CAPT Decision Support Tools

Strategies and Interventions to Prevent Youth Marijuana Use: An At-a-Glance Resource Tool

Using Prevention Research to Guide Prevention Practice

SAMHSA's Center for the Application of Prevention Technologies

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STRATEGIES AND INTERVENTIONS TO PREVENT YOUTH MARIJUANA USE

An At-a-Glance Resource Tool

This document provides brief summaries of substance abuse prevention strategies and associated interventions that have been evaluated to determine their effects on marijuana outcomes for youth populations; and should be considered a resource for state- and community prevention practitioners seeking information on interventions to reduce marijuana use among youth. Prevention strategies are grouped by socio-ecological level: for each strategy, we include information on associated risk and protective factors addressed, target populations served, specific intervention or program names, marijuana-specific outcomes, peer-reviewed evaluation studies in which marijuana outcomes for youth populations were assessed, and national registry recognition (if applicable).

Related tools in this toolkit include:

- *Prevention Programs that Address Youth Marijuana Use*, providing detailed descriptions of substance abuse prevention strategies and associated interventions that have been evaluated to determine their effects on marijuana outcomes.
- *Preventing Youth Marijuana Use: An Annotated Bibliography*, providing abstracts for the resources presented below.
- *Risk and Protective Factors Associated with Youth Marijuana Use,* offering a summary of research findings on factors associated with youth marijuana use.

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The Fine Print: Search Methods and Inclusion Criteria

Strategies included in this tool are those that meet the definition of substance abuse prevention[1] (see inset), target primarily youth populations, and whose evaluations assess outcomes associated with the prevention or reduction of youth marijuana use, as well as its consequences. We used a two-phase process to identify strategies included in this guide. These phases are described below.

First, we reviewed existing registries or catalogs available online to identify strategies or interventions evaluated for their influence on youth marijuana use. Specifically, we identified strategies or interventions included in the following:

- SAMHSA's National Registry of Evidence-based Programs and Practices (NREPP): http://www.nrepp.samhsa.gov
- The Athena Forum: http://www.theathenaforum.org
- Blueprints: http://www.blueprintsprograms.com/allPrograms.php
- Coalition for Evidence-based Policy: http://coalition4evidence.org
- FindYouthInfo.gov: http://youth.gov/evidence-innovation/program-directory
- Office of Juvenile Justice and Delinquency Prevention (OJJDP) Model Programs Guide (operated by CrimeSolutions.gov): http://www.ojjdp.gov/mpg
- RAND Corp. Promising Practices Network on Children, Families and Communities: http://www.promisingpractices.net/programs.asp
- U.S. Department of Education: What Works Clearinghouse: http://ies.ed.gov/ncee/wwc
- U.S. Department of Education: Exemplary and Promising Safe, Disciplined, and Drug-free Schools Programs: http://www2.ed.gov/admins/lead/safety/exemplary01/exemplary01.pdf

For each strategy culled from the sources listed above, we reviewed source documents cited to distill information pertinent to their influence on marijuana outcomes for youth populations.

Second, we conducted a thorough search of the academic literature to identify (1) more recently evaluated substance abuse prevention programs that might have been excluded from the online registries, catalogs, or webpages listed above; and (2) research on those strategies or interventions

[1] Programs are considered substance abuse prevention if they meet one of the following criteria: Focus explicitly on preventing substance abuse and related behavioral health disorders rather than treating such disorders, seek to influence a substance abuse prevention-related outcome (e.g., reductions in use); and/or address risk or protective factors that are meaningfully associated with substance abuse.

identified in the first phase and omitted from source materials. Searches were conducted in PSYCHINFO, PUBMED, AND EBSCO, using the following parameters:

- Key words that included *marijuana* OR *cannabis* paired separately with each of the following search strings: *prevention*, *strategy*, *intervention*.
- Published between 2006 and 2013, mainly to confine the search to more recent results.

When our search yielded meta-analyses and systematic literature reviews, we consulted these to identify and review individual studies that met the criteria for inclusion.

Strategies and related studies selected for inclusion (or referenced) were those that:

- Met our definition of substance abuse prevention;
- Were designed for or targeted youth populations;
- Assessed outcomes related to marijuana use and its consequences;
- Were identified as effective, model or promising (when reviewed by a national registry sponsors); and/or
- Demonstrated statistically significant positive effects with regard to marijuana outcomes for youth (e.g., reduced or prevented) using experimental, quasi-experimental or non-experimental (i.e., no comparison or control group) evaluation research designs.

Interventions excluded from this document include those whose:

- Evaluations assessed program effects using composite outcome measures of illicit drug or substance abuse rather than using specific measures of marijuana (ab)use.
- Evaluations demonstrated no effects or harmful effects with regard to marijuana use.

Please employ caution when interpreting this table as our review did not focus on the quality of evaluation research methods employed. Rather, we screened studies for positive outcomes specific to marijuana use. For more information on studies referenced here, see the companion pieces to this document.

Using These Resources to Guide Prevention Practice

Although there are several ways to approach and use this resource, the following are suggested steps or guidelines.

Start with risk and protective factors. While marijuana use among youth may be a serious problem across your state, the factors that drive the problem in different communities may vary considerably. For example, in one community, high school students may have low perceptions of the risks associated with use. However, this may not be an important risk factor in another community, where easy access to marijuana may be a more salient factor. To be effective, prevention strategies or interventions must be linked to the risk and protective factors that drive the problem *in your community.* Therefore, it is critical that you begin your search for appropriate prevention strategies with a solid understanding of these factors, based on a comprehensive review of local quantitative and qualitative data.

For information on risk and protective associated with youth marijuana use, see the companion document *Risk and Protective Factors Associated with Youth Marijuana Use*. Once you have identified your priority risk and protective factors, you can then use this document to consider potential strategies and interventions associated with those factors.

Examine the matrix to identify relevant studies. The matrix is designed to help you decide which strategies and intervention(s)—if any—best fit your local conditions. The matrix includes:

- The risk or protective factor addressed
- General strategies implemented
- Target population
- Specific program names
- Marijuana-specific outcomes
- Any peer-reviewed evaluation studies
- Registry recognition

After reviewing the matrix, refer to the companion documents *Preventing Youth Marijuana Use: An Annotated Bibliography* and *Prevention Programs that Address Youth Marijuana Use* to learn more about specific prevention programs or research studies of interest.

Determine evidence of effectiveness. Once you have retrieved and reviewed details supporting the relevant strategy(s) or intervention(s) in which you are interested, you will need to decide whether the evidence of its effectiveness is sufficient. Determining this is beyond the scope of this document, though some issues to consider are discussed in SAMHSA's Center for Substance Abuse Prevention's 2009 *Identifying and Selecting*

Evidence-Based Interventions Revised Guidance Document for the Strategic Prevention Framework State Incentive Grant Program. Approaches to weighing the evidence of effectiveness for interventions can also be found in the rating systems used by organizations such as the National Registry of Evidence-based Programs and Practices. However, most prevention practitioners benefit from the advice of a researcher, evaluator, or others with appropriate training and experience when determining relevance. Fortunately, in responses to conditions of SAMHSA-funded initiatives such as the Strategic Prevention Framework State Incentive Grant, many states have evidence-based workgroups that can help assess the strength of the evidence for an intervention's effectiveness.

Determine the feasibility of implementation. Once you have identified a strategy or intervention that addresses those risk and protective factors associated with youth marijuana use in your community, and which is supported by sufficient evidence of effectiveness, it is important to determine how feasible it will be to implement, given your resources and community conditions (i.e., the community's willingness and/or readiness to implement). The processes of assessing feasibility and sources that can help with this are discussed in SAMHSA's Center for Substance Abuse Prevention's 2009 *Identifying and Selecting Evidence-Based Interventions Revised Guidance Document for the Strategic Prevention Framework State Incentive Grant Program*. Additional resources related to feasibility can be found in the CAPT area of SAMHSA's website.

What if you can't find an appropriate strategy or intervention? Given the limited number of strategies and interventions identified in this review, you may not be able to identify one that meets your needs—that addresses the risk and protective factors associated with youth marijuana use in your community, that is supported by sufficient evidence of effectiveness, and that is feasible to implement. If this is the case, keep looking. Consider searching databases (in addition to those searched for this review) to retrieve more research articles. Also, consider widening your search to include articles published before and after the time period included in this review, and/or to include articles published in non-refereed journals (many of these use methods as rigorous as articles found in peer-reviewed journals) or articles for which the full-text was not available. Or simply try using more search terms.

INDIVIDUAL LEVEL: INDIVIDUALS AS THE PRIMARY UNIT OF PRACTICE AND CHANGE

Risk or Protective Factors Addressed	General Strategies Implemented	Target Population(s)	Specific Program Name(s)	Marijuana-specific Outcomes	Peer-reviewed Evaluation Studies	Registry Recognition
Problem solving, communication, and drug resistance or skills; acculturation strategies	Application of bicultural competence and social learning theories to **teach communication and coping skills** for handling stressful situations and avoiding substance abuse	Native American adolescents	Bicultural Competence Skills Approach	Less use of marijuana Lower rates of marijuana	Schinke, Orlandi, Botvin, Gilchrist, Trimble, & Locklear, 1988. Schinke, Tepavac, & Cole, 2000.	OJJDP
Low perception of drug use risk; decision-making and drug resistance skills; normative attitudes and beliefs about drugs	Multi-cultural, **skills-based classroom curriculum** informed by communication competence theory and a culturally-grounded resiliency model	Young adolescents ages 12–14	Keepin' It Real	Lower marijuana use; slower increase in marijuana use over time; and greater use of program strategies to resist marijuana use	Hecht et al., 2003 ; Hecht Graham, & Elek, 2006; and Kulis et al., 2005	NREPP
Social and personal competence and drug resistance skills	Two-year booster program that follows Stay SMART, a **skills-based curriculum**	Adolescents ages 13–15	SMART Leaders	Fewer perceived social benefits from smoking marijuana	St Pierre, Kaltreider, Mark, & Aikin, 1992.	OJJDP
Drug use outcome expectancies; perceptions of drug risk	Brief intervention consisting of a motivational enhancement therapy session	Adolescents	Adolescent Cannabis Check Up	Reductions in: days of cannabis use; quantity of weekly cannabis use; and number of DSM IV dependence symptoms reported	Martin & Copeland, 2008.	No
Drug use outcome expectancies; perceptions of drug risk	Four 60-minute individual **motivational interview sessions** with a trained therapist	HIV positive youth 16- to 24-year-olds	Healthy Choices	Reductions in: marijuana used; and maximum time used in past week for low and moderate users only (not for high risk users)	Murphy, Chen, Naar-King, & Parsons, 2012.	No

INDIVIDUAL LEVEL, CONTINUED

Risk or Protective Factors Addressed	General Strategies Implemented	Target Population(s)	Specific Program Name(s)	Marijuana-specific Outcomes	Peer-reviewed Evaluation Studies	Registry Recognition
Drug use outcome expectancies; perceptions of drug risk	**Motivational interviewing** (compared with relaxation training)	Incarcerated adolescent post-release		Lower rates of marijuana use	Stein et al., 2011.	No
Drug use outcome expectancies; perceptions of drug risk	**Brief educational intervention** (10-15 mins) to accompany screening; **integrated into routine care**	College populations		Reductions in past 30-day marijuana use	Denering & Spear, 2012.	No
Drug use outcome expectancies; perceptions of drug risk	**Brief educational intervention** (10-15 mins), including session with a health psychologist and a written, 10-page booklet	Canadian university students		Reductions in: deep inhalations/breath holding; and driving after cannabis use	Fischer, Jones, Shuper, & Rehm, 2012.	No
Drug use outcome expectancies	Two-session **brief motivational intervention**	Young adult women (18-24)		Reductions in: likelihood of marijuana use at 3 months **No intervention effects on:** likelihood of marijuana use at 1 month; and at 6 months	Stein, Hagerty, Herman, Phipps, & Anderson, 2011.	No
Social and emotional competencies; drug resistance skills; volunteerism	**Outdoor youth adventure program** and **skills-based educational intervention**	Adolescents, Native American youth grades 5-8	Project Venture	PENDING	Carter et al., 2005.	NREPP; OJJDP

INDIVIDUAL LEVEL, CONTINUED

Risk or Protective Factors Addressed	General Strategies Implemented	Target Population(s)	Specific Program Name(s)	Marijuana-specific Outcomes	Peer-reviewed Evaluation Studies	Registry Recognition
Positive social and self-image	**Brief motivational intervention** integrating substance abuse prevention and fitness promotion and based on premise that social and self-image are positive motivators for behavior change	Adolescents	SPORT	Reductions in 30-day marijuana frequency at 3-month and 12 month follow-up for drug-using youth	Werch, Moore, DiClemente, Bledsoe, & Jobli, 2005.	NREPP; Blueprints; RAND Promising Practices Network
Outcome expectations regarding drug use; image linked to drug use	**Brief motivational intervention** focused on use of positive social images and future self-images to deter health risk habits	College students	InShape	Reduced initiation, quantity, and heavy use of marijuana	Werch et al., 2008.	NREPP; Blueprints
Drug resistance skills; social and emotional competencies; school and community bonding; norms supporting use	**Skills-based curriculum** paired with **community service learning**	Middle school youth (ages 10-14)	Lions' Quest Skills for Adolescence	Reductions in 30-day and lifetime marijuana use; Increase in refusal self-efficacy	Eisen, Zellman, & Murray, 2003.	NREPP
Availability of drugs; high rates of poverty; coping strategies; cultural/ethnic identity	**Bi-lingual (English/Spanish) skills-based curriculum** with focus on youth development, including: decision making, fostering positive cultural identity, and resiliency	Youth living in communities with high availability of drugs	Storytelling for Empowerment	Decreased use of marijuana	Nelson & Arthur, 2003.	NREPP

INDIVIDUAL LEVEL, CONTINUED

Risk or Protective Factors Addressed	General Strategies Implemented	Target Population(s)	Specific Program Name(s)	Marijuana-specific Outcomes	Peer-reviewed Evaluation Studies	Registry Recognition
Normative beliefs about drug risks; drug resistance efficacy	**Modular culture- and skills-based curriculum** that incorporates aspects of hip-hop culture as social, cultural and contextual framework for substance abuse and HIV risk behaviors	Adolescents ages 12–16	Hip-Hop 2 Prevent Substance Abuse and HIV (H2P)	Higher percentage disapproving of marijuana use; and increase in perceived risk associated with marijuana use	Turner-Musa, Rhodes, Harper, & Quinton, 2008.	NREPP
Self-management, social, and drug resistance skills	**Skills-based, universal curriculum program** delivered over three years	Adolescents in grades 6-9	Life Skills	Lower prevalence of weekly use of marijuana	Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995	NREPP
Self-control, communication, and decision-making skills	**Skills- and classroom-based curriculum** taught over a 3-week period	High school youth at risk for substance abuse	Project Towards No Drug Abuse	Reduction in 30-day marijuana use; and lower level of marijuana use among males at 2 years follow-up	Sussman et al., 2003	NREPP; RAND Promising Practices Network; OJJDP
Values of sharing, respect, honesty, and kindness; school bonding; academic achievement; perception of substance use risk	**Skills- and culture-based classroom curriculum** that incorporates interactive, cooperative learning techniques and is based on Native American traditions and cultures	Native American students in grades K–12	Red Cliff Wellness School Curriculum	Less increase in intention to use marijuana	Petoskey, Van Stelle, & De Jong, 1998.	NREPP

INDIVIDUAL LEVEL, CONTINUED

Risk or Protective Factors Addressed	General Strategies Implemented	Target Population(s)	Specific Program Name(s)	Marijuana-specific Outcomes	Peer-reviewed Evaluation Studies	Registry Recognition
Perception of drug risk; drug resistance efficacy	**Motivational enhancement therapy (MET) and educational feedback (EF)**	Teenagers who are regular cannabis smokers	The Teen Marijuana Check-Up	Fewer days of cannabis use (both MET and EF); and fewer associated negative consequences of marijuana use (both MET and EF)	Swan, Schwartz, Berg, Walker, Stephens, & Roffman, 2008. Walker, Roffman, Stephens, Wakana, & Berghuis, 2006. Walker, Stephens, Roffman, DeMarce, Lozano, Towe, & Berg, 2011.	No
Poor academic performance or academic failure; low perception of drug risk or harm	**Skills-based drug prevention curriculum** for all students and **individual- or group counseling** for students and families at greater risk	High school students and their families	Project SUCCESS	Lower likelihood of having ever used marijuana; and, if used at baseline, reducing or stopping marijuana use	Morehouse et al., 2007.	NREPP
Perception of drug risk or harm	**Educational web-based intervention** that uses cartoon storylines	Australian adolescents in grades 8-9	Climate Schools: Alcohol and Cannabis Course	Improved knowledge about marijuana	Newton, Vogl, Teesson, & Andrews, 2011. Newton, Teesson, Vogl, & Andrews, 2010.	No

Relationship Level: Relationships as the Primary Unit of Practice and Change

Risk or Protective Factors Addressed	General Strategies Implemented	Target Population(s)	Specific Program Name(s)	Marijuana-specific Outcomes	Peer-reviewed Evaluation Studies	Registry Recognition
Family management practices, including communication and supportiveness; and dysfunctional family behavior patterns, including negativity	**Short-term family-based therapeutic intervention** with five phases based on readiness to change models: engagement, motivation, assessment, behavior change, and generalization	Youth at risk for institutionalization and their families	Functional Family Therapy	Reductions from heavy to minimal marijuana use prevalence	Waldron, Slesnick, Brody, Turner, & Peterson, 2001.	Blueprints; OJJDP
Goal-setting; positive relationship formation; problem-solving skills	**Group-based educational intervention for youth and parents**	Girls in foster care transitioning to middle school and their foster parents	Keep Safe	Lower levels of marijuana use at 3-year follow-up	Kim & Leve, 2011.	Blueprints
Family management practices	**Multi-session therapeutic technique** that focuses on diagnosing and correcting maladaptive family interactions	Families of children and adolescents, ages 6–18 with signs of conduct and emotional problems	Brief Strategic Family Therapy	Greater reductions in marijuana use	Santisteban et al., 2003.	NREPP; Blueprints
Parent engagement with school; parental monitoring	Three-tiered, **comprehensive multi-staged psycho-educational family support program** administered to universal, selected, and indicated populations with intensity of family-based services increasing with population needs	Middle school youth and families	Positive Family Support-Family Check-Up (Formerly Adolescents in Transition)	Less use of marijuana; lower likelihood of lifetime marijuana use by late adolescence	Connell, Dishion, Yasui, & Kavanagh, 2007.	Blueprints; OJJDP

RELATIONSHIP LEVEL, CONTINUED

Risk or Protective Factors Addressed	General Strategies Implemented	Target Population(s)	Specific Program Name(s)	Marijuana-specific Outcomes	Peer-reviewed Evaluation Studies	Registry Recognition
Family management practices; parental monitoring; maladaptive/adaptive coping strategies	***For mothers:*** **skills-based education** on effective discipline, and mother-child relationship quality. ***For children:*** **psycho-educational techniques** to promote adaptive appraisals and coping strategies	Children (average age 10.9 at time of intervention) of divorced parents and their mothers	New Beginnings Program	Less marijuana use 6 years after participation	Soper, Wolchik, Tein, & Sandler, 2010.	No
Family communication, conflict, and cohesion	Seven-session **psycho-educational program** offered separately to pre- and young adolescents and their parents	Middle school youth and families	Strengthening Families	Lower initiation of marijuana (at grade 10) Slower overall growth in lifetime use of marijuana (at grade 12)	Spoth, Redmond, & Shin, 2001 Spoth et al., 2004	NREPP
Parenting practices and family management; parental monitoring	**Web- and skills-based program** to increase parental monitoring; and improve mother-daughter communication skills	Asian American adolescent girls and their mothers		Fewer instances of 30-day marijuana use	Fang & Schinke, 2013.	No
Children's impulsivity and aggression; family stressors and stress management practices	**Cognitive- and skills-based intervention** delivered during children's transition to middle school: children's sessions focus on anger management and study skills; parent sessions focus on stress management	Aggressive children in grades 5–6 and their parents	Coping Power Program (CPP)	Lower lifetime use of marijuana at 5 years post-intervention	Zonneyville-Bender et al., 2007.	OJJDP

RELATIONSHIP LEVEL, CONTINUED

Risk or Protective Factors Addressed	General Strategies Implemented	Target Population(s)	Specific Program Name(s)	Marijuana-specific Outcomes	Peer-reviewed Evaluation Studies	Registry Recognition
Children's perception of drug risk and drug resistance skills; and parental-child communication and parental monitoring	**Take-home drug-refusal activities for children to complete with parents** and newsletter prompts for parents to reinforce activities	Elementary school children in grades 4–6 and their parents	Keep A Clear Mind (KACM)	More parent-child discussions about how to resist peer pressure to try marijuana; children perceived less widespread use of marijuana Children perceived to have greater ability to resist peer pressure to use marijuana; reduced parental expectations that child will try marijuana	Werch, C. E., Young, M., Clark, M., Garrett, C., Hooks, S., & Kersten, C. (1991). Young, Kersten, & Werch, 1996.	NREPP
Anti-social behavior; co-occurring mental health problems; poor family management and parental monitoring practices	Community families provide MTFC adolescents with **management and intensive supervision at home, in school, and in the community:** clear and consistent limits with follow-through on consequences; positive reinforcement for appropriate behavior; and separation from delinquent peers	Chronic juvenile offenders and community families	Multidimensional Treatment Foster Care (MTFC)	Less marijuana use	Smith, Chamberlain, & Eddy, 2010	NREPP; OJJDP; Blueprints

RELATIONSHIP LEVEL, CONTINUED

Risk or Protective Factors Addressed	General Strategies Implemented	Target Population(s)	Specific Program Name(s)	Marijuana-specific Outcomes	Peer-reviewed Evaluation Studies	Registry Recognition
Parental monitoring; acculturation stress; perception of drug risk; self- efficacy; conflict resolution skills; cultural pride	**Psycho-educational curriculum** to enhance communication and coping, increase substance abuse and HIV knowledge and perception of harm, and improve school behaviors	Latino families: youth ages 11 – 14 and their parents	*Familia Adelante*	Reductions in 30-day marijuana use	Cervantes, Goldbach, & Santos, 2011.	No
Positive social relationships within schools; positive and supportive school environment	**Cognitive and interpersonal skills curriculum; establishment and support of school-based adolescent health team; professional development; and support school staff**	Adolescents and peers, mean age 13 at time of intervention	Gatehouse	Reduced likelihood of any marijuana use in the past year and weekly marijuana use	Bond et al., 2004	No
Disordered eating habits; peer-group norms related to perception of drug risk or harm	**Peer-led lessons and cognitive restructuring activities** led by coaches and student athletes	Female student athletes and peers ages 13-17	ATHENA (Athletes Targeting Health Exercise & Nutrition Alternatives)	Reductions in lifetime marijuana use 1-3 years post-graduation	Elliot et al, 2008.	NREPP
Maternal bonding; parental substance abuse; maternal economic stability; family management practices	**Prenatal and infancy nurse home visitation program**	Low-income, first-time mothers and their infant children	Nurse-Family Partnership	Lower likelihood to have used marijuana; and greater likelihood to have used less marijuana and marijuana on fewer days	Kitzman et al., 2010.	NREPP, OJJDP; Blueprints; RAND Promising Practices Network

COMMUNITY LEVEL: COMMUNITIES (E.G., SCHOOLS) AS THE PRIMARY UNIT OF PRACTICE AND CHANGE

Risk or Protective Factors Addressed	General Strategies Implemented	Target Population(s)	Specific Program Name(s)	Marijuana-specific Outcomes	Peer-reviewed Evaluation Studies	Registry Recognition
Access to social and institutional supports and economic inequality	**Comprehensive and intensive early education program** that includes a pre-school and school-age intervention	Preschools with children at risk for developmental delay and school failure	The Abecedarian Project	Lower incidence of marijuana use at age 21 Older when first smoking marijuana regularly	Campbell et al., 2002. Muennig et al., 2011.	RAND Promising Practices Network
Socio-emotional development; connection to school; supportive school environment	**A universal elementary school improvement program** aimed at promoting positive youth development with an emphasis on social and emotional learning	Elementary schools and students in grades K–6	Caring School Community (formerly called Child Development Project)	Declines in marijuana use	Battistich, Schaps, Watson, Solomon, & Lewis, 2000.	NREPP; RAND Promising Practices Network
Co-morbidity (mental health issues such as anxiety or depression); limited help-seeking efficacy; social and institutional barriers to help seeking	**A curriculum-based program that educates: (1) students to seek and access professional help, and (2) teachers to assist students in seeking help**	Australian schools for adolescents, ages 12-17	MAKINGtheLINK[2]	Increased teacher confidence and awareness of how to assist students to seek help for cannabis use and/or mental health problems; and increased student confidence and awareness of how to seek help for self or friends for cannabis use and/or mental health problems	Berridge, Hall, Dillon, Hides, & Lubman, 2011.	No

[2]Program is culturally specific to Australian population.

COMMUNITY LEVEL, CONTINUED

Risk or Protective Factors Addressed	General Strategies Implemented	Target Population(s)	Specific Program Name(s)	Marijuana-specific Outcomes	Peer-reviewed Evaluation Studies	Registry Recognition
School-wide norms that support bullying behavior	A universal, three-tiered school-based program: (1) **school-wide professional development** and increased supervision of bullying "hot spots"; (2) **establishment and enforcement of class rules** against bullying; and (3) **interventions with children identified as bullies and victims**, and discussions with parents of involved students	Norwegian middle schools and adolescents in grades 7-9 (ages 13-16)	Olweus Bullying Prevention Program	Significantly less increase in marijuana use over time	Amundsen & Ravndal, 2010.	Blueprints; RAND Promising Practices Network[3]
Classroom management; disruptive classroom behaviors; academic and behavioral problems	Teacher program that includes a **series of workshops on classroom management;** student intervention that includes **summer camps and in-home services**	Classrooms with students who have academic or behavioral problems	Raising Healthy Children	Reduced frequency of marijuana use	Brown, Catalano, Fleming, Haggerty, & Abbott, 2005.	Blueprints; OJJDP
Perception of drug risk or harm; drug resistance skills; family management practices; volunteerism and community attachment; pro-social involvement; pro-social peers	Six-year program delivered over seven academic years and including **skills-based classroom curricula, peer leadership, youth-driven extra-curricular activities, parent involvement, and community activism**	Middle and high schools	Project Northland	Less marijuana use in grade 8 by non-alcohol users at baseline	Perry et al, 1996.	NREPP; RAND Promising Practices Network; Blueprints; OJJDP

[3] On Blueprints and RAND registries OBP is not listed as having marijuana outcomes.

COMMUNITY LEVEL, CONTINUED

Risk or Protective Factors Addressed	General Strategies Implemented	Target Population(s)	Specific Program Name(s)	Marijuana-specific Outcomes	Peer-reviewed Evaluation Studies	Registry Recognition
Drug resistance skills; family and school drug norms; community drug abuse policies	Comprehensive, community-based program that consists of **mass media, school, parent, community, and health policy components** introduced sequentially over a 5-year period	Middle schools (grades 6–8) and their surrounding communities	Midwestern Prevention Project	Lower marijuana use prevalence rates in intervention schools at one-year follow-up Fewer students intending to use marijuana	Pentz et al, 1989. MacKinnon et al, 1991.	NREPP
School and community norms supporting substance use	**In-school social marketing communication campaign** combined with **community-based media effort**	Middle schools and their surrounding communities		Fewer marijuana users in intervention schools	Slater et al., 2006.	No
Communication skills; school connectedness; goal setting and aspirations; and supportive school climate; access to services	**Curriculum** to enhance student communication, connectedness, empathy and self-awareness; **school policies and programs** related to bullying to increase school connectedness; **partnerships with local services** to provide youth access during school hours; and **activities to aid implementation**	Australian schools grades 7-10	Includes Rock and Water and Resourceful Adolescent curricula	Reductions in marijuana use 3 months post-participation	Hodder et al., 2011.	No

SOCIETY LEVEL: SOCIETIES AS THE UNIT OF PRACTICE AND CHANGE

Risk or Protective Factors Addressed	General Strategies Implemented	Target Population(s)	Specific Program Name(s)	Marijuana-specific Outcomes	Peer-reviewed Evaluation Studies	Registry Recognition
Community norms favorable to marijuana use and sensation seeking	**Anti-marijuana advertising,** targeting sensation seeking youth market segments	Adolescents, particularly high-sensation seekers and their meta-culture	Above the Influence; National Youth Anti-Drug Media Campaign (Marijuana Initiative)	Reductions in past month use for 8th grade girls only **(no effects for boys, and 10th and 12th grade students)**	Carpenter & Pechmann, 2011.	No
				Reduced upward trends in 30-day use among high sensation seekers	Palmgreen, Lorch, Stephenson, Hoyle, & Donohew, 2007.	
				Reduced upward trends in 30-day use among high sensation seekers	Palmgreen, Donohew, Lorch, Hoyle, & Stephenson, 2001.	
				Reduced rate of change for use of marijuana	Slater, Kelly, Lawrence, Stanley, & Comello, 2011.	

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