

Center for the Application of Prevention Technologies Fact Sheet

Information Sheet 1: A Behavioral Health Lens for Prevention

While many of us working in the substance abuse field have long-recognized the value of prevention, placing this work in the context of overall behavior health requires a critical shift in perspective. Applying a behavioral health lens to our current prevention efforts helps us to see the connections between substance abuse and related problems and to take the necessary steps to address these problems in a comprehensive and collaborative way.

What is Behavioral Health?

Behavioral health is a state of mental/emotional being and/or choices and actions that affect wellness. Substance abuse and misuse are one set of behavioral health problems. Others include (but are not limited to) serious psychological distress, suicide, and mental illness (SAMHSA, 2011). Such problems are far-reaching and exact an enormous toll on individuals, their families and communities, and the broader society. Consider these statistics:

- By 2020, mental and substance use disorders will surpass all physical diseases as a major cause of disability worldwide.
- The annual total estimated societal cost of substance abuse in the United States is \$510.8 billion, with an estimated 23.5 million Americans aged 12 and older needing treatment for substance use.
- Each year, approximately 5,000 youth under the age of 21 die as a result of underage drinking.
- More than 34,000 Americans die every year as a result of suicide, approximately one every 15 minutes.
- Half of all lifetime cases of mental and substance use disorders begin by age 14 and three-fourths by age 24—in 2008, an estimated 9.8 million adults in the U.S. had a serious mental illness.

Overlapping Problems, Collaborative Solutions

In the past, practitioners and researchers saw substance abuse prevention as distinct from the prevention of other behavioral health problems. But mounting evidence indicates that the populations affected by these problems overlap significantly, as do the factors that contribute to these problems. Consequently, improvements in one area often have direct impacts on the other.

Many young people have more than one behavioral disorder. These disorders can interact and contribute to the presence of other disorders, leading to concurrent diagnosable disorders or “comorbidity”. An estimated 37% of alcohol abusers and 53% of other drug abusers also have at least one serious mental illness.

Despite extensive research documenting strong associations between multiple problems, it’s not always clear what leads to what. For example, can substance abuse lead to thoughts of suicide, or can thoughts of suicide lead to substance abuse? Or are they both the product of a third, unknown causal factor?

“One in five individuals with a diagnosable mental health disorder also suffer from a substance abuse disorder.”

(O’Connell, 2009)

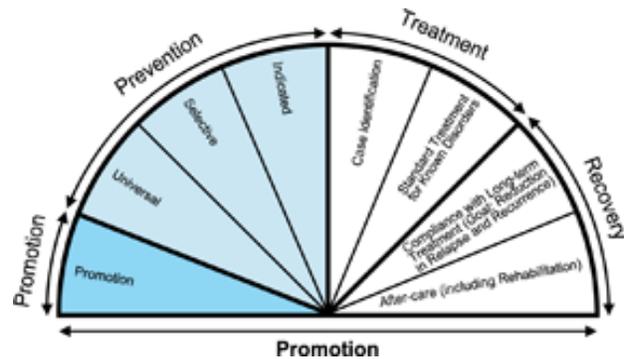
Mental and physical health is also connected. Good mental health often contributes to good physical health. Similarly, the presence of mental health disorders, including substance abuse and dependence, is often associated with physical health disorders (O’Connell, 2009). A large number of studies provide strong evidence that drinking alcohol is a risk factor for primary liver, breast, and colorectal (colon) cancer. Positive lifestyle adjustments, however—like sleep, diet, and physical activity and fitness—can also significantly strengthen mental health (O’Connell, 2009).

As prevention practitioners, our responsibility is to be mindful of these linkages and see our work as part of a broader effort to improve overall health. Recognizing these linkages can help us identify opportunities to address health in a more comprehensive way—by working across disciplines, pooling resources, and reaching people in those settings and during those times in their lives where and when services are most likely to have an impact.

Prevention as Part of a Continuum of Care

A comprehensive approach to behavioral health also means seeing prevention as part of an overall continuum of care. The *Behavioral Health Continuum of Care Model* helps us recognize that there are multiple opportunities for addressing behavioral health problems and disorders. Based on the *Mental Health Intervention Spectrum*, first introduced in a 1994 Institute of Medicine report, the model includes these components:

- **Promotion:** These strategies are designed to create environments and conditions that support behavioral health and the ability of individuals to withstand challenges. Promotion strategies also reinforce the entire continuum of behavioral health services.
- **Prevention:** Delivered prior to the onset of a disorder, these interventions are intended to prevent or reduce the risk of developing a behavioral health problem, such as underage alcohol use, prescription drug misuse and abuse, and illicit drug use.
- **Treatment:** These services are for people diagnosed with a substance use or other behavioral health disorder.
- **Maintenance:** These services support individuals' compliance with long-term treatment and aftercare.



Keep in mind, however, that interventions do not always fit neatly into one category or another. For example, consider co-morbidity. If some disorders (like substance use) are risk factors for other disorders (like depression)—does that mean that all treatment can be seen as prevention? Each prom season, communities across the nation implement safe driving campaigns—are they promoting healthy lifestyles or preventing potential substance use?

Working Across the Continuum

The *Continuum of Care* model reminds us to think, more explicitly, about the relationships between promotion, prevention, and treatment. All too often these relationships are overlooked, opportunities for collaboration are missed, and outcomes are compromised. Consider this example:

To address increasing rates of underage drinking, the anti-drug task force of a small New England town decided to strengthen enforcement of its underage drinking laws. Police began arresting youth they found attending underage drinking parties. The arrested youth were required to receive an assessment of their substance use and attend a 6-week education program provided by the local substance abuse and mental health agency.

The intervention was effective on the prevention end: knowing that the threat of arrest was real, fewer youth attended underage drinking parties and underage drinking decreased.

But what about its effects on related treatment services? The increased enforcement efforts produced an increase in the number of referrals to the local substance abuse and mental health agency, as well as a change in the type of referrals. Prior to the increased enforcement, most of the youth referred to the agency were at high risk for substance use. These youth received selective interventions tailored to their needs. Now most of the referrals were youth who were at much lower risk; their needs were significantly different.

Recognizing the potential impact of its new enforcement policy, the task force worked closely with administrators of the treatment agency to prepare. Knowing what was coming down the pike, the agency was able to more appropriately allocate resources and address the diverse needs of all its referrals. Thus, collaboration and a more comprehensive approach to the problem of underage drinking produced a better outcome overall.

Sources

- Compton, M. T. (2009). *Clinical Manual of Prevention in Mental Health* (1st ed.). American Psychiatric Publishing, Inc.
- O'Connell, M. E., Boat, T., & Warner, K. E. (Eds.). (2009). *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. National Research Council and Institute of Medicine of the National Academies. Washington, D.C.: The National Academies Press.
- Substance Abuse and Mental Health Services Administration. (2011). *Leading change: A plan for SAMHSA's roles and actions 2011-2014*. SAMHSA.
- World Health Organization. (2008). *Closing the gap in a generation: health equity through action on the social determinants of health: Commission on Social Determinants of Health final report*. Geneva: World Health Organization.

Information Sheet 2: Levels of Risk, Levels of Intervention

Prevention practitioners have long targeted risk and protective factors as the “influences” of behavioral health problems. The 2009 report *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities* defines risk and protective factors as follows:

- **Risk factor:** a characteristic at the biological, psychological, family, community, or cultural level that precedes and is associated with a higher likelihood of problem outcomes
- **Protective factor:** a characteristic associated with a lower likelihood of problem outcomes or that reduces the negative impact of a risk factor on problem outcomes

Some risk factors are causal: cigarette smoking, for instance, has been closely linked to lung cancer. Others act as proxies (e.g., living in an area with a high prevalence of cigarette smoking) or markers of an underlying problem (e.g., having a smoker’s cough).

Some risk and protective factors, such as gender and ethnicity, are fixed: they don’t change over time. For instance, at a population level being a boy is a risk factor for substance abuse because boys develop substance abuse problems more quickly than girls. Other risk and protective factors are considered variable: these can change over time. Variable risk factors include income level, peer group, and employment status.

Many factors influence an individual’s likelihood to develop a substance abuse or related behavioral health problem. Effective prevention focuses on reducing those risk factors, and strengthening those protective factors, that are most closely related to the problem being addressed.

Prevention: Universal, Selective, and Indicated

Not all people or populations are at the same risk of developing behavioral health problems. Preventive interventions are most effective when they are appropriately matched to their target population’s level of risk. The Institute of Medicine defines three broad types of prevention interventions:

1. **Universal preventive interventions** take the broadest approach, targeting “the general public or a whole population that has not been identified on the basis of individual risk” (O’Connell, 2009). Universal prevention interventions might target schools, whole communities, or workplaces.

Examples: community policies that promote access to early childhood education, implementation or enforcement of anti-bullying policies in schools, education for physicians on prescription drug misuse and preventive prescribing practices, social and decision-making skills training for all sixth graders in a particular school system

2. **Selective preventive interventions** target “individuals or a population sub-group whose risk of developing mental disorders [or substance abuse disorders] is significantly higher than average”, prior to the diagnosis of a disorder (O’Connell, 2009). Selective interventions target biological, psychological, or social risk factors that are more prominent among high-risk groups than among the wider population.

Examples: prevention education for new immigrant families living in poverty with young children, peer support groups for adults with a history of family mental illness and/or substance abuse

3. **Indicated preventive interventions** target “high-risk individuals who are identified as having minimal but detectable signs or symptoms foreshadowing mental, emotional, or behavioral disorder” prior to the diagnosis of a disorder (IOM, 2009). Interventions focus on the immediate risk and protective factors present in the environments surrounding individuals.

Examples: information and referral for young adults who violate campus or community policies on alcohol and drugs; screening, consultation, and referral for families of older adults admitted to emergency rooms with potential alcohol-related injuries

Individual vs. Population Risk

It's simplest to think about risk on an individual level. Consider this example:

Sandra is a twelve-year-old girl with a family history of alcoholism and mental illness. Sandra's mother is a functioning alcoholic and her father suffers from undiagnosed depression. Over the past five years, Sandra's family has moved four times: she now lives in low-income neighborhood with high crime and many abandoned buildings. At night, neighborhood youth use the corner park to drink and use drugs. Sandra is bussed across town to attend school but lives close to her grandparents, with whom she has a close relationship. She attends an after-school program at the local Girls, Inc. where she is the lead scorer on her basketball team.

- *What is Sandra's level of risk?*
- *What are some of the risk and protective factors in her life?*
- *Which of these factors are fixed and which are variable?*

But it's important to realize that every community includes many Sandras: Adolescents who live in conditions and experience combinations of risk and protective factors that place them at risk for substance abuse and other related behavioral health problems. As prevention practitioners, we focus not only on individuals but on whole populations, looking for ways to address risk and protective factors that contribute to problems on the population level.

Sources

- Compton, M. T. (2009). *Clinical Manual of Prevention in Mental Health* (1st ed.). American Psychiatric Publishing, Inc.
- Mrazek, P. J., & Haggerty, R. J. (Eds.). (1994). *Reducing Risks for Mental Disorders: Frontiers for Preventive Intervention Research*. Washington, D.C.: The National Academies Press.
- O'Connell, M. E., Boat, T., & Warner, K. E. (Eds.). (2009). *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. National Research Council and Institute of Medicine of the National Academies. Washington, D.C.: The National Academies Press.
- Substance Abuse and Mental Health Services Administration. (2011). *Leading change: A plan for SAMHSA's roles and actions 2011-2014*. SAMHSA.



Information Sheet 3: Four Key Features of Risk and Protective Factors

The 2009 report *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities* presents four key features of risk and protective factors for practitioners to consider when designing and evaluating prevention interventions, each described below:

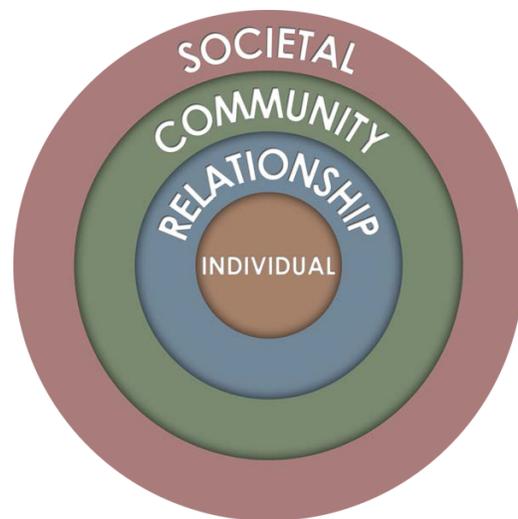
1. Risk and protective factors can be found in multiple contexts.
2. Effects of risk and protective factors can be correlated and cumulative.
3. Some risk and protective factors have specific effects, but others are associated with multiple behavioral health problems.
4. Risk and protective factors influence each other and behavioral health problems over time.

1. Risk and Protective Factors Exist in Multiple Contexts

Individuals come to the table with **biological and psychological characteristics** that make them vulnerable to, or resilient in the face of, potential behavioral health problems. **Individual-level** risk factors include genetic predisposition to addiction or exposure to alcohol prenatally; protective factors might include positive self-image, self-control, or social competence.

But individuals don't exist in isolation. They are engaged in relationships that influence their behaviors. They are members of communities. And they are part of society. A variety of risk and protective factors operate within each of these contexts, or levels, and these factors influence one another. For example:

- In **relationships**, risk factors include parents who use drugs and alcohol or who suffer from mental illness, child abuse and maltreatment, and inadequate supervision; a protective factor would be parental involvement
- In **communities**, risk factors include neighborhood poverty and violence; protective factors might include the availability of faith-based resources and after-school activities
- In **society**, risk factors can include norms and laws favorable to substance use, as well as racism and a lack of economic opportunity; protective factors include policies limiting availability of substances or anti-hate laws defending marginalized populations, such as lesbian, gay, bisexual, or transgender youth



Practitioners must look across these contexts to address the constellation of factors that influence both individuals and populations: targeting just one context is unlikely to do the trick. For example, a strong school policy forbidding alcohol use on school grounds will likely have little impact on underage drinking in a community where parents accept underage drinking as a rite of passage or where alcohol vendors are willing to sell to young adults. A more effective—and comprehensive—approach might include school policy plus education for parents on the dangers of underage drinking, or a city ordinance that requires alcohol sellers to participate in responsible server training.



2. Risk and Protective Factors are Correlated and Cumulative

Risk factors tend to be positively correlated with one another, and negatively correlated with protective factors. That is to say, young people with some risk factors have a greater chance of exposure to still more risk factors—they are also less likely to have protective factors.

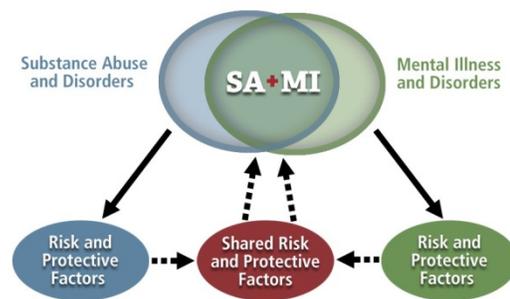
Risk and protective factors also tend to have a cumulative effect on the development—or reduced development—of behavioral health problems. Young people with multiple risk factors have a greater chance of developing a problem, while young people with multiple protective factors are at reduced risk.

Understanding how risk and protective factors influence one another—that they *do*, in fact, influence one another—underscores the importance of (1) intervening early, and (2) developing interventions that target multiple factors, rather than addressing individual factors in isolation.

3. Individual Factors Can be Associated with Multiple Problems

Though preventive interventions are often designed to produce a single outcome, research shows that some risk and protective factors are associated with multiple outcomes. For example, negative life events, such as divorce or sustained neighborhood violence, are associated not only with substance abuse but also with anxiety, depression, and other behavioral health problems.

What this tells us is that preventive efforts targeting a particular set of risk and protective factors have the potential to produce positive effects in multiple areas. Interventions with multiple benefits can lead to broad improvements in health and are a cost-effective investment for society.



4. Risk and Protective Factors are Influential Over Time

Risk and protective factors can strengthen or limit the presence of other factors and disorders over a lifetime. For example, risk factors such as poverty and family dysfunction, can contribute to later psychosocial problems and behavioral disorders, such as risky sexual behavior and depression. Moreover, risk and protective factors within one particular context—such as the family—may also influence or be influenced by factors in another context. For example, effective parenting has been shown to mediate the effects of multiple risk factors, including poverty, parental divorce, parental bereavement, and parental mental health problems.

The more we understand about how risk and protective factors interact, the better prepared we will be to develop appropriate interventions. In the past, prevention practitioners typically focused on a select group of factors that they thought contributed to a specific issue or produced a single outcome. Today, practitioners have begun broadening their lens—to look at connections *between* risk factors and implement effective programs strategically to address multiple outcomes.

Sources

- Compton, M. T. (2009). *Clinical Manual of Prevention in Mental Health* (1st ed.). American Psychiatric Publishing.
- O'Connell, M. E., Boat, T., & Warner, K. E. (Eds.). (2009). *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. National Research Council and Institute of Medicine of the National Academies. Washington, D.C.: The National Academies Press.
- Rutter, M. (1987). Psychosocial Resilience and Protective Mechanisms. *American Journal of Orthopsychiatry*, 57(3), 316-331.
- Substance Abuse and Mental Health Services Administration. (2011). *Leading change: A plan for SAMHSA's roles and actions 2011-2014*. Rockville, MD: SAMHSA.

Information Sheet 4: The Developmental Framework

A developmental approach to prevention helps to ensure that interventions have the broadest and most significant impact. The developmental framework organizes risk and protective factors and their potential consequences and benefits according to defined developmental periods. This enables practitioners to match their prevention and promotion efforts to the developmental needs and competencies of their audience. It also helps planners align prevention efforts with key periods in young peoples' development, when they are most likely to produce the desired, long-term effects.

Stages of Development

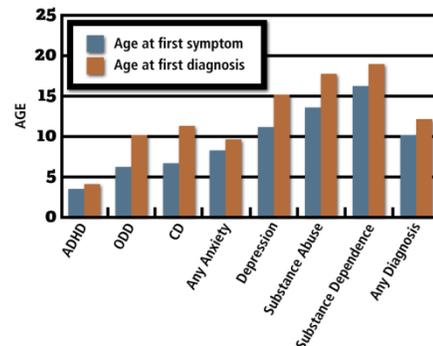
Preventing behavioral problems begins with an understanding of how young people develop and how the challenges they face and overcome interact to produce changes in their mental and physical health over their lifetimes. As children grow, they progress through a series of developmental periods. Each of these periods is associated with a set of developmental competencies: cognitive, emotional, and behavioral abilities children need to adapt to new challenges and experiences. Developmental competencies are "essential as a young person assumes adult roles and the potential to influence the next generation of young people" (O'Connell, 2009).

The likelihood of individuals gaining these competencies depends on (1) their foundation of other competencies; and (2) the risk and protective factors they encounter at each developmental stage. Information Sheet 5 maps out some of the core competencies and the contextual risk and protective factors for substance abuse associated with each developmental period.

Windows of Opportunity

When addressing risk and protective factors, timing is critical. Half of all behavioral disorders appear during adolescence. While the average age of diagnosis varies by disorder, the first symptoms of most behavioral health disorders typically occur two to four years before diagnosis. In the case of substance abuse disorders, for example, initial symptoms appear around age fourteen—about four years before these symptoms progress to the point of a diagnosable disorder.

If we can intervene during these windows of opportunity—during the period between the time when symptoms can be first detected and disorders can be diagnosed—we are more likely to prevent the onset of the disorder and produce lasting and long-term impacts. And if we can intervene even sooner, to promote healthy lifestyles, our potential for reducing the toll of behavioral health problems on individuals, communities, and society is even greater.



Matching Interventions to Developmental Phase

Certain risk and protective factors are more common and influential during particular developmental periods. The developmental framework helps practitioners match their prevention and promotion efforts to the developmental needs and competencies of their audience. It's important to note that many actors affect more than one phase, as do the corresponding interventions. Consider the following scenarios:

- **Scenario 1:** A prevention and wellness committee of an urban elementary school reviews recent efforts to reduce substance abuse and improve behavioral health. The committee decides to address identified gaps in programming for kindergartners by implementing a program that focuses on healthy decision-making and critical thinking skills.
- **Scenario 2:** A community-wide substance abuse coalition identifies underage drinking as a primary focus for its prevention efforts; coalition members are concerned about alcohol being served at community events and that adults buy alcohol for minors. To address these problems, the coalition decides to implement *Across Ages*, an evidence-based intervention designed to increase protective factors for high-risk students by matching youth with older adult community mentors.

In both scenarios, the intentions are good but the developmental-appropriateness of the selected interventions is questionable: neither intervention matches the developmental phase of the target audience or addresses the risk and protective factors most influential during that phase. In the first scenario, the intervention addresses competencies that children develop later in life, during their middle-childhood and adolescence. A more appropriate intervention might be one that targets kindergarten teachers, helping them to provide better support for their students' behavioral health. In the second scenario, the intervention targets individual-level behavior change. A more effective approach might be to reduce social access to alcohol—by enforcing bans on serving and selling alcohol to minors.

Matching Interventions to Setting

It's almost important to consider the “where” of an intervention. Children develop competencies in a range of settings. In just one day, a child might move from his home to school, then to after-school day-care, then on to a neighborhood park to play with friends. Each of these settings plays a role in a child's development. As individuals progress through their youth and into adulthood, the significance of setting in shaping behavioral health evolves. For example, when individuals are very young, immediate family members play a key role in shaping development. But as children mature their friends and peers become significantly more influential, which introduces new risk and protective factors in- and out-of-school.

Sources

- Compton, M. T. (2009). *Clinical Manual of Prevention in Mental Health* (1st ed.). American Psychiatric Publishing, Inc.
- O'Connell, M. E., Boat, T., & Warner, K. E. (Eds.). (2009). *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. National Research Council and Institute of Medicine of the National Academies. Washington, D.C.: The National Academies Press.
- Substance Abuse and Mental Health Services Administration. (2011). *Leading change: A plan for SAMHSA's roles and actions 2011-2014*. Rockville, MD: SAMHSA.

Information Sheet 5: Developmental Competencies and Associated Risk & Protective Factors by Context

This table maps out some of the core competencies and the contextual risk and protective factors for substance abuse associated with each developmental period.

Infancy and Early Childhood

Competencies: Infants begin understanding their own and others' emotions, to regulate their attention, and to acquire functional language

Risk Factors	Protective Factors
<ul style="list-style-type: none"> • <i>Individual:</i> difficult temperament • <i>Family:</i> parental drug/alcohol use, cold and unresponsive mother behavior 	<ul style="list-style-type: none"> • <i>Individual:</i> self-regulation, secure attachment, mastery of communication and language skills, ability to make friends and get along with others • <i>Family:</i> reliable support and discipline from caregivers, responsiveness, protection from harm and fear, opportunities to resolve conflict, adequate socioeconomic resources for the family • <i>School/community:</i> support for early learning, access to supplemental services such as feeding and screening for vision and hearing, stable and secure attachment to childcare provider, low ratio of caregivers to children, regulatory systems that support high quality of care

Middle Childhood

Competencies: Children learn how to make friends, get along with peers, and understand appropriate behavior in social settings

Risk Factors	Protective Factors
<ul style="list-style-type: none"> • <i>Individual:</i> poor impulse control, sensation-seeking, lack of behavioral self-control, impulsivity, early persistent behavior problems, attention deficit/hyperactivity disorder, anxiety, depression, antisocial behavior • <i>Family:</i> permissive parenting, parent-child conflict, low parental warmth, parental hostility, harsh discipline, child abuse/maltreatment, substance use among parents or siblings, parental favorable attitudes toward alcohol and/or drug use, inadequate supervision and monitoring, low parental aspirations for child, lack of or inconsistent discipline • <i>School/community:</i> school failure, low commitment to school, peer rejection, deviant peer group, peer attitudes toward drugs, alienation from peers, law and norms favorable toward alcohol and drug use, availability and access to alcohol 	<ul style="list-style-type: none"> • <i>Individual:</i> mastery of academic skills (math, reading, writing), following rules for behavior at home and school and in public places, ability to make friends, good peer relationships • <i>Family:</i> consistent discipline, language-based rather than physically-based discipline, extended family support • <i>School/community:</i> healthy peer groups, school engagement, positive teacher expectations, effective classroom management, positive partnering between school and family, school policies and practices to reduce bullying, high academic standards

Adolescence

Competencies: Adolescents focus on developing good health habits, practice critical and rational thinking, and seek supportive relationships

Risk Factors	Protective Factors
<ul style="list-style-type: none"> • <i>Individual:</i> emotional problems in childhood, conduct disorder, favorable attitudes toward drugs, rebelliousness, early substance use, antisocial behavior • <i>Family:</i> substance use among parents, lack of adult supervision, poor attachment with parents • <i>School/community:</i> school failure, low commitment to school, not college bound, aggression toward peers, associating with drug-using peers, societal/community norms about alcohol and drug use 	<ul style="list-style-type: none"> • <i>Individual:</i> positive physical development, academic achievement/intellectual development, high self-esteem, emotional self-regulation, good coping skills and problem-solving skills, engagement and connections (in school, with peers, in athletics, employment, religion, culture) • <i>Family:</i> family provides predictable structure with rules and monitoring, supportive relationships with family members, clear expectations for behavior and values • <i>School/community:</i> presence of mentors and support for development of skills and interests, opportunities for engagement within school and community, positive norms, clear expectations for behavior, physical and psychological safety

Early Adulthood

Competencies: Individuals learn to balance autonomy with relationships to family, make independent decisions, and become financially independent

Risk Factors	Protective Factors
<ul style="list-style-type: none"> • <i>Individual:</i> lack of commitment to conventional adult roles, antisocial behavior • <i>Family:</i> leaving home • <i>School/community:</i> attending college, substance-using peers 	<ul style="list-style-type: none"> • <i>Individual:</i> identity exploration in love and work and developing a world view, subjective sense of adult status, subjective sense of self-sufficiency, making independent decisions, becoming financially independent, future orientation, achievement motivation • <i>Family:</i> balance of autonomy and relatedness to family, behavioral and emotional autonomy • <i>School/community:</i> opportunities for exploration in work and school, connectedness to adults outside of family

Source

- O'Connell, M. E., Boat, T., & Warner, K. E. (Eds.). (2009). *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. National Research Council and Institute of Medicine of the National Academies. Washington, D.C.: The National Academies Press.