## **TABLE 1: SUBSTANCE ABUSE AND ASSOCIATED RISKS (SAR)**

Note: Goal of the program is primary prevention, unless noted otherwise

Outcome key: + Favorable effect - Unfavorable effect x No effect or nonsignificant interaction term

MEN = formal mentoring program or naturally occurring mentoring relationship

Other abbreviations: RCT = randomized controlled trial

|  | Type of Mentoring  |  | Evaluation  |  |  |  |
|--|--|--|---|--|--|--|
| Program Name<br>(Authors)              | Structure  | Processes/Activities   | Methodology   | Question 1: What is the effect of mentoring on SAR?                                | Question 2: What factors condition or influence the strength and/or direction of mentoring effects on SAR? | Question 3:<br>What are the<br>processes<br>through which<br>mentoring<br>influences SAR?                                      |
| Across Ages<br>(Aseltine et al., 2000) | Goal: Increase resiliency and social competence of atrisk middle school youth; program built on a Positive Youth Development framework Setting: Community or School Duration: Varies, mentoring component lasts 1 year Format: One-to-one Mentors: Adults ages 55+ Mentees: Youth ages 10–13 | Mentoring: Mentoring meetings 4+ hours a week over a year; activities: schoolwork or attending events.  Community Service: Focused on interactions with frail elders (biweekly visits to nursing home residents). Youth record experiences in journals and share in class.  Classroom Curriculum: Teaches life and resistance skills through didactic instruction, videotapes, journals, roleplaying, and homework assignments.  Parent Workshops: Events for parents, youth, and mentors on weekends. | Evaluation over 3-year period with ethnically diverse youth from low-income families; recruited from 10 sixth-grade public school classes      Students randomly assigned to 1 of 3 conditions: Across Ages (mentoring + life skills curriculum + community service; n=85), curriculum (life skills curriculum + community service; n=135), and control (no intervention; n=138)      Assessed alcohol, marijuana use (along with other outcomes) | + Alcohol use (for both mentor and curriculum groups vs. control)  x Marijuana use |  | + Less positive attitudes toward drug use (Across Ages mentor group vs curriculum) although mediation not tested statistically |

| Across Ages                   | See previous entry                  | See previous entry                                    | RCT pre/post-test       | x Overall frequency of           | x MEN x Quality                        |  |
|-------------------------------|-------------------------------------|---|-------------------------|----------------------------------|--|--|
| (LoSciuto et al., 1996)       |                                     |   | design with 562         | substance use in past 2          | (Exceptional vs                        |  |
|                               |                                     |   | sixth-grade students    | months (MPS vs PS)               | Average Mentoring)  → Substance use    |  |
|                               |                                     |   | Groups: Across Ages     |                                  | → Substance use                        |  |
|                               |                                     |   | mentoring + Parenting   |                                  | + MEN x Quality                        |  |
|                               |                                     |   | Session (MPS; n=180),   |                                  | (Exceptional vs                        |  |
|                               |                                     |   | Parenting Session (PS;  |                                  | Average Mentoring)                     |  |
|                               |                                     |   | n=193), and Control     |                                  | → Substance use                        |  |
|                               |                                     |   | (n=189)                 |                                  | knowledge                              |  |
|                               |                                     |   |                         |                                  | x MEN x Dosage →                       |  |
|                               |                                     |   |                         |                                  | Substance use                          |  |
| Big Brothers Big Sisters      | Goal: Positive youth                | Community-Based Mentoring (CBM)                       | • n=1138 randomly       | + Youth in BBBS group 27.4%      | + MEN x gender                         |  |
| Community-Based Men-          | development                         | model requires mentors and youth to                   | assigned to BBBS vs     | less likely to start using alco- | (significant effect of                 |  |
| toring (BBBS CBM)             | Setting: Community Duration: 1 year | meet 2x/month for minimum of 1 year                   | control, total n=959 in | hol than those in control        | mentoring on drug<br>use for boys, but |  |
| (Grossman & Tierney,<br>1998) | Format: One-to-one                  | Program focus is development of                       | analysis sample         |                                  | not girls)                             |  |
| 1550)                         | Mentors: Adult                      | supportive relationship between                       | Outcomes: Initiation    | + Youth in BBBS group 45.8%      | 1100 811137                            |  |
|                               | volunteers                          | youth and mentor                                      | of alcohol and illegal  | less likely to start using       | + MEN x race                           |  |
|                               | Mentees: 10-to-16-                  |   | drug use; 18-month      | illegal drugs than those in      | (significant effect                    |  |
|                               | year-old youth                      | Agency provides boundaries regarding                  | follow-up assessment    | control                          | on drug use for                        |  |
|                               |                                     | relationships but otherwise matches choose activities |                         |                                  | minority youth)                        |  |
|                               |                                     | choose delivities                                     |                         |                                  | + MEN x gender                         |  |
|                               |                                     |   |                         |                                  | x race (significant                    |  |
|                               |                                     |   |                         |                                  | impact for drug use                    |  |
|                               |                                     |   |                         |                                  | of minority girls                      |  |
|                               |                                     |   |                         |                                  | and boys)                              |  |
|                               |                                     |   |                         |                                  | + MEN x gender x                       |  |
|                               |                                     |   |                         |                                  | race (increased risk                   |  |
|                               |                                     |   |                         |                                  | of substance abuse                     |  |
|                               |                                     |   |                         |                                  | in white girls in                      |  |
|                               |                                     |   |                         |                                  | mentoring group)                       |  |
|                               |                                     |   |                         |                                  | + MEN x gender x                       |  |
|                               |                                     |   |                         |                                  | race (significant                      |  |
|                               |                                     |   |                         |                                  | effects on alcohol                     |  |
|                               |                                     |   |                         |                                  | use, only for                          |  |
|                               |                                     |   |                         |                                  | minority girls)                        |  |
|                               |                                     |   |                         |                                  |  |  |

| BBBS CBM<br>(Rhodes et al., 2005)   | See previous entry   | See previous entry   | n=928 adolescents in<br>BBBS Program (581<br>non-matched; 158<br>matched <12 months;<br>189 matched >12<br>months)      Past month alcohol/drug use assessed<br>with single item  | x Reported frequency of<br>alcohol and drug use in the<br>past month  | + MEN x match<br>length → alcohol<br>and drug use (youth<br>matched for >12<br>months reported<br>lower frequency of<br>alcohol and drug<br>use)                               | + MEN →Parent<br>relations →<br>Frequency of drug<br>and alcohol use<br>(only for youth<br>matched >12<br>months) |
|---|--|--|---|---|--|---|
| BBBS CBM programs and 2<br>CBM mentoring programs<br>in Washington State<br> (Herrera et al., 2013) | Goal: Provide mentoring support to at-risk youth Setting: Community Duration: Program expectation of 12 months Format: One-to-One Mentors: Adult volunteers Mentees: Youth aged 8–15 years | <ul> <li>Programs targeted "high-risk youth"         [experiencing either environmental risk         (e.g., poverty) or individual risk (e.g.,         academic challenges)]</li> <li>Program expectations for match         meetings at least twice monthly for         4+ hours</li> <li>Programs provided general parameters         for meetings but matches chose         activities</li> </ul> | <ul> <li>n = 1,310 at-risk youth across seven CBM programs (5 of which were BBBS)</li> <li>Three groups:         Randomized to mentoring (n=308) or control (n=321) or nonrandomized comparison group (n=615)</li> <li>Assessment 13 months after enrollment</li> <li>Assessed substance use as dichotomous variable (use of alcohol/drugs in past 3 months); included range of other outcomes</li> </ul> | x Substance use at 13 months (both random assignment and quasiexperimental tests)   | x MEN x levels of risk → misconduct (including substance use)  |   |
| BBBS School-Based<br>Mentoring<br>(Herrera et al., 2011)  | Goal: Positive youth development Setting: School Duration: School year Format: One-to-one Mentors: Adult and high school student volunteers Mentees: 9-to-16-year-old students             | <ul> <li>Meetings occurred during and/or after school</li> <li>All programs involved some structure (e.g., activity choices)</li> <li>Activities included academic (e.g., homework help), creative activities (e.g., crafts), or games and discussions</li> </ul>  | Sample (n=1139) youth in fourth to ninth grades in BBBS agencies  Assigned to mentoring (n=565) or wait list control (n=574)  Followed for 1.5 school years   | x Composite measure of prior 3-month's substance use (alcohol, tobacco, other drugs) assessed at 9 months after program start | — MEN x special adult → substance use at 9 months (mentees who lacked special adult prior to program participation more likely than nonmentored peers to have used substances) |   |

| Cool Girls<br>(Kuperminc et al., 2011)  | Goal: Positive youth development Setting: School and community Duration: Academic year Format: One-to-one (Cool Girls program component) Mentors: Adult volunteers Mentees: Girls in grades 4–8 (ages 9–15 years)  | Core components: Girls Club (life skills curriculum) and Cool Scholars (homework assistance, tutoring)  Cool Sisters: one-to-one mentoring; girls eligible to be matched with mentor after 1 year of participation  Meetings at school after hours  Mentors make minimum 1-year commitment and meet at least monthly with mentee  | <ul> <li>Quasi-experimental study (N=175)</li> <li>Groups: Cool Girls intervention (n=86) vs. comparison (n=89)</li> <li>Assessed substance use with 5 items (cigarettes, alcohol, marijuana, cocaine, inhalants) rated for prior 6 months on 3-point scale (0 = never to 2 = several times)</li> </ul>          | x Any drug use (dichotomous yes/no item)  |   | Cool Girls with mentors 4.4x more likely to report "expecting to avoid drug use" in the future vs. comparisons and Cool Girls who were not eligible for being matched with a mentor (first year in program). |
|---|--|---|--|---|---|--|
| Community Reinforcement Approach (CRA) + Mentoring (Bartle-Haring et al., 2012) [Tertiary prevention] | Goal: Enhance effects of an evidence-based substance abuse treatment program (CRA) Setting: Drop-in center and community Duration: 3–6 months Format: One-to-one Mentors: Adult mentors paired with youth based on gender, ethnicity, sexual identity Mentees: Substance-abusing homeless youth (ages 14–22) | <ul> <li>12 weekly mentoring sessions, completed in maximum of 6 months, structured in 4 phases: rapport building and goal-setting, social stability, competing reinforcers, termination</li> <li>Mentoring included assistance with problem-solving (e.g., housing, finances), advice on developing hobbies</li> <li>CRA sessions: 12 weekly behavioral counseling and case management up to 6 months</li> </ul> | Sample (n=90) youth experiencing homelessness and meet substance abuse disorder criteria; n=48 randomly assigned to substance use treatment and mentoring      Assessed prior 90-day drug/alcohol use and problem consequences associated with drug use (POSIT instrument); internalizing/externalizing problems | x Number of mentoring sessions did not predict variance of change in substance use  + Number of mentoring sessions predicted decrease in problem consequences of substance use (POSIT scores) | x Interaction of number of CRA and mentoring sessions on frequency of substance use.  + Interaction of number of CRA and mentoring sessions for POSIT score (youth who attended highest # CRA and mentoring sessions showed highest decrease in POSIT scores) |  |

| Mentor Sweden<br>(Bodin & Leifman, 2010)                       | Goal: Prevent substance use in low-risk youth via safe and supportive relationships Setting: Community Duration: 1 academic year Format: One-to-one Mentors: Paid adult volunteers Mentees: 13-to-17- year-old adolescents recruited through schools | <ul> <li>Targets youth who self-identify as needing more adult contacts</li> <li>Mentor-mentee meetings at least every second week for 2–4 hours outside of school time</li> <li>Mentors given list of activity suggestions, but activities chosen by mentor and youth</li> </ul> | Randomized controlled trial;     14-year-old youth assigned to mentoring condition (n=65) or control (n=63)      Assessment at baseline and 12-month follow-up | x Annual alcohol use x Ever been drunk during past month x Abstinence/no use of alcohol x Any illicit drug use x Tobacco use |  |  |
|--|--|---|--|--|--|--|
| Meta-analysis/ system-<br>atic review (DuBois et al.,<br>2011) | Goal: Varied Setting: Varied Duration: Varied Format: Varied Mentors: Adults Mentees: Youth (<18 years)  |   | Studies of youth<br>mentoring 1999-<br>2010; substance use<br>outcomes aggregated<br>across 6 different<br>samples   | x Substance use  |  |  |
| Meta-analysis/<br>systematic review<br>(Raposa et al., 2019)   | Goal: Varied Setting: Varied Duration: Varied Format: Varied Mentors: Varied Mentees: Youth (<18 years)  |   | Outcome studies of intergenerational, one-to-one youth mentoring programs 1975–2017 (n=70 studies)      11 studies had substance use outcomes                  | x Substance use  | + MEN x male mentee  + MEN x male mentor  + MEN x mentor from helping profession  + MEN x brief meeting duration (NOTE: overall moderator analyses, did not examine moderator effects on substance use separately) |  |

| Meta-analysis/ systematic review (Tolan et al., 2014)   | Goal: Varied Setting: Varied Duration: Varied Format: Varied Mentors: Adults Mentees: Youth   |  | 46 studies published 1970–2011, using random assignment or strong quasi-experimental design     Criteria: sample defined at risk for delinquency due to individual behavior (e.g., aggression) or environmental characteristics (e.g., residence in high-crime communities)     6 studies assessed drug use outcome  | x Drug use (average effect size $d = .16$ )  | + MEN x mentor motive to volunteer for professional development  + MEN x mentor advocacy as a key program component  + MEN x mentor provides emotional support as a key program process (NOTE: overall moderator analyses, did not examine drug use separately) |  |
|---|---|--|--|--|---|--|
| National Guard Youth Challenge Program (ChalleNGe) (Millenky et al., 2011) [Secondary prevention] | Goal: Build skills and promote positive development in out-of-school youth Setting: Community/military Duration: 1 year Format: One-to-one Mentors: Adults Mentees: Adolescents | <ul> <li>Youth-Initiated Mentoring: mentors nominated by youth</li> <li>Program incorporates 2-week assessment and Orientation Phase, 20-week Residential Phase, and 1-year Post-residential Phase</li> <li>During assessment/orientation and residency youth live at program site</li> <li>Students arrange post-residential placement (e.g., employment, education, or military service); mentoring takes place during post-residency</li> </ul> | Sample of 1,173 adolescents who dropped out or were expelled from high school and completed 36-month assessment  Randomized to ChalleNGe (n=722) or Control (n=451) Substance use assessed: (1) binge drinking in past 14 days, (2) frequent marijuana use in past 12 months, (3) ever used other illegal drugs, (4) frequent illegal drug use in past 12 months | x Self-reported frequency of binge drinking, marijuana use, and other illegal drugs at 36-month follow-up  — Ever used illicit drugs (besides marijuana) |   |  |

| National Guard Youth Challenge Program (ChallenGe) (Schwartz et al., 2013) [Secondary prevention] | See previous entry  | See previous entry  | See previous entry   | x Binge drinking or frequent<br>marijuana use   | x MEN x match<br>length (no difference<br>in binge drinking<br>and marijuana use<br>for youth with < 21<br>months of<br>mentoring, 21–38<br>months or >38<br>months) |   |
|---|---|---|--|---|--|---|
| Natural mentoring<br>(Beier et al., 2000)   | Goal: Reduce adolescent risk behavior Setting: Community Duration: Unspecified Format: Unspecified Mentors: Natural, identified by adolescents Mentees: Adolescents receiving routine outpatient medical care | Mentors identified in response to<br>question "Is there an adult in your life<br>you can usually turn to for help and<br>advice?" and relationship of the<br>identified person to youth | <ul> <li>n=294 adolescents<br/>recruited from<br/>outpatient health<br/>clinics</li> <li>201 reported having a<br/>mentor</li> <li>Self-reported risk<br/>behavior in 5 areas<br/>(including substance<br/>use)</li> <li>Control variables: age,<br/>sex, race/ ethnicity,<br/>family constellation</li> </ul> | + Less illicit drug use reported in past 30 days  x Alcohol use (≥3 alcoholic beverages in past 30 days)  |  |   |
| Natural mentoring<br>(Black et al., 2010)   | Goal: Reduce adolescent risk behavior Setting: School Duration: Unspecified Format: Unspecified Mentors: Teachers or other adults at school Mentees: High school students                                     | School-based natural mentoring (SBM) score created as mean of 5 items about relationships with teachers or other adults at school; higher scores indicating greater perception of SBM   | <ul> <li>Secondary analysis of program evaluation using baseline and one-year follow-up data</li> <li>n = 3,320 students from 65 schools</li> <li>Analyses examined correlations between SBM and problem behavior (including substance use) and tested mediation effects of school attachment</li> </ul>       | + Past month any alcohol use<br>+ Past month getting drunk<br>+ Past 2 weeks binge<br>drinking<br>+ Past month marijuana use<br>+ Past month hard-drug use<br>(cocaine, hallucinogens,<br>stimulants, inhalants, ec-<br>stasy, etc.)<br>Effects significant at both<br>baseline, 1-year follow-up |  | + MEN → School<br>attachment →<br>All substance use<br>outcomes |

| Natural mentoring & supportive adult relationships (Brown & Shillington, 2017) | Goal: Reduce risk behavior among adolescents with history of abuse Setting: Community/child welfare Duration: Unspecified Format: Unspecified Mentors: Adults Mentees: 11-to-17-year-old adolescents | <ul> <li>Protective adult relationships measured as sum of scores from 5 items from resiliency scale administered as part of the Longitudinal Studies of Child Abuse and Neglect (LongSCAN)</li> <li>Youth indicated whether or not they had reliable relationships with parents and other adults (e.g., "Is there an adult you can turn to for help if you have a serious problem?")</li> </ul> | <ul> <li>National Survey of<br/>Child and Adolescent<br/>Well-Being Study, first<br/>wave data</li> <li>n=1054 youth with<br/>child maltreatment<br/>investigations</li> <li>Substance use as-<br/>sessed with 6-item<br/>youth self-report<br/>questionnaire; higher<br/>summed scores<br/>representing greater<br/>substance use</li> <li>Total score of 2+<br/>strongly correlated<br/>with substance-<br/>related diagnosis and<br/>need for treatment.</li> </ul> | + Protective adult relationships distinguished between youth with/ with-out substance use concerns (scores > 2 vs. lower) | + MEN x Adverse childhood experiences were more strongly associated with substance use when youth reported lower levels of protective adult relationships |  |
|--|--|--|--|---|---|--|
| Natural mentoring (DuBois<br>& Silverthorn, 2005)                              | Goal: Examine protective role of natural mentoring Setting: Unspecified Duration: Unspecified Format: Unspecified Mentors: Adults Mentees: Youth   | Young adults who identified having<br>mentoring relationship (parent mentors<br>excluded)  | <ul> <li>Used subset of Add Health data set (n=3187 youth); at Wave 3, 72.9% identified having a natural mentor</li> <li>Compared youth with/without natural mentor</li> <li>Assessed binge drinking in previous 12 months, smoking/drug use in previous month</li> </ul>  | x Binge drinking<br>x Drug use<br>x Smoking   |   |  |

| Natural mentoring<br>(Zimmerman et al., 2002)          | Goal: N/A Setting: Varied Duration: Open-ended Format: N/A Mentors: Adults Mentees: Adolescents   | Participants identified nonparental adults they considered a mentor (e.g., source of support and guidance) and relationship to them  | High school students (n=770)      Secondary analysis of fourth wave data from larger longitudinal study      Substance use measured by sum of last year and last month use on 7-point Likert scale (1 = 0 times; 7 = 40+ times); 2 substance use items, plus delinquent and violent behavior used to create problem behavior composite   | x Alcohol use<br>+ Marijuana use | x MEN x race x gender → alcohol and marijuana use + MEN x friend problem behavior → youth problem behavior + MEN x problem behavior norms → youth problem behavior  Note: outcome aggregated; Problem behavior and non- substance use items included | + MEN→ friend problem behaviors → lower overall problem behavior + MEN→ problem behavior norms → lower overall problem behavior (i.e., mentoring associated with less negative peer influences) |
|--|---|--|--|----------------------------------|--|---|
| Project Amp (Winn et al., 2019) [Secondary prevention] | Goal: Implement adolescent substance use screening and refer adolescents at moderate risk for substance use to preventative services  Setting: Varied (schools and health clinics)  Duration: 1–2 months  Format: Group  Mentors: Young adults (18–28) currently in substance use recovery  Mentees: 13-to-17-year-old adolescents at moderate risk of substance use (either used any alcohol, marijuana or other substances or ever drove with a friend under the influence) | <ul> <li>Enhancement of Screening, Brief Intervention, and Referral to Treatment (SBIRT) by addition of mentoring component</li> <li>Mentors meet with youth 4 times over 1-to-2-month period</li> <li>Sessions focus on interests and goals, social supports and influences, wellness, and community support</li> </ul> | <ul> <li>Feasibility study in 6 sites (3 school-based, 3 health clinics); 71 practitioners (trained in SBIRT) and 30 mentors</li> <li>1,192 adolescents screened for substance use risk by CRAFFT, resulting in sample of 139 eligible youth (moderate risk of substance use)</li> <li>Subset assigned to Project Amp (n=51); 56-month follow-up data from 20 youth</li> </ul> | x Substance use risk             |  |   |

| Untitled               | Goal: Reduce youth       | Mentors provided individual help with   | Quasi-experimental     | + Less frequent alcohol use | + MEN x Age →        |  |
|------------------------|--------------------------|---|------------------------|-----------------------------|----------------------|--|
| (Hanlon et al., 2002)  | risky behavior           | school-based problems                   | study of 428 youth at  | x Marijuana use             | Alcohol use (more    |  |
| [Secondary prevention] | Setting: Community-      |   | risk of deviance       |                             | beneficial treatment |  |
|                        | based                    | Around 20 group mentoring sessions      |                        |                             | effect for younger   |  |
|                        | <b>Duration:</b> Approx. | delivered 4-to-5 times per week,        | • Intervention (n=235) |                             | participants)        |  |
|                        | 1 year                   | structured activities and presentations | included individual    |                             |                      |  |
|                        | Format: Group            | on coping skills, cultural heritage,    | counseling + group     |                             |                      |  |
|                        | Mentors: African-        | self-esteem, conflict resolution,       | mentoring +            |                             |                      |  |
|                        | American college         | substance use avoidance, access to      | parenting sessions;    |                             |                      |  |
|                        | student volunteers       | community health and recreational       | Treatment as usual     |                             |                      |  |
|                        | Mentees: Youth           | resources                               | (n=193) included       |                             |                      |  |
|                        | aged 9–17 at risk for    |   | standard individual    |                             |                      |  |
|                        | the development of       |   | counseling             |                             |                      |  |
|                        | a deviant lifestyle      |   |                        |                             |                      |  |
|                        | Inclusion criteria:      |   |                        |                             |                      |  |
|                        | Need to meet at          |   |                        |                             |                      |  |
|                        | least one of the         |   |                        |                             |                      |  |
|                        | following: 1) early      |   |                        |                             |                      |  |
|                        | experimentation          |   |                        |                             |                      |  |
|                        | with alcohol or          |   |                        |                             |                      |  |
|                        | drugs; 2) history        |   |                        |                             |                      |  |
|                        | of delinquency or        |   |                        |                             |                      |  |
|                        | other deviant            |   |                        |                             |                      |  |
|                        | behavior, including      |   |                        |                             |                      |  |
|                        | criminal activity,       |   |                        |                             |                      |  |
|                        | and/or 3)                |   |                        |                             |                      |  |
|                        | expulsion from           |   |                        |                             |                      |  |
|                        | school or other          |   |                        |                             |                      |  |
|                        | indications of           |   |                        |                             |                      |  |
|                        | problematic school       |   |                        |                             |                      |  |
|                        | behavior                 |   |                        |                             |                      |  |
|                        |                          |   |                        |                             |                      |  |

**Note:** Effects are noted if significant at p < .05, 2-tailed.



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