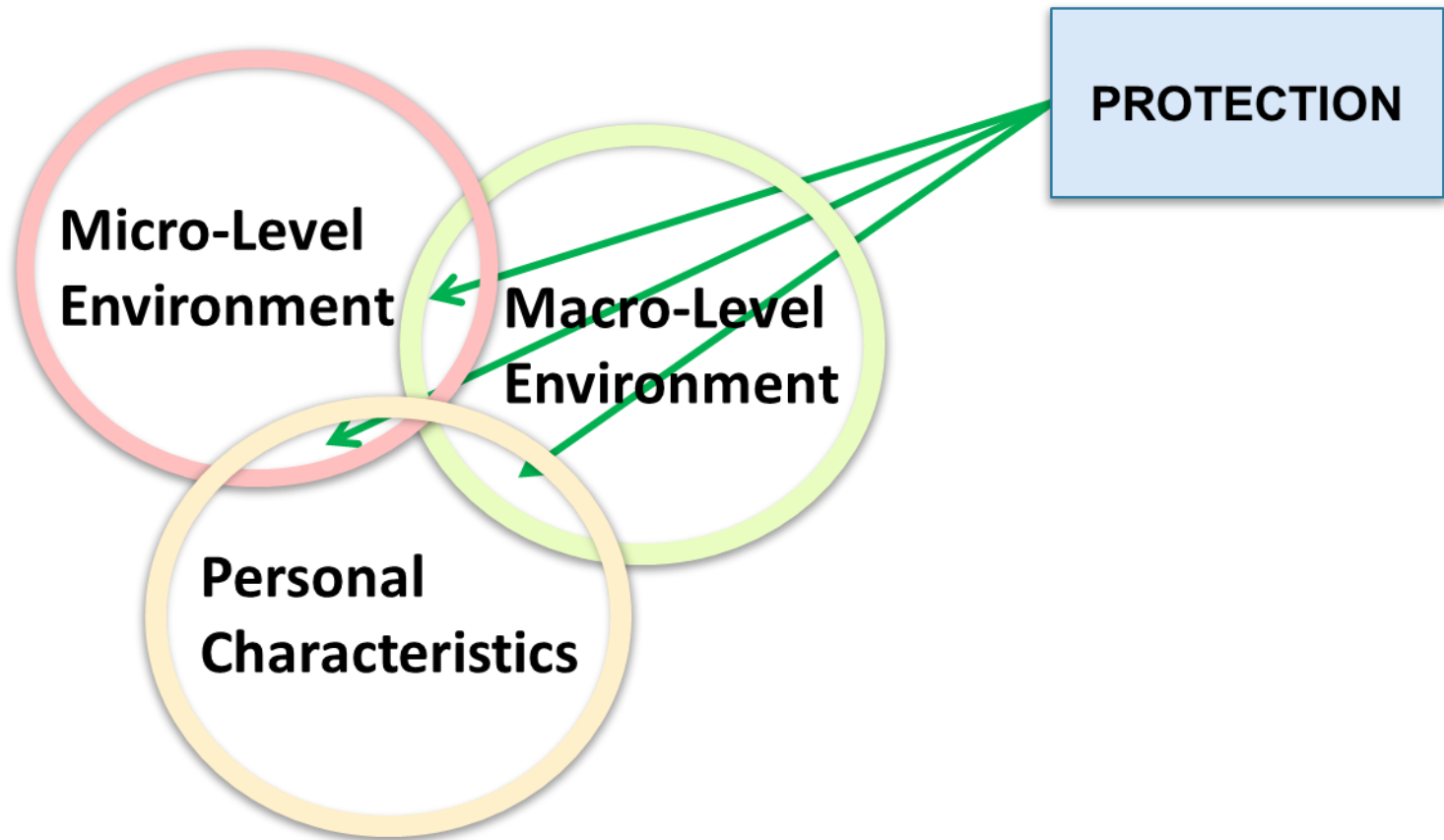
Etiology Model



Risk is the Interface between Individual Characteristics and the Micro- and Macro-Level Environments



Protection is the Interface between Individual Characteristics and the Micro- and Macro-Level Environments



Interaction between Personal Characteristics (Vulnerability) and Micro-Environment

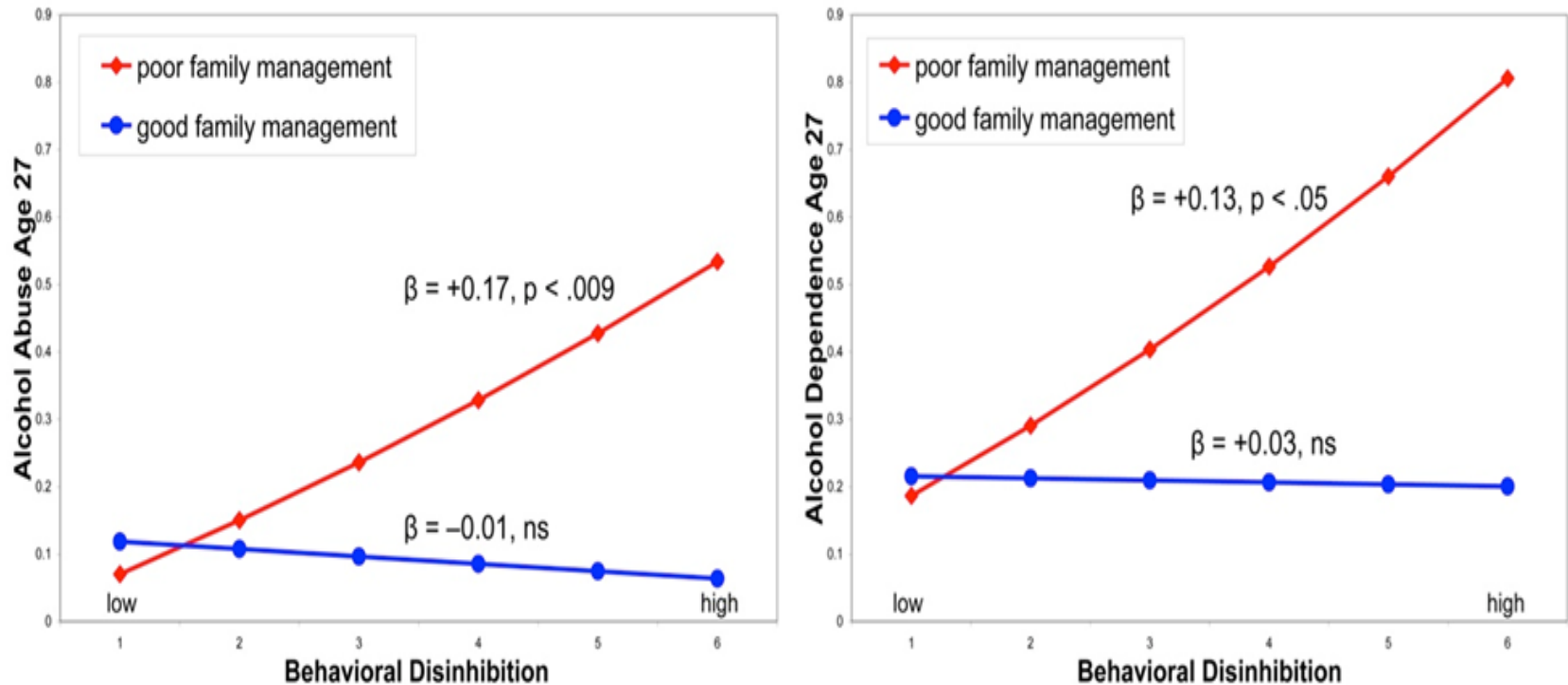


Figure 1.

Interactions between behavioral disinhibition and family management in adolescence predicting alcohol abuse (left panel) and dependence (right panel) criteria at age 27.

Source: Hill et al., 2010



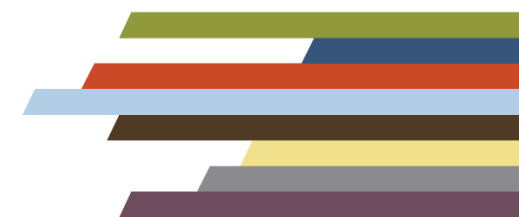
PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration

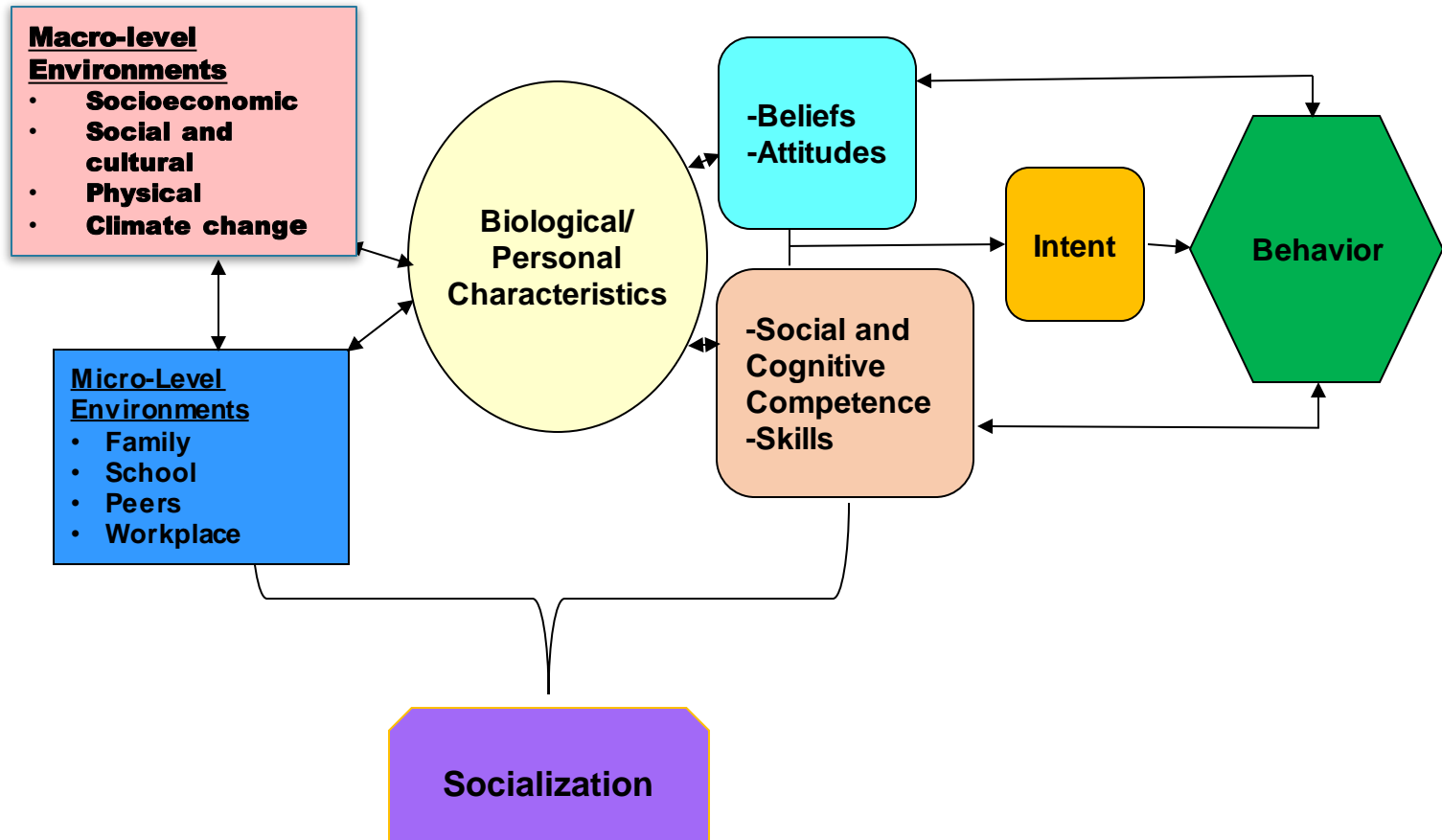


Applied Prevention Science International

Raising the Minimum Legal Drinking Age



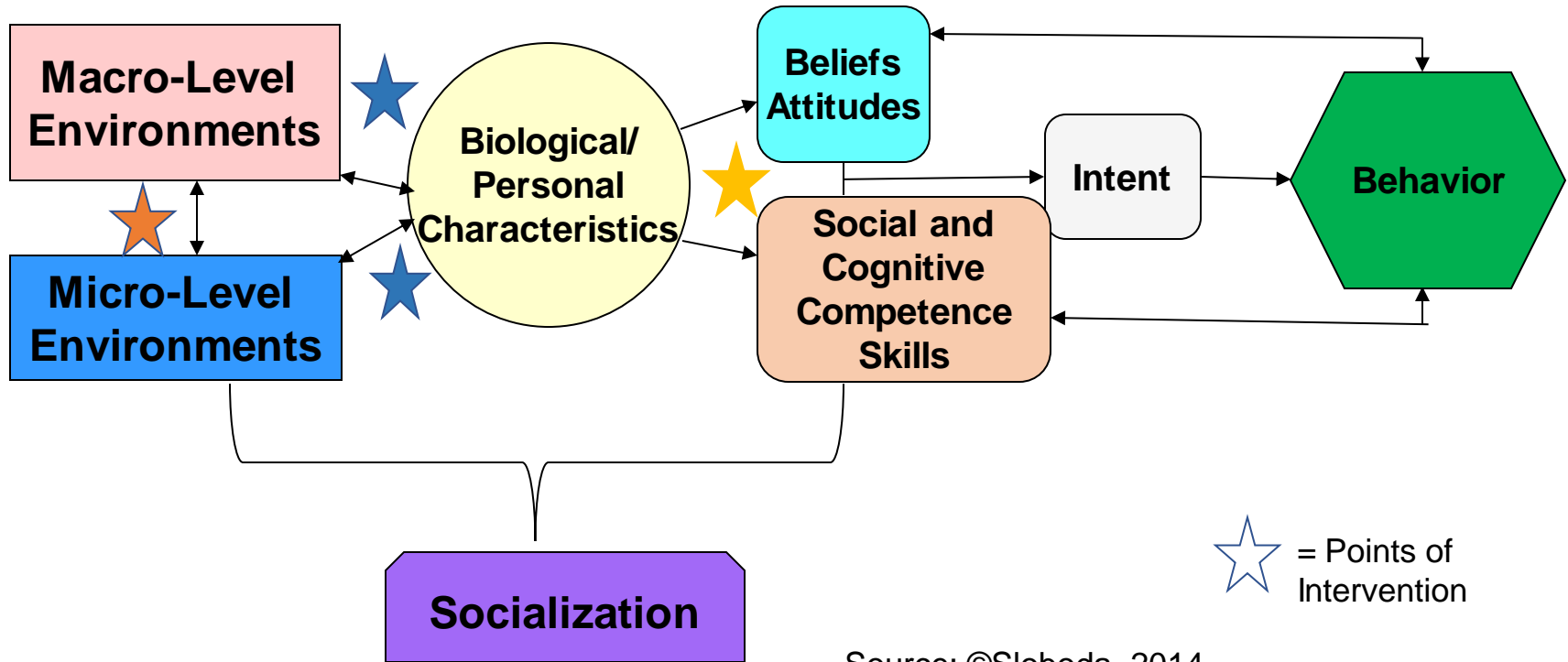
Human Motivation and Change Processes



Source: ©Sloboda, 2015



Points of Intervention



Source: ©Sloboda, 2014

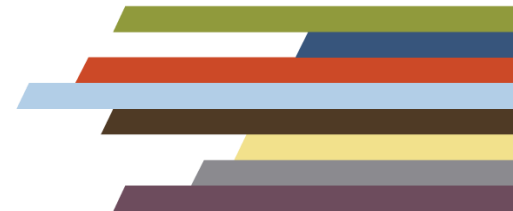


PTTC

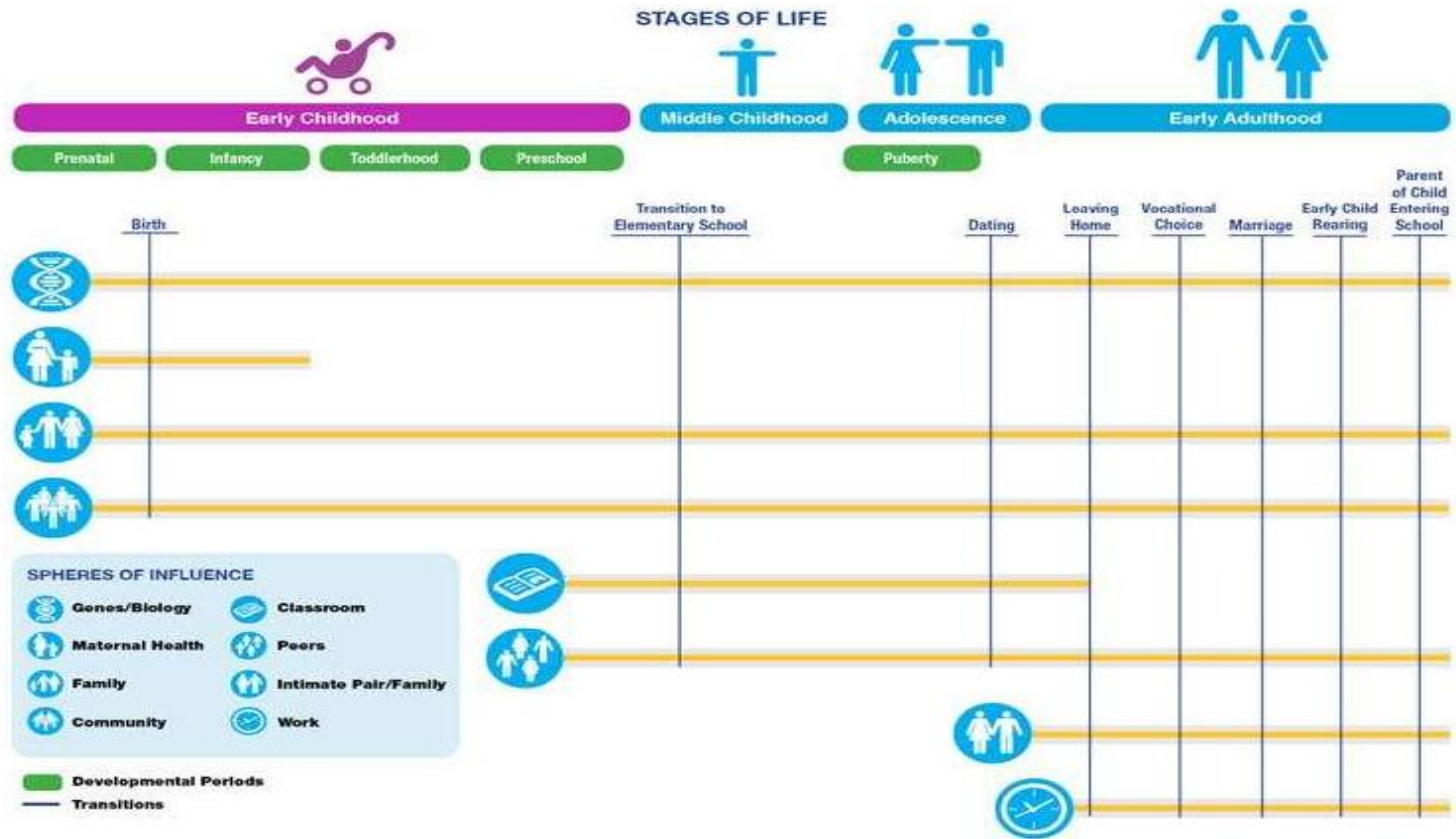
Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



Human Development and the Life Course Trajectory



Source: <https://www.drugabuse.gov/publications/principles-substance-abuse-prevention-early-childhood/chapter-1-why-early-childhood-important-to-substance-abuse-prevention>

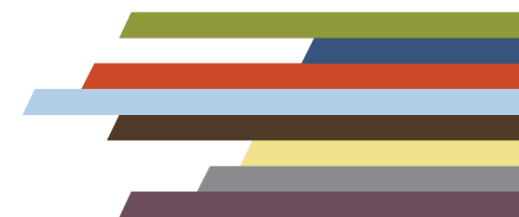


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration

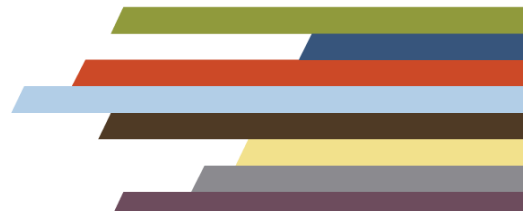


Applied Prevention Science International



Reflections

Why do you think understanding this etiology framework helps prevention professionals plan prevention programming in their communities?



Life Transitions

Normal Developmental Changes

- Birth!!
- Physical
- Emotional
- Cognitive

Environmental Changes

- From the family to school
- From elementary to middle school
- From middle school to high school
- From high school to work or college

Social Changes

- Peer relationships
- Dating
- Marriage and new family members
- Having Children
- Working with others with other perspectives and life views
- Retirement
- Loss of spouse/partner, family, friends



PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International

***How do you intervene effectively to reduce the risk of initiation or continuation of these behaviors?--
Evidence-Based Prevention Interventions***

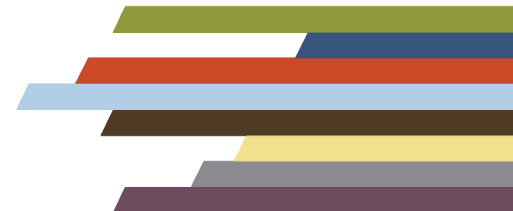


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



Prevention Interventions Target---

- The individual directly
- The individual's micro- and macro-level environments

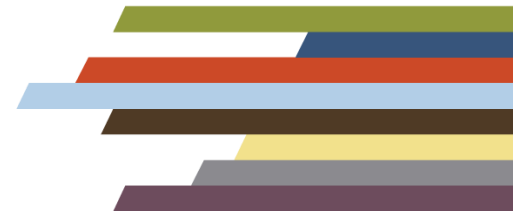


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration

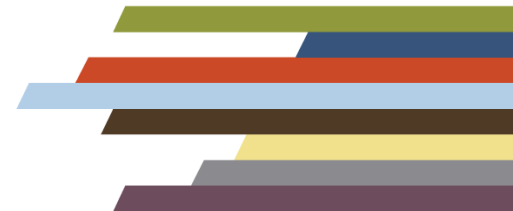


Applied Prevention Science International



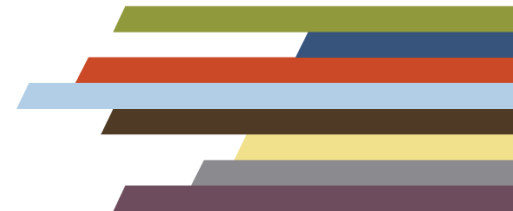
Behavioral Interventions - Prevention Professionals (1/2)

- May either **train** socialization agents, such as parents and teachers to help them:
 - Improve their socialization skills (parenting, classroom management)



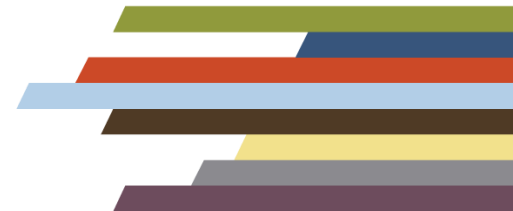
Behavioral Interventions - Prevention Professionals (2/2)

- Or **directly engage** in the socialization process, thus becoming socialization agents themselves to help individuals:
 - Understand what is expected of them in different social and emotional contexts
 - To “try on” new behaviors
 - To weigh the potential outcomes for these behaviors within their own social and emotional context.



Environmental Interventions (EIs) - Prevention Professionals

- Create healthy environments that maximize the strengths of the community and minimize negative influences that might exist.
- Deliver EIs to change the **context** in which people make decisions about behaviors
 - Physical environment—Limiting access to and availability of alcohol, tobacco and other substances
 - Social environment—Reinforcing non-use norms and attitudes



***Communities need both Behavioral
AND Environmental Prevention
Programming, and
All need to be “Evidence-based”***

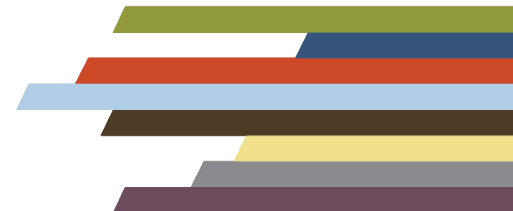


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration

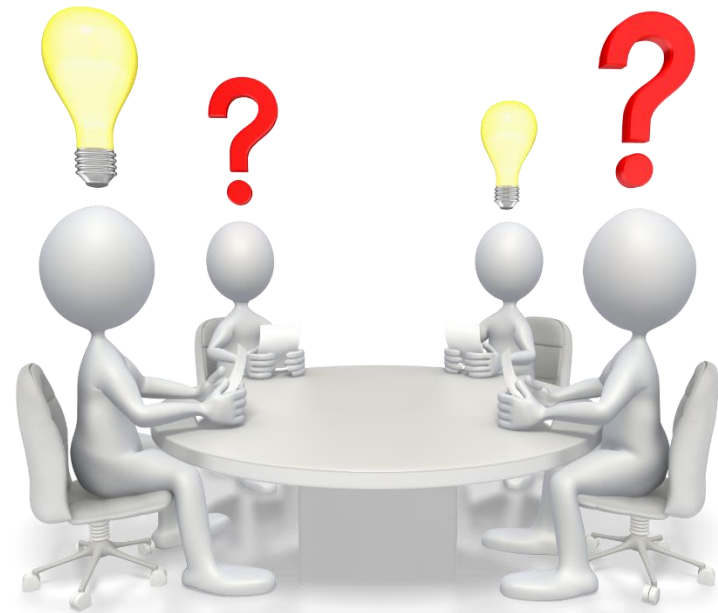


Applied Prevention Science International



Reflections

Why do you think your community would need both behavioral and environmental prevention programs?



What Do We Mean by “Evidence-Based”?

“Evidence Based Practice (EBP) is the use of systematic decision-making processes or provision of services which have been shown, through available scientific evidence, to consistently improve measurable client outcomes. Instead of tradition, gut reaction or single observations as the basis of decision making, EBP relies on data collected through experimental research and accounts for individual client characteristics and clinician expertise.”

Source: Evidence Based Practice Institute, 2012; <http://depts.washington.edu/ebpi/>)

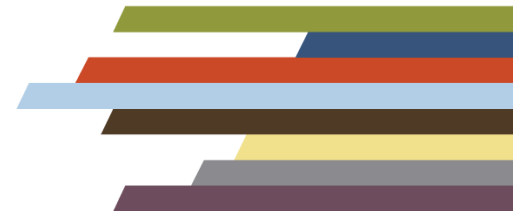


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



What Makes An Intervention Evidence- Based?

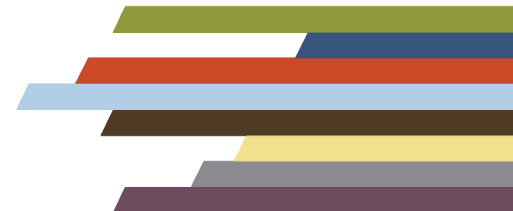


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



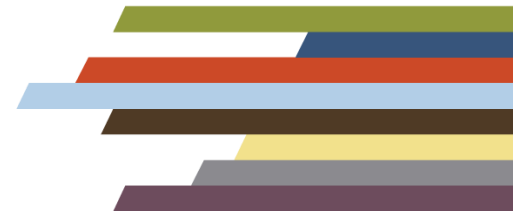
Applied Prevention Science International



Rigorous Acceptable Research Designs

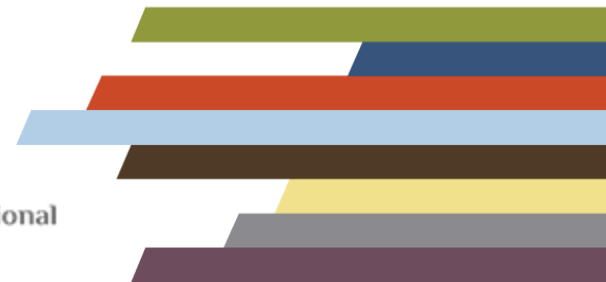
- Randomized control trial or classic experimental design
- Experimental designs with comparison groups
- Time series experiment

**Strong
Positive
Outcomes**



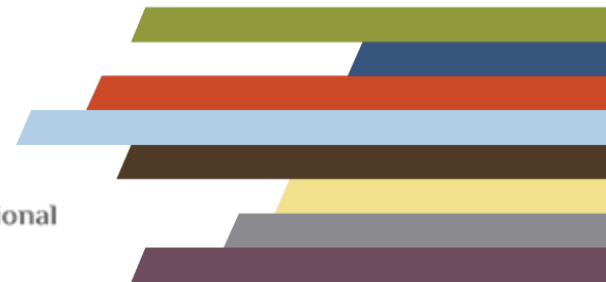
The Foundation of Effective Prevention Programming

- Understanding
 - How humans **develop**: physically, biologically, and cognitively
 - What conditions optimize **learning** across development--from birth to old age
 - What factors or processes influence **behavior**--how can they help change negative behaviors
- Research-based theories help to explain and build effective prevention



What is Theory and Why is it Important?

- A theory presents a systematic way of understanding events, behaviors and/or situations.
- A theory presents a set of explanations of why something or some behavior occurs.
- A theory specifies what factors are important influencers of the outcome of interest such as substance use.



Critical Theories

- Theories of etiology
- Theories of human development
- Theories of human behavior:
 - Learning theories
 - Behavior and behavior change theories

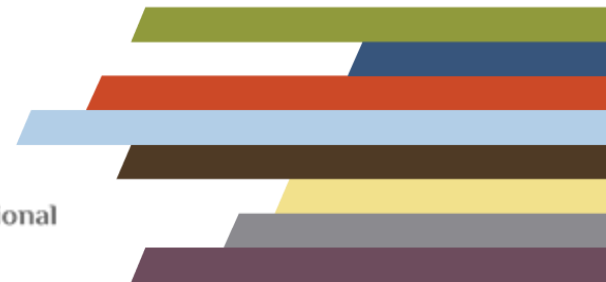


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



Etiology Theories

- Identify the processes that could benefit from interventions
- Specify intervention points
- Serve as a model for monitoring and evaluation of the delivery of EB interventions or policies

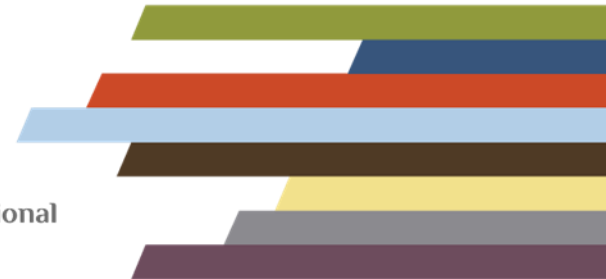


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



Theories of Human Development

- Examine normal and dysfunctional development
- Explains through observational studies including brain imaging
- Knowledge about late development of the brains of adolescents contributes to understanding risky behaviors

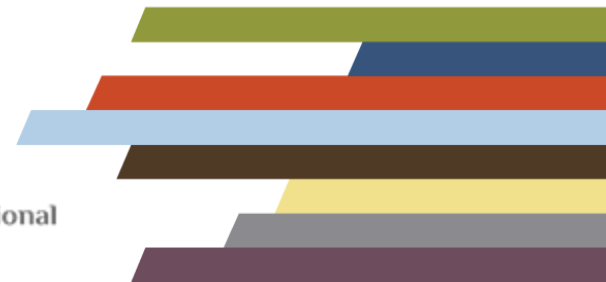


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration

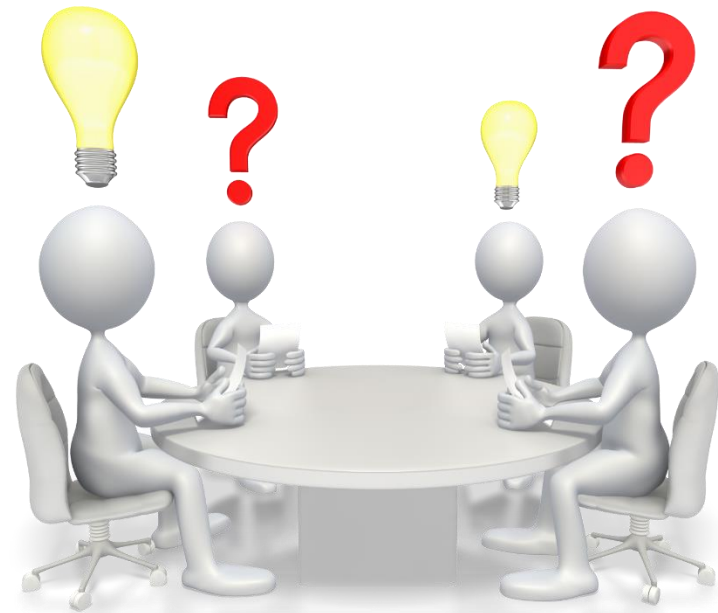


Applied Prevention Science International



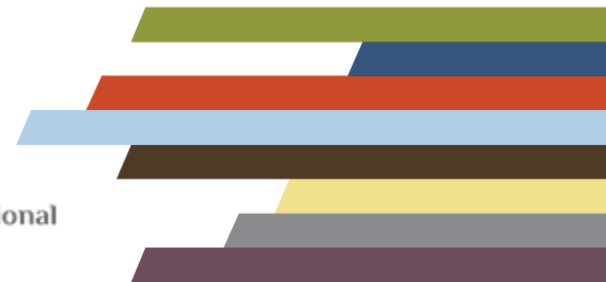
Reflections

Why do you think prevention interventions based on these theories have been found to have positive outcomes?



Introduction to Child Development

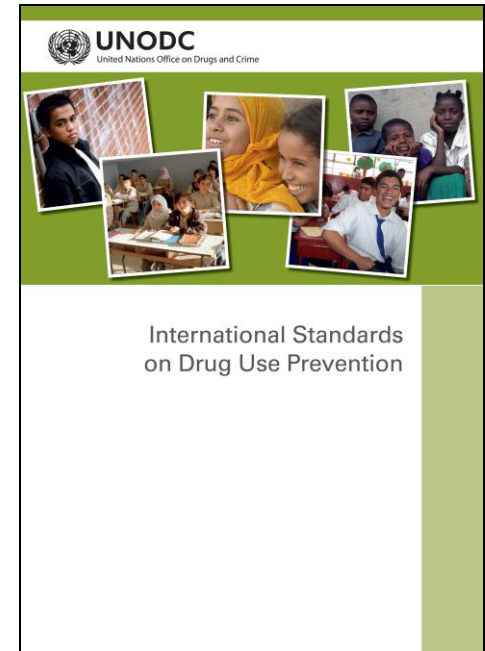
- Child development encompasses how children think and grow from birth through adolescence
- Developmental elements include:
 - Cognitive or intellect
 - Physical
 - Social
 - Emotional



Source of Information on Evidence-Based Prevention Interventions and Policies

United Nations Office on Drugs and Crime

- Review of all published and unpublished research on evaluations of substance use prevention interventions and policies
- Established the criteria for 'evidence-based'
- Published International Standards on Drug Use Prevention-2013; 2nd Edition 2018



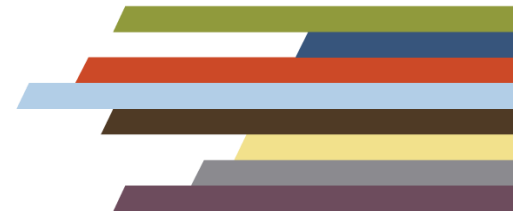
Source: <https://www.unodc.org/unodc/en/prevention/prevention-standards.html>



PTTC Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



Categorization of Interventions and Policies

- Developmental framework:

- Infancy and early childhood=0 to 5 years
- Middle childhood=6-10 years
- Early adolescence=11-14 years
- Adolescence=15-18/19 years
- Adulthood=20+ years

- Setting

- Family
- School
- Workplace
- Community

- Target population

- Universal
- Selective
- Indicated

Source: ©UNODC 2013

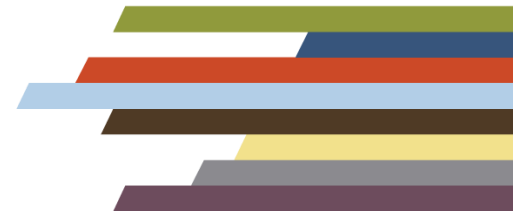


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



Summary

	Prenatal and Infancy	Early Childhood	Middle Childhood	Early Adolescence	Adolescence	Adulthood
Family	Prenatal and Infancy Visitation		Parenting Skills			
	Interventions for Pregnant Women					
School		Early Childhood Education	Personal and Social Skills Education	Prevention Education Based on Competence and Influence		
			Classroom Management		Addressing Individual Vulnerabilities	
			Policies to Keep Children in School	School-wide Programs to Enhance School Attachment		
				School Policies on Substance Use		
Community				Alcohol and Tobacco Policies		
	Community-Based Multi-Component Initiatives					
	Media Campaigns					
	Mentoring					
	Prevention Programmes in Entertainment Venues					
Workplace					Workplace Prevention Programmes and Policies	
Health Sector	Interventions for Pregnant Women		Addressing Health Disorders			
				Brief Intervention		

Source: UNODC 2018



PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



Early Adolescence (12-18 Years)

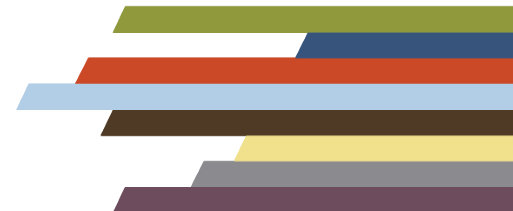


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



Early Adolescence: Developmental Goals and Resiliency and Vulnerability Factors

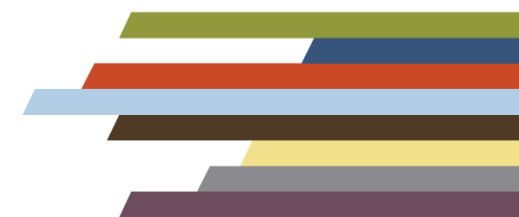
Developmental Goals

- Learning self-regulation of emotion and behavior:
 - Social/emotional skills to establish stable relationships
 - Sensitivity to feelings and needs of others
 - Conflict resolution
 - Pro-social skills
 - Impulse control



Resiliency and Vulnerability Factors

- Associations with people and organizations beyond those experienced in childhood
- Exposure to new ideas and experiences
- A time to “try out” adult roles and behaviors
- A time of significant changes in the adolescent’s brain -- a potentially opportune time for poorly reasoned decisions and involvement in potentially harmful behaviors
- Peers’ strongly influence adolescents with fear of peer rejection a major concern
- Parents’ influence remains significant though not always obvious
- Protective factors against drug use
- “Plasticity and malleability” of adolescent brain opens the door to evidence-based prevention



Early Adolescence: Evidence-Based Strategies

Intervention	Level of risk targeted
Parenting Skills Programs	Universal & Selective General population and groups at risk
Prevention education based on social competence and influence	
School Policy of Substance Use	Universal General population
School-wide programs to enhance school attachment	
Addressing individual psychological vulnerabilities	Indicated Individuals at risk



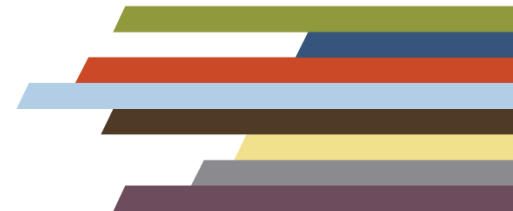
Source: UNODC 2018



PTTC Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



Early Adolescence: Parenting Skills Characteristics (1/2)

	Linked to Positive Outcomes	Linked to No or Negative Outcomes
Content	<ul style="list-style-type: none"> • Enhance family bonding • Provide skills for: <ul style="list-style-type: none"> – Warm child-rearing – Setting rules for acceptable behavior – Monitoring free time and friendship patterns – Positive and developmentally appropriate discipline – Involvement in children’s learning and education – Becoming role models 	<ul style="list-style-type: none"> • Provide information to parents about drugs • Undermine parents’ authority



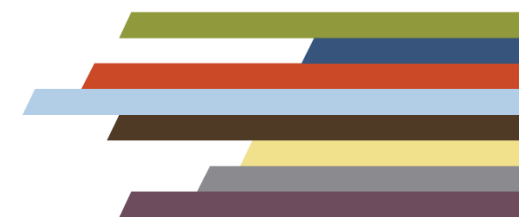
Source: Campello et al, 2014; UNODC 2018



PTTC Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration

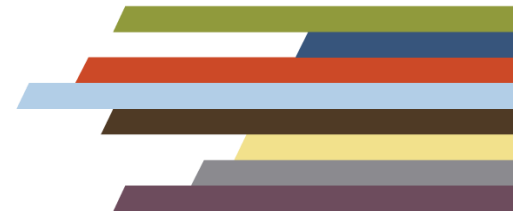


Applied Prevention Science International



Early Adolescence: Parenting Skills Characteristics (2/2)

	Linked to Positive Outcomes	Linked to No or Negative Outcomes
Structure	<ul style="list-style-type: none"> • Multiple group sessions that include activities for parents, children, and the family • Interactive 	<ul style="list-style-type: none"> • Focus exclusively on the child • Lecture as only means of delivery
Delivery	<ul style="list-style-type: none"> • Trained instructors • Organized to facilitate participation 	<ul style="list-style-type: none"> • Poorly trained instructors

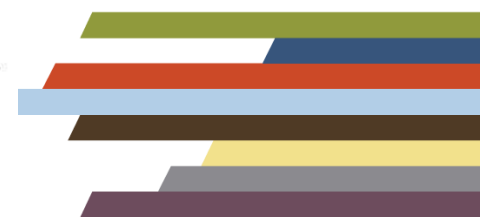


Early Adolescence: Prevention Education Based on Social Competence and Influence


	Linked to Positive Outcomes	Linked to No or Negative Outcomes
Content	<ul style="list-style-type: none"> • Addresses perceptions of risk or harm associated with substance use • Emphasizes immediate age-appropriate consequences of substance use • Addresses misconceptions regarding the normative nature and expectations of substance use • Provides opportunities to practice and learn a wide array of personal and social skills 	<ul style="list-style-type: none"> • Information only • Focus only on self-esteem • Focus only on emotional education • Address only ethical/moral decision making or values
Structure	<ul style="list-style-type: none"> • Structured series of interactive sessions • Booster sessions 	<ul style="list-style-type: none"> • Unstructured dialogue sessions • Primarily using non-interactive methods
Delivery	<ul style="list-style-type: none"> • Trained facilitator (including trained peers) • Interactive instructional methods 	<ul style="list-style-type: none"> • Using untrained teachers (change accordingly) • Use ex-drug users as testimonials

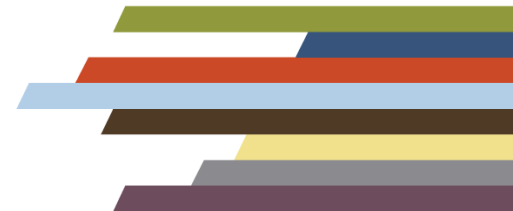


Source: Campello et al, 2014; UNODC 2018




Early Adolescence: School Policies on Substance Use (1/2)

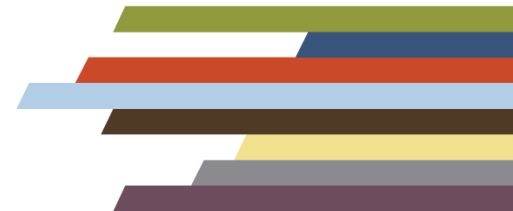
	Linked to Positive Outcomes	Linked to No or Negative Outcomes
Content	<ul style="list-style-type: none">• Policies clearly specific what substances are target and what locations and/or occasions they apply• Reducing or eliminating availability of and access to tobacco, alcohol, or other drugs• Address infractions of substance use policies with positive sanctions, providing referral to counseling or other support services NOT punishment• Support normal school functioning NOT disruption• Support positive school ethos and commitment to school and student participation	<ul style="list-style-type: none">• Punish infractions of substance use policies (e.g., suspension, expulsion)• Random drug testing 



Early Adolescence: School Policies and Culture Characteristics (2/2)

	Linked to Positive Outcomes	Linked to No or Negative Outcomes
Structure	<ul style="list-style-type: none"> Participation of all stakeholders (students, parents, and school staff) in the development of substance use-related policies 	<ul style="list-style-type: none"> Information not available
Delivery	<ul style="list-style-type: none"> Implemented with other prevention interventions such as skills-based education or parenting skills Applied to all in the school (students, staff, visitors etc.) 	<ul style="list-style-type: none"> Information not available 

Source: Campello et al, 2014; UNODC 2018



Early Adolescence: School-wide Programs to Enhance School Attachment

- Support positive school ethos and commitment to school
- Support student participation.
- Implemented jointly with other prevention interventions:
 - skills based education
 - school policies on substance use
 - supporting parenting skills and parental involvement.

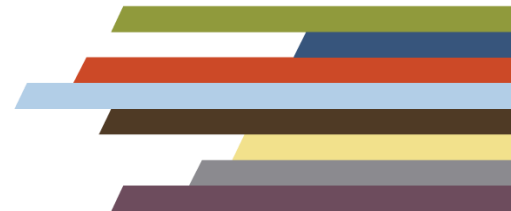


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



Early Adolescence: Individual Psychological Vulnerabilities Intervention Characteristics

Content	<ul style="list-style-type: none">• Provide skills on how to positively cope with emotions• Programs organized to avoid stigmatization
Delivery	<ul style="list-style-type: none">• Sessions tend to be short, between 2 and 5 in number
Structure	<ul style="list-style-type: none">• Screening done using validated instruments• Trained professionals

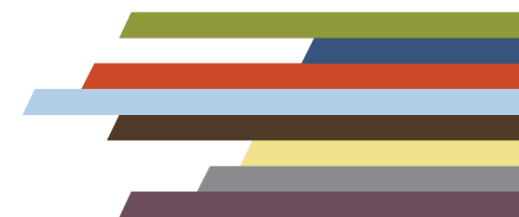
Source: Campello et al, 2014; UNODC 2018



PTTC Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



Early Adolescence: Mentoring Characteristics

	Linked to Positive Outcomes	Linked to No or Negative Outcomes
Content	<ul style="list-style-type: none"> Information not available 	<ul style="list-style-type: none"> Information not available
Structure	<ul style="list-style-type: none"> Very structured program of activities 	<ul style="list-style-type: none"> Information not available
Delivery	<ul style="list-style-type: none"> Trained mentors 	<ul style="list-style-type: none"> Mentors that are not trained and/or supported

Source: Campello et al, 2014; UNODC 2018

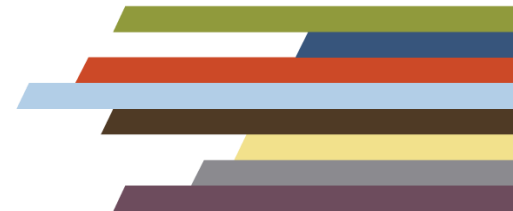


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



Why Implement Evidence-Based Interventions?

- Gives target groups and populations the best interventions, techniques, and policies that are available
- Offers the possibility to deliver services in a more effective and efficient way
- Provides a more rational basis to make policy decisions
- Provides a common language
- Gives the opportunity to develop a common concept for the evaluation of scientific research
- Forms a new basis for education and training to achieve continuity and more uniformity of service delivery, and provides more clarification on missing links and shortcomings in our current scientific knowledge

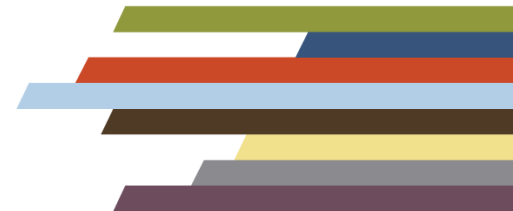
Source: ©UNODC 2013



PTTC Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



“Substance use prevention that is based on scientific evidence is an effective and cost-effective investment in the well-being of children, youth, and all people.”

Source: UNODC 2018

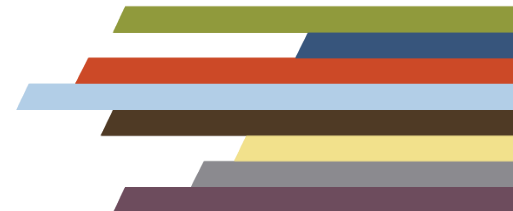


PTTC

Prevention Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Applied Prevention Science International



Thank You

Pttcnetwork.org