Summary Evidence Table

Substance Use: Digital Interventions to Prevent Substance Use among Adolescents — Findings from a Community Guide Systematic Review

Abbreviations Used in This Document:

- Measurement terms
  - CI: confidence interval
  - OR: Odds Ratio
  - IRR: Incidence rate ratio
  - RRR: Relative risk reduction or relative risk ratio
- Study design and Risk of Bias
  - iRCT: individual randomized controlled trial
  - gRCT: group randomized controlled trial
- Other terms:
  - NA: not applicable
  - NR: not reported
  - NS: not significant
  - SES: socioeconomic status
  - Int: Intervention
  - Cont: Control
- Other terms (cont):
  - pct pts: percentage points
  - yrs: years
  - m: months
  - hrs: hours
  - mins: minutes

Notes:

• Suitability of design includes three categories: greatest, moderate, or least suitable design. Read more

• Race/ethnicity of the study population: The Community Guide only summarizes race/ethnicity for studies conducted in the United States.

• For population characteristics, if a study reported intervention and control separately, intervention population characteristics were reported

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Study	Population Characteristics	Intervention Characteristics	Results
Author Year: Ariza 2013 **Location:** Spain **Years for Study: 2005**-2006 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (2 of limitations)	**Setting:** School **Urbanicity:** NR **Eligibility:** 9th graders at schools that previously applied for the "Decideix" drug prevention program; additional criteria based on school type, size, and community socioeconomic status. **Recruitment:** 86 out of 224 secondary schools in Barcelona during the 2005-2006 school year. **Sample size:** Baseline 4846 students (86 schools) Int 2803 (39 schools) Control 2043 (47 schools) *15-months post-intervention* Follow-up: 65.8% (3191/4846) Loss to f/u: 34.2% **Study Population: Adolescents (Int)** Age: 14.4 years (range: 14 – 15) School level: High school Grade level(s): NR Sex: 51.4% female, 48.6% male Race/ethnicity: N/A SES (individual): Weekly pocket money- 0 euros 41.70% < 10 euros 40.20% 10-30 euros 15.50% < 30 euros 2.00% *SES level by FECI (Family economic capacity index), indicator of wealth Student's Neighborhood of Residence:* Low 23.3%,	**Intervention/program name:** xkpts.com (translated as "why joints?") **Substance(s) focused:** Cannabis specific **Format:** Internet/web-based, DVD **Brief description of intervention and content:** Teachers led sessions in classroom with a total of 16 student activities (including DVD, discussion, role playing, etc.) Family involvement: 2 sessions at home: 1 with parents (guide for parent-child discussions and form to complete) and 1 individual (website + DVD). Online resources on program's website. ***Implementer(s)*** **School involved in intervention or School not involved:** Yes, in classroom **Intervention duration:** 2 months April - May 2006 **Intervention intensity:** Number of sessions/modules: 4 in classroom, 2 at home Time per session: NR Total hours: 6-10 hrs Booster: No **Comparison group:** control group, no intervention	**Outcome: Prevalence of Cannabis use** Measure: Self report cumulative incidence rate (CIR) of last month use (30 day) Baseline: Int (n=NR): NR Comp (n=NR): NR Follow-up (in months): 15m Int (n=1756): 8.3% Comp (n=1239): 11.7% **Absolute change:** -3.4 pct pts **Relative change**: -29.1% **Narrative results:** OR= 1.408 (1.035, 1.914), p = 0.003 Favorable (Yes/No/No effect): Yes Statistical significance: Yes

	Middle 50.5%, High 12.8% *Other Academic performance:* Low 14.6%, Middle 58.5% High 25.9% **Community characteristics**: *School type:* Private/subsidized 73.4%, Public 26.6% *SES level by FECI School's Neighborhood:* Low 37.5%, Middle 29.3%, High 33.1% **Study population: Parents and Caregivers** *Family home situation:* Two-parent 77.5% Single-parent 20.8% Other 1.7%		
Author Year: Arnaud 2016 **Location:** Czech Republic, Germany, Sweden, Belgium **Years for Study:** June 2012 – June 2013 **Study Design:** iRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):**	**Setting:** Online **Urbanicity:** NR **Eligibility:** adolescents from Czech Republic, Germany, Sweden, and Belgium: had online access; informed consent; and a positive screening for at-risk substance use **Recruitment:** 2673 visitors to the WISEteens open-access website landing page; 1449 (54.2%) eligible and randomized **Sample size:** Baseline 1449 Int 715	**Intervention/program name:** WISEteens **Substance(s) focused:** Alcohol specific **Format:** Internet/web-based **Brief description of intervention and content:** Fully automated program to screen for substance use risk, delivered interactive, tailored brief motivational interviewing content to reduce substance use. Content focused on alcohol use prevention, but included content related to decision making on substance use in general. Components included feedback for: - Individual drinking patterns	**Outcome: Frequency of Alcohol Use** Measure: Youth self-reported alcohol use AUDIT-C Index (composite score points) Baseline Int (n=715): 5.24 Comp (n=734): 5.25 Follow-up (in months): 3 months post baseline (post 1 session intervention) Int (n=715): 4.72 Comp (n=734): 4.82 **Absolute change:** Adjusted mean between group difference -0.13 scale points (95%CI -0.02, -0.25) **Relative change:** NA **Narrative results:** Cohens d=0.04; Intervention effect for intention-to-treat analysis was statistically significant (p=0.022) Favorable (Yes/No/No effect): Yes

Fair (2 of limitations)	Control 734 *3-months post-baseline* Follow-up 14.5% (211/1449) Loss to f/u 85.5% **Study Population: Adolescents (Int)** Age: 16.8 years (range: 16-18) School level: High school (95% in school) Grade level(s): NR Sex: 47.8% female, 52.2% male Race/ethnicity: race NR; Ethnicity: 63.3% Czech Republic; 10.9% Germany; 16.2% Sweden; 9.8% Belgium **Study population: Parents and Caregivers** Father's highest education level High 28.5% Medium 61.4% Low 10.1%	-Normative feedback to descriptive drinking norms - Blood alcohol concentration (BAC) -To encourage change readiness and exploration of personal strengths, resources, and volitional strategies for goal attainment, -Decisional balance for selection of personal costs and benefits of current substance use -Identification and selection of personal high-risk situations for substance use and provision of behavioral strategies ***Implementer(s)*** ***School involved in intervention or School not involved:*** Not involved **Intervention duration:** 1 day **Intervention intensity:** Number of sessions/modules: 1 Time per session: ~15 mins Total hours: 5-30 mins Booster: No **Comparison group:** Control group, assessments only	Statistical significance: Yes **Outcome: Frequency of Alcohol Use-Subset Analysis for males** Measure: Male self-reported alcohol use AUDIT-C Index (composite score points) Baseline N=86 total Int (n=NR): 5.45 Comp (n=NR): 6.00 Follow-up (in months): 3 months post baseline (post 1 session intervention) Int (n=NR): 4.44 Comp (n=NR): 6.21 **Absolute change:** Adjusted mean between group difference -1.22 scale points (95%CI NR) **Relative change:** NA **Narrative results:** p=0.001 Favorable (Yes/No/No effect): Subset of males: Yes Statistical significance: Subset of males Yes **Outcome: Frequency of Alcohol Use-Binge drinking** Measure: Youth self-reported frequency of binge drinking score AUDIT-C Baseline: Int (n=715): 1.54 Comp (n=734): 1.58 Follow-up (in months): 3 months post baseline (post 1 session intervention) Int (n=715): 1.39 Comp (n=734): 1.42 **Absolute change:** -0.01 scale points **Relative change:** NA **Narrative results** Adjusted mean between group difference -0.03 (95%CI -0.01 to -0.08): p=0.13 Cohen D=0.01 Favorable (Yes/No/No effect): No effect Statistical significance: No

			Outcome: Prevalence of Illicit or Other Substances as a Combined Measure Measure: Youth self-reported prevalence of illegal drug use (past 30 days) Baseline: Int (n=715): 49.8% Comp (n=734): 49.6% Follow-up (in months): 3 months post baseline (post 1 session intervention) Int (n=715): 41.7% Comp (n=734): 39.8% **Absolute change:** +1.7 percentage points **Relative change**: +4.35% **Narrative results:** OR=1.22 (95%CI 0.87 to 1.73); p=0.254 Favorable (Yes/No/No effect): No Statistical significance: No **Outcome: Prevalence of Illicit or Other Substances as a Combined Measure (Polydrug use)** Measure: Youth self-reported prevalence of use of alcohol and illegal drugs (past 30 days) Baseline: Int (n=715): 47.8% Comp (n=734): 46.3% Follow-up (in months): 3 months post baseline (post 1 session intervention) Int (n=715): 41.1% Comp (n=734): 39.8% **Absolute change:** -0.2 percentage points **Relative change:** -0.50% **Narrative results:** OR=1.03 (95%CI 0.73 to 1.44); p=0.888 Favorable (Yes/No/No effect): No effect Statistical significance: No

Author Year: Bannink 2014 **Location:** The Netherlands **Years for Study:** **Se**ptember 2012 to May 2013 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (3 of limitations)	**Setting:** School, Online **Urbanicity**: Urban **Eligibility**: : Third- and fourth-year students who consented to participate and had parental consent at secondary schools invited by youth health care organizations **Recruitment**: 14 secondary schools invited; 12 agreed totaling 11 classes of third years (2 schools) and 75 classes of fourth year (10 schools). School classes (clusters) randomly assigned; 1702 (85.57%) eligible. **Sample size:** Baseline 1702 Int E-health4Uth 533 (84.7%) E-health4Uth+ 554 (84.2%) Control: 615 (87.6%) *4-months post-baseline* Follow-up 73.8% (1256/1702) Int 75.6% (822/1087) Ehealth 73.5% (392/533) Ehealth+ 77.6% (430/554) Control 70.6% (434/615) Loss to f/u 26.2% **Study Population: Adolescents (Int)** Age: Ehealth= 15.8 years (range: 15-16) Ehealth+= 16.0 years (range: 15-16) School level: High school Grade level(s): 3rd/4th year Sex: Ehealth = 43.1% female, 56.9% male Ehealth+ = 44.0% female, 56.0% male	**Intervention/program name:** E-health4Uth **Substance(s) focused:** General prevention **Format:** Computer, Internet/web-based **Brief description of intervention and content:** *Ehealth4Uth only* Students surveyed on health and well-being topics: alcohol, drugs, smoking, sex, bullying, mental health, suicidal thoughts/attempts, unwanted sexual experiences. Personalized online messages for feedback: • Red: Unhealthy behaviors • Orange: Slightly unhealthy behaviors • Green: Healthy behaviors (Dutch standards) • Blue: Well-being topics Links to relevant websites provided. *E-health4Uth+ consultation* Same as *Ehealth4Uth,* but those at risk of mental health problems invited for a consultation with the school nurse **Implementer(s)** **School involved in intervention or School not involved:** Yes, in classroom **Intervention duration: 1 day** **Intervention intensity:** Number of sessions/modules: 1 Time per session: 45 mins Total hours: 45 mins Booster: Yes	**Intervention arm: E-health4Uth** **Outcome: Prevalence of Alcohol Use - Binge drinking** Measure: Student self-reported zero times consuming 5 or more drinks on 1 occasion in the past 4 weeks Baseline Int (n=392): 65.1% Comp (n=434): 67.6% Follow-up (in months): 4 months Int (n=392): 59.0% Comp (n=434): 63.7% **Absolute change: -**2.2 percentage points **Relative change:** -3.8% **Narrative results:** Adjusted OR 0.90 (0.61, 1.34) Favorable (Yes/No/No effect): No Statistical significance: No **Outcome: Prevalence of Tobacco use** Measure: Student self-reported zero times consuming tobacco in the past 4 weeks Baseline: Int (n=NR): 83.9% Comp (n=NR): 81.5% Follow-up (in months): 4 months Int (n=392): 82.8% Comp (n=434): 80.8% **Absolute change:** -0.4 percentage points **Relative change:** -0.5% **Narrative results:** Adjusted OR = 0.97 (0.61, 1.56) Favorable (Yes/No/No effect): No Effect Statistical significance: No **Outcome: Prevalence of Illicit or Other Substances as a Combined Measure** Measure: Student self-reported zero times consuming drugs in the past 4 weeks Baseline: Int (n=392): 95.4%

	Race/ethnicity: race NR; Ethnicity: Dutch Ehealth = 79.3% Ehealth+ = 74.4% SES: NR **Study population: Parents and Caregivers:** NR	**Comparison group:** Control group received no intervention but completed same questionnaire assessing health-risk behaviors and well-being as intervention groups, except for the questions on unpleasant sexual experience, suicidal thoughts, and suicidal attempts.	Comp (n=434): 91.9% Follow-up (in months): 4 months Int (n=392): 94.1% Comp (n=434): 91.7% **Absolute change:** +1.1 percentage points **Relative change:** +1.1% **Narrative results:** Adjusted OR =1.06 (0.43, 2.61) Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Sexual Behaviors - Condom Use** Measure: Subset of sexually active youth self-reporting "always" condom use during intercourse Baseline: Int (n=NR): 53.1% Comp (n=NR): 51.0% Follow-up (in months): 4 months Int (n=NR): 52.1% Comp (n=NR): 40.6% **Absolute change**: +9.4 percentage points **Relative change:** +23.3% **Narrative results:** Adjusted OR= 2.09 (1.04, 4.22) Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Mental Health - Well-being** Measure: Student self-reported scale score on Strengths and Difficulties Questionnaire Baseline: Int (n=NR): 10.06 Comp (n=NR): 9.91 Follow-up (in months): 4 months Int (n=NR): 8.92 Comp (n=NR): 9.07 **Absolute change:** -0.3 scale points **Relative change:** NA **Narrative results**: Beta coefficient −0.24 (−0.78, 0.29), p=0.37 Favorable (Yes/No/No effect): No effect Statistical significance: No

			Outcome: Tobacco Initiation Measure: % reporting starting to smoke (lifetime) Baseline: Int (n=NR): 16.1% Comp (n=NR): 18.5% Follow-up (in months): 4 months Int (n=392): 17.2% Comp (n=434): 19.2% **Absolute change:** +0.4 percentage points **Relative change:** +2.94% **Narrative results:** OR = 0.97 (0.61, 1.56) Favorable (Yes/No/No effect): No effect Statistical significance: No **Intervention arm: E-health4Uth + Consultation** **Outcome: Prevalence of Alcohol Use - Binge drinking** Measure: Student self-reported zero times consuming 5 or more drinks on 1 occasion in the past 4 weeks Baseline: Int (n=430): 63.4% Comp (n=434): 67.6% Follow-up (in months): 4 months Int (n=430): 65.9% Comp (n=434): 63.7% **Absolute change:** +6.4 percentage points **Relative change:** +10.3% **Narrative results:** NR Favorable (Yes/No/No effect): Yes Statistical significance: NR **Outcome: Prevalence of Tobacco Use** Measure: Student self-reported zero times consuming tobacco in the past 4 weeks Baseline: Int (n=430): 82.1%

			Comp (n=434): 81.5% Follow-up (in months): 4 months Int (n=430): 82.6% Comp (n=434): 80.8% **Absolute change:** +1.2 percentage points **Relative change:** +1.5% **Narrative results**: NR Favorable (Yes/No/No effect): No effect Statistical significance: NR **Outcome: Prevalence of Illicit or Other Substances as a Combined Measure** Measure: Student self-reported zero times consuming drugs in the past 4 weeks Baseline: Int (n=430): 93.7% Comp (n=434): 91.9% Follow-up (in months): 4 months Int (n=430): 89.6% Comp (n=434): 91.7% **Absolute change:** +3.9 percentage points **Relative change:** +4.2% **Narrative results:** NR Favorable (Yes/No/No effect): No Statistical significance: NR **Outcome: Sexual behaviors - Condom use** Measure: Subset of sexually active youth self-reporting “always” condom use during intercourse Baseline: Int (n=NR): 52.3% Comp (n=NR): 51.0% Follow-up (in months): 4 months Int (n=NR): 43.7% Comp (n=NR): 40.6% **Absolute change:** 1.8 percentage points **Relative change:** 5.0% **Narrative results:** NR Favorable (Yes/No/No effect): Yes Statistical significance: NR

			Outcome: Mental Health - Well-being Measure: Student self-reported scale score on Strengths and Difficulties Questionnaire Baseline: Int (n=NR): 9.75 Comp (n=NR): 9.91 Follow-up (in months): 4 months Int (n=NR): 8.42 Comp (n=NR): 9.07 **Absolute change:** -0.49 scale points **Relative change**: NA **Narrative results**: Beta coefficient -0.60 (-1.17, -0.04), p=0.04 Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Tobacco Initiation** Measure: % reporting starting to smoke (lifetime) Baseline: Int (n=NR): 17.9% Comp (n=NR): 18.5% Follow-up (in months): 4 months Int (n=430): 17.4% Comp (n=434): 19.2% **Absolute change:** -1.2 percentage points **Relative change:** -6.34% **Narrative results:** OR = 0.95 (0.58, 1.57) Favorable (Yes/No/No effect): Yes Statistical significance: No
Author Year: Buller 2008A **Location:** Australia **Years for Study:** 2001-2002 **Study Design:** gRCT	**Setting:** School **Urbanicity**: NR **Eligibility:** 7th – 9th graders at Australian **se**condary schools in Victoria and South Australia providing consent	**Intervention/program name: Consider This** **Substance(s) focused:** Tobacco specific **Format:** Computer, Internet/web-based **Brief description of intervention and content:**	**Outcome: Prevalence of Tobacco Use** Measure: Student self-reported prevalence of use of tobacco (any) in the past 30 days Baseline: Students with pre-test and post-test data Int (n=754): 17.5% Comp (n=756): 16.4% Follow-up: Not reported (end of school year) Int (n=754): 16.3%

CG Suitability: Greatest **Quality of Execution (# of limitations):** Fair (3 of limitations)	**Recruitment:** Teachers in schools were invited to participate directly from secondary schools, which were pair-matched then randomized **Sample size:** Baseline 2077 (25 schools) Int NR Control NR *End of school year-post-baseline* Follow-up 73.1% (1518 /2077) Int 754 students (13 schools) Control 756 students (12 schools) Loss to f/u 26.9% *Note: 8 with incomplete data removed* **Study Population: Adolescents** Age: range: 10 – 16 (10-11=1.1%; 12= 21.7%; 13= 33.3%; 14= 30.9%; 15-16= 11.0%) School level: Middle school Grade level(s): 7th – 9th (7th 34.9%, 8th 33.8%, 9th 31.2%) Sex: 51.5% female, 48.5% male Race/ethnicity: race NR; Ethnicity Australian/European 73.4% Non-European 17.0% Mixed 7.4% **Study population: Parents and Caregivers:** N/A **Community characteristics**: N/A	Internet-based tobacco prevention intervention conducted through school computer labs and run by classroom teachers. 73 online activities organized into 6 modules: Introduction, Media Literacy, Relationships, Mind and Body, Decision Making, and Resistance Strategies ***Implementer(s)*** ***School involved in intervention or School not involved?*** Yes, in classroom **Intervention duration:** 6 class sessions **Intervention intensity:** 6 days Number of sessions/modules: 6 Time per session: 45-60 mins Total hours: 6 hours Booster: No **Comparison group:** Usual care, classrooms received standard health education	Comp (n=756): 19.2% **Absolute change:** -4.0 percentage points **Relative change:** -20.4% **Narrative results:** p-value not reported Favorable (Yes/No/No effect): Yes Statistical significance: NR **Outcome: Tobacco Use Initiation** Measure: Percentage of nonsmoking students at baseline self-reporting smoking (any) at follow-up Baseline: Students with pretest and posttest data Int (n=NR): 0% by definition Comp (n=NR): 0% by definition Follow-up: Not reported (end of school year) Int (n=NR): 5.6% Comp (n=NR): 8.1% **Absolute change:** -2.5 percentage points **Relative change**: -30.9% **Narrative results**: NR Favorable (Yes/No/No effect): Yes Statistical significance: NR
Author Year: Buller 2008B **Location:** Colorado and New Mexico, USA **Years for Study:** 2001-2002 **Study Design:** gRCT	**Setting:** School **Urbanicity**: NR **Recruitment:** school districts, teachers in health, science, consumer education) classes were recruited. Schools pair-matched then randomized (65.5%) **Eligibility:** middle school students provided active consent	**See Intervention Characteristics from Buller 2008A**	**Outcome: Frequency of Tobacco Use** Measure: Number of days in the past month smoking at least a whole cigarette (30 days) Baseline: Students with pre-test and post-test data: 6.4% had smoked in the last 30 days Int (n=640): NR Comp (n=364): NR Follow-up: Not reported (end of school year) Int (n=640): NR

CG Suitability: Greatest **Quality of Execution (# of limitations):** Fair (3 of limitations)	**Sample size:** Baseline 1234 Int NR / Control NR *End of school year-post-baseline* Follow-up 82.7% (1020/1234) Int 640 (10 schools) Control 364 (11 schools) Loss to f/u 18.6% *Note: 16 with incomplete data removed* **Study Population: Adolescents** Age: range: 10 – 14 (10-11= 26.7%; 12= 44.5%; 13= 21.8%; 14=3.8%) School level: Middle school Grade level(s): 6th – 8th (6th 40.7%; 7th 52.6%; 8th 6.6%) Sex: 51.2% female, 48.8% male Race/ethnicity: Black or African American 3.4% Asia 3.9% White 55.8% American Indian 6% Native Hawaiian 0.6% Other race 7.2% Ethnicity Hispanic or Latino 23.9% **Study population: Parents and Caregivers:** N/A **Community characteristics**: N/A		Comp (n=364): NR **Absolute change:** Not reported **Relative change:** Not reported **Narrative results:** No significant effect (pre/post change estimate = 0.0072, p=0.776) for smoking any portion of a cigarette or smoking a whole cigarette (estimate = 0.0247, p=0.122). Favorable (Yes/No/No effect): No effect Statistical significance: No
Author Year: Byrnes 2019 **Location:** USA (National sample) **Years for Study: November 2014 - November 2015** **Study Design:** iRCT	**Setting:** Online, Home/Family **Urbanicity**: NR **Eligibility:** parent with a teen aged 16-17; English speaking; a device (tablet or computer); eligibility verified via phone **Recruitment:** 1,531 adult-teen dyads identified nationally from two online panel vendors, 559 eligible and 411 (73.5%) enrolled. Participants were randomly assigned at the family level	**Intervention/program name:** Smart Choices 4 Teens **Substance(s) focused:** Alcohol specific **Format:** Computer, Laptop, iPad/Tablet, Internet/web-based **Brief description of intervention and content:** an interactive, online family prevention program with three sequential components (general parent-teen	Intention to Treat Analyses at 12 months All models controlled for baseline values of dependent variables, teen gender, teen age, and teen ethnicity. **Outcome: Prevalence of Alcohol Use** Measure: Youth self-reported alcohol use in the past 30 days Baseline: Int (n=206): 10.3% Comp (n=205): 11.1%

CG Suitability: Greatest **Quality of Execution (# of limitations):** Fair (2 of limitations)	**Sample size:** Baseline 411 Int 206 Control 205 *12-month post-baseline* Follow-up 75.7% (311/411 teens) 86.1% (356/411 parents) Int 71.4% (147/206 teens) 80.1% (165/411 parents) Cont 80.0% (164/205 teens) 92.2 (189/205 parents) Loss to f/u 24.3% teens, 13.9% parents **Study Population: Adolescents** Age: 16.4 years (range: 16 – 17) School level: High school Grade level(s): NR Sex: 55.3% female, 44.7% male Race/ethnicity: Black or African American 11.7% Asian 1.9% White 72.5% American Indian 1.0% Multiracial 8.3% Other race 2.7% NR 1.9% Ethnicity Hispanic or Latino 9.5% **Study population: Parents and Caregivers** Age: 43.7 years Sex: 84.7% female, 15.3% male Household size: mean 4.5 (range: 2-12) All other demographic NR **Community characteristics**: N/A	communication, teen alcohol use, and teen romantic relationships). Adapted from two evidence-based prevention programs: Family Matters and Parent Handbook. Alcohol Prevention component aimed to prevent or reduce teen alcohol use. Introduction module: overview and statistics about teen alcohol use, information about peer pressure, and consequences of drinking. Other modules: several activities and videos focusing on social host laws in each state, physical and social consequences of drinking, signs of alcohol poisoning, a BAC calculator activity, myths about sobering up, parental influences important to address teen alcohol use, refusal skills, and indicators of problem drinking. **Implementer(s)** **School involved in intervention or School not involved:** not involved **Intervention duration:** 1 day **Intervention intensity:** Number of sessions/modules: 3 Time per session: average 5.94 min for alcohol component (16.34 minutes for parents, 15.53 minutes for teens) Total hours: 32 mins Booster: No **Comparison group:** Control group received no intervention and also had access to an 800 number throughout the duration of the project for contact with the research team.	Follow-up (in months): 12 months post baseline Int (n=147): 6.9% Comp (n=164): 16.0% **Absolute change:** -8.3 percentage points **Relative change:** -53.5% Narrative results: Adjusted OR=0.37, p<0.01 Cohen's D: alcohol use d = -0.55 Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Alcohol Binge or Heavy Drinking** Measure: Youth self-reported number of times binge drinking in past 30 days on a scale Baseline: Int (n=206): mean 0.08 scale points (SD 0.41) Comp (n=205): mean 0.06 scale points (SD 0.39) Follow-up (in months): 12 months post baseline Int (n=147): NR Comp (n=164): NR **Absolute change:** NR **Relative change:** NR **Narrative results:** There was a decrease in number of times binge drinking reported by intervention participants compared to the control group t= -1.86; p <0.10, Cohen's d= -.22 Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Frequency of Alcohol Binge or Heavy Drinking (Drunkenness)** Measure: Youth self-reported number of times drunk in past 30 days on a scale Baseline: Int (n=206): mean 0.08 scale points (SD 0.34) Comp (n=205): mean 0.07 scale points (SD 0.35) Follow-up (in months): 12 months post baseline Int (n=147): NR Comp (n=164): NR **Absolute change:** NR

			Relative change: NR **Narrative results:** There was a decrease in number of times drunk reported by intervention participants compared to the control t=-1.37; p-value reported as not significant, Cohen's d = -.16 Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Frequency of Alcohol Use** Measure: Youth self-reported frequency of alcohol use in past 30 days on a scale Baseline: Int (n=206): mean 0.25 scale points (SD 0.89) Comp (n=205): mean 0.22 scale points (SD 0.73) Follow-up (in months): 12 months post baseline Int (n=147): NR Comp (n=164): NR **Absolute change:** NR **Relative change:** NR **Narrative results:** t-value =-0.11; p-value reported as not significant, b=-0.03, SE=0.25, Cohen's d = -.01 Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Frequency of Alcohol Use (Quantity)** Measure: Youth self-reported quantity of alcohol use in past 30 days on a scale on a scale Baseline: Int (n=206): mean 0.27 scale points (SD 0.93) Comp (n=205): mean 0.27 scale points (SD 1.05) Follow-up (in months): 12 months post baseline Int (n=147): NR Comp (n=164): NR **Absolute change:** NR **Relative change:** NR **Narrative results:** t-value =-0.47; p-value reported as not significant, b=-0.05, SE=0.10, Cohen's d = -0.06 Favorable (Yes/No/No effect): No effect

			Statistical significance: No
Author Year: Champion 2018 **Location:** Australia **Years for Study:** 2014 - 2016 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (3 of limitations)	**Setting:** School, Online **Urbanicity**: NR **Eligibility:** independent schools in Sydney; Year 10 students (aged 15-16 years) speaking English with parental consent **Recruitment:** School principals were sent a letter outlining study; 90 schools in Sydney approached, only 12 committed (1277 students). **Sample size:** Baseline 1126 Int 636 (5 schools) Control 490 (6 schools) *24-month post-baseline* Follow-up 61.5% (692/1126) Int 62.9% (400/636) Control 59.6% (292/490) Loss to f/u 38.5% **Study Population: Adolescents** Age: 14.9 years (range: 15 – 16) School level: High school Grade level(s): Year 10 Sex: 43.0% female, 57.0% male Race/ethnicity: N/A Other **Study population: Parents and Caregivers:** N/A **Community characteristics**: N/A	**Intervention/program name:** Climate Schools: Ecstasy and Emerging Drugs **Substance(s) focused:** Ecstasy and Emerging Drugs **Format:** Computer, Internet/web-based **Brief description of intervention and content:** Implemented during the health education classes. Teachers instructed to fully complete all lessons in order. Each lesson includes a core online cartoon component (20 mins) completed individually by students and 20 mins of optional activities (worksheets, discussions, and role plays). Intervention Goals: (1) Provide evidence-based information on ecstasy and NPS. (2) Correct overestimations of peer use of these substances. (3) Teach refusal skills and address misconceptions about drug use. ***Implementer(s)*** ***School involved in intervention or School not involved:*** Yes in classroom **Intervention duration:** 1 month **Intervention intensity:** weekly Number of sessions/modules: 4 Time per session: 40 mins	**Outcome: Ecstasy Initiation** Measure: % of students reporting having ever used ecstasy Baseline: Int (n=400): 2.5% Comp (n=292): 1.2% Follow-up: 24 months Int (n=400): 7.4% Comp (n=292): 2.8% **Absolute change**: +3.3 percentage points **Relative change:** +29.8% **Narrative results:** OR=1.08 (CI: 0.19 to 6.15) Favorable (Yes/No/No effect): No effect Statistical significance: NS **Outcome: Initiation of New Psychoactive Substances** Measure: % of students reporting having ever used new psychoactive substances Baseline: Int (n=400): 3.0% Comp (n=292): 3.0% Follow-up: 24 months Int (n=400): 4.6% Comp (n=292): 2.4% **Absolute change:** +2.0 pct pts. **Relative change:** +80.1% **Narrative results:** OR: 0.57, (CI: 0.14 to 2.30) No significant differences between the two groups. Favorable (Yes/No/No effect): No effect Statistical significance: NS **Outcome: Initiation of Synthetic Stimulants** Measure: % of students reporting having ever used synthetic stimulants

		Total hours: 2h 40 mins Booster: No **Comparison group:** Usual care; regular health education classes for year 10 students in 2014. Topics covered: short- and long-term effects of substances, refusal skills, safety strategies. Lesson duration: 1 to 2.5 lessons on ecstasy and NPS, average lesson was 58 minutes. Information delivery methods: 3 schools used computers and the Internet, 3 schools invited guest speakers (police, drug and alcohol professionals). Offered complimentary access to intervention at end of the study.	Baseline: Int (n=400): 0.6% Comp (n=292): 0 Follow-up: 24 months Int (n=400): 3.0% Comp (n=292): 1.0% **Absolute change:** +1.4 percentage points **Relative change:** NA **Narrative results:** NR Favorable (Yes/No/No effect): No effect Statistical significance: NR **Outcome: Initiation of Synthetic Cannabis** Measure: % of students reporting having ever used synthetic cannabis Baseline: Int (n=400): 2.4% Comp (n=292): 2.5% Follow-up: 24 months Int (n=400): 4.3% Comp (n=292):1.4% **Absolute change**: +3.0 percentage points **Relative change:** +225.6% **Narrative results**: OR=0.17 (CI: 0.03 to 0.97) p=0.05. Favorable (Yes/No/No effect): No Statistical significance: Yes
Author Year: Champion 2023 **Location:** Australia **Years for Study:** 2019-2021 **Study Design:** gRCT **CG Suitability:** Greatest	**Setting:** School, Online **Urbanicity**: Urban, suburban, rural **Eligibility:** All students aged 11-13 years, fluent in English. Some schools also included year 8 students (aged 13-14 years). Schools with fewer than 30 year 7 students excluded. **Recruitment:** Schools identified via publicly available database: 519 independent, public (government-funded), or Catholic schools across three Australian states approached, 85 schools	**Intervention/program name:** Health4Life intervention **Substance(s) focused:** General Prevention **Format:** Computer, Smartphone, Internet/web-based, Apps **Brief description of intervention and content:** *Universal School-Based Program + App* Web-based eHealth program with interactive cartoons about a group of teenagers to	**Outcome: Prevalence of Alcohol Use** Measure: Student self-reported use of alcohol (at least one full drink) in the past 6 months Baseline Int (n=3467): 3.2% Comp (n=2879): 2.5% Follow-up (in months): 24 months post baseline Int (n=2439): 16.7% Comp (n=2264): 15.1% **Absolute change:** +0.9 percentage points **Relative change:** -13.6% **Narrative results**: OR post=1.24 (95%CI 0.58, 2.64)

Quality of Execution (# of limitations): Fair (2 of limitations)	(9280 students) randomly allocated (1:1), only 71 enrolled in study (37 from New South Wales, 16 Western Australia, 18 Queensland). **Sample size:** Baseline 6640 students (71 schools) Int 3610 students (36 schools) Control 3030 students (35 schools) *24-month post-baseline* Follow-up 75.5% (5015/6640) Int 73.4% (2648/3610) Control 78.1% (2367/3030) Loss to f/u 24.5% **Study Population: Adolescents** Age: 12.7 years (range: 11-14) School level: Middle school Grade level(s): Year 7 Sex: 48.9% female, 50.6% male, 0.5% non-binary or gender fluid Race/ethnicity: N/A Other **Study population: Parents and Caregivers** N/A **Community characteristics**: *SES* Lower: 15.1% Middle: 36.7% Higher: 48.2% *School type* Government 30.1% Independent 50.9% Catholic 19.0%	empower and improve health and well-being and reduce chronic disease risk by providing simultaneous education about the Big 6 risk factors for chronic disease: physical inactivity, poor diet and sleep, sedentary recreational screen time, and alcohol and tobacco use. App Features: - Tracks physical activity, screen time, diet, alcohol/tobacco abstinence, sleep & mood. - Visual progress over time. - Goal-setting tools. - Motivational quotes & rewards system (badges). ***Implementer(s)*** ***School involved in intervention or School not involved?*** Yes in classroom **Intervention duration:** 1.5 months **Intervention intensity:** weekly Number of sessions/modules: 6 Time per session: 20 mins Total hours: 2h Booster: Yes **Comparison group:** Usual care, mandatory health education. Delivered approximately once per week by teachers to help students develop knowledge and skills to lead healthy, safe, and active lives.	Favorable (Yes/No/No effect): No Statistical significance: No **Outcome: Prevalence of Tobacco Use** Measure: Student self-reported smoking (at least one puff) in the past 6 months Baseline: Int (n=3453): 1.6% Comp (n=2853): 1.5% Follow-up (in months): 24 months post baseline Int (n=2424): 6.8% Comp (n=2258): 5.4% **Absolute change:** +1.3 percentage points **Relative change:** +18.1% **Narrative results**: OR=1.68 (95%CI 0.76,3.72) Favorable (Yes/No/No effect): No Statistical significance: No

Author Year: Cremers 2015 **Location:** the Netherlands **Years for Study:** October 2011 - December 2013 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (3 of limitations)	**Setting:** School, Online, Home/Family **Urbanicity**: NR **Eligibility:** all grade 7 students, unless they or their parents refused to be involved **Recruitment:** 3500 primary schools in all regions of the Netherlands contacted, 175 agreed, 13 dropped out after randomization, 162 schools enrolled **Sample size:** Baseline 3213 (162 schools) Int 2210 (110 schools) No prompt 1003 (51 schools) Prompt 1207 (59 schools) Control 1003 (52 schools) 25-months post-baseline Follow-up 46.2% (1483/3213) Int 44.7% (987/2210) No prompt 47.5% (476/1003) Prompt 42.3% (511/1207) Control 49.5% (496/1003) Loss to f/u 52.5% **Study Population: Adolescents** Age: 10.4 years (range: 10-11) School level: Middle school Grade level(s): 7 Sex: 50.6% female, 49.4% male Race/ethnicity: Race NR; ethnicity 88.27% Western, 11.73% Not Western Note: Western ethnic background: child + both parents born in the Netherlands, another European country, North America, Oceania, Indonesia (a former Dutch colony), or Japan. Followed Statistics Netherlands guidelines.	**Intervention/program name:** Fun without Smokes **Substance(s) focused:** Tobacco specific **Format:** Computer, Internet/web-based, Text Messaging **Brief description of intervention and content:** Interactive Website Features with dynamic content on tobacco prevention and engaging animated videos. Both intervention groups had ongoing access to "Fun without Smokes" website. Three customized feedback messages: Attitudes toward smoking, perceived social influence, self-efficacy in refusing cigarettes. Computer-tailored feedback in PDF format sent to participants' emails and feedback accessible via the intervention website. *No-Prompt Group:* Received messages on attitude, social influence, and self-efficacy. No additional prompts to revisit the website. *Intervention with Prompt Group:* Six annual prompt messages via email/SMS to encourage website revisits. Prompts announced new smoking prevention topics on "Fun without Smokes" site (games, videos, information). ***Implementer(s)*** ***School involved in intervention or School not involved:*** No, only for assessments	**Outcome: Tobacco Use Initiation** Measure: Number of children who smoked Lifetime ever use of tobacco (occasionally, monthly, weekly, or daily) Prompt Group Baseline: Int (n=1207): NR Comp (n=1003): NR Follow-up (in months): 25 months Int (n=1207): NR Comp (n=1003): NR **Absolute change:** NR **Relative change:** NR **Narrative results:** OR=0.53, (95% CI 0.12-2.47) No significant differences found between control vs prompt group or control vs no-prompt group at both follow-ups. p = 0.77 Favorable (Yes/No/No effect): Yes Statistical significance: NS No Prompt Group Baseline: Int (n=1207): NR Comp (n=1003): NR Follow-up (in months): 25 months Int (n=1207): NR Comp (n=1003): NR **Absolute change:** NR **Relative change:** NR **Narrative results:** OR=1.01 (95% CI 0.24-4.21) No significant differences found between control vs prompt group or control vs no-prompt group at both follow-ups. p = .77 Favorable (Yes/No/No effect): No effect Statistical significance: NS

	Otherwise: considered to have a non-Western ethnic background **Study population: Parents and Caregivers** N/A **Community characteristics**: Community measure based on postal code based on neighborhood income, occupation, and education: High 42.14%	**Intervention duration:** 3 days **Intervention intensity:** Number of sessions/modules: 3 Time per session: NR Total hours: NR Booster: Yes **Comparison group:** Control group, no intervention; completed web-based questionnaire and only able to use the intervention website (excluding the nonsmoking information or interactive elements) during follow-up periods.	
Author Year: de Josselin de Jong 2014 **Location:** the Netherlands **Years for Study:** May 2011-December 2011 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (4 of limitations)	**Setting:** School, Online, Home/Family **Urbanicity**: NR **Eligibility**: between 10-20 years; having computer/Internet literacy; sufficient command of Dutch; no previous exposure to the earlier version of Smoke Alert; and being a non-smoker or former smoker **Recruitment:** 1380 secondary schools throughout the country; principals sent a letter; 89 schools (10,500 students) agreed to participate. At baseline, 83 schools (6078 students) completed questionnaire, only 4979 eligible and enrolled. **Sample size:** Baseline 4979 (83 schools) Int 2469 Control 2510 6-months post-baseline Follow-up 18.0% (897/4979) Int 15.9% (392/2469) Control 20.1% (505/2510) Loss to f/u 82.0%	**Intervention/program name:** Smoke Alert **Substance(s) focused:** Tobacco specific **Format:** Computer, Internet/web-based **Brief description of intervention and content:** a web-based questionnaire with fully automated, computer-tailored feedback. Smokers receive messages on how to quit, while non-smokers learn strategies to avoid smoking. ***Implementer(s)*** ***School involved in intervention or School not involved:*** Yes in classroom **Intervention duration:** 1 day **Intervention intensity:** Number of sessions/modules: 1 Time per session: NR Total hours: NR Booster: No	**Outcome: Tobacco Use Initiation** Measure: Students who were baseline non-smokers self-reporting any tobacco use at 6-month follow-up Baseline: 2011 Int (n=2469): Set at 0% Comp (n=2510): Set at 0% Follow-up (in months): 6-month post baseline Int (n=392 complete case): 3.8% Comp (n=505 complete case): 5.5% **Absolute change:** -1.7 percentage points **Relative change:** -30.9% **Narrative results**: Adjusted OR=0.25 (95%CI 0.05, 1.21) p=0.09 Favorable (Yes/No/No effect): Yes Statistical significance: No

	Study Population: Adolescents Age: 13.7 years (range: 10-20) School level: Middle and High school Grade level(s): 55.11% High (senior general secondary education / pre-university education), 44.89% Low (practical education / lower secondary professional education) Sex: 49.4% female, 50.6% male Race/ethnicity: NR Other NR **Study population: Parents and Caregivers** N/A **Community characteristics**: NR	**Additional components:** A PDF copy of the advice was sent to students who voluntarily provided their email addresses, allowing them to re-read or print it at home. Incentive contest: students could win an iPod or cinema voucher by completing follow-up assessment (both study arms). **Comparison group:** Control group, given opportunity to obtain computer-tailored advice after completing follow-up questionnaire.	
Author Year: Deluca 2022 (Deluca 2021) **Location:** England **Years for Study:** October 2014-May 2016 **Study Design:** iRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (2 of limitations)	**Setting:** Online, Clinic **Urbanicity**: NR **Recruitment:** Adolescents from 10 Emergency Departments in England, multi-center 3-arm study (only the app and the control arm are considered in this review) Participants categorized by alcohol risk status and randomized (low-risk subset were a randomly determined 1/3 of the patients) **Eligibility:** ED Attendees (14-18 years old); alert and oriented; proficient in English; living within 20 miles of ED; able to give informed consent for screening, intervention, and follow-up; own a smartphone or have internet access at home. Adolescents under 16: 'Gillick competent' or have parental/guardian consent. High Risk (HR): Score ≥3 on Alcohol Use Disorders Identification Test (AUDIT-C)	**Intervention/program name:** SIPS city (electronic brief intervention) **Substance(s) focused:** Alcohol specific **Format:** Smartphone, Internet/web-based, Apps **Brief description of intervention and content:** off-line-capable web app for iPhone and Android OS phones (web format for participants without a smartphone). Game format for content Alcohol use information. Interactive including record keeping, personalized feedback and goal setting. Researchers helped participants with smartphones to download the app. before leaving the ED and demonstrated its key features. ***Implementer(s)*** ***School involved in intervention or School not involved:*** not involved	High Risk Intervention Arm **Outcome: Other Alcohol Use Measures** Measure: Adjusted mean weekly units of alcohol consumption Baseline Int (n=252): 4.55 Comp (n=241): 5.01 Follow-up (in months): 12 months Int (n=252): 3.2 Comp (n=241): 3.0 **Absolute change:** +0.3 units of alcohol **Relative change**: +2.2% **Narrative results**: Adjusted mean difference: 0.19 CI: (-0.71, 1.30) Favorable (Yes/No/No effect): No effect Statistical significance: NS **Outcome: Development of Substance Use Disorders Alcohol Use** Measure: Alcohol Use Disorders Identification Test: consumption (AUDIT-C score) Baseline Int (n=252): 4.87

	Low Risk (LR): Score < 3 on AUDIT-C Excluded: severe injury; gross intoxication; under care of specialist services for social or psychological needs; receiving treatment for alcohol or substance use within 6 months; participating in another alcohol-related research study. **Sample size:** Baseline 1091 HR 493 LR 598 Int 546 HR 252 LR 294 Control 545 HR 241 LR 304 *12-months post-baseline* Follow-up 71.2% (785/1091) Int 71.1% (388/546) HR 63.5% (160/252) LR 77.6% (228/294) Control 72.8% (397/545) HR 74.3% (179/241) LR 71.7% (218/304) Loss to f/u 28.8% **Study Population: Adolescents (Int)** Age: range= 14-18 HR 16.1 years LR 15.2 years School level: High school Grade level(s): NR Sex: % female HR: 50.8% LR: 51.4% % male HR 49.2% LR: 48.6% Race/ethnicity:	**Intervention duration:** 1 day **Intervention intensity:** up to app user Number of sessions/modules: at least one Time per session: NR Total hours: NR Booster: No **Comparison group:** Control group recruited from ED, only completed the baseline screening and 6- and 12-month follow-up assessments	Comp (n=241): 4.86 Follow-up (in months): 12 months Int (n=160): 5.1 Comp (n=179): 5.0 **Absolute change**: +0.1 score points **Relative change:** NA **Narrative results**: Adjusted mean difference: 0.082, CI: (-0.49, 0.65) There was no significant difference between intervention and control groups. Favorable (Yes/No/No effect): No effect Statistical significance: NS Low-Risk Intervention Arm **Outcome: Other Alcohol Use Measures** Measure: Adjusted mean weekly units of alcohol consumption Baseline Int (n=294): 0.2 Comp (n=304): 0.1 Follow-up (in months): 12 months Int (n=228): 0.1 Comp (n=218): 0.1 **Absolute change:** -0.1 units of alcohol **Relative change:** 50.0% **Narrative results:** Adjusted mean difference: 0.01 CI: (-0.10, 0.11) Favorable (Yes/No/No effect): No effect Statistical significance: NS **Outcome: Development of Substance Use Disorders Alcohol Use** Measure: Alcohol Use Disorders Identification Test: consumption (AUDIT-C score) Baseline Int (n=294): 0.4 Comp (n=304): 0.4 Follow-up (in months): 12 months Int (n=228): 0.2 Comp (n=218): 0.2 **Absolute change:** 0 score points

	Black or African American HR 5.9% LR 17.3% Asian HR 0.3% LR 6.5% White HR 84.1% LR 61.2% Other race HR 9.7% LR 15.0% Other **Study population: Parents and Caregivers** N/A **Community characteristics**: NR		**Relative change:** NA **Narrative results**: Adjusted mean difference: -0.01 CI: (-0.12, 0.11) There was no significant difference between intervention and control groups. Favorable (Yes/No/No effect): No effect Statistical significance: NS **Outcome: Alcohol Use Initiation** Measure: % abstinent Baseline Int (n=294): 27.6% Comp (n=304): 27.0% Follow-up (in months): 12 months Int (n=228): 43.1% Comp (n=218): 43.3% **Absolute change:** -0.8 percentage points **Relative change:** -2.6% **Narrative results:** Adjusted mean difference: -0.01 CI: (-0.12, 0.11) Favorable (Yes/No/No effect): No effect Statistical significance: NS
Author Year: Doumas 2014 **Location:** USA (NR: 2 schools in northwest) **Years for Study:** September-April, exact year NR **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (3 of limitations)	**Setting:** School **Urbanicity**: NR **Recruitment:** two junior high schools in the northwest region assigned to either the intervention or control group. Parents contacted by the school in late September via letter by mail. **Eligibility:** All 538 9th-grade students who were present during the baseline assessment; only 513 enrolled **Sample size:** Baseline 513 Int NR Control NR *6-months post- intervention* Follow-up 69.8% (358/513) Loss to f/u 30.2% **Study Population: Adolescents**	**Intervention/program name:** eCHECKUP TO GO **Substance(s) focused:** Alcohol specific **Format:** Internet/web-based **Brief description of intervention and content:** Provides personalized normative feedback on alcohol use and risk factors; quantity and frequency of drinking; comparison of one's drinking to U.S. norms; estimated risk for negative consequences and problematic drinking; financial cost of drinking. Perception of peer drinking compared to actual school drinking norms. Accurate information about alcohol. Referral information for local agencies. Also, offers potential strategies for reducing alcohol	**Outcome: Frequency of Alcohol Use** Measure: Mean frequency of drinking (8-point scale) Baseline Int (n=NR): 0.98 Comp (n=NR): 0.87 Follow-up (in months): 6 months Int (n=NR): 1.17 Comp (n=NR): 1.06 **Absolute change:** 0 scale points **Relative change:** NA **Narrative results:** No significant main effect for time, Wilks' Lambda = 1.00, F(1, 355) = 0.70, p = .40, η^2p = .00. Interaction Effect for Time × Group: Not significant, Wilks' Lambda = 1.00, F(1, 355) = 0.98, p = .32, η^2p = .00. There were no significant effects for weekly drinking quantity. Favorable (Yes/No/No effect): No effect

	Age: 14.2 years (range: 13-16) School level: High school Grade level(s): 9th Sex: 52% female, 48% male Race/ethnicity: Black or African American 4.2% Asian 5.5% White 74.5% American Indian 3.6% Hawaiian/Other Pacific Islander 1.5%, Other race 0.8% Ethnicity Hispanic or Latino 9.9% Other **Study population: Parents and Caregivers** N/A **Community characteristics**: NR	intake based on the student's responses to the feedback. ***Implementer(s)*** ***School involved in intervention or School not involved:*** Yes in computer lab **Intervention duration:** 1 day **Intervention intensity:** Number of sessions/modules: 1 Time per session: 30 min Total hours: 30 min Booster: No **Comparison group:** Usual care, Usual alcohol and drug education, delivered by a school counselor. Classroom presentation on health risks of tobacco, alcohol, and other drugs, reasons for use, and peer refusal	Statistical significance: NS **Outcome: Alcohol-Related Harms & Consequences** Measure: Mean alcohol-related consequences in the past 30 days Rutgers Alcohol Problem Index (23-item) score Baseline Int (n=NR): 2.24 Comp (n=NR): 2.67 Follow-up (in months): 6 months Int (n=NR): 2.32 Comp (n=NR): 3.39 **Absolute change:** -0.64 score points **Relative change:** NA **Narrative results:** No significant main effect for time, Wilks' Lambda = 1.00, F(1, 355) = 0.13, p = .72, η^2p = .00. Interaction Effect for Time × Group: Not significant, Wilks' Lambda = 1.00, F(1, 355) = 0.01, p = .94, η^2p = .00. There was no significant difference between the intervention and control groups Favorable (Yes/No/No effect): Yes Statistical significance: NS
Author Year: Doumas 2021 **Location:** Iowa, USA **Years for Study:** September-April, exact year NR **Study Design:** gRCT **CG Suitability:** Greatest	**Setting:** School **Urbanicity**: Urban **Recruitment:** 14 English class periods across two schools, assigned to either the intervention or control group **Eligibility: All** 867 Senior enrolled in high school sites; 311 with parental consent and present during study enrolled **Sample size:** Baseline 311 Int 174 Control 137 *6-months post-baseline*	**Intervention/program name:** eCHECKUP TO GO **Substance(s) focused:** Alcohol specific **Format:** Computer, Internet/web-based **Brief description of intervention and content: Online** personalized normative feedback via text, graphs, and video recordings designed to reduce risk factors for alcohol use and increase protective behaviors. Domains include:	**Outcome: Frequency of Alcohol Use** Measure: Self-reported weekly drinking frequency on 8-point scale from 0 (do not drink) to 7 (every day). Baseline Int (n=173): 4.1 Comp (n=137): 3.1 Follow-up (in months): 6 months Int (n=173): 2.2 Comp (n=137): 2.1 **Absolute change**: -0.9 scale points **Relative change:** NA

Quality of Execution (# of limitations): Fair (2 of limitations)	Follow-up 79.4% (247/311) Int 78.7% (137/174) Control 80.3% (110/137) Loss to f/u 20.6% **Study Population: Adolescents** Age: 17.1 years (range: NR) School level: High school Grade level(s): 12th Sex: 55.8% female, 44.2% male Race/ethnicity: Black or African American 1.6% Asian 4.5% White 85.1% American Indian 1.9% Other race 4.6% Ethnicity Hispanic or Latino 4.9% Other **Study population: Parents and Caregivers** N/A **Community characteristics**: NR	*Drinking Profile:* Summary of drinking quantity and frequency *Financial Cost:* Pie graphs showing expenses on alcohol/tobacco vs. alternative purchases. *Physical Cost:* Calories from alcohol visualized as cheeseburgers; exercise equivalents; quiz on alcohol's physical effects. *Risk Factors:* Personal risk score for blackouts; tolerance levels; family history; age of initiation risks; drinking and driving dangers. *Normative Comparisons:* Peer usage statistics vs. personal perceptions. *Reduction Strategies:* Willingness to adopt new habits; personalized strategy list. *Life Goals Alignment:* Health/fitness, relationships, career/life goals with substance use. ***Implementer(s)*** ***School involved in intervention or School not involved:*** Yes, in computer lab **Intervention duration:** 1 day **Intervention intensity:** Number of sessions/modules: 1 Time per session: 30 min Total hours: 30 min Booster: No **Comparison group:** Control group no intervention, assessment only	**Narrative results:** No significant Time x Condition interaction effect from baseline to the 6-month follow-up (p = 0.14) Favorable (Yes/No/No effect): Yes Statistical significance: No
Author Year: Estrada 2019 **Related studies:** Perrino 2018, Estrada	**Setting:** School **Urbanicity**: Urban and suburban	**Intervention/program name:** eHealth Familias Unidas **Substance(s) focused:** General prevention	**Outcome: Frequency of Alcohol Use** Measure Mean (SD) for the past 90-days for alcohol use Baseline

2017a International journal of environmental research and public health) **Location**: Miami-Dade County FL, USA **Years for Study:** April 2014 to October 2016 **Study Design:** iRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (2 limitations)	**Recruitment:** 18 middle schools in the Miami-Dade County Public Schools (MDCPS); letters sent home with students and through referrals from school counselors; 454 families assessed for eligibility, 230 families enrolled and randomized **Eligibility:** adolescents of Hispanic origin; in the 8th grade at enrollment; living with a primary caregiver willing to participate in the study; families living within the catchment area of a MDCPS school at baseline; access to the Internet and exhibiting a level I, II, or III behavior problem as defined by MDCPS. Sample size: Baseline 230 int. 113 Control: 117 *12-months post-baseline* Follow-up: 75.2% (173/230) int 65.5% (74/113) Control 84.6% (99/117) Loss to f/u 24.8% int. 34.5% Control: 15.4% **Study Population: Adolescents** Age: mean 13.6 years School level: Middle school Grade level(s): 8th Sex: female 37%; male 63% Race/ethnicity: race NR; 100% Hispanic 56.5% were born in the US 20% born in Cuba; 6% born in Honduras, 3% born in Columbia **Study population: Parents and Caregivers** Yearly household income:	**Format:** Computer, Internet/web-based **Brief description of intervention and content**: Intervention consisted of (1) e-parent group sessions accessed via Internet and (2) parent-adolescent family sessions delivered by a facilitator via web-based video conferencing software. Adolescent components: Tailored based on the goals and needs of each individual family (e.g., communication skills, behavior management), Parent components: web-based prerecorded video sessions simulating parent group discussions, a culturally syntonic telenovela series (i.e., soap opera), and interactive exercises. **Implementer(s):** **School involved in intervention or School not involved:** Not involved, 16 mental health professionals in community settings. **Intervention duration:** 3 months **Intervention intensity:** Number of sessions/modules: 12 total sessions e-parent group video sessions: 8 Family Sessions with adolescent: 4 Time per session: e-parent group video sessions: 30min Family Sessions with adolescent: 45min Total hours: 7 hours (e-parent group: 4hrs, family session 3hrs) Booster: No	Int (n=113): 0.25 (1.46) Comp (n=117): 1.02 (9.24) Follow-up: 12 months Int (n=82): 0.37 (1.55) Comp (n=98): 0.39 (1.12) **Absolute change:** +0.75 times in last 90 days **Relative change:** +287.1% **Narrative:** b = +0.02, 95% CI = −0.25, .28, p = 0.623, NS Favorable (Yes/No/No effect): No Statistical significance: No **Outcome: Frequency of Cannabis Use** Measure: Mean (SD) for the past 90-days for marijuana use Baseline Int (n=113): 1.01 (8.52) Comp (n=117): 0.20 (1.27) Follow-up: 12 months Int (n=82): 0.24 (1.27) Comp (n=98): 2.17 (11.85) **Absolute change:** -2.74 times in the last 90 days **Relative change:** -97.8% **Narrative results:** b = -0.52, 95% CI = -0.90, - 0.15, p<.01 Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Tobacco Use** Measure Mean (SD) and trajectories for the past 90-days for cigarette use Baseline Int (n=113): 0.53 (4.80) Comp (n=117): 0.87 (9.23) Follow-up: 12 months Int (n=82): 0.00 (0.24) Comp (n=98): 0.81 (4.55) **Absolute change:** -0.47 times in last 90 days **Relative change**: -100.0%

	> $20,000 USD: 55.7% All other demographics NR **Community characteristics**: NR	Implementers were 16 mental health professionals, all with master's level degrees in their fields (e.g., mental health counseling, social work). Provided with 3 days of training included didactic instruction, role-plays, and group discussion of recorded sessions. Facilitators received four 2-h supervision sessions delivered throughout the course. **Comparison group:** Prevention as usual; HIV prevention curriculum provided by MDCPS via health and science classes. Six lessons delivered in a classroom setting providing information about HIV/AIDS and other sexually transmitted infections. Note: intervention group probably received this since current community prevention activities are offered to all students.	**Narrative results:** b = −1.05, 95%CI = − 1.72, −0.39, p < 0.01 Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Illicit Drug Use (Inhalant)** Measure: Mean number of times participants used inhalants in the last 90 days. Baseline Int (n=113): 0.85 (8.51) Comp (n=117): 0.07 (0.83) Follow-up: 12 months Int (n=82): 0.07 (0.56) Comp (n=98): 0.82 (7.68) **Absolute change**: -1.53 times in last 90 days **Relative change:** -98.8% **Narrative results**: b = −1.19 95% CI = −1.64, −0.75, p < 0.001 Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Illicit Drug Use (Cocaine)** **Measure:** Mean number of times participants used cocaine in the last 90 days Baseline Int (n=113): 0.82 (8.50) Comp (n=117): 0.07 (0.83) Follow-up: 12 months Int (n=82): 0.01 (0.11) Comp (n=98): 0.83 (7.68) **Absolute change:** -1.57 times in last 90 days **Relative change:** -99.8% **Narrative results:** Past 90-day cocaine use decreased in the intervention group compared to the control b = -0.11 95% CI = -0.59, 0.37, NS Favorable (Yes/No/No effect): Yes Statistical significance: No

			Outcome: Prescription Drug Misuse Mean number of times participants used prescription drugs in the last 90-days Baseline Int (n=113): 0.04 (0.31) Comp (n=117): 0.86 (9.23) Follow-up: 12 months Int (n=82): 0.00 (0.15) Comp (n=98): 0.97 (7.76) **Absolute change:** -0.15 times in last 90 days **Relative change:** -100% **Narrative:** Modeled results b = -1.34, 95% CI = -2.33, -0.35, p<0.01 Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Illicit or Other Substances as a Combined Measure (Any drug)** Measure: Mean number of times participants used drugs (summed total for marijuana, inhalants, cocaine, and other drugs) in the past 90 days Baseline Int (n=113): 3.49 (33.87) Comp (n=117): 0.35 (2.68) Follow-up: 12 months Int (n=82): 0.35 (1.63) Comp (n=98): 4.68 (31.93) **Absolute change:** -7.4 times in last 90 days **Relative change**: -99.2% **Narrative results**: eHealth Familias Unidas vs prevention as usual were statistically different (b = -1.16, 95% CI = -1.33, -1.00, p<.001) Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Illicit or Other Substances as a Combined Measure (Drug use)** Measure: Mean number of times participants used “other drugs” in the past 90 days Baseline

			Int (n=113): 0.82 (8.50) Comp (n=117): 0.00 (0.00) Follow-up: 12 months Int (n=82): 0.02 (0.15) Comp (n=98): 0.84 (7.68) **Absolute change:** -1.64 times in last 90 days **Relative change:** NA **Narrative results**: b = +0.06 95% CI = -1.76, 0.40, NS Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Sexual Risk Behaviors** Measure: Condomless sex, past-90-day sex trajectories Baseline: Int (n=NR): NR Comp (n=NR): NR Follow-up (in months): 12 months post-baseline Int (n=NR): NR Comp (n=NR): NR **Absolute change:** NR **Relative change:** NR **Narrative results:** No statistically significant intervention effects (b = 0.02, 95% CI = -0.31,.35, p=0.89, effect size= .11). NS Favorable (Yes/No/No effect): No effect Statistical significance: No
Author Year: Evers 2012 **Location:** USA (NR) **Years for Study:** NR **Study Design:** gRCT **CG Suitability:** Greatest	**Setting:** School, Online **Urbanicity**: Urban, suburban, rural **Recruitment:** 22 Middle/junior high school schools across different regions of the country. Schools selected and randomized based on willingness to participate and match criteria regarding type of community, region of the country, and percentage of students eligible for free lunches. **Eligibility**: All students at participating middle schools with parental consent.	**Intervention/program name:** "Your Decisions Count“ Alcohol, Tobacco and Other Drugs **Substance(s) focused:** General Prevention ***Format:*** *Computer*, Internet/web-based, CD-ROM **Brief description of intervention and content:** individualized, interactive intervention sessions, along with staff, administrator, and parent guides. Program	**Outcome: Prevalence of Illicit or Other Substances as a Combined Measure** Measure: % of students who were no longer using any of the four substances (alcohol, tobacco, marijuana, or other drugs) at post-test past 30 days Baseline Int (n=NR): 100% Comp (n=NR): 100% Mean follow-up: 14m post-baseline Int (n=NR): 28.7% Comp (n=NR): 22.4% **Absolute change:** +6.3 percentage points

Quality of Execution (# of limitations): Fair (3 limitations)	Teachers and school administrators involved in the implementation of the intervention program, but no specific inclusion or exclusion criteria mentioned for these providers. **Sample size:** Baseline 1590 Int 865 Control 725 *14-months post-baseline* Follow-up 49.8% (792/1590) Int 51.0% (441/865) Control 48.4% (351/725) Loss to f/u 50.2% **Study Population: Adolescents** Age: years (range: 10 – 14) School level: Middle school Grade level(s): 6th: 15.3% 7th: 45.7% 8th: 38.2% 9th: 0.3% Other: 0.4% Sex: 47.4% female, 52.6% male Race/ethnicity: Black or African American 10.40% White 76.30% Ethnicity, Hispanic or Latino 11.80% Other SES: Eligible for free lunches 37.7% **Study population: Parents and Caregivers** N/A **Community characteristics**: N/A	focused on cessation and prevention of alcohol, tobacco, marijuana, and other drug use. Content includes assessment questions, feedback tailored to student responses and TTM constructs, images, and QuickTime movies. Multimedia components are provided on a CD-ROM to minimize download time. Feedback Sessions: Provide normative feedback comparing individual use to successful peers. Subsequent sessions offer normative and ipsative feedback on progress since the last session. Audio Component: Onscreen text is read aloud through computer-generated audio. Short movies of student testimonials. **Implementer(s)** **School involved in intervention or School not involved:** Yes, in classroom **Intervention duration:** 3 months **Intervention intensity:** monthly Number of sessions/modules: 3 Time per session: 30 mins Total hours: 1 hr 30 mins Booster: No **Comparison group:** Control group, no details	**Relative change:** +28.1% **Narrative results:** There was a significant difference over time in cessation rates (t= 3.17, p<0.01, OR= 1.8) Favorable (Yes/No/No effect): Yes Statistical significance: Yes
Author Year: Fang 2013 (Fang 2010) **Location**: USA (19 states)	**Setting:** Online, Home/Family, or other convenient locations **Urbanicity:** NR	**Intervention name:** NR **Substance(s) focused:** General prevention **Format:** Computer, Internet/web-based	**Outcome: Frequency of Alcohol Use** Measure: 30-day alcohol use (number of alcoholic drinks (i.e., beer, wine, malt liquor, wine coolers, sweet alcoholic drinks, mixed drinks, or hard liquor)

Years for Study: September 2007-May 2010 **Study Design:** iRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (2 limitations)	**Recruitment:** advertisements on craigslist.org and in mailings to Asian community social service agencies. 206 mother- child dyads screened, 108 dyads enrolled, and each other- child dyad blocked randomized via number sequence, with block sizes varying randomly between 4 and 12 **Eligibility:** Asian girls, between 11 and 14 years, private access to a computer, and have mothers' active participation and consent Sample size: 108 mother child dyads Int 56 Control 52 *24-months post-intervention* Follow-up 86.1% (93/108) Int 89.2% (50/56) Control 82.7% (43/52) Loss to f/u 10.8% **Study Population: Adolescents** Age: 12.9 years (range: 11-14) School level: Middle school, High school Grade level(s): NR, age range = 6-9th grade Sex: 100% Female Race/ethnicity: 100% Asian American Education: NR Income: NR Other NR **Study population:** **Parents and caregivers:** Age: 39.4 years Sex: Female 100% (mother dyad) Race/ethnicity: 100% Asian American Education: High school 22.2% College 24.6%	**Brief description of intervention and content**: Family interaction theory with mother-daughter dyads. Web content delivered by voiceover narration, animated graphics, and games, session content involved skill demonstrations and interactive exercises that required the joint participation of mothers and daughters. Content on: -Mother–daughter relationship skills -Conflict management -Substance use opportunities -Body image activities -Stress management -Problem solving skills -Self-efficacy **Implementer(s)** ***School involved in intervention or School not involved:*** not involved **Intervention duration:** 9 weeks or 4 months (Sept. 2007 to Dec. 2007) **Intervention intensity:** Number of sessions or modules: 9 Time per session: 45 minutes Total hours: 6.75 hrs Booster: Yes **Comparison group:** Control-arm dyads received no intervention.	Baseline Int (n=56): 0.04 Comp (n=52): 0.29 Mean follow-up: 24 months Int (n=50): 0.05 Comp (n=43): 0.1 **Absolute change:** +0.02 number of drinks **Relative change**: -+262.5% **Narrative results**: Time by intervention results indicated that the Intervention-arm girls reported significantly fewer instances of using alcohol, F(2, 90) =3.38, p = 0.038 compared to control. Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Tobacco Use** Measure: 30-day cigarette use (number of occasions they smoked cigarettes) Baseline Int (n=56): 0.07 Comp (n=52): 0.17 Mean follow-up: 24 months Int (n=50): 0.02 Comp (n=43): 1.95 **Absolute change:** -1.83 times in 30 days **Relative change:** -97.51% **Narrative results:** Intervention-arm girls reported fewer instances of using cigarettes F(2, 90) = 1.80, p=0.171. Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Frequency of Cannabis Use** Measure: 30-day marijuana use (number of occasions they used marijuana) Baseline Int (n=56): 0.01 Comp (n=52): 0.04 Mean follow-up: 24 months

	Graduate school 35.2% Income: NR Other Single parent, 13.0% **Community characteristics:** NR		Int (n=50): 0 Comp (n=43): 0.17 **Absolute change**: -0.14 times in 30 days **Relative change**: -100.0% **Narrative results:** Intervention-arm girls reported significantly fewer instances of using marijuana, F(2, 90) = 3.24, p=0.043 compared to controls. Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Prescription Drug Misuse** Measure: 30-day prescription drug (mis)use substance use (the number of occasions they took prescription drugs (e.g., Ritalin, Adderall, Vicodin, OxyContin, Xanax, Valium, Ambien, and Lunesta) just to get high in the past 30 days. Baseline Int (n=56): 0.64 Comp (n=52): 0.46 Mean follow-up: 24 months Int (n=50): 0 Comp (n= 43): 3.6 **Absolute change:** -3.78 times in 30 days **Relative change**: -100.0% **Narrative results:** Intervention-arm girls reported significantly fewer instances of using prescription drugs for nonmedical purposes, F(2, 90) = 3.15, p =0.047 compared to control. Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Depression Symptoms** Measure: Depressive symptoms Children's Depression Inventory (example:" I'm sad once in a while"10 items: scale; A higher score indicates a greater propensity on each measure. Baseline Int (n=56): 1.60 Comp (n=52): 1.66

			Follow-up: 24 months Int (n=50): 1.23 Comp (n=43): 1.67 **Absolute change**: -0.38 scale points **Relative change:** NA **Narrative results:** Relative to control, intervention girls showed less depressed mood (Wald = 1.17, p= .315) Favorable (Yes/No/No effect): Yes Statistical significance: No
Author Year: Griffin 2022 **Location:** USA (21.7% Northeast, 21.7% Midwest, 39.1% South and 17.3% West) **Years for Study**: Fall 2018 - Spring 2020 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (2 limitations)	**Setting:** School, Online **Urbanicity**: NR **Recruitment:** Using national lists of middle school principals, teachers, and district-level administrators, schools were randomly selected from different geographic areas and emailed recruitment packets. 23 schools enrolled, matched by region then each pair randomized. **Eligibility:** K-12 schools including middle school grades, otherwise not reported **Sample size:** Baseline 1799 Int 755 (13 schools) Control 1044 (10 schools) *3-months post-baseline* Follow-up 80.4% (1447/1799) Int 82.4% (622/755) Control 79.0% (825/1044) Loss to f/u 19.6% **Study Population: Adolescents** Age: 11.9 years (range: 5 – 18) School level: Elementary, Middle and/or High school Grade level(s): Middle schools- grades 6-8 (58%) grades 6-9 (12%)	**Intervention/program name:** Hybrid Digital Substance Abuse Prevention **Substance(s) focused:** General Prevention **Format:** Computer, Laptop, Smartphone, iPad/Tablet, Internet/web-based **Brief description of intervention and content:** 15 web-based modules adapted from Life Skills Training content were provided to view before attending related classroom sessions, which included behavioral rehearsal scenarios for skill practice. During the classroom sessions, teachers guided students as they practiced these skills and acted out realistic scenarios with their peers. 6 Teacher-led classroom sessions: (1) Self-Image, goal setting, and making decisions; (2) Coping with stress, anxiety, and anger; (3) Social relationship skills; (4) Assertiveness and resolving conflicts; (5) Resisting tobacco, alcohol, and marijuana use; and (6) Prescription drug misuse, refusal skills and strategies to decline when offered or when asked to share their own	Adjusted proportions for current (past month) use at post-test for substance use by condition using MIXED models (Table 6) **Outcome: Prevalence of Alcohol Use** Measure: Student self-reported past month use of alcohol Baseline: Int (n=622): 0.9% Comp (n=825): 0.7% Follow-up (in months): 1 month post intervention; 2-4 months post baseline Int (n=622): Adjusted 2.02% (SE 0.83) Comp (n=825): Adjusted 3.28% (SE 0.93) **Absolute change**: -1.26 percentage points **Relative change**: -38.4% **Narrative results:** The proportion of students reporting alcohol use was lower in the intervention group relative to the control group, no p value reported. Favorable (Yes/No/No effect): Yes Statistical significance: NR **Outcome: Prevalence of Alcohol Binge or Heavy Drinking (Drunkenness)** Measure: % of student self-reported past month drunkenness Baseline: Int (n=622): NR Comp (n=825): NR

	Other schools - kindergarten to grade 8 (12%) kindergarten to grade 12 (18%) Sex: 51.7% female, 48.3% male Race/ethnicity: Black or African American 16.8% Asian 2.8% White 67.4% American Indian 4.1% Native Hawaiian/Pacific Islander 1.0% Ethnicity Hispanic or Latino 12.2% Other **Study population: Parents and Caregivers** N/A **Community characteristics**: NR	***Implementer(s)*** ***School involved in intervention or School not involved:*** Yes, in classroom **Intervention duration:** 6-12 weeks **Intervention intensity:** weekly Number of sessions/modules: 15 modules over 6 sessions Time per session: 4-10 mins Total hours: 1 hr 33 mins Booster: No **Comparison group:** Usual care, standard health education curriculum provided by schools.	Follow-up (in months): 1 month post intervention; 2-4 months post baseline Int (n=622): Adjusted 1.34% (SE 0.63) Comp (n=825): Adjusted 3.31% (SE 0.69) **Absolute change:** -1.97 percentage points **Relative change:** -59.5% **Narrative results:** The proportion of students reporting drunkenness was significantly lower in the intervention group relative to the control group [F(1,12.5) = 5.26, p < 0.02]. (MIXED model) Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Prevalence of Cannabis Use** Measure: Student self-reported past month marijuana use Baseline: Int (n=622): 1.1% Comp (n=825): 1.2% Follow-up (in months): 1 month post intervention; 2-4 months post baseline Int (n=622): Adjusted 1.96% (SE 1.80) Comp (n=825): Adjusted 2.67% (SE 1.45) **Absolute change:** -0.71 percentage points **Relative change:** -26.6% **Narrative results:** The proportion of students reporting marijuana use was lower in the intervention group relative to the control group, p-value not reported. (MIXED model). Favorable (Yes/No/No effect): Yes Statistical significance: NR **Outcome: Prevalence of Tobacco Use (Smoking)** Measure: Student self-reported past month use of cigarette smoking Baseline: Int (n=622): 0.4% Comp (n=825): 1.0% Follow-up (in months): 1 month post intervention; 2-4 months post baseline

			Int (n=622): Adjusted 1.23% (SE 0.60) Comp (n=825): Adjusted 2.48% (SE 0.64) **Absolute change:** -1.25 percentage points **Relative change**: -50.4% **Narrative results:** p-value not reported Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Prevalence of Tobacco Use (Electronic cigarettes)** Measure: Student self-reported past month use of cigarette smoking Baseline: Int (n=622): NR Comp (n=825): NR Follow-up (in months): 1 month post intervention; 2-4 months post baseline Int (n=622): Adjusted 0.94% (SE 0.73) Comp (n=825): Adjusted 2.86% (SE0.80) **Absolute change:** -1.92 percentage points **Relative change:** -67.1% **Narrative results*:*** The proportion of students reporting e-cigarette use was significantly lower in the intervention group relative to the control group $F(1,12.5) = 3.52$, $p < 0.05$ (MIXED model) Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Prescription Drug Misuse** Measure: Student self-reported past month sharing prescription medications (nine-point Likert scale with 1=never, 9=more than once a day) Baseline: 1799 students in baseline survey Int (n=622): NR Comp (n=825): NR Follow-up (in months): 1 month post intervention; 2-4 months post baseline Int (n=622): Adjusted 1.10 (SE 0.04.)

			Comp (n=825): Adjusted 1.15 (SE 0.04) Absolute change: -0.05 scale points Relative change: NA Narrative results: p-value not reported (MIXED model) Favorable (Yes/No/No effect): No effect Statistical significance: NR
Author Year: Haug 2017 **Location:** Switzerland **Years for Study**: September 2014 – September 2015 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (2 limitations)	**Setting:** School, Online **Urbanicity**: NR **Recruitment:** 11 vocational and upper secondary schools. Of the 1399 students present, 1371 assessed for eligibility, but 1041 (74.4%) enrolled. Classes were the unit of assignment to condition (n=80 classes) **Eligibility:** Students in recruited schools providing consent to participate and owning a mobile phone **Sample size:** Baseline 1041 Int 547 students (43 classes) Control 494 students (37 classes) *3-months post- intervention* Follow-up 92.8% (966/1041) Int 93.4% (511/547) Control 92.1% (455/494) Loss to f/u 7.2% **Study Population: Adolescents** Age: 16.8 years (range: 16 – 19) School level: Vocational/High school Grade level(s): NR Sex: 52.6% female, 47.4% male Race/ethnicity: N/A Other **Study population: Parents and Caregivers** N/A **Community characteristics**: N/A	**Intervention/program name:** MobileCoach Alcohol **Substance(s) focused:** Alcohol specific **Format:** Smartphone, iPad/Tablet, Internet/web-based, Text Messaging **Brief description of intervention and content: web**-based assessment and feedback (conducted in a school session) with tailored text messages sent directly to participant's mobile phone. Web-Based Feedback: -Drinks per week compared to age/gender-specific norms. -Financial cost of alcohol consumption. -Caloric intake from alcoholic beverages. -Risky Single Occasion Drinking (RSOD) frequency comparison. Text Message Assessment/Activities: -Content and frequency based on initial risk categorization into low, moderate, or high-risk groups. *For All Risk Groups:* - Three SMS assessments - Motivation to stay low-risk drinking levels - Strategies for resisting alcohol *Low Risk Group:*	**Outcome: Prevalence of Alcohol Binge or Heavy Drinking** Measure: Student self-reported prevalence of risky single occasion drinking (RSOD) in the past 30 days (equivalent to heavy or binge drinking) Baseline: Int (n=547): 47.2% Comp (n=494): 42.7% Follow-up (in months): 3 months post end of intervention; 6 months post baseline Int (n=547): 41.3% Comp (n=494): 45.3% **Absolute change:** -8.5 percentage points **Relative change:** -17.5% **Narrative results:** OR=0.62 (95% CI 0.44 to 0.87) p<0.01 Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Alcohol Use (Amount)** Measure: Student self-reported number of alcoholic drinks consumed in a typical week Baseline: Int (n=547): 5.47 Comp (n=494): 4.78 Follow-up (in months): 3 months post end of intervention; 6 months post baseline Int (n=547): 4.53 Comp (n=494): 4.41 **Absolute change:** -0.57 drinks per week **Relative change:** -9.4% **Narrative results:** Cohen's d=0.08 p=0.58 Favorable (Yes/No/No effect): Yes

		16 text messages: Welcome message, 3 assessment prompts, 11 tailored feedback texts, Goodbye message *Moderate & High-Risk Groups:* 27 text messages: Welcome message, 3 assessment prompts, 22 tailored feedback texts, Goodbye message *Additional for Moderate Risk Group*: -Personalized feedback on alcohol-related issues. -Estimated peak BAC, associated risks. *Additional for High-Risk Group:* -Information on local outpatient alcohol counseling services. ***Implementer(s)*** **School involved in intervention or School not involved:** Yes, in classroom **Intervention duration:** 3 months **Intervention intensity:** (web session within school lesson and 3m text messages at leisure; 1-3 messages per week) Number of sessions/modules: 9 Time per session: NR Total hours: NR Booster: No **Comparison group:** Control group, no intervention, assessment-only	Statistical significance: No
Author Year: Haug 2022 **Location:** Europe (Switzerland)	**Setting:** School, Online **Urbanicity**: NR **Recruitment:** 2275 students from 159 vocational school classes in Switzerland, 1351 (59.4%) enrolled	**Intervention/program name:** ready4life **Substance(s) focused:** General Prevention, Substance specific alcohol; tobacco/e-cig/cannabis	**Outcome: Prevalence of Alcohol Binge or Heavy Drinking** Measure: Student self-reported at-risk alcohol consumption in the past 30 days (consider as heavy drinking)

Years for Study: 2021-2022 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (3 limitations)	**Eligibility:** Students in the participating vocational school classes, minimum age of 15, have a smartphone, and informed consent from schools and students **Sample size:** Baseline 1351 Int 688 (76 classrooms) Control 663 (77 classrooms) *6-months post-baseline* Follow-up 71.2% (962/1351) Int 64.0% (440/688) Control 76.8% (509/663) Loss to f/u 28.8% **Study Population: Adolescents** Age: 17.3 years (range: 17-18) School level: Vocational/High school Grade level(s): NR Sex: 43.4% female, 56.6% male Race/ethnicity: N/A Other mean # of baseline risk behaviors: 1.5 **Study population: Parents and Caregivers** N/A **Community characteristics**: N/A	**Format:** Smartphone, Apps **Brief description of intervention and content:** a mobile app-based program for addiction prevention by promoting life skills and reducing risk behaviors. Students installed the app after introductory school education class session. -Individualized virtual coaching by a conversational agent in weekly dialogues (2–5-min interactions per week) -Tailored content to individual baseline assessments and chosen risk behaviors. Selected two out of six possible program modules: (1) stress, (2) social skills, (3) social media & gaming, (4) tobacco/e-cigarette smoking, (5) cannabis, (6) alcohol. Behavior theories: -Social-Cognitive Theory (e.g., goal-setting, self monitoring) -Social Norms Approach (e.g., normative feedback) -Motivational Interviewing (e.g., decisional balance) ***Implementer(s)*** **School involved in intervention or School not involved:** Yes, in classroom **Intervention duration:** 4 months (2 months per selected risk behavior) **Intervention intensity:** weekly Number of sessions/modules: 6 Time per session: NR Total hours: NR Booster: No	Baseline Int (n=688): 31.0% Comp (n=663): 35.1% Follow-up (in months): 6 months post baseline; 2-month post end of 4m intervention Int (n=688): 20.1% Comp (n=663): 27.5% **Absolute change:** -3.3 percentage points **Relative change:** -17.24% **Narrative results**: At risk alcohol drinking was significantly reduced compared to control group students OR=0.68 (95%CI 0.52, 0.89) p<0.01 Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Alcohol Use-(Consumption)** Measure: Student self-reported quantity of alcohol use (drinks) in the past 30 days Baseline: Int (n=688): 14.8 (SD 34.5) Comp (n=663): 15.1 (SD 33.0) Follow-up (in months): 6 months post baseline; 2-month post end of 4m intervention Int (n=688): 6.8 (SD 15.3) Comp (n=663): 9.5 (SD 16.9) **Absolute change:** -2.4 drinks in the past 30 days **Relative change:** -26.97% **Narrative results:** Number of drinks in the past 30 days decreased significantly more among intervention group students (coefficient = -2.66; Cohen's d=0.07; p<0.01) Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Prevalence of Cannabis Use** Measure: Self-reported cannabis use in the past 30 days Baseline Int (n=688): 24.3%

		Comparison group: Control group, school session to explain the study and the baseline and follow-up assessments. Offered Delayed intervention	Comp (n=663): 21.1% Follow-up (in months): 6 months post baseline; 2 month post end of 4m intervention Int (n=688): 18.6% Comp (n=663): 14.9% **Absolute change:** +0.5 percentage points **Relative change:** +8.39% **Narrative results**: Self-reported cannabis use increasing among intervention group students compared to control group OR 1.29 (95% CI 0.90, 1.85), p=0.16 Favorable (Yes/No/No effect): No Statistical significance: No **Outcome: Frequency of Cannabis Use (Quantity)** Measure: Student self-reported number of times used cannabis in the past 30 days Baseline: Int (n=688): 2.5 Comp (n=663):2.1 Follow-up (in months): 6 months post baseline; 2-month post end of 4m intervention Int (n=688): 1.7 Comp (n=663): 1.7 **Absolute change:** -0.4 times in the last 30 days **Relative change:** -16.0% **Narrative results:** Frequency of cannabis use decreased slightly among intervention group students compared to controls (coefficient -0.07; p=0.81; Cohen's d=0.06) Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Prevalence of Tobacco Use** Measure: Self-reported tobacco or e-cigarette use in the past 30 days Baseline Int (n=688): 36.6% Comp (n=663): 37.1%

			Follow-up (in months): 6 months post baseline; 2-month post end of 4-month intervention Int (n=688): 26.0% Comp (n=663): 31.5% **Absolute change:** -5 percentage points; NS **Relative change:** -16.33% **Narrative results**: Self-reported tobacco use decreased among intervention group students, but the differences were NS; OR=0.74 (95%CI 0.55, 1.01) p=0.06 Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Frequency of Tobacco Use (Quantity)** Measure: Self-reported number of cigarettes/e-cigarettes smoked in the past 30 days (past week x 4) Baseline: Int (n=688): 89.9 Comp (n=633): 78.0 Follow-up (in months): 6 months post baseline; 2-month post end of 4m intervention Int (n=688): 54.2 Comp (n=633): 55.5 **Absolute change:** -13.2 cigarettes in the past 30 days **Relative change:** -15.27% **Narrative results:** Number of cigarettes smoked decreased among intervention group students more than it did for control group coefficient=-6.0 p=0.40 Cohen's d=0.06 Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Composite Risk Behaviors** Measure: Composite score for student self-reported risk behaviors (0-4; At-risk alcohol, 30-day tobacco, 30-day cannabis, problematic internet use Baseline

			Int (n=688): 1.5 (SD 1.2) Comp (n=663): 1.5 (SD 1.2) Follow-up (in months): 6 months post baseline; 2-month post end of 4m intervention Int (n=688): NR Comp (n=663): NR **Absolute change:** NR **Relative change**: NR **Narrative results**: Stronger decrease of addictive behaviors between baseline and follow up in the intervention group compared to the control group OR (ITT) = 0.77 (95%CI 0.67, 0.88) p<0.01 Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Mental Health-Perceived Stress** Measure: Student self-reported perceived stress in the past 30 days based on single item measure of stress symptoms (1-5 scale) Baseline Int=688): 3.1 Comp (n=663):3.2 Follow-up (in months): 6 months post baseline; 2-month post end of 4m intervention Int (n=NR): 2.7 Comp (n=NA):3.1 **Absolute change:** -0.3 scale points **Relative change:** NA **Narrative results**: Student perceived stress was slightly reduced among intervention students compared to control group students (coefficient = -0.28, p<0.01, Cohen's d=0.27) Favorable (Yes/No/No effect): Yes Statistical significance: Yes
Author Year: Ho 2021 **Location:** Hong Kong, China	**Setting:** School, Online **Urbanicity**: Urban **Recruitment:** Random sample of secondary schools in Hong Kong (n=40) in 4 major regions (Hong Kong Island, Kowloon, and East and West New	**Intervention/program name:** Internet Quiz Game Intervention **Substance(s) focused: Alcohol** specific **Format:** Internet/web-based	**Outcome: Prevalence of Alcohol Use** Measure: Student self-reported any alcohol drinking in the past 30 days Baseline Int (n=4294): 13.6% Comp (n=3498): 13.9%

Years for Study: September 2016 - April 2017 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Good (1 limitations)	Territories); 30 (75%) were eligible, randomized **Eligibility:** Consenting students at secondary schools, excluding international schools, schools targeting students with special needs, and not speaking Chinese **Sample size:** Baseline 7792 (30 schools) Int 4294 (15 schools) Control 3498 (15 schools) *3-months post- intervention* Follow-up 86.0% (6700/7792) Int 84.0% (3607/4294) Control 88.4% (3093/3498) Loss to f/u 14.0% **Study Population: Adolescents** Age: 13.3 years (range: 12– 15) School level: Middle school Grade level(s): Hong Kong Secondary 1-3 (Equivalent to US 7-9 grades) Sex: 48.0% female, 52.0% male Race/ethnicity: N/A SES: Family income mean 27.27 (Hong Kong $1000) Other **Study population: Parents and Caregivers:** N/A **Community characteristics**: N/A	**Brief description of intervention and content:** multiple choice interactive internet quiz competition Content: 1000 multiple choice questions with real-time ongoing score tracking. Questions are grouped into blocks to ensure a minimum of two questions from each of the domain included in every set of 20 questions. Bonus Points: Referrals to family and friends contribute to the student's score. Small cash awards prizes for top 10 students in each school ***Implementer(s)*** ***School involved in intervention or School not involved:*** No, 30-min introduction to study by researchers in school class, but intervention done outside of school. **Intervention duration:** 1 month **Intervention intensity:** Number of sessions/modules: 5 module topics, split across 1000 questions. Time per session: NR Total hours: NR Booster: No **Comparison group:** control group, Health education group received a printed leaflet, summarizing alcohol-related health information and included 8 hyperlinks (6 in Chinese) to alcohol-related online resources.	Follow-up (in months): 3 months Int (n=4294 ITT): 10.4% Comp (n=3498 ITT): 11.6% **Absolute change:** -0.9 percentage points; adjusted **Relative change:** -7.76% **Narrative results**: Risk Difference = -1.73 per 100 (95%CI -3.73 to -0.02) RR=0.86 (95%CI 0.74 to 0.99) p=0.048 Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Alcohol Binge or Heavy Drinking** Measure: Student self-reported number of times drunk in the past 30 days Baseline: Int (n=4294): Not reported Comp (n=3498): Not reported Follow-up (in months): 3 months Int (n=4294): Not reported Comp (n=3498): Not reported **Absolute change**: NR **Relative change**: NR **Narrative results:** Intervention group participants reported being drunk less often than those in the control [RR=0.54 (95% CI: 0.27, 1.10); p=0.09] Risk Difference -1.19 (95% CI -1.91 to 0.25) Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Antisocial Behaviors** Measure: Student self-reported number of alcohol-related troubles (not defined in paper) Baseline: Int (n=4294): NR Comp (n=3498): NR Follow-up (in months): 3 months Int (n=4294): NR Comp (n=3498): NR

			Absolute change: NR **Relative change**: NR **Narrative results:** Absolute: Risk difference -0.94 (95%CI -1.08 to -0.58) Relative: Risk Ratio (RR) =0.20 (95%CI 0.08 to 0.51); p<0.001 Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Alcohol Use-Initiation** Measure: Subset: Student baseline non-users self-reporting any alcohol drinking in the past 30 days Baseline: Subset Int (n=3709): Baseline non-users 0% Comp (n=3012): Baseline non-users 0% Follow-up (in months): 3 months Int (n=3709): NR Comp (n=3012): NR **Absolute change:** NA **Relative change:** -27.0% **Narrative results:** Risk Difference = -1.62 per 100 (95% CI -2.65 to -0.26) RR=0.73 (95% CI 0.55 to 0.96); p=0.02 Favorable (Yes/No/No effect): Yes Statistical significance: Yes
Author Year: Jander 2016 **Location:** the Netherlands **Years for Study**: January - June 2014 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (4 limitations)	**Setting:** School, Home/Family **Urbanicity**: NR **Recruitment:** All Dutch schools of either lower secondary education and lower vocational training or higher secondary education; 600 invited, 44 recruited and randomized **Eligibility:** Dutch secondary/vocational schools with students aged 15-19 years providing consent. Schools had to provide individual student computer internet access at school. **Sample size:** Baseline 2649 (34 schools) Int 1622 students (19 schools)	**Intervention/program name:** Alcohol Alert (Dutch Web-based Computer-tailored Game intervention) **Substance(s) focused:** alcohol (binge drinking) specific **Format:** Computer, Internet/web-based **Brief description of intervention and content: computer** tailored binge drinking prevention game during school-based computer sessions. Sessions could also be done outside of school. Students received reminders to complete game sessions. *Parent engagement intervention.*	Note: Data taken from the text when the data in the text and tables differ **Outcome: Prevalence of Alcohol Binge or Heavy Drinking** Measure: Student self-reported episode(s) of binge drinking in the past 30 days (converted to binary any/none) Baseline Int (n=1622): 46.7% Comp (n=1025): 57.0% Follow-up (in months): 4 months post baseline Int (n=456): 42.6% Comp (n=368): 50.0% **Absolute change:** +2.8 percentage points **Relative change:** +3.9%

	Control 1027 students (15 schools) 4-months post-baseline Follow-up 31.1% (824/2649) (27 schools) Int 28.1% (456/1622) (13 schools) Control 35.8% (368/1027) (14 schools) Loss to f/u 68.9% **Study Population: Adolescents** Age: 16.3 years (range: 15-19) School level: High school Grade level(s): grades 4-6, vocational Sex: 46.9% female, 53.1% male Race/ethnicity: race NR, Dutch 87.8% Non-Dutch 12.2% Other **Study population: Parents and Caregivers** All demographic information NR Parental participation in intervention 199 invited by adolescent, only 91 (45.7%) participated at baseline, and 76 (83.5%) at end of study. **Community characteristics**: NR	For students providing a parent e-mail, the parents received an invitation to a separate website. They responded to a short questionnaire and could also receive computer-tailored feedback on how to set appropriate rules concerning alcohol use and how to communicate with their child about alcohol use. ***Implementer(s)*** **School involved in intervention or School not involved:** Yes, used school computer room, but could also be done outside of school. **Intervention duration:** 1.5 months **Intervention intensity:** Number of sessions/modules: 3-5 (3 game sessions, 1 challenge offer, 1 challenge f/u session Time per session: NR Total hours: NR Booster: No **Comparison group:** Control group, computer-web assessment only (baseline and 4-month follow-up)	**Narrative results:** Control adjusted OR 0.40 (95% CI 0.18-0.83); p=0.01 Favorable (Yes/No/No effect): No effect Statistical significance: NS **Outcome: Prevalence of Alcohol Binge or Heavy Drinking (Excessive drinking episode)** Measure: Student self-reported episode of drinking 10+ drinks in session in the past week Baseline: Int (n=1622): 7.2% Comp (n=1027): 12.6% Follow-up (in months): 4 months Int (n=456): 6.1% Comp (n=368): 10.2% **Absolute change**: +1.3 percentage points **Relative change**: +5.1% **Narrative results:** There was no significant difference in excessive drinking between groups [OR=0.48, (CI: 0.18, 1.25), p=0.13] Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Frequency of Alcohol Use (Amount)** Measure: Student self-reported mean number of drinks consumed in the past week Baseline: Int (n=1622): 3.4 standard drinks Comp (n=1027): 5.1 standard drinks Follow-up (in months): 4 months post baseline Int (n=456): 3.3 standard drinks Comp (n=368): 4.6 standard drinks **Absolute change:** +0.4 standard drinks in past week **Relative change:** +7.6% **Narrative results:** B=1.82 (SE=1.39), p=0.19 Favorable (Yes/No/No effect): No effect Statistical significance: No

Author Year: Knight 2019 **Location:** USA MA (Greater Boston area) **Years for Study**: February 2015 - March 2019 **Study Design:** iRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (2 limitations)	**Setting:** Clinic **Urbanicity**: Urban **Recruitment:** Pediatric providers and pediatric patients from 3 community and 2 hospital-based practices in greater Boston area. Of those invited, 965 (87.9%) of 1098 enrolled. **Eligibility:** Patients categorized based on baseline substance use and associated risk into two cohorts: *Intervention Effect Cohort:* reporting any substance use or riding risk. *Prevention Effect Cohort*: reporting no substance use or riding risk. Excluded: practitioner determination of medical or emotional instability, inability to read English at a 3rd-grade level, or unavailability for follow-up visits **Sample size:** Baseline 869 Int 626 Baseline risk subset 148 Prevention subset 478 Control 243 Baseline risk subset 63 Prevention subset 180 *12-months post-baseline* Follow-up 79.6% (692/869) Int 80.2% (502/626) Control 78.1% (190/243) Loss to f/u 19.8% **Study Population: Adolescents** Age: 16.4 years (range: 12-18) School level: Middle and High school	**Intervention/program name:** Computer-facilitated screening and brief intervention (CSBI) **Substance(s) focused:** General Prevention **Format:** iPad/Tablet, Internet/web-based **Brief description of intervention and content**: Computer-facilitated screening and brief intervention (CSBI) clinic office system. Components included: -Tablet-based self-administered screening questionnaire with tailored (personalized) risk assessment feedback -Tablet-delivered substance use prevention content -Provider point-of-care decision support to encourage brief substance use -Provider delivered brief counseling a -Provider encourage content including a Contract for Life document to discuss and sign, and a flyer with a link to a 20-minute family-centered online educational program, Teen-Safe, on preventing adolescent substance use. ***Implementer(s)*** **School involved in intervention or School not involved:** not involved **Intervention duration:** 1 day throughout 35-month intervention period **Intervention intensity:** Number of sessions/modules: 1 Time per session: 6 to 9 mins Total hours: 15 mins Booster: No	**Outcome: Other Alcohol Use Measures** Measure: Patient self-reported time after clinic visit till next use adjusted hazard ratios for time to first post visit use of alcohol or other drugs Baseline Int (n=148): NA Comp (n=63): NA Follow-up (in months): 12 months Int (n=148): NA Comp (n=163): NA **Absolute change:** NA **Relative change:** NA **Narrative results:** Adjusted hazard ratios from Cox proportional hazards modeling: 0.69 (95% CI, 0.47-1.02) Adjusted hazard ratios <1 indicated that adolescent patients in the intervention group tended to have longer time to first use compared with adolescent patients in the control group. Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Frequency of Alcohol Binge or Heavy Drinking (Heavy episodic drinking)** Measure: Patient self-reported time after clinic visit till next heavy drinking episode Baseline: Int (n=148):NA Comp (n=63): NA Follow-up (in months): 12 months Int (n=148): NA Comp (n=63): NA **Absolute change:** NA **Relative change:** NA **Narrative results:** Adjusted hazard ratios from Cox proportional hazards modeling: 0.66 (95% CI, 0.40-1.10) for HED Favorable (Yes/No/No effect): Favorable Statistical significance: No **Outcome: Other Cannabis Use Measures**

	Grade level(s): full sample NR; subset at substance use risk Grade 9-12: 95.3% Sex: 54.0% female, 46.0% male Race/ethnicity: White 49.80% Other race or multi-race 24.2% Ethnicity Hispanic or Latino 26.1% **Study population: Parents and Caregivers** Education: 70.9% college graduates Marital status: 68.2% both parents at home All other demographics NR **Community characteristics**: NR	**Comparison group:** Usual Care, Self-administered computer screening but did not receive any other CSBI components. All practitioners received training in the CSBI, which may have affected their delivery of substance use related counseling.	Measure: Patient self-reported time after clinic visit until next cannabis use Baseline: Int (n=148): NA Comp (n=63): NA Follow-up (in months): 12 months Int (n=148): NA Comp (n=63): NA **Absolute change:** NA **Relative change:** NA **Narrative results**: Adjusted hazard ratios from Cox proportional hazards modeling: 0.62 (95% CI, 0.41-0.94) Uptake of cannabis use was slower among intervention group adolescents Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Alcohol Use Initiation** Measure: Patient self-reported time after clinic visit till next use (self-reported lifetime use) Baseline: Int (n=478): 0% by baseline no use assignment Comp (n=180): 0% by baseline no use assignment Follow-up (in months): 12 months Int (n=478): NA Comp (n=180): NA **Absolute change**: NA **Relative change:** NA **Narrative results:** Adjusted hazard ratios from Cox proportional hazards modeling: 0.87 (95% CI, 0.57-1.31) for alcohol use showed a decrease in the intervention group compared to control. Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Cannabis Use Initiation** Measure: Patient self-reported time after clinic visit until ever use Baseline:

			Int (n=478): 0% by baseline no use assignment Comp (n=180): 0% by baseline no use assignment Follow-up (in months): 12m Int (n=478): NA Comp (n=180):NA **Absolute change:** NA **Relative change**: NA **Narrative results**: Adjusted hazard ratios from Cox proportional hazards modeling: 0.76 (95% CI, 0.44-1.32) Uptake of cannabis use was slower among intervention group adolescents. Favorable (Yes/No/No effect): Yes Statistical significance: No
Author Year: Malmberg 2015 (Malmberg 2014) **Location: t**he Netherlands **Years for Study**: December 2008 – December 2011 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (3 limitations)	**Setting:** School, Online **Urbanicity**: NR **Recruitment:** Of the 123 eligible secondary schools that were invited, 23 schools including a total of 3784 adolescents agreed to participate and randomized, but only 3542 completed baseline assessment. **Eligibility:** All students included unless parents refused or terminated participation. Schools excluded if they had HSD experience in the previous 2 years and not offering a four-year education program. **Sample size:** Baseline 3542 Int 2351 E-learning 1225 (7 schools) Integral 1126 (9 schools) Control 1191 (7 schools) *32-months post-baseline* Follow-up 66.1% (2340/3542) Int 70.1% (1648/2351) E-learning 67.3% (825/1225) Integral 73.1% (823/1126) Control 58.1% (692/1191) Loss to f/u 33.9%	**Intervention/program name:** The Healthy School and Drugs (HSD) **Substance(s) focused: General** Prevention **Format:** Computer, Internet/web-based **Brief description of intervention and content:** *E-Learning Condition:* Designed to prevent (or postpone) the onset of use. Lessons aimed to increase knowledge about substances, educate on risks of substance use and prepare adolescents to cope with peer pressure via refusal skills (i.e. increasing self-efficacy). Modules: consisting of small films, animations, interactive tasks, chatrooms, and forums; covering alcohol (4 lessons), tobacco (3 lessons), and marijuana (3 lessons). Students work at their own pace during biology or counselor lessons, or in a special project week. *Integral condition:* full multi-component program: digital e-learning modules stated above, and three additional intervention components (i.e. parental participation, regulation and monitoring and counselling).	**Substance Use (**Estimated using categories 3-5 in Table 1 in Malmberg 2015 for alcohol and tobacco) **E-Modules vs Control** **Outcome: Prevalence of Alcohol Use** Measure: Prevalence of student self-reported use of alcohol (any) in the past month. Baseline: Int (n=1330): 10.3% Comp (n=1259): 10% Follow-up (in months): 32 months post baseline Int (n=825): 59.5% Comp (n=692): 52.7% **Absolute change**: +6.5 percentage points **Relative change:** 9.6% **Narrative results:** No significant effect on Logistic regression analysis adjusted for sex, age, education, ethnicity and cluster effects. p=0.288 Favorable (Yes/No/No effect): No Statistical significance: No **Outcome: Prevalence of Alcohol Binge or Heavy Drinking** (categories 2-4 in Table 1) Measure: Prevalence of student self-reported binge drinking (any) in the past month Baseline:

	Study Population: Adolescents Age: 13.0 years (range: 11 – 15) School level: Middle and High school Grade level(s): 1st grade (described as a transition year post elementary to help students determine the right education pathway) Sex: 50.6% female, 49.4% male Race/ethnicity: race NR; Dutch descent = 96% **Study population: Parents and Caregivers** NR **Community characteristics**: NR	***Implementer(s)*** ***School involved in intervention or School not involved:*** Yes, in classroom **Intervention duration:** 3 yrs E-learning = (total: 4m per year) Integral (E-learning + 3 additional items (1 in the 1st yr, and other 2 in 2nd yr) **Intervention intensity:** weekly Number of sessions/modules: E-learning = 10 lessons Integral = 13 lessons Time per session: NR Total hours: NR Booster: No **Comparison group:** Usual care, did not start any substance-related interventions during study period. Because many schools in the Netherlands have employed basic initiatives to decrease or prevent substance use, they were allowed to continue their "business-as-usual" activities.	Int (n=1330): 6.9% Comp (n=1259): 5.9% Follow-up (in months): 32 months post baseline Int (n=825): 46.2% Comp (n=692): 37.1% **Absolute change**: +8.1 percentage points **Relative change:** 6.5% **Narrative results:** No significant effect on Logistic regression analysis adjusted for sex, age, education, ethnicity and cluster effects. p-value not reported Favorable (Yes/No/No effect): No Statistical significance: No **Outcome: Prevalence of Tobacco Use** Measure: Prevalence of student self-reported current use of tobacco (occasionally or daily; categories 4 and 5 in table 1) Baseline: Int (n=1330): 4.3% Comp (n=1259): 3.9% Follow-up (in months): 32 months post baseline Int (n=825): 24.1% Comp (n=692): 17.3% **Absolute change:** +6.4 percentage points **Relative change**: +26.3% **Narrative results:** No significant effect on Logistic regression analysis adjusted for sex, age, education, ethnicity and cluster effects. p=0.746 Favorable (Yes/No/No effect): No Statistical significance: No Note: Cannabis use was only measured as lifetime use (initiation) **Full Intervention vs Control** **Outcome: Prevalence of Alcohol Use** Measure: Prevalence of student self-reported use of alcohol (any) in the past month

			Baseline: Full Int (n=1195):14.3% Comp (n=1259): 10% Follow-up (in months): 32 months post baseline Int (n=823): 52.0% Comp (n=692): 52.7% **Absolute change:** - 5.0 percentage points **Relative change:** -31.0% **Narrative results**: No significant effect on Logistic regression analysis adjusted for sex, age, education, ethnicity and cluster effects. p=0.445 Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Prevalence of Alcohol Binge or Heavy Drinking** Measure: Prevalence of student self-reported binge drinking (any) in the past month Baseline: Int (n=1330): 9.5% Comp (n=1259): 5.9% Follow-up (in months): 32 months post baseline Int (n=825): 39.3% Comp (n=692): 37.1% **Absolute change:** -1.4 percentage points **Relative change**: -34.2% **Narrative results:** No significant effect on Logistic regression analysis adjusted for sex, age, education, ethnicity and cluster effects. p-value not reported Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Prevalence of Tobacco Use** Measure: Prevalence of student self-reported current use of tobacco (occasionally or daily) Baseline: Full Int (n=1195): 5.9% Comp (n=1259): 3.9% Follow-up (in months): 32 months post baseline

			Int (n=823): 27.6% Comp (n=692): 17.3% **Absolute change:** +8.3 percentage points **Relative change:** +5.5% **Narrative results:** No significant effect on Logistic regression analysis adjusted for sex, age, education, ethnicity and cluster effects. p=0.214 Favorable (Yes/No/No effect): No Statistical significance: No Note: Cannabis use was only measured as lifetime use (initiation) **Lifetime use (initiation) rates** reported in Malmberg 2015 (Table 1) Logistic regression adjusted for sex, age, education, ethnicity and cluster effects with p-value from Table 3 in Malmberg 2014 although these subset analyses focused on never users at baseline **E-Modules vs Control** **Outcome: Alcohol Use Initiation** Measure: Prevalence of student self-reported lifetime use of alcohol (any) Baseline: Int (n=1330): 28.4% Comp (n=1259): 25.4% Follow-up (in months): 32 months post baseline Int (n=825): 78.8% Comp (n=692): 74.9% **Absolute change**: +0.9 percentage points **Relative change:** -5.9% **Narrative results:** No significant effect on Logistic regression analysis adjusted for sex, age, education, ethnicity and cluster effects. p=0.549 Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Cannabis Use Initiation**

			Measure: Prevalence of student self-reported lifetime use of marijuana (any) Baseline: Int (n=1330): 2.4% Comp (n=1259): 1.3% Follow-up (in months): 32 months post baseline Int (n=825): 18.2% Comp (n=692): 15.7% **Absolute change**: +1.4 percentage points **Relative change:** -37.2% **Narrative results:** No significant effect on Logistic regression analysis adjusted for sex, age, education, ethnicity and cluster effects. p=0.732 Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Tobacco Use Initiation** Measure: Prevalence of student self-reported lifetime use of tobacco (any) Baseline: Int (n=1330): 22.6% Comp (n=1259): 17.3% Follow-up (in months): 32 months post baseline Int (n=825): 48.4% Comp (n=692): 39.6% **Absolute change:** +3.5 percentage points **Relative change**: -6.4% **Narrative results**: No significant effect on Logistic regression analysis adjusted for sex, age, education, ethnicity and cluster effects. p=0.746 Favorable (Yes/No/No effect): No effect Statistical significance: No **Full Intervention vs Control** **Outcome: Alcohol Use Initiation** Measure: Prevalence of student self-reported lifetime use of alcohol (any) Baseline:

			Full Int (n=1195): 32.2% Comp (n=1259): 25.4% Follow-up (in months): 32 months post baseline Full Int (n=823): 74.8% Comp (n=692): 74.9% **Absolute change**: -6.9 percentage points **Relative change**: -21.2% **Narrative results:** No significant effect on Logistic regression analysis adjusted for sex, age, education, ethnicity and cluster effects. p=0.351 Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Cannabis Use Initiation** Measure: Prevalence of student self-reported lifetime use of marijuana (any) Baseline: Full Int (n=1195): 2.8% Comp (n=1259): 1.3% Follow-up (in months): 32 months post baseline Int (n=823): 20.0% Comp (n=692): 15.7% **Absolute change:** +2.8 percentage points **Relative change:** -40.9% **Narrative results:** No significant effect on Logistic regression analysis adjusted for sex, age, education, ethnicity and cluster effects. p=0.214 Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Tobacco Use Initiation** Measure: Prevalence of student self-reported lifetime use of tobacco (any) Baseline: Full Int (n=1195): 26.1% Comp (n=1259): 17.3% Follow-up (in months): 32 months post baseline Int (n=823): 49.6% Comp (n=692): 39.6% **Absolute change:** +1.2 percentage points **Relative change:** -17.0%

			Narrative results: No significant effect on Logistic regression analysis adjusted for sex, age, education, ethnicity and cluster effects. p=0.119 Favorable (Yes/No/No effect): No effect Statistical significance: No
Author Year: Martinez-Montilla 2020 (Vargas-Martínez 2019) **Location:** Spain **Years for Study**: January - June 2017 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (3 limitations)	**Setting:** School, Online, Home/Family **Urbanicity**: Urban **Recruitment:** Randomly selected public schools from each of the 8 provinces in Andalusia in Southern Spain; 37 schools were identified as eligible and contacted, 16 high schools (2 from each province) accepted, and randomized while matching intervention groups with a province. Adolescents recruited from schools through their teachers and counselors. **Eligibility:** Schools included if: (1) public secondary schools from Andalusia, (2) schools belonging to provincial capitals, and (3) schools with access to the Internet and an equipped information and communication technology room available for students. Adolescents included if: aged 15-19 years; enrolled in 4th year compulsory secondary education (CSE), 1st-year baccalaureate programs (BP), or 1st -year vocational training (VT); had Internet access at schools and in their homes. Excluded if: had language difficulties or previously done Binge Drinking prevention programs. **Sample size:** Baseline 1247 (15 schools) Int 742 (8 schools) Control 505 (7 schools) *4-months post-baseline* Follow-up 49.1% (612/1247)	**Intervention/program name:** Alerta Alcohol **Substance(s) focused:** Alcohol specific **Format:** Computer, Internet/web-based **Brief description of intervention and content:** 3 sessions featuring short stories about a main character who binge drank the night before and discusses with friends the events of the previous night. Drinking scenario took place in three settings: at home, at a celebration, and in a public place. Stories presented alongside questions aimed at reducing alcohol consumption and binge drinking (BD). Concise, direct, and tailored/personalized messages were provided to encourage participation in the intervention. E-mails were sent for 2 home sessions students had to complete, including a booster session. Final session involved completing a questionnaire at school. ***Implementer(s)*** ***School involved in intervention or School not involved:*** Yes in computer lab **Intervention duration:** 5 weeks **Intervention intensity:** weekly	**Outcome: Prevalence of Alcohol Binge or Heavy Drinking** Measure: Student self-reported binge drinking in the past 30 days Baseline Int (n=742): 40.2% Comp (n=505):37.4% Follow-up (in months): 4 months post baseline Int (n=351): 32.2% Comp (n=261): 33.0% **Absolute change**: -3.6 percentage points **Relative change:** -9.2% **Narrative results:** Adjusted OR=1.106 (95%CI 0.730-1.674) p=0.63 Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Prevalence of Alcohol Binge or Heavy Drinking (Heavy Episodic Use)** Measure: Student self-reported episodic heavy drinking in the past 30 days (10 or more drinks) Baseline: Int (n=742): 1.1% Comp (n=505): 1.6% Follow-up (in months): 4 months post baseline Int (n=351): 0.3% Comp (n=261): 2.7% **Absolute change:** -1.9 percentage points **Relative change**: -83.8% **Narrative results:** Intervention participants were significantly less likely to report episodic drinking compared to control participants [OR = 9.129 (CI: 1.107-75.259), p=0.04] Favorable (Yes/No/No effect): Yes Statistical significance: Yes

	Int 47.3% (351/742) Control 51.7% (261/505) Loss to f/u 50.9% **Study Population: Adolescents** Age: 16.3 years (range: 15 – 19) School level: High school Grade level(s): 4th year CSE, 1st year BP, and 1st year VT (equivalent to U.S. 10th, 11th, & 12th) Sex: 53.0% female, 47.0% male Race/ethnicity: race NR, Spanish: 94.7% SES: Average pocket money in euros (weekly) 10.61 intervention, 11.21 control Other family social status based on the Family Affluence Scale: Low = 2.76% Medium = 32.30% High = 64.94% **Study population: Parents and Caregivers** Education: Number of years mother in school 20.4 years (int) 22.7 years (control) Other demographics NR **Community characteristics**: NR	Number of sessions/modules: 6 Time per session: 1 hr Total hours: 6 hrs Booster: Yes **Comparison group:** Control group, assessment only	**Outcome: Frequency of Alcohol Use (Consumption)** Measure: Student self-reported mean number of drinks in the past week Baseline: Int (n=742): 1.47 (SD 3.78) standard drinks Comp (n=505): 1.42 (SD 4.96) standard drinks Follow-up (in months): 4 months post baseline Int (n=351): 1.64 (SD 3.66) Comp (n=261): 1.39 (SD 4.12) **Absolute change**: +0.2 standard drinks in the past week **Relative change:** +13.7% **Narrative results:** p=0.53 Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Alcohol Use Initiation** Measure: Students self-reporting abstinence from alcohol (no use at baseline and no use at 4m assessment) Baseline: Int (n=742): 65.5% Comp (n=505):68.5% Follow-up (in months): 4 months post baseline Int (n=351): 68.9% Comp (n=261): 65.5% **Absolute change:** +6.4 percentage points **Relative change**: +10.0% **Narrative results:** NR Favorable (Yes/No/No effect): Yes Statistical significance: No; p-value not reported **Outcome: Morbidity-Related Outcomes (Health related quality of life)** Measure: Students self-reported overall score (EQ Utility Index) on EQ-5D-5 L questionnaire Baseline:

			Int (n=742): 0.942 (0.11) Comp (n=505): 0.925 (0.15) Follow-up (in months): 4 months post baseline Int (n=349): 0.944 (0.14) Comp (n=263): 0.94 (0.13) **Absolute change:** -0.013 scale points **Relative change:** NA **Narrative results**: No significant difference between intervention and control groups (p-value NR) Favorable (Yes/No/No effect): No effect Statistical significance: No
Author Year: Murry 2019 **Location:** USA, Tennessee **Years for Study:** Summer 2009–Fall 2012 **Study Design:** iRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (2 limitations)	**Setting:** Community, Online **Urbanicity:** Rural **Recruitment:** middle schools in 5 rural counties in Tennessee provided a list of families with 6th-grade African American students. Letter mailed to parents or guardians; community liaison contracted families by phone or home visit. Of those contacted, 78% (n=550), consented to participate, and 418 randomized **Eligibility**: African American 6th graders and their primary caregivers, who speak English. County selection based on rurality, proportion of African American residents, evidence of high rates of teen pregnancy, and negative overall health indicators. **Sample size:** Baseline - 418 Int - 282 Technology-based - 141 In-person group - 141 Control- 136 *22.6 months post-baseline* Follow-up – 81% (337/418)	**Intervention/program name:** Pathways for African Americans Success (PAAS) **Substance(s) focused:** General **Format**: Computer **Brief description of interventions and content:** Adapted SAAF program for computer-based delivery based on computers usage research in local communities. Similar content in each interactive intervention: concurrent parent and adolescents' sessions, followed by joint family session. *Technology, "highway to success"*: discussion activities, customizable avatars, topics visually displayed to illustrate associations between choices and consequences. Adolescents concurrently worked 45-min on separate computers, technology intervention assistants (TIA) then escorted to parent's computer to complete 45-min family session, with 3-min questions & discuss topic for parents and children.	**Outcome: Frequency of Illicit or Other Substances as a Combined Measure** (Youth risk behavior) Measure: combined scale (Combines substance use and sexual risk) ITT analysis Technology arm (Digital arm) Baseline Int (n=141): NR Comp (n=136): NR Follow-up (in months): 22.6 months Int (n=127): NR Comp (n=108): NR **Absolute change:** NR **Relative change:** NR **Narrative results:** Significant decrease in risk behavior over time (b= -0.17; 95% CI= -0.31, -0.04) p= 0.04, in the intervention group compared to control. Favorable (Yes/No/No effect): Yes Statistical significance: Yes

	Int – 81% (229/282) Technology-based – 90.1% (127/141) In-person group- 72.3% (102/141) Control – 79% (108/136) Loss to f/u - 19% (81/418) **Study Population: Adolescents** Age: NR School level: Middle school Grade level(s): 6th Sex: 54% female, 46% male Race/ethnicity: 100% African American **Study population: Parents and Caregivers** Age: 40 years Sex: 84% female, 16% male Race/ethnicity: 100% African American Education: 87% completed high school Employment: 63% employed, 40hr/week Income: 56% income adequate to meet their needs; 14% received public assistance. Marital status: 50% single parents, 37% married Other details: 13% caregiver grandparents, 2.7 avg children per home, 50% owned their own home **Community characteristics:** rurality index scores >11 (scale of 0¼least rural to 16 or greater ¼ most rural), > 30% African American residents, > 600 African American teens in the targeted age range, teen pregnancy rates of 69%, which is 13% higher than the average for TN, and state health indicators reflect poor health determinant outcomes in TN, (include health care, health behaviors, socioeconomic factors related to health, and physical environment)	*Small in-person groups:* Group organized role-playing activities, guided discussions, & time for questions. Parent sessions - universally adaptive parenting practices, positive parenting (communication, establishing rules about risk behaviors, monitoring) and racially specific parenting. Adolescent sessions - universal (e.g., risk resistance skills and future orientation) and culturally specific content (dealing with racism). **Implementer(s)** ***School involved in intervention or School not involved:*** School not involved, implemented in community setting. **Intervention duration:** 6 weeks **Intervention intensity:** weekly Number of sessions or modules: 6 Time per session: Technology - 1.5h; In-person - 2h Total hours: Technology - 9hr; In-person - 12h Booster: No **Comparison group:** Control group, noninteractive literature; received home-mailed educational materials containing same topical content information as the weekly intervention groups	

Author Year: Nadasan 2017 **Location:** Romania **Years for Study**: November 2014- May 2015 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (4 limitations)	**Setting:** School, Online **Urbanicity**: Urban, suburban **Recruitment:** All 16 high schools in Tirgu Mures, Romania, with a total of 82 ninth grade classes. Schools randomized and 79 classes (2002 students) enrolled. **Eligibility:** Schools with at least one 9th grade class and at least 15 students per class; functional IT laboratory; and a willingness by the school principal to participate. Adolescents had to be a 9th grade student, have basic computer skills, and parental written consent. **Sample size: Baseline 2002** (16 schools) Int 1038 students (8 schools) Control 964 students (8 schools) *6-months post-baseline* Follow-up 68.4% (1369/2002) Int 65.0% (675/1038) Control 72.0% (694/964) Loss to f/u 31.6% **Study Population: Adolescents (Int)** Age: 14.9 years (range: NR) School level: High school Grade level(s): 9th Sex: 48.6% female, 51.4% male Race/ethnicity: race NR, Romanian 55%, Non-Romanian 45% Other details academic achievement: High grades: 71.0% Low grades: 29.0% **Study population: Parents and Caregivers** N/A **Community characteristics** NR	**Intervention/program name:** ASPIRA is the Romanian acronym for the translated and adapted version of ASPIRE, "A Smoking Prevention Interactive Experience," **Substance(s) focused: Tobacco** specific **Format:** Computer, Internet/web-based **Brief description of intervention and content: Designed** using the social cognitive theory and transtheoretical model of change. Includes embedded animations, videos, and interactive activities (quizzes and games) organized into 5 learning modules. Content covers smoking-related: - Basics of prevention and cessation. - Individual and social determinants - Health and financial consequences - Nicotine addiction - Impact on the environment - Strategies and techniques to quit smoking and resist urges - Managing stress, peer pressure, social temptations, and mood changes ***Implementer(s)*** **School involved in intervention or School not involved:** Yes in computer lab **Intervention duration:** 5 weeks **Intervention intensity:** Number of sessions/modules: 6 Time per session: 45 to 50 mins Total hours: 4.5-5.0 Booster: Yes	**Outcome: Prevalence of Tobacco Use** Measure: Student self-reported smoking in the past 30 days (among baseline experimenters or non-current smokers: n=369) Baseline Int (n=NR): NR Comp (n=NR): NR Follow-up (in months): 5 months post intervention Int (n=NR): NR- Comp (n=NR): NR **Absolute change:** Not reported **Relative change:** Not reported **Narrative results:** Adjusted OR=0.85 (95% CI 0.44–1.63) p<0.10 Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Tobacco Use-Initiation** Measure: Student self-reported initiation of smoking (Initiation of smoking between baseline and 6-month follow-up among never-smokers at baseline; n=707) Baseline: Int (n=NR): set at 0% Comp (n=NR): set at 0% Follow-up (in months): 5 months post intervention Int (n=NR): NR Comp (n=NR): NR **Absolute change**: Not reported **Relative change:** Not reported **Narrative results:** Adjusted OR=0.65 (95%CI 0.41–1.04), p<0.10 Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Tobacco Use Initiation (Electronic cigarettes)** Measure: Student self-reported initiation of electronic cigarette use

		Comparison group: Control group; no intervention	Baseline: Int (n=NR): set at 0% Comp (n=NR): set at 0% Follow-up (in months): 5 months post intervention Int (n=NR): NR Comp (n=NR): NR **Absolute change:** Not reported **Relative change:** Not reported **Narrative results:** Adjusted OR=0.81 (95%CI: 0.60–1.11), p-value not reported Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Tobacco Use-Initiation (Waterpipe)** Measure: Student self-reported initiation of waterpipe smoking Baseline: Int (n=NR): NR Comp (n=NR): NR Follow-up (in months): 5 months post intervention Int (n=NR): NR Comp (n=NR): NR **Absolute change:** Not reported **Relative change:** Not reported **Narrative results**: Adjusted OR= 1.17 (95%CI: 0.65–2.11), p-value not reported Favorable (Yes/No/No effect): No Statistical significance: No
Author Year: Newton 2010 **Location:** Australia **Years for Study**: March 2007 - November 2008 **Study Design:** gRCT **CG Suitability:** Greatest	**Setting:** School, Online **Urbanicity**: Urban **Recruitment:** 33 independent high schools across the larger Sydney metropolitan area approached, 10 committed schools. Of 1296 eligible students, 944 (73%) consented and were randomized, but only 764 (80.9%) completed baseline assessment. **Eligibility:** Year 8 students (13 years old) from secondary schools.	**Intervention/program name:** Climate Schools: Alcohol and Cannabis **Substance(s) focused:** Alcohol and Cannabis **Format:** Computer, Internet/web-based **Brief description of intervention and content:** Lessons divided into two parts focusing on alcohol first, then cannabis later within the same school year.	**Outcome: Frequency of Alcohol Use (Consumption)** Measure: Frequency drinking to excess on a single occasion (using the SHAHRP Patterns of Alcohol index) in past week Baseline Int (n=397): 3.55 Comp (n=367): 0.84 Follow-up (in months): 12 months Int (n=331): -0.63 Comp (n=275): 5.3 **Absolute change:** -8.64 drinks in past week

Quality of Execution (# of limitations): Fair (3 limitations)	**Sample size:** Baseline 764 Int 397 students (5 schools) Control 367 students (5 schools) *12-months post- intervention* Follow-up 79.3% (606/764) Int 83.4% (331/397) Control 74.9% (275/367) Loss to f/u 20.7% **Study Population: Adolescents** Age: 13.1 years (range: NR) School level: High school Grade level(s): Year 8 Sex: 40.0% female, 60.0% male Race/ethnicity: NR **Study population: Parents and Caregivers** N/A **Community characteristics**: no standardized measure to compare schools on socioeconomic status; but students at independent schools come predominately from high socio-economic backgrounds.	Part one: Internet-based cartoon storyline followed individually for about 15-20 minutes focusing on real-life situations involving alcohol and cannabis. Part two: Classroom activity led by teachers to reinforce cartoon content. ***Implementer(s)*** **School involved in intervention or School not involved:** Yes, in classroom **Intervention duration:** 4 months Alcohol module (Semester 1) Alcohol and cannabis module (Semester 2) **Intervention intensity:** Number of sessions/modules: 12 Time per session: 40 mins Total hours: 8hrs Booster: Yes **Comparison group:** Usual care, Usual health classes during Year 8. Except for one, all schools provided syllabus-based drug education curriculum. No control schools used computer or internet-based delivery for their programs. Programs largely followed social influence models and were based on harm-minimization strategies. Lessons focused on alcohol and cannabis varied (range: 5- 22 lessons).	**Relative change:** -102.81% **Narrative results:** At 12 months, the control group increased average weekly consumption (mean difference = 5.30 standard drinks) more than the intervention group. (mean difference = -0.63 standard drinks) (P < 0.02). Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Alcohol Binge or Heavy Drinking** Measure: Drinking to excess on a single occasion (using the SHAHRP Patterns of Alcohol index) in past week Baseline Int (n=397): NA Comp (n=NR367): NA Follow-up (in months): 12 months Int (n=331): NA Comp (n=275): NA **Absolute change:** -0.8 scale points (author reported change scores Int=0.05, Cont=0.85) **Relative change**: NA **Narrative results:** Control group increased drinking to excess (mean difference = 0.85 occasions) significantly more than the intervention group (mean difference = 0.05 occasions) (p < 0.02) Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Cannabis Use** Measure: Past week cannabis use Baseline Int (n397): 0.13 Comp (n=367): 0.04 Follow-up (in months): 12 months Int (n=331): -0.01 Comp (n=275): 0.21 **Absolute change:** -0.31 times per week

			Relative change: -101.47% **Narrative results** By 12 months, reduction in frequency of use for the intervention group (mean difference = -0.01 times/week) compared to control (mean difference = 0.21 times/week) diminished compared to 6-month follow-up (p= 0.11). Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Alcohol-Related Harms & Consequences** Measure: Mean alcohol-related harms score using the SHAHRP survey (12-items) Baseline Int (n=397): 6.86 Comp (n=367): 2.87 Follow-up (in months): 12 months Int (n=331): 3.06 Comp (n=275): 9.17 **Absolute change:** -10.11 score points **Relative change:** NA **Narrative results:** Intervention condition was not found to be a significant predictor of alcohol-related harms [p= 0.23 (intercept); p= 0.61 (slope)]. Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Cannabis-related Harms & Consequences** Measure: Cannabis harms were assessed with six questions derived from the Adolescent Cannabis Problems Questionnaire Baseline Int (n=397): 0.28 Comp (n=367): 0.19 Follow-up (in months): 12 months Int (n=331): 0 Comp (n=275): 0.12 **Absolute change:** -0.21 score points

			Relative change: NA **Narrative results:** No significant difference between intervention and control groups, p=0.37 Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Mental Health** Measure: Psychological distress 5-point Likert scale from 0 (None of the time) to 4 (All of the time). Higher score represented higher distress Baseline Int (n=397): NR Comp (n=367): NR Follow-up (in months): 12 months Int (n=331): NR Comp (n=275): NR **Absolute change:** NR **Relative change:** NR **Narrative results:** Control group continued to have significantly higher levels of psychological distress than the Climate group at the 12-month follow-up F(1,375) =5.55, p=0.02). Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Substance use School Related(truancy)** Measure: Student self-reported truancy in the last year on a 5- point Likert scale Baseline Int (n=397): NR Comp (n=367): NR Follow-up (in months): 12 months Int (n=331): NR Comp (n=275): NR **Absolute change**: NR **Relative change:** NR **Narrative results**: Control group had significantly higher levels of truancy compared to the

			intervention group at 12 months (F(1,374) = 5.47, p=0.02). Favorable (Yes/No/No effect): Yes Statistical significance: Yes
Author Year: Newton 2022 (Newton 2020/ Newton 2018) **Location:** Australia **Years for Study**: September 2011 - 2015 (original) July 2017 – December 2018 (extended follow-up) **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (2 limitations)	**Setting:** School, Online **Urbanicity**: NR **Recruitment:** 190 schools approached, only 26 (17 private, 9 public) committed and 2190 students randomized. Of these, 1712 randomized into digital related arms or control group. **Eligibility:** all year 8 students in secondary schools in New South Wales and Victoria, Australia. For extended follow-up study students had to participate in original **Sample size:** Baseline 1712 (19 schools) Int 1185 CS – 576 (6 schools) CAP – 609 (6 schools) Control 527 (7 schools) *36-months post-baseline* Follow-up 73.7% (1261/1712) Int 72.1% (854/1185) CS 64.2% (370/576) CAP 79.5% (484/609) Control 77.2% (407/527) Loss to f/u 26.3% *84-months post-baseline* Follow-up 49.8% (852/1712) Int 48.4% (574/1185) CS 56.4% (296/576) CAP 48.8% (278/609) Control 54.8% (278/527) Loss to f/u 50.2% **Study Population: Adolescents**	**Intervention/program name:** Climate Schools and Preventure (CAP) (combines Climate Schools: Alcohol and Cannabis and Preventure interventions) **Substance(s) focused:** *Climate Schools* - Alcohol and Cannabis *Preventure* - General Prevention **Format:** Computer, Internet/web-based **Brief description of intervention and content:** *CS (Climate Schools) - Alcohol and Cannabis* Universal prevention targeting use and related harms. All students received 12, 40-minute lessons: Term 1 - 6 lessons on alcohol, Term 3 - 6 on alcohol and cannabis. Includes a 20-minute online cartoon with a 20-minute teacher-led activity reinforcing content. *CAP (Climate Schools and Preventure)* Combines universal *Climate Schools* and selective *Preventure* prevention programs (for high-risk students based on Substance Use Risk Profile Scale personality subscale scores). Two 90-minute sessions (average group size ~5) led by trained facilitators focusing on psycho-educational strategies for coping with high-risk personality traits (negative thinking, anxiety sensitivity, impulsivity, sensation seeking). Include goal-setting exercises, cognitive behavioral model analysis of personal experiences, identification and challenging of problematic cognitive thoughts.	**Outcome: Prevalence of Alcohol Use** Measure: Weekly drinking (full standard drink) in past 6 months (7-day) Climate schools (CS) vs control Baseline Int (n=576): 0.2% Comp (n=527): 0.2% Follow-up (in months): 84 months Int (n=296): 31.6% Comp (n=278): 42.5% **Absolute change:** -10.9 percentage points **Relative change:** -25.65% **Narrative results**: Not significant, but lower estimated odds of weekly alcohol use in comparison to control, with a relative reduction in odds of 83% holding mean baseline levels constant OR=0.13, 95%CI 0.01 1.22, ns; b = 2.04, 95%CI -4.27 to 0.20 Favorable (Yes/No/No effect): Yes Statistical significance: No Climate Schools and Preventure (CAP) vs control Baseline Int (n=609): 1.3% Comp (n=527): 0.2% Follow-up (in months): 84 months Int (n=278): 52.8% Comp (n=278): 42.5% **Absolute change**: +9.2 percentage points **Relative change**: -80.89% **Narrative results**: Not significant, but lower estimated odds of weekly alcohol use in comparison to control, with a relative reduction in odds of 36% holding mean baseline levels constant OR=0.64, 95%CI 0.13 - 3.05 NS b = -0.45, 95%CI -2.02 to 1.12 NS Favorable (Yes/No/No effect): Yes

	Age: 13.3 years (range: 13– 14) School level: High school Grade level(s): Year 8 Sex: 42.5% female, 57.5% male Race/ethnicity: Race NR; Country of Birth = Australia 85.7%, other English speaking 7.7%, non-English speaking 6.3%, missing 0.3% Other details: High Risk vs Low Risk = 43.2% vs 56.8% **Study population: Parents and Caregivers** N/A **Community characteristics**: Private School: Overall: 74.7% CS: 56.1% CAP: 86.9% Control: 82.0%	***Implementer(s)*** **School involved in intervention or School not involved:** Yes, in classroom **Intervention duration:** 8 months **Intervention intensity:** Number of sessions/modules: CS - 12, CAP-14 Time per session: 40 mins per CS session, 40mins + 90 mins per CAP session Total hours: CS - 8hrs, CAP - 11hrs Booster: Yes **Comparison group:** Control group, Health education as usual including drug and alcohol education. Drug and alcohol education is mandatory in Year 8 health curriculum in Australia. Teachers provided details about the number and format of these lessons.	Statistical significance: No **Outcome: Prevalence of Binge or Heavy Drinking** Measure: Monthly binge drinking in past 6 months: 5 or more standard drinks on 1 occasion (%) (30-day) CS vs control Baseline Int (n=576): 1.2% Comp (n=527): 1.1% Follow-up (in months): 84 months Int (n=296): 45.2% Comp (n=278): 59.8% **Absolute change:** -14.5 percentage points **Relative change**: -30.48% **Narrative results:** Significantly lower estimated odds of monthly alcohol use in comparison to control, with a relative reduction in odds of 88% holding mean baseline levels constant (OR= 0.12, 95%CI 0.02 0.96, p< 0.05; b = - 2.08, 95%CI -4.13 to -0.04) Favorable (Yes/No/No effect): Yes Statistical significance: Yes CAP vs control Baseline Int (n=609): 1.7 % Comp (n=527): 1.1% Follow-up (in months): 84 months Int (n=278): 68.7% Comp (n=278): 59.6% **Absolute change:** +8.5 percentage points **Relative change:** +14.26% **Narrative results**: No evidence that CAP group differed from the control in how the odds of monthly binge drinking changed (OR=1.13 95%CI 0.18 7.22, NS; b = 0.12, 95%CI = -1.73 to 1.98) Favorable (Yes/No/No effect): No Statistical significance: No **Outcome: Prevalence of Cannabis Use**

			Measure: Past 6-month cannabis use CS vs control Baseline Int (n=576): 5.6% Comp (n=527): 6.1% Follow-up (in months): 36 months Int (n=NR): 11.8% Comp (n=NR): 10.8% **Absolute change:** +1.5 percentage points **Relative change**: +19.02% **Narrative results**: No significant differences in changes over time or probability of use between intervention groups at any follow-up occasion B = -0.12. The prevalence of these outcomes was lower than anticipated (OR 0.89, 95%CI = 0.40 to 1.97, p-value 0.77). Favorable (Yes/No/No effect): No Statistical significance: No CAP vs control Baseline Int (n=609): 6.3% Comp (n=527): 6.1% Follow-up (in months): 36 months Int (n=NR): 11.8% Comp (n=NR): 10.8% **Absolute change:** +0.8 percentage points **Relative change:** +5.79% **Narrative results**: B = -0.08 OR=0.93, 95%CI 0.42 to 2.03, p-value 0.85 Favorable (Yes/No/No effect): No Statistical significance: No **Outcome: Development of Substance Use Disorders** Measure: % of students with AUDIT-C scores >3, indicating potential alcohol use disorder CS vs control Baseline Int (n=576): 2.8%

			Comp (n=526): 2.1% Follow-up (in months): 84 months Int (n=250): 68% Comp (n=245): 81.2% **Absolute change**: -13.9 percentage points **Relative change:** -37.9% **Narrative results:** Relative reduction in the odds of a potential alcohol use disorder by the 7-year follow-up of 96% for Climate Schools [OR=0.04, (CI: 0.01 to 0.27), p<0.05] Favorable (Yes/No/No effect): Yes Statistical significance: Yes CAP vs control Baseline Int (n=609): 3.6% Comp (n=526): 2.1% Follow-up (in months): 84 months Int (n=233): 83.7% Comp (n=245): 81.2% **Absolute change:** +1.0 percentage points **Relative change: -**39.87% **Narrative results:** No significant differences were observed for the CAP vs control group [OR=0.79, (CI: 0.12 to 5.31) NS] Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Alcohol-Related Harms & Consequence** Measure: % of students with any alcohol-related harms in the past 6 months using the Rutgers Alcohol Problem Index (23-items) CS vs control Baseline Int (n=575): 11.3% Comp (n=526): 7.4% Follow-up (in months): 84 months Int (n=250): 72% Comp (n=244): 81.6% **Absolute change:** -13.5 percentage points

			Relative change: -42.21% **Narrative results**: Adjusted OR =0.25 (95% CI: 0.11 to 0.55), p < 0.05. Favorable (Yes/No/No effect): Yes Statistical significance: Yes CAP vs control Baseline Int (n=607): 12.7% Comp (n=526): 7.4% Follow-up (in months): 84 months Int (n=232): 77.6% Comp (n=244): 81.6% **Absolute change:** -9.3 percentage points **Relative change:** -44.58% **Narrative results**: Adjusted OR=0.33 (95% CI: 0.19 to 0.58), p < 0.05. Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Cannabis-related Harms & Consequences** Measure: Any of 6 cannabis-related school or social harms in the past 6 months CS vs control Baseline Int (n=576): 2.7% Comp (n=527): 2.7% Follow-up (in months): 36 months Int (n=NR): 5.9% Comp (n=NR): 5.7% **Absolute change**: +0.2 percentage points **Relative change**: +3.5% **Narrative results**: OR=0.996 (95%CI 0.68 to 1.45), p=0.98. No significant difference between intervention and control groups, Favorable (Yes/No/No effect): No effect Statistical significance: No CAP vs control Baseline

			Int (n=609): 4.2% Comp (n=527): 2.7% Follow-up (in months): 36 months Int (n=NR): 6.1% Comp (n=NR): 5.7% **Absolute change:** -1.1 percentage points **Relative change**: -31.2% **Narrative results**: OR=0.759 (95%CI 0.53 to 1.08), p=0.12. Intervention group had a greater reduction in any harms experienced than controls. Favorable (Yes/No/No effect): Yes Statistical significance: No
Author Year: Norman 2008 **Location:** Canada **Study Design:** iRCT **Years for Study**: NR, but during school year **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Good (1 limitations)	**Setting:** School **Urbanicity**: NR **Recruitment:** Purposeful, stratified, and modified snowball sampling from 14 secondary schools (81 classes) in the Greater Toronto Area. Schools based on size, location, and unique characteristics for diversity. Of 2210 eligible, 1528 consented, and 1402 (63.4%) provided demographics & risk profile data, but only 1389 provided baseline data and were randomized. **Eligibility:** students in grades 9-11 from 14 secondary schools in Toronto, Canada; regular access to the internet either at school or home. **Sample size:** Baseline 1389 Int 661 Non-Smokers 553 Smokers 108 Control 728 Non-Smokers 625 Smokers 103 *6-months post-baseline* Follow-up 86.5% (1201/1389)	**Intervention/program name:** The Smoking Zine **Substance(s) focused:** Tobacco specific **Format:** Internet/web-based **Brief description of intervention and content: Interactive** 5-stage website complemented by a single 60-minute class session, a paper-based journal (for recording assessment scores from the website), small group motivational interviewing (in a classroom session), interactive quizzes, self-assessments with tailored feedback, and tailored e-mails. Website: http://www.smokingzine.org ***Implementer(s)*** **School involved in intervention or School not involved:** Yes in classroom **Intervention duration:** 6 months **Intervention intensity:** Number of sessions/modules: 1 Time per session: 1 Total hours: 1 Booster: Yes	**Outcome: Prevalence of Tobacco Use** Measure: Past 30-day smoking prevalence Baseline Int (n=108): NR Comp (n=103): NR Follow-up (in months): 6 months Int (n=76): NR Comp (n=87): NR **Absolute change:** NA **Relative change:** NA **Narrative results**: No effect on cigarette use of smokers at baseline. b=0.237 (SE= .203), OR=1.267; interaction not statistically significant. Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Tobacco Use Initiation** Measure: Lifetime ever use among non-smokers Baseline (Non-smokers) Int (n=553): NR Comp (n=625): NR Follow-up (in months): 6 months (Non-smokers) Int (n=483): NR Comp (n=555): NR **Absolute change**: NA **Relative change:** NA **Narrative results**: Intervention nonsmoker participants were less likely to adopt heavy

	Int 84.6% (559/661) Non-Smokers 87.3% (483/553) Smokers 70.4% (76/108) Control 88.2% (642/728) Non-Smokers 88.8% (555/625) Smokers 84.5% (87/103) Loss to f/u 13.0% **Study Population: Adolescents** Age: years (range: NR) School level: High school Grade level(s): 9th - 11th (9th: 39%, 10th 30%, 11th 31%) Sex: 46.3% female, 53.7% male Race/ethnicity: Asian (East 16%, Central Asian 12%) Eastern European 16% More than one cultural group: 17% **Study population: Parents and Caregivers** N/A **Community characteristics**: N/A	**Comparison group:** Control group Interactive task during a single classroom session with e-mail follow-up. Group Activity: Evaluated quality of various Web sites on climate change using a tool developed by investigators. Aimed at engaging participants similarly without influencing intervention outcomes. Materials & Follow-Up: Used journals identical in appearance to those of the intervention group for task scoring. Received generic monthly e-mails about evaluating online information.	smoking behavior than controls at all follow-ups (b= 0.242(SE=.111), OR=0.785) indicates that the intervention has a protective effect over time on nonsmokers' likelihood of starting smoking, Significant at p < 0.05 Favorable (Yes/No/No effect): Yes Statistical significance: Yes
Author Year: Paz Castro 2022 **Location:** Switzerland **Years for Study**: March 2019 - September 2020 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (3 limitations)	**Setting:** School, Online **Urbanicity**: NR **Recruitment:** Secondary and upper secondary schools in the Cantons of Zurich and Argovia; 1759 students invited (89 classes), 1,473 (83.7%) were randomized **Eligibility:** Students at least 14 years with a mobile phone. If under the age of 15 years having informed parental consent **Sample size:** Baseline 1473 (89 classes) Int 750 (44 classes) Control 723 (45 classes) *18-months post-baseline*	**Intervention/program name:** SmartCoach **Substance(s) focused:** General Prevention **Format:** Smartphone, Internet/web-based, Text Messaging **Brief description of intervention and content: Web**-based feedback provided immediately after baseline assessment completed within the school classroom. Participants received 2 to 4 personalized text messages (generated and sent via fully automated system) weekly to their mobile phones. Content: interactive features, i.e., quiz questions, tasks to create individually tailored if-then behavior plans based on intentions, and message contests.	**Outcome: Prevalence of Alcohol Binge or Heavy Drinking** Measure: Student self-reported problem drinking in the past 30 days (score ≥5 on Alcohol Use Disorders Identification Test. Baseline Int (n=750): 15.2% Comp (n=723):20.7% Follow-up (in months): 18 months post baseline Int (n=750): 24.0% Comp (n=723): 28.6% **Absolute change:** +0.9 percentage points **Relative change**: +14.3% **Narrative results:** OR= 0.84 (95% CI 0.61, 1.17); p=0.32 coefficient = -0.17. Student self-reported problem drinking increased slightly more in the

	Follow-up 83.6% (1232/1473) Int 80.5% (604/750) Control 86.9% (628/723) Loss to f/u 16.4% **Study Population: Adolescents (Int)** Age: 15.4 years (range: 14 – 17) School level: secondary and upper secondary schools Grade level(s): NR Sex: 56.4% female, 43.6% male Race/ethnicity: Race NR, Ethnicity Born outside Switzerland One parent 23.1% Both parents 25.1% No immigration background 51.9% **Study population: Parents and Caregivers:** N/A **Community characteristics**: N/A	Weeks 1-7: Self-management Skills - Topics included coping with stress, emotional self-regulation, and managing anger/frustration. Weeks 8-17: Social Skills - Emphasized skills such as making/refusing unreasonable requests and socializing with new people. Weeks 18-22: Substance Use Resistance Skills -Concentrated on recognizing/resisting media influences, correcting substance use misconceptions and understanding the role of self-management/social skills in substance avoidance. ***Implementer(s)*** **School involved in intervention or School not involved:** No, only for assessments **Intervention duration:** 5.5 months **Intervention intensity:** 2-4 texts per week Number of sessions/modules: 3 Time per session: NR Total hours: NR Booster: No **Comparison group:** Control group Assessment only, received no interventions.	intervention group than in the comparison group over 18m. Favorable (Yes/No/No effect): No Statistical significance: No **Outcome: Frequency of Alcohol Use (Quantity)** Measure: Student self-reported quantity of alcohol use past 30 days (units not reported in paper) Baseline Int (n=750): 5.9 Comp (n=723):7.5 Follow-up (in months): 18 months post baseline Int (n=750): 10.4 Comp (n=723): 9.6 **Absolute change**: +2.4 units (NR) **Relative change**: +37.71 **Narrative results:** Cohen's d =0.12 (95%CI 0.01, 0.22) p=0.39 Self-reported quantity of alcohol consumed in the past 30 days was higher among intervention students at 18m follow-up Favorable (Yes/No/No effect): No Statistical significance: No **Outcome: Prevalence of Cannabis Use** Measure: Student self-reported cannabis use in the past 30 days Baseline: March 2019-March 2020 Int (n=750): 14.1% Comp (n=723): 14.2% Follow-up (in months): 18 months post baseline Int (n=750): 16.4% Comp (n=723): 24.3% **Absolute change**: -7.8 percentage points **Relative change**: -32.0% **Narrative results:** OR=0.55 (95%CI 0.39, 0.76) p<0.001; coefficient -0.60 Intervention group students self-reported cannabis use in the past 30 days at a significantly lower rate than control group students. Favorable (Yes/No/No effect): Yes

			Statistical significance: Yes **Outcome: Frequency of Cannabis Use** Measure: Student self-reported number of times used cannabis use in the past 30 days Baseline: Int (n=750): 0.77 times Comp (n=723): 0.78 times Follow-up (in months): 18 months post baseline Int (n=750): 0.89 times Comp (n=723): 1.68 times **Absolute change:** -0.77 times in past 30 days **Relative change**: -46.3% **Narrative results:** Cohen's d =-0.19 (95%CI -0.29, -0.09) p<0.001. Intervention group students self-reported times used cannabis in the past 30 days at a significantly lower rate than control group students. Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Prevalence of Tobacco use** Measure: Student self-reported tobacco smoking in the past 30 days Baseline: March 2019-March 2020 Int (n=750): 12.1% Comp (n=723):15.1% Follow-up (in months): 18 months post baseline Int (n=750): 18.4% Comp (n=723): 25.3% **Absolute change:** -3.9 percentage points **Relative change**: -9.2% **Narrative results:** OR=0.67 (95%CI 0.47, 0.96); p=0.03; coefficient =-0.39. Student self-reported smoking was significantly lower among intervention groups than controls at 18 months. Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Tobacco use (Quantity)**

			Measure: Student self-reported quantity of cigarettes smoked in the past 30 days, M (SD) Baseline: Int (n=750): 5.3 cigarettes Comp (n=723): 7.9 cigarettes Follow-up (in months): 18 months post baseline Int (n=750): 12.3 cigarettes Comp (n=723): 16.8 cigarettes **Absolute change**: -1.9 cigarettes in the past 30 days; **Relative change**: +9.1% **Narrative results:** Student self-reported number of cigarettes smoked in the past 30 days was lower among intervention groups than controls at 18 months, p=0.36. Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Morbidity-Related (Well-being)** Measure: Student self-reported well-being based on Well-Being-Index of the WHO (scores range from 0 (low well-being) to 100 (high well being) Baseline: Int (n=750): 52.9 score points Comp (n=723): 51.6 score points Follow-up (in months): 18 months post baseline Int (n=750): 52.5 score points Comp (n=723): 51.7 score points **Absolute change:** -0.5 scale points **Relative change:** NA **Narratives results:** Cohen's d =-0.03 (95%CI -0.13, 0.07) p=0.75. No significant difference between intervention and control groups. Favorable (Yes/No/No effect): No effect Statistical significance: No Outcome: Social skills outcome was evaluated but was not significantly different at 18 months

Author Year: Schinke 2009a **Location:** USA; New York City, eastern New Jersey, southern Connecticut **Years for Study:** 2006-2009 **Study Design:** iRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (3 limitations)	**Setting:** Home/Family, Online **Urbanicity:** NR (presumed mixed) **Recruitment:** Postings on craigslist.org and advertisements in newspapers, posted on buses, and broadcast on a popular New York City radio station, 1702 interested, 916 (53.8%) eligible and enrolled **Eligibility:** English speaking mother-daughter dyads; girls 11 - 13 years of age and mothers in study region; and have private access to personal computer; "mothers" included women who assumed the mother role - e.g., aunts, grandmothers, stepmothers, and legal guardians. Sample size: Baseline 916 dyads Int 458 Control 458 *24-months post-baseline* Follow-up: 90.4% (828/916) Int 90.6% (415/458) Control 90.2% (413/458) Loss to f/u 9.6% **Study Population: Adolescents** Age: mean 12.76 years (Range: 11 – 13) School level: Middle school Grade level(s): NR Sex: 100% female Race/ethnicity: Black 40.6% White 23.2% Asian 10.8% Other race 1.7% Ethnicity Latina 23.1% Other details: Grades A's 9.1%	**Intervention name:** NR **Substance(s) focused:** General prevention **Format:** Computer, CD-ROM, Internet/web-based **Brief description of interventions and content:** Computer-based intervention, informed by family interaction theory. Content: fostering parent-child attachment, supervision, and support to reduce risk factors and build protective factors. Exercises taught dyads the value of listening to each other, spending time together, understanding one another's personality, negotiating mutually agreeable decisions to problems, doing personal favors for one another, and giving each other praise and compliments. **Implementer(s):** NA ***School involved in intervention or School not involved:*** not involved **Intervention duration:** 9 weeks plus 2 annual review booster modules **Intervention intensity:** weekly Number of sessions/modules: 11 (9 + 2 boosters) Time per session: 45 minutes Total hours: 8.25 hours Booster: Yes **Comparison group:** Control group, assessment test only, no intervention.	**Outcome: Frequency of Alcohol Use** Measure: Instances of alcohol use in last 30 days Baseline Int (n=458): 0.14 (SD 0.2) Comp (n=458): 0.18 (SD 0.3) Follow-up: 24 months Int (n=415): 0.17 (SD 0.3) Comp (n=413): 0.33 (SD 0.7) **Absolute change**: -0.12 instances in 30 days **Relative change**: -33.8% **Narrative results:** F =5.20. p<0.006 Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Tobacco Use** Measure: Instances of cigarette use in last 30 days Baseline Int (n=458): 1.02 (SD 0.2) Comp (n=458): 1.04 (SD 0.3) Follow-up: 24 months Int (n=415): 1.05 (SD 0.5) Comp (n=413): 1.39 (SD 3.6) **Absolute change:** -0.32 instances in 30 days **Relative change:** -22.9% **Narrative results**: F=1.11 NS Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Frequency of Cannabis Use** Measure: Instances of marijuana use in last 30 days Baseline Int (n=458): 0.08 (SD 0.0) Comp (n=458): 0.09 (SD 0.0) Follow-up: 24 months Int (n=415): 0.1 (SD 0.1) Comp (n=413): 0.2 (SD 0.7) **Absolute change:** -0.09 instances in 30 days **Relative change:** -43.75%

	B's 42.3% C's 13.4% D's and below 5.2% **Study population: Parents (mothers) and Caregivers** Age: mean 39.9 years Sex: 100% female Race/ethnicity: NR Education: <High school 6.3% High school 9.1% Some college 28.3% A.A. or B.A. degree 42.6% Graduate degree 13.7% Employment: NR Income: NR Marital status: Family status Single parent: 43.7% Two parents: 56.3% **Community characteristics:** NR		**Narrative results**: F =4.12 p<0.016 Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Prescription Drug Misuse** Measure: Instances of prescription drug use in last 30 days Baseline Int (n=458): 0.12 (SD 0.2) Comp (n=458): 0.09 (SD 0.1) Follow-up: 24 months Int (n=415): 0.09 (SD 0.1) Comp (n=413): 0.11 (SD 0.2) **Absolute change:** -0.05 instances in 30 days **Relative change: -**38.7% **Narrative results:** F=3.58 p<0.03 Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Illicit Drug Use (Inhalants use)** Measure: Mean number of times inhalants were used in the last month (on a 5-point scale) 30 days Baseline Int (n=458): 0.04 (SD 0.3) Comp (n=458): 0.01 (SD 0.1) Follow-up: 24 months Int (n=415): 0.02 (SD 0.1) Comp (n=413): 0.03 (SD 0.2) **Absolute change:** -0.04 scale points in 30 days **Relative change:** NA **Narrative results**: F =3.72 p<0.024. At 2-year follow-up and relative to control-arm girls, intervention-arm girls reported less 30-day past use of inhalants. Favorable (Yes/No/No effect): Yes Statistical significance: Yes

Author Year: Schinke 2009b **Location:** USA; New York, New Jersey, Connecticut **Years for Study:** 2006-08 **Study Design**: iRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (3 limitations)	**Setting:** Home **Urbanicity:** NR (presumed mixed) **Recruitment:** advertisements posted online, in local newspapers, on buses, in subway trains, and broadcast the radio station, 1702 interested, 916 (53.8%) eligible and enrolled **Eligibility:** English speaking mother-daughter dyads; girls 11 - 13 years of age and mothers in study region; and have private access to personal computer; "mothers" included women who assumed the mother role - e.g., aunts, grandmothers, stepmothers, and legal guardians. Sample size: Baseline 591 dyads Int 252 Control 339 *12-months post-baseline* Follow-up: 90.0% (532/591) Int 81.3% (205/252) Control 96.5% (327/339) Loss to f/u: 10.0% **Study Population: Adolescents (Int)** Age: mean 12.64 years (Range: 11-13) School level: Middle school Grade level(s): NR Sex: 100% female Race/ethnicity: Black 38.9% White 38.9% Latina 22.2% **Study population: Parents (mothers) and Caregivers (Int)** Age: mean 41.07 years	**Intervention name**: NR **Substance(s) focused:** Smoking (cigarettes), drinking (alcohol), illicit drug use **Format:** Computer-based **Brief description of interventions and content:** Informed by family interaction theory, the program focused on fostering parent-child attachment, supervision, and support to reduce risk factors and build protective factors associated with the prevention of smoking, drinking, and illicit drug taking by adolescent girls. **Implementer(s):** ***School involved in intervention or School not involved:*** not involved **Intervention duration:** 9 weeks **Intervention intensity:** weekly Number of sessions/modules: 9 Time per session: 45 minutes Total hours: 6.75 hours Booster: No **Additional components:** $20-$30 incentives for both groups **Comparison group:** Control group, assessment test only, no intervention	**Outcome: Frequency of Alcohol Use** Measure: Instances of alcohol use in last 30 days Baseline Int (n=252): 0.15 (SD 0.17) Comp (n=339): 0.16 (SD 0.31) Follow-up: 12 months Int (n=205): 0.17 (SD 0.32) Comp (n=327): 0.31 (SD 0.61) **Absolute change:** -0.13 instances in 30 days **Relative change**: -41.5% **Narrative results:** Wald X2 =6.11 p<0.05 Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Tobacco Use** Measure: Instances of cigarette use in last 30 days Baseline Int (n=252): 0.03 (SD 0.24) Comp (n=339): 0.03 (SD 0.27) Follow-up: 12 months Int (n=205): 0.05 (SD 0.5) Comp (n=327): 0.11 (SD 1.08) **Absolute change:** -0.06 instances in 30 days **Relative change:** -54,5% **Narrative results**: Wald X2 =0.73, p-value not reported Favorable (Yes/No/No effect): Yes Statistical significance: NR **Outcome: Frequency of Cannabis Use** Measure: Instances of marijuana use in last 30 days Baseline Int (n=252): 0.08 (SD 0.01) Comp (n=339): 0.08 (SD 0.02 Follow-up: 12 months Int (n=205): 0.1 (SD 0.13) Comp (n=327): 0.2 (SD 0.65) **Absolute change:** -0.1 instances in 30 days

	Sex: 100% female Marital status: Single parent: 39.7% Two parent: 60.3% Race/ethnicity: NR Education: NR Employment: NR Income: NR Other: NR **Community characteristics:** NR		**Relative change: -**50.0% **Narrative results**: Wald X2 =6.75 p<0.01 Favorable:(Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Prescription Drug Misuse** Measure: Instances of prescription drug use in last 30 days Baseline Int (n=252): 0.21 (SD 0.96) Comp (n=339): 0.10 (SD 0.47) Follow-up: 12 months Int (n=205): 0.06 (SD 0.46) Comp (n=327): 0.17 (SD 1.58) **Absolute change:** -0.22 instances in 30 days **Relative change:** -83.2% **Narrative results**: Wald X2 =12.45 p<0.0001 Favorable (Yes/No/No effect): Yes Statistical significance: Yes
Author Year: Schwartz 2014 **Location:** Canada **Study period:** fall 2009 – fall 2012 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (3 limitations)	**Setting:** School, Online, Home/Family **Urbanicity**: NR **Recruitment:** students from 48 secondary schools in the fall of 2009 **Eligibility:** nonsmoking girls, aged 13 to 15 years, who participated in BASUS study. **Sample size:** Baseline 745 Int 310 Control 435 *6-months post-baseline* Follow-up 83.0% (618/745) Int 78.1% (242/310) Control 86.4% (376/435) Loss to f/u 17.0% **Study Population: Adolescents**	**Intervention/program name:** Supporting Tailored Approaches to Reducing Tobacco (START): Decreasing Breast Cancer Incidence **Substance(s) focused:** Tobacco specific **Format:** Computer, Internet/web-based **Brief description of intervention and content:** Images of 4 girls playfully holding bras to attract attention. Sample messaging: "Smoking affects more than your lungs" (followed by Cigarette smoke imagery) “even secondhand smoke, puts girls at risk for breast cancer at an early age.” Afterwards, suggestions for action such as “Avoid places where you and your friends are exposed to secondhand smoke. If you smoke, think about quitting. Do it for yourself and all the girls you know.”	**Outcome: Tobacco Use Initiation** Measure: Study adolescent nonsmoking girls self-reporting “tried smoking (cigarettes or roll-your-own)” on substance use survey Baseline: Int (n=239): 0% by definition Comp (n=376): 0% by definition Follow-up : 6 months intervention/baseline Int (n=239): 3.8% Comp (n=376): 3.5% **Absolute change:** +0.3 percentage points **Relative change:** +8.6% **Narrative results**: Unadjusted relative risk =1.14 (95%CI 0.48, 2.69). Favorable (Yes/No/No effect): No Statistical significance: No, p-value not reported

	Age: 14.0 years (range: 13 – 15; ages 13 (4%) 14 (34.5%) 15 (61.5%)) School level: High school Grade level(s): NR Sex: 100% female Race/ethnicity: Aboriginal 8.1% Non-Aboriginal 91.8% Other Family income Below average 5.4% Average 80.0% Above average 14.7% **Study population: Parents and Caregivers** Smoking status Smoker: 25.1% All other demographics NR **Community characteristics**: NR	***Implementer(s)*** **School involved in intervention or School not involved:** Posters included in intervention had to be placed around school **Intervention duration:** 1 day **Intervention intensity:** Number of sessions/modules: 1 Time per session: NR Total hours: NR Booster: No **Comparison group:** Control group, received a standard message from Health Canada's online library of health labels and warnings for cigarette tobacco that cigarette smoke contains carcinogenic agents.	
Author Year: Schwinn 2010a Related papers: Schinke 2010; Schinke 2004 **Location:** USA; New York City, New Jersey, Delaware **Years for Study:** NR, but lasted 7 years **Study Design**: gRCT	**Setting:** Home/Family, Community **Urbanicity:** Urban, suburban, rural **Recruitment:** 43 New York City, New Jersey and Delaware community agencies offering such services as recreation, after-school programs, and social services. Randomized by community. **Eligibility:** English speaking, consenting adolescents aged 10-12 years at community agencies with parental consent	**Intervention/program name:** NR **Substance(s) focused:** Alcohol specific **Format:** Computer, CD-ROM, internet/web-based **Brief description of interventions and content:** Computer-based intervention *Adolescent components* Program covered skills and practices for goal setting, coping, peer pressure, refusal skills, norm correcting, self-efficacy, problem solving, decision making, effective	Note: 7-year follow-up results combined intervention arms for significance testing vs control, but reported raw data separately in Table 2 **Outcome: Alcohol Use** Measure: Self-reported (mean) number of times of use in the previous 30 days Digital+ arm Baseline Int (n=162): 0.07 (SD 0.5) Comp (n=163): 0.05 (SD 0.3) Follow-up: 84 months (7-year f/u) Int (n=127): 2.51 (SE 0.6) Comp (n=139): 4.25 (SE 0.6)

CG Suitability: Greatest **Quality of Execution (# of limitations):** Fair (2 limitations)	Sample size: Baseline 513 Adolescents only 188 Adolescents–Parent 162 Control 163 *84-months post-baseline* Follow-up 3 years: overall NR Adolescents only 92.1% Adolescents-Parent arm 88.2% Control 93.3% 6 years: 80.5% (413/513) Adolescents only 80.9% (152/188) Adolescents-Parent 80.2% (130/162) Control 80.4% (131/163) 7 years 79.7% (409/513) Adolescents only 76.1% (143/188) Adolescents-Parent 78.4% (127/162) Control 97.2% (139/143) Loss to f/u 3 years: overall NR 6 years: 19.5% 7 years: 20.3% **Study Population: Adolescents (ages 10-17 years)** Age: 11.5 yrs (Range: 10-12) School level: Middle school Grade level(s): NR Sex: 51.4% female; 48.6% male Race/ethnicity: Black 54% White 11% Asian or other 5% Hispanic 30% **Study population: Parents and Caregivers** Other details: Spanish preferred language 11.5%	communication and time management. Annual Boosters: 5, 30-minute computer (CD or online) module *Parent components* Viewed videotape at home, sessions provided instruction on how youths' parents could enhance youth intervention. For example, discussions between parents and youths of skills that youths were learning, helping youths apply programmatic content, supporting youths when they avoided substance use and engaged in health-promoting activities. Annual boosters: CD or digital audio recordings via iPod with content and activities. Also, print materials in English and Spanish including 2 newsletters for parents and one 2-hour workshop. **Implementer(s):** ***School involved in intervention or School not involved:*** not involved **Intervention duration**: NR, but 6-7 years **Intervention intensity:** *Adolescents only:* Number of sessions/modules: 10 Time per session: 45 mins Total hours: 10 hours Booster: Yes *Adolescents* + parents/caregivers*:* Number of sessions/modules: 11 Time per session: 30-45 mins (+ a 2-hr parent workshop) Total hours: ~12 hours Booster: Yes	**Absolute change:** -1.76 instances in 30 days **Relative change**: -57.8% **Narrative results**: Relative to youths assigned to the control arm, those who participated in the prevention program (digital + intervention arm) reported fewer instances in the past 30-days of alcohol consumption. Favorable (Yes/No/No effect): Yes Statistical significance: NR Digital only arm Baseline Int (n=NR): 0.05 Comp (n=NR): 0.05 Follow-up: 84m Int (n=NR): 2.77 Comp (n=NR): 4.25 **Absolute change:** -1.48 instances in 30 days **Relative change:** -34.82 **Narrative results:** Relative to youths assigned to the control arm, those who participated in the digital only (CD) arm reported fewer instances in the past 30 days of alcohol consumption. Favorable (Yes/No/No effect): Yes Statistical significance: NR **Outcome: Frequency of Alcohol Binge or Heavy Drinking** Measure: Mean number of times of heavy drinking in the past month (5 drinks in row) Self-reported instances of >5 alcohol drinks in a row in the previous 30 days. Digital+ arm Baseline Int (n=162): 0.0 (SD 0.0) Comp (n=163): 0.03 (SD 0.2) Follow-up: 84 months (7-year f/u) Int (n=127): 0.76 (SE 0.5) Comp (n=139): 2.15 (SE 0.5) **Absolute change**: -1.36 instances in 30 days **Relative change:** -63.2%

	All other demographics NR **Community characteristics:** NR	**Comparison group: Control** group Assessment only, no intervention	**Narrative results:** Relative to youths assigned to the control arm, those who participated in the digital+ arm reported fewer instances in the past 30-days of binge drinking. Favorable (Yes/No/No effect): Yes Statistical significance: NR Digital only arm Baseline Int (n=): 0.09 Comp (n=): 0.03 Follow-up: 84 months (7-year f/u) Int (n=): 1.05 Comp (n=): 2.15 **Absolute change:** -1.16 instances in 30 days **Relative change:** -83.72% **Narrative results**: Relative to youths assigned to the control arm, those who participated in the digital only (CD) arm reported fewer instances in the past 30 days of alcohol consumption. Favorable (Yes/No/No effect): Yes Statistical significance: NR **Outcome: Frequency of Marijuana Use** Measure: Self-reported (mean) number of times of cannabis use in the previous 30 days Digital+ arm Baseline Int (n=162): 0.04 (SD 0.5) Comp (n=163): 0.04 (SD 0.5) Follow-up: 84 months Int (n=127): 4.68 (SE 1.1) Comp (n=139): 3.59 (SE 1.0) **Absolute change:** +1.09 instances in 30 days **Relative change:** +30.4% **Narrative results**: Marijuana use in the previous 30 days increased in the digital+ intervention arm youth compared to control youth Favorable (Yes/No/No effect): No Statistical significance: NR

			Digital only arm Baseline Int (n=NR): 0.08 Comp (n=NR): 0.05 Follow-up: 84 months Int (n=NR): 3.35 Comp (n=NR): 3.59 **Absolute change**: -0.27 instances in 30 days **Relative change**: -41.68% **Narrative results**: Marijuana use in the previous 30 days decreased in digital only arm compared to control youth. Favorable (Yes/No/No effect): Yes Statistical significance: NR **Outcome: Frequency of Tobacco Use (Cigarettes)** Measure: Self-reported (mean) number of times of use in the previous 30 days Digital+ arm Baseline Int (n=162): 0.16 (SD 2.0) Comp (n=163): 0.05 (SD 0.5) Follow-up: 84 months Int (n=127): 7.82 (SE 4.4) Comp (n=139): 20.79 (SE 4.2) **Absolute change**: -13.08 instances in 30 days **Relative change:** -88.2% **Narrative results:** Relative to youths assigned to the control arm, those who participated in the prevention program (Digital + arm) reported fewer instances of cigarette smoking. Favorable (Yes/No/No effect): Yes Statistical significance: NR Digital only arm Baseline Int (n=NR): 0.08 Comp (n=NR): 0.05 Follow-up: 84 months Int (n=NR): 7.4

			Comp (n=NR): 20.79 **Absolute change:** -13.42 instances in 30 days **Relative change:** -77.8% **Narrative results:** Seven years following postintervention testing and relative to control-arm youths - youths in digital only (CD) arm reported less cigarette use. Favorable (Yes/No/No effect): Yes Statistical significance: NR
Author Year: Schwinn 2010b **Location:** USA and Canada **Years for Study**: NR **Study Design:** iRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (3 limitations)	**Setting:** Online **Urbanicity**: Urban, suburban, rural **Recruitment:** across 42 U.S. states and 4 Canadian provinces through Kiwibox.com, an adolescent -oriented website. Solicitation emails to 13- and 14-year-old registered users of the site; 450 interested, 236 eligible and randomized. **Eligibility:** 7th - 9th graders registered users of the site. **Sample size:** Baseline 236 Int 118 Control 118 *6-months post-intervention* Follow-up 91.0% (total sample) Loss to f/u 9.0% **Study Population: Adolescents** Age: years (range: 13 – 14) School level: Middle, High school Grade level(s): 7th – 9th (60% in 9th) Sex: 100% female Race/ethnicity:	**Intervention/program name:** RealTeen **Substance(s) focused:** General Prevention **Format:** Computer, Internet/web-based **Brief description of intervention and content: Animated** character guides through content and exercises. Interactive Content: participants choose public or private sharing of responses to session questions through blogging, pen pals, forums, private diaries. Topics include goal setting, decision making, stress management, puberty, self-esteem, assertiveness, communication, media literacy, peer pressure, and drug education. Homepage Features: engaging features such as news feeds, horoscopes, beauty tips, quotes of the day, fortunes, and personal blogs, and access to pen pals and a chat forum for interactive communication.	**Outcome: Frequency of Alcohol Use** Measure: How many occasions girls used alcohol in the past 30 days. Response options ranged from 0 to 40. Baseline Int (n=118): NR Comp (n=118): NR Follow-up (in months): 6 months Int (n=NR): 0.45 Comp (n=NR): 1.08 **Absolute change**: -0.63 occasions in the last 30 days **Relative change**: -58.33% **Narrative results**: Intervention group reported an average of 0.45 occasions of alcohol use in the past month, compared to 1.08 occasions for the control group. Repeated measures ANOVA showed significant interactions over time ($F(2,380) = 6.00$ $p<0.05$). Estimated effect sizes for reduction (adjusted means scores) was 0.20. Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Cannabis Use**

	Black or African American 16.5% Asian 6.8% White 60.6% Other race 8.9% Ethnicity Hispanic or Latino 7.2% Other details: Academic performance: average letter grade between A - B Living arrangement: Mother and father 53.0% Two-parent stepfamily 15.3% Single parent 25.4% Grandparents 2.1% Foster or other 4.2% **Study population: Parents and Caregivers** NR **Community characteristics**: School Type: Public 89.4% Private, not religious 3.8% Private, religious 5.5% Don't know 1.3%	***Implementer(s)*** **School involved in intervention or School not involved:** not involved **Intervention duration:** 1.5 months **Intervention intensity:** 2 sessions per week Number of sessions/modules: 12 Time per session: 25 mins Total hours: 5 hrs Booster: Yes **Comparison group:** Control Group, Assessment only, no intervention	Measure: How many occasions girls used cannabis in the past 30 days. Response options ranged from 0 to 40. Baseline Int (n=118): NR Comp (n=118): NR Follow-up (in months): 6 months Int (n=NR): 0.04 Comp (n=NR): 0.42 **Absolute change:** -0.38 occasions in the last 30 days **Relative change:** -90.4% **Narrative results:** The intervention group reported significantly less marijuana use compared to the control group. Repeated measures ANOVA showed significant interactions over time ($F(2,380) = 4.20$ $p<0.05$). Estimated effect sizes for reduction (adjusted means scores) was 0.20. Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Tobacco Use** Measure: How many occasions girls used tobacco in the past 30 days. Response options ranged from 0 to 40. Baseline Int (n=118): NR Comp (n=118): NR Follow-up (in months): 6 months Int (n=NR): +1.57 Comp (n=NR): +1.39 **Absolute change:** +0.18 occasions in the last 30 days **Relative change**: +12.95% **Narrative results**: There was no significant difference between groups for cigarette use; both groups had similar frequencies (intervention mean = 1.57, control mean = 1.39). Intervention did not have an impact on cigarette smoking behavior, p = 0.82.

			Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Frequency of Illicit or Other Substances as a Combined Measure (Polydrug)** Measure: Mean polydrug use score (cigarettes, marijuana, cocaine, inhalants, ecstasy, methamphetamine use) in last 30 days. Baseline Int (n=118): NR Comp (n=118): NR Follow-up (in months): 6 months post-intervention Int (n=NR): 0.13 score points Comp (n=NR): 0.38 score points **Absolute change:** -0.25 scale points **Relative change**: NA **Narrative results**: Intervention group girls had lower 30-day rates of polydrug use compared to girls in the control group (F=6.85, p<0.05) Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Illicit or Other Substances as a Combined Measure** Measure: Mean total drug use score (drugs listed above for polydrug use + alcohol use in the last 30 days) Baseline Int (n=118): NR Comp (n=118): NR Follow-up (in months): 6 months post-intervention Int (n=NR): 0.33 score points Comp (n=NR): 0.68 score points **Absolute change**: -0.35 scale points **Relative change:** NA **Narrative results:** Intervention group girls had lower 30-day rates of total drug use compared to girls in the control group (F=7.70, p<0.05). Favorable (Yes/No/No effect): Yes Statistical significance: Yes

Author Year: Schwinn 2015 **Location:** USA **Years for Study**: 2014 **Study Design:** iRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (4 limitations)	**Setting:** Online **Urbanicity**: Urban, suburban, rural **Recruitment:** Via 6 Facebook ads running for 9 days during spring of 2014. **Eligibility:** 15 or 16 years, U.S. resident, identifying as gay, lesbian, bisexual, transgender, or questioning. with access to a personal computer. Must also correctly answer a five-question quiz on study procedures. **Sample size:** Baseline 236 Int 119 Control 117 *3-months post-intervention* Follow-up 84.7% (200/236) Int 81.5 % (97/119) Control 88.3% (103/117) Loss to f/u 15.3% **Study Population: Adolescents (Int)** Age: 16.1 years (range: 15 – 16) School level: High school Grade level(s): NR Sex: 49.6% female, 50.4% male, 18.3% Queer/fluid/other Sexual attractions: Same sex 39.4% Both sexes 49.5% Opposite sex 5.5% Not sure 5.6% Race/ethnicity: Black or African American 7.3% Asian 6.4% White 66.1% Other race 7.4% Ethnicity Hispanic 12.80%	**Intervention/program name:** No Name **Substance(s) focused:** General Prevention **Format:** Computer, Internet/web-based **Brief description of intervention and content:** an animated narrator guiding through content and scenarios including games, role-playing, and writing activities based on social competency skill-building and minority stress theory. Session 1: Identifying and managing stress. Session 2: Five-step decision-making guide. Session 3: Drug use rates and refusal skills. ***Implementer(s)*** **School involved in intervention or School not involved:** not involved **Intervention duration:** 1 month **Intervention intensity:** Number of sessions/modules: 3 Time per session: 14 mins Total hours: 42 mins Booster: No **Comparison group:** Control group, no details	**Outcome: Frequency of Alcohol Use** Measure: Alcohol scores range from 0 to 8 times in the past 30 days Baseline Int (n=119): 1.11 Comp (n=117): 0.73 Follow-up (in months): 3 months Int (n=97): 1.29 Comp (n=103): 1.1 **Absolute change:** -0.19 times in past 30 days **Relative change**: -22.8% **Narrative results:** No significant differences, t.(l98) = 0.66. Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Frequency of Cannabis Use** Measure: Cannabis scores range from 0 to 8 times in the past 30 days. Baseline Int (n=119): 1.72 Comp (n=117): 1.88 Follow-up (in months): 3 months Int (n=97): 1.63 Comp (n=103): 1.74 **Absolute change**: +0.05 times in past 30 days **Relative change**: +2.39% **Narrative results:** No significant differences, t.(l98) = 0.41. Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Frequency of Tobacco use** Measure: Tobacco scores range from 0 to 8 times in the past 30 days. Baseline Int (n=119): 0.87 Comp (n=117): 0.94 Follow-up (in months): 3 months

	Study population: Parents and Caregivers N/A **Community characteristics**: City type Urban 26.7% Suburban 48.6% Rural 24.7%		Int (n=97): 0.72 Comp (n=103): 0.9 **Absolute change:** -0.11 times in past 30 days **Relative change:** -13.56% **Narrative results:** No significant differences, t.(l98) = 0.59. Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Frequency of Illicit or Other Substances as a Combined Measure** Measure: Mean score for number of times using drugs in the past 30 days (Scores range from 0 to 3 times) Baseline Int (n=119): 1.15 score points Comp (n=117): 1.23 score points Follow-up (in months): 3 months Int (n=97): 1.03 score points Comp (n=103): 1.09 score points **Absolute change:** -0.26 score points **Relative change:** NA **Narrative results:** Intervention group reported less past 30-day use of other drugs compared to control group (Cohen's d= 0.34, p<0.05) Favorable (Yes/No/No effect): Yes Statistical significance: Yes
Author Year Schwinn 2019 **Location USA** (48 states, excluded Wyoming and Alaska) **Years for Study**: 2013 - 2017 **Study Design:** iRCT	**Setting:** Online **Urbanicity**: Urban, suburban, rural **Recruitment:** Via Facebook ads targeted at 13- and 14-year-old girls, leading them to the study webpage. **Eligibility**: Aged 13 or 14 years, U.S. resident, English speaker, access to a private computer with internet. **Sample size:** Baseline 788 Int 396	**Intervention/program name:** RealTeen **Substance(s) focused:** General Prevention **Format:** Computer, Internet/web-based **Brief description of intervention and content:** animated character designed as a peer model; included lessons followed by interactive exercises and quizzes. Each lesson delivered in order building on the skills taught in the previous one. New sessions became available weekly after completing	**Outcome: Frequency of Alcohol Use** Measure: Average marginal counts of past month alcohol use Baseline Int (n=396): 0.44 Comp (n=392): 0.49 Follow-up (in months): 36 months Int (n=NR): 1.29 Comp (n=NR): 1.37 **Absolute change**: -0.03 counts in the past month **Relative change**: NA **Narrative results:** Negative binomial coefficient: −0.06 (SE 0.15) A decrease in reported alcohol use

CG Suitability: Greatest **Quality of Execution (# of limitations):** Fair (2 limitations)	Control 392 *36-months post-intervention* Follow-up 92.3% (727/788) Loss to f/u 7.7% **Study Population: Adolescents (Int)** Age: 13.7 years (range: 11– 15) School level: Middle, High school Grade level(s): NR Sex: 100% female Race/ethnicity: Black or African American 24.0% White 64.0% Other race 18% Ethnicity Hispanic 15.0% Other details Academic performance: average letter grade between A - B **Study population: Parents and Caregivers** Parents' education: < 2 years of college 49% > 2 years of college 51% All other demographics NR **Community characteristics**: Geographic area: Urban 83% Rural 10% Large town 7%	the prior one. A review session to reinforce learned concepts. Topics: goal setting, decision-making, puberty, body image, stress coping, drug knowledge, and refusal skills ***Implementer(s)*** **School involved in intervention or School not involved:** not involved **Intervention duration:** 3.5 weeks **Intervention intensity:** weekly Number of sessions/modules: 9 Time per session: 15-20 mins Total hours: 2hr 15 mins to 3hrs Booster: No **Comparison group:** Control group Received no intervention, measurement-only.	in the intervention group compared to the control group Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Frequency of Alcohol Binge or Heavy Drinking** Measure: Mean binge drinking scale score (four or more drinks within a couple of hours) Baseline Int (n=396): 0.25 Comp (n=392): 0.36 Follow-up (in months): 36 months post-intervention Int (n=NR): 0.37 Comp (n=NR): 0.29 **Absolute change**: 0.19 scale points **Relative change**: NA **Narrative results**: B (SE)=0.23 (0.23) NS There was no significant difference in binge drinking between intervention and control participants. Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Frequency of Cannabis Use** Measure: Average marginal counts of past month cannabis use (range of 0 times to 70 or more times) Baseline Int (n=396): 0.88 Comp (n=392): 0.76 Follow-up (in months): 36 months Int (n=NR): 2.46 Comp (n=NR): 3.57 **Absolute change:** -1.23 counts in the past month **Relative change:** NA **Narrative results:** Intervention group reported a reduction in cannabis use compared to the control group, b= −0.37 (0.27), NS

			Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Frequency of Tobacco Use** Measure: Average marginal counts of past month tobacco use Baseline Int (n=396): 0.89 Comp (n=392):0.85 Follow-up (in months): 36 months Int (n=NR): 0.75 Comp (n=NR): 2.12 **Absolute change:** -1.41 counts in the past month **Relative change**: NA **Narrative results:** Girls in intervention group reported less use of cigarettes (B = −1.04, p = 0.007; IRR = 0.353, compared to controls. Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Tobacco Use** Average marginal counts of past month e-cigarette use Baseline Int (n=396): 0.59 Comp (n=392): 0.67 Follow-up (in months): 36 months Int (n=NR): 0.22 Comp (n=NR): 1.49 **Absolute change:** -1.19 counts in the past month **Relative change**: NA **Narrative results:** Girls in intervention group had decreased e-cigarettes use (B = −1.92, p < 0.001; IRR = 0.146), compared to controls Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Illicit or Other Substances as a Combined Measure**

			Measure: Average marginal counts of past-month drug use (Range of 0 times to 71 or more times using drugs in the last 30 days) Baseline Int (n=396): 0.97 Comp (n=392): 1.02 Follow-up (in months): 36 months Int (n=NR): 0.21 Comp (n=NR): 0.31 Absolute change: -0.10 scale points Relative change: Narrative results: The intervention had no impact on past month drug use (B=-0.40, NS) B (SE) = −0.40 (0.35) NS Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Anxiety Symptoms** Measure: Past 30 day, 5-point Likert-scaled items extent to which they were bothered (Not at all = 0) Baseline Int (n=396): 1.55 Comp (n=392): 1.6 Follow-up (in months): 36 months post-intervention Int (n=NR): 1.52 Comp (n=NR): 1.7 **Absolute change:** -0.13 scale points **Relative change:** NA **Narrative results:** Regression coefficient: B = -0.18, p = 0.033. Reductions in anxiety reported by the intervention group. Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Depression Symptoms** Measure: Past 30 day, 5-point Likert-scaled items extent to which they were bothered (Not at all = 0) Baseline

			Int (n=396): 1.79 Comp (n=392): 1.9 Follow-up (in months): 36 months post-intervention Int (n=NR): 1.73 Comp (n=NR): 1.78 **Absolute change:** +0.06 scale points **Relative change:** NA **Narrative results**: Regression coefficient: B = -0.18, p = .542) No significant difference between the intervention and control groups. Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Perceived Stress** Measure: Past 30 day, 4-item index score Degree to which their life situations were unpredictable, uncontrollable, and stressful during the past month (Never = 0, All the time = 3). Baseline Int (n=396): 1.53 Comp (n=392): 1.6 Follow-up (in months): 36 months post-intervention Int (n=NR): 1.99 Comp (n=NR): 2.13 **Absolute change**: -0.07 scale points **Relative change:** NA **Narrative results**: Compared to girls in the control arm, girls in the intervention arm reported lower rates in perceived stress, b = -0.12, p = 0.042. Favorable (Yes/No/No effect): Yes Statistical significance: Yes
Author Year Schwinn 2021 **Location USA** (31 states and Puerto Rico)	**Setting:** Online **Urbanicity**: NR **Recruitment:** Hispanic youth from 86% Hispanic-affiliated youth service agencies community organizations, 6% schools, 7% online ads) directed to study site;	**Intervention/program name:** Vamos **Substance(s) focused:** General Prevention **Format:** Smartphone, Apps **Brief description of intervention and content: prevention** program sessions via a	**Outcome: Frequency of Alcohol Use** Measure: Marginal estimate means of past-month alcohol use ranged from 0 times to 71 or more times in the last 30 days Baseline Int (n=321): 0.28 Comp (n=323): 0.19

Years for Study: NR **Study Design:** iRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Good (1 limitations)	3496 contacted and 1408 assessed for eligibility. Of these 678 (48.2%) eligible, consenting, and randomized, and 644 providing baseline data. **Eligibility:** Hispanic, proficient in English, ages 12-15 years, access to a smartphone. **Sample size:** Baseline 644 Int 321 Control 323 *36-months post- intervention* Follow-up 88.8% (572/644) Int 94.4% (303/321) Control 83.3% (269/323) Loss to f/u 11.2% **Study Population: Adolescents (Int)** Age: 14.1 years (range: 12– 15) School level: Middle, High school Grade level(s): NR Sex: 60.6% female, 39.4% male Race/ethnicity: Black or African American 17.4% White 64.2% Other race 18.3% Ethnicity Hispanic 100% Other details Living arrangement Mother and father 64.4% Single parent 27.8% Grandparents; others 7.9% Language spoken at home Spanish only/mostly Spanish 35.4% Spanish and English equally 30.1% English only/mostly English 34.5% **Study population: Parents and Caregivers** Parental education:	smartphone app, completed sequentially. Topics: refusing offers to use drugs, goal setting, media literacy, coping, managing mood (anxiety, sadness, and anger), and self-efficacy ***Implementer(s)*** **School involved in intervention or School not involved:** not involved **Intervention duration:** 2.5 months **Intervention intensity:** weekly Number of sessions/modules: 10 Time per session: 15 mins Total hours: 2.5 hours Booster: Yes **Comparison group:** Control group, measurement-only	Follow-up (in months): 36 months post-intervention Int (n=303): 2.43 Comp (n=269): 2.23 **Absolute change**: +0.11mean use **Relative change:** NA **Narrative results:** Past-month use of alcohol increased less among youth in the intervention arm compared with youth in the control arm only from baseline to 2-year follow-up (OR = 0.47, 95% CI [0.23, 0.99], p < .05) and from baseline to 3-year follow-up (OR = 0.60, 95% [CI 0.29, 1.24], NS). Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Frequency of Cannabis Use** Measure: Marginal estimate means of tobacco use ranged from 0 to 71 or more times in the past 30 days Baseline Int (n=321): 0.64 Comp (n=323): 0.5 Follow-up (in months):36 months post-intervention Int (n=303): 2.81 Comp (n=269): 2.86 **Absolute change:** -0.19 mean use **Relative change**: NA **Narrative results**: Past month use of cannabis increased less in the intervention group than control (OR = 0.27, 95% CI [0.09, 0.80], p < 0.05). Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Frequency of Tobacco Use** Measure: Marginal estimate means of past-month tobacco use ranged from 0 times to 71 or more times in the last 30 days Baseline Int (n=321): 0.02

	<2 years of college 63.4% >2 years of college 36.6% All other demographics NR **Community characteristics**: NR		Comp (n=323): 0.02 Follow-up (in months): 36 months post-intervention Int (n=303): 2.47 Comp (n=269): 2.13 **Absolute change:** +0.34 mean use **Relative change:** NA **Narrative results:** Past month use of tobacco increased more in the intervention group than control [OR = 1.82 (CI: 0.36, 9.19), NS]. There was no significant difference in tobacco use between the intervention and control groups. Favorable (Yes/No/No effect): No Statistical significance: No **Outcome: Frequency of Illicit or Other Substances as a Combined Measure** Measure: Polydrug use scale score (use of two or more drugs in the past month) Baseline Int (n=321): 0.7 Comp (n=323): 0.3 Follow-up (in months): 36 months post-intervention Int (n=303): 1.56 Comp (n=269): 1.51 **Absolute change:** -0.35 scale points **Relative change:** NA **Narrative results:** Intervention group adolescents reported a lesser increase in past month polydrug use at 3 years compared to control group adolescents. [OR = 0.55, (CI: 0.32 to 0.93), p<.05] Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Anxiety Symptoms** Measure: Past 30 day, scaled mean range: 0 = not at all to 3 = all the time. Higher scores unfavorable Baseline Int (n=NR): 0.88

			Comp (n=NR): 0.61 Follow-up (in months): 36m post-intervention Int (n=NR): 0.79 Comp (n=NR): 0.94 **Absolute change:** -0.42 scale points **Relative change:** NA **Narrative results:** At follow-up, mean anxiety score decreased in intervention group, while it increased in the control group (F(1, 536)= 1.07) NS). Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Depression Symptoms** Measure: Past 30 day, scaled mean range: 0 = not at all to 3 = all the time Baseline Int (n=NR): 0.99 Comp (n=NR): 0.75 Follow-up (in months): 36 months post-intervention Int (n=NR): 0.96 Comp (n=NR): 1.03 **Absolute change**: -0.31 scale points **Relative change:** NA **Narrative results**: At follow-up. intervention group decreased, while it increased slightly in the control group. (F(1, 536) = 0.45 NS). Favorable (Yes/No/No effect): Yes Statistical significance: No
Author Year: Slade 2023 **Location: Australia** (New South Wales and Queensland) **Study period:** 2018 – 2020	**Setting:** School, Online, Home/Family **Urbanicity**: NR **Recruitment**: 156 Australian secondary schools approached, 12 schools randomized - 11 in New South Wales and 1 in Queensland, including 6 Catholic and 6 Independent schools. Of 1008 students-parent dyads, 626 assigned to intervention and 362 to control but baseline data only for 247 students (29	**Intervention/program name:** Climate Schools Plus **Substance(s) focused:** Alcohol and Cannabis **Format:** Computer, Internet/web-based **Brief description of intervention and content:** Universal prevention program focusing on providing accurate substance	**Outcome: Prevalence of Alcohol Use** Measure: Whether the student had one or more standard alcoholic drinks (yes/no). Baseline Int (n=247): 5.9% Comp (n=315): 9.6% Follow-up: 24 months Int (n=239: 20.7% Comp (n=311): 33.2% **Absolute change:** -8.80 percentage points

Study Design: gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (2 limitations)	parents) in the intervention and 215 students (39 parents) in control. **Eligibility:** Year 8 students aged 12-14 from participating secondary schools. **Sample size:** Baseline 572 (78 parents) 12 schools Int 247 (29 parents) 6 schools Control 315 (49 parents) 6 schools *24-months post-baseline* Follow-up 62.2% (356/572) Int 61.5% (152/247) Adolescents 61.5% (152/247) Parents 6.9% (2/29) Control 64.8% (204/315) Adolescents 64.8% (204/315) Parents 7.6% (29/49) Loss to f/u 37.8% **Study Population: Adolescents** Age: 13.5 years (range: 12 – 14) School level: High school Grade level(s): Year 8 and Year 9 Sex: 58.7% female, 41.3% male, 0.3% non-binary/gender fluid, 0.2% different identity, 0.9% missing Race/ethnicity: Race NR, Country of Birth Australia 90.6% Other English Speaking 2.7% Non-English Speaking 6.7% Missing 1.4% **Study population: Parents and Caregivers** Age: 47.2 years Average Sex: 80.8% female, 19.2% male Race/ethnicity: Race NR, Country of Birth Australia 85.1% Other English Speaking 4.5% Non-English Speaking 10.4%	use information, normative context, and resistance skills development to reduce alcohol and cannabis use/harms. Students complete an internet-based cartoon storyline individually. Optional class activities led by teachers to reinforce cartoon content through role-plays and discussions. -Year 8: 6 lessons on alcohol -Year 9: 6 lessons on alcohol and cannabis *Parent Component:* Designed to reinforce messaging about adolescent normative use targeting modifiable parental factors associated with adolescent substance use: communication, monitoring, rule-setting, attitudes towards alcohol, supply of alcohol, and parental modeling. Includes webinars on adolescent substance use prevention roles for parents. Online alcohol rule-ranking exercise for collective understanding of prevention roles. Series of brief online modules covering topics about alcohol/cannabis use and parenting strategies/communication. ***Implementer(s)*** **School involved in intervention or School not involved:** Yes, in classroom **Intervention duration:** 24 months **Intervention intensity:** Number of sessions/modules: 12 Time per session: 40 mins Total hours: 8 hrs. Booster: Yes **Comparison group:** Usual care,	**Relative change**: +1.45% **Narrative results**: Both groups saw an increase, but more control group students reported having at least one standard alcoholic drink compared to intervention group students at 24-month follow-ups, NS. Group x Time Interaction: B = -0.22, p = 0.451, OR = 0.80, 95% CI [0.45, 1.43]. Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Prevalence of Binge or Heavy Drinking** Measure: Whether the student consumed five or more standard drinks on one or more occasions (yes/no) over the past year. Baseline Int (n=247): 0.8% Comp (n=315): 1.6% Follow-up: 24 months Int (n=239): 6.2% Comp (n=311): 11.9% **Absolute change**: -4.9 percentage points **Relative change**: NR **Narrative results:** Both groups increased, but more control group students reported engaging in heavy episodic drinking compared to intervention group students at 24-month follow-ups. NS Group x Time Interaction: (B = -0.64, p=0.375, OR = 0.53, 95% CI [0.13, 2.16]). Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Alcohol-Related Harms & Consequences** Measure: % of students reporting alcohol-related harms using the 23-item Rutgers Alcohol Problem Index Baseline Int (n=NR): 13.9% Comp (n=NR): 17.3% Follow-up: 24 months post-baseline

	All other demographics NR **Community characteristics**: School Type: Independent 23.5 %	Regular Personal Development, Health, and Physical Education (PDHPE) alcohol and other drug lessons	Int (n=NR): 22.5% Comp (n=NR): 23.6% **Absolute change:** +2.3 percentage points **Relative change:** +18.6% **Narrative results:** Adjusted OR=1.01 (95%CI 0.67 to 1.52), p=0.96. No significant group differences in the change in alcohol-related harm over time. Favorable (Yes/No/No effect): No effect Statistical significance: No
Author Year: Teesson 2024 (Teesson 2020) **Location:** Australia (New South Wales, Western Australia, and Queensland) **Years for Study**: Sept 2013-Dec 2016 (original study) Aug 2018 - July 2021 (extended study) **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (3 limitations)	**Setting:** School, Online **Urbanicity**: NR **Recruitment:** Original study invited 556 schools to participate, only 88 secondary schools (12391 pupils) in three Australian states recruited 6386 students (71 schools) randomized into 4 arms, of which only 2 arms included digital substance use interventions and 1 arm is a control. Extended study invited 30-month follow-up participants from original trial. **Eligibility:** All 13-14 years pupils from participating schools in year 8 (New South Wales or Western Australia) & year 9 (Queensland). For extended study had to have participant in original study and provided 30-month follow-up data. **Sample size:** Baseline 4792 (53 schools) Int 3236 (34 schools) CSSU 1739 students (18 schools) CSC 1497 students (16 schools) Control 1556 students (19 schools) *72-months post-baseline* Follow-up 26.8% (1105/4128) Int 29.1% (794/2727) CSSC: 26.4% (394/1495) CSC: 32.5% (400/1232)	**Intervention/program name:** Arm 1 - Climate Schools-Substance Use (CSSU) Arm 2 - Climate Schools-Combined (CSC) **Substance(s) focused:** General Prevention **Format:** Internet/web-based **Brief description of intervention and content: online** peer cartoon storyboards and classroom activities. Target areas: alcohol, cannabis, anxiety, and depression *CSSU* Universal substance use course for Year 8 students (Year 9 in Queensland) during health education classes; 12 lessons, each 40 minutes aimed at reducing alcohol and cannabis use/harms. *CSC* Sequential delivery of CSSU program in one year and *Climate Schools–Mental Health (CSMH) program* in the following year. CSMH program included universal mental health course for Year 9 students (Year 10 in Queensland) during health education classes. 6 lessons, each 40 mins aimed at reducing anxiety and depression.	**Outcome: Prevalence of Alcohol Use** Measure: Prevalence of alcohol use (drinking) weekly CSSU vs control Baseline Int (n=1739): 0.6% Comp (n=1556): 0.5% Follow-up (in months): 72 months Int (n=NR): 29.4% Comp (n=NR): 31.5% **Absolute change:** -2.2 percentage points **Relative change**: -22.2% **Narrative results:** NR Favorable (Yes/No/No effect): Yes Statistical significance: NR CSC vs control Baseline Int (n=1497): 0.5% Comp (n=1556): 0.5% Follow-up (in months): 72 months Int (n=NR): 27% Comp (n=NR): 31.5% **Absolute change:** -4.5 percentage points **Relative change:** -14.28% **Narrative results:** There was significantly slower year-by-year growth in weekly drinking in the CSC group than in the control group (0.78 [0·66-0.92]; p=0·0028). Favorable (Yes/No/No effect): Yes

	Control 22.2% (311/1401) *30 months post-baseline* Follow-up 67.2% (3218/4792) Int 66.1% (2140/3236) CSSC: 66.1% (1151/1739) CSC: 66.1% (989/1497) Control 69.3% (1078/1556) Loss to f/u 72-months 73.2% 30 months 32.8% **Study Population: Adolescents (int)** Age: 13.5 years (range: 13-14) School level: Middle, High school Grade level(s): Years 8 and 9 Sex: CSSU - 44.8% female, 55.2% male CSC - 47.9% female, 52.1% male Race/ethnicity: NR Other **Study population: Parents and Caregivers** NR **Community characteristics**: School ICSEA*: generally, schools located in areas of above average SES CSSU - 1060 (96) CSC -1040 (84) Control - 1044 (87) * ICSEA=Index of Community Socio-Educational Advantage. The mean ICSEA in Australia is 1000 (SD 100).	***Implementer(s)*** **School involved in intervention or School not involved:** Yes, in classroom **Intervention duration:** CSSU 12m, CSC 24m **Intervention intensity:** weekly Number of sessions/modules: CSSU 12, CSC 18 Time per session: 40mins Total hours: CSSU 8hrs CSC 12hrs Booster: Yes **Comparison group:** Control group, standard health drug education curriculum, including lessons on alcohol, drugs, and mental health during school hours.	Statistical significance: Yes **Outcome: Prevalence of Binge or Heavy Drinking** Measure: % of participants reporting monthly heavy episodic drinking (5 or more drinks) (past 30 days) CSSU vs control Baseline Int (n=1739): 0.9 % Comp (n=1556): 0.4% Follow-up (in months): 72 months Int (n=NR): 38.8% Comp (n=NR): 39.5% **Absolute change:** -1.2 percentage points **Relative change:** NA **Narrative results:** NR Favorable (Yes/No/No effect): Yes Statistical significance: NR CSC vs control Baseline Int (n=1497): 1.6% Comp (n=1556): 0.4% Follow-up (in months): 72 months Int (n=NR): 36% Comp (n=NR): 39.5% **Absolute change**: -4.7 percentage points **Relative change:** NA **Narrative results:** There was a significantly slower growth in the CSC group than in the control group OR=0.69 [0.58-0.81]; p<0.0001), Odds of drinking and heavy episodic drinking increased less over time in the combined group compared to the control at later time points. Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Prevalence of Cannabis Use** Measure: Past 30-day cannabis use CSSU vs control

			Baseline Int (n=1739): 0.4% Comp (n=1556): 0.3% Follow-up (in months): 72 months Int (n=NR): 13.2% Comp (n=NR): 10.7% **Absolute change:** +2.4 percentage points **Relative change:** +22.4% **Narrative results:** NR Favorable (Yes/No/No effect): No Statistical significance: NR CSC vs control Baseline Int (n=1497): 0.8% Comp (n=1556): 0.3% Follow-up (in months): 72 months Int (n=NR): 12.3% Comp (n=NR): 10.7% **Absolute change:** +1.1 percentage points **Relative change:** +10.3% **Narrative results**: OR=0.85 95%CI 0.66-1.08) Favorable (Yes/No/No effect): No Statistical significance: No **Outcome: Development of Substance Use Disorders (Cannabis)** Measure: Symptoms of cannabis use disorder based on 16-item symptom checklist from DSM-5 CSSU vs control Baseline Int (n=NR): NR Comp (n=NR): NR Follow-up (in months): 60-72 months post-baseline Int (n=NR): 6.6% Comp (n=NR): 5.7% **Absolute change:** +0.9 percentage points **Relative change***:* +15.8% **Narrative results:** NR Favorable (Yes/No/No effect): No effect

			Statistical significance: NR CSC vs control Baseline Int (n=NR): NR Comp (n=NR): NR Follow-up (in months): 60-72 months post-baseline Int (n=362): 9.4% Comp (n=461): 5.7% **Absolute change:** +3.7 percentage points **Relative change**: +64.9% **Narrative results:** Adjusted OR 1.64 (0.84–3.19), p=0.15 Favorable (Yes/No/No effect): No Statistical significance: No **Outcome: Development of Substance Use Disorders (Alcohol)** Measure: Symptoms of alcohol use disorder based on DSM-5 checklist CSSU vs control Baseline Int (n=NR): NR Comp (n=NR): NR Follow-up (in months): 60-72 months post-baseline Int (n=364): 29.7% Comp (n=491): 30.4% **Absolute change:** -0.7 percentage points **Relative change**: -2.3% **Narrative results:** NR Favorable (Yes/No/No effect): No effect Statistical significance: NR CSC vs control Baseline Int (n=NR): NR Comp (n=NR): NR Follow-up (in months): 60-72 months post-baseline

			Int (n=364): NR Comp (n=491): NR **Absolute change**: NR **Relative change:** NR **Narrative results:** Adjusted OR 1.15 (0.77–1.73), p=0.50 There was little evidence of group differences in the likelihood of a DSM-5 diagnosis of alcohol use disorder from 60-month to 72-month follow-up. Favorable (Yes/No/No effect): No Statistical significance: No **Outcomes: Anxiety Symptoms** Measure: Anxiety symptoms score 10 or more in the past 2 weeks based on 21-item Generalized Anxiety Disorder Scale (GAD-7) CSSU vs control Baseline Int (n=NR): 10.1% Comp (n=NR): 10.9% Follow-up (in months): 30 and 72 months Int (n=NR): 30m: 14.2%, 72m: 17.1% Comp (n=NR): 30m: 15.4%, 72m: 22.2% **Absolute change**: 30m: -0.4 pct pts, 72m: -4.3 pct pts **Relative change**: 30m: -0.5%, 72m: -16.9% **Narrative results:** 30 months: No effect between intervention and control groups 72 months: Intervention group reported fewer anxiety symptoms than control Favorable (Yes/No/No effect): 30m: No effect, 72m: Yes Statistical significance: 30m: NR, 72m: NR CSC vs control Baseline Int (n=NR): 9.7% Comp (n=NR): 10.9% Follow-up (in months): 30 and 72 months Int (n=NR): 30m: 11.4%, 72m: 20.6% Comp (n=NR): 30m: 15.4%, 72m: 22.2%

			Absolute change: 30m: -2.8 pct pts, 72m: -0.4 pct pts **Relative change:** 30m: -16.8%, 72m: +4.3% **Narrative results**: 30 months: Intervention group reported fewer anxiety symptoms than control. 72 months: No effect between intervention and control groups Favorable (Yes/No/No effect): 30m: Yes, 72m: No effect Statistical significance: 30m: NR, 72m: NR **Outcome: Depression Symptoms** Measure: Past 2-weeks, Probable depressive disorder (yes or no) based on symptoms of depressive on 8 items Patient Health Questionnaire (PHQ-8). Scoring less than 10 on PHQ-8, coded as no; Scoring 10 or above coded as yes. CSSU vs control Baseline Int (n=NR):: 13.6% Comp (n=NR): : 15.0% Follow-up (in months): 30 and 72 months Int (n=NR): 30m: 18.5%, 72m: 29.7% Comp (n=NR): 30:m 19.6%, 72m: 29.6% **Absolute change:** 30m: +0.3 pct pts, 72m: +0.7 pct pts **Relative change:** 30m: +4.1%, 72m: +4.5% **Narrative results**: 30 months: No effect between intervention and control groups at either follow up 72 months: No effect between intervention and control groups at either follow up Favorable (Yes/No/No effect): 30m: No effect, 72m: No effect Statistical significance: 30m: NR, 72m: NR CSC vs control Baseline Int (n=NR): 14.4% Comp (n=NR):15.0% Follow-up (in months): 30 and 72 months

			Int (n=NR): 30m: 15.2%, 72m: 29.7% Comp (n=NR): 30m: 19.6%, 72m: 29.6% **Absolute change:** 30m: -3.8 pct pts, 72m: +0.7pct pts **Relative change:** 30m; -19.2 %, 72m: +4.5% **Narrative results:** 30 months: Intervention group showed less anxiety symptoms than control. 72 months: No effect between intervention and control groups Favorable (Yes/No/No effect): 30m: Yes, 72m: No effect Statistical significance: 30m:NR, 72m: NR
Author Year: Vallentin-Holbech 2018 **Location:** Denmark **(**Southern Denmark) **Years for Study**: February 2015 - August 2016 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (2 limitations)	**Setting:** School **Urbanicity**: NR **Recruitment:** 135 public schools within the region of Southern Denmark assessed, 46 randomized but only 38 eligible (3580 students). Of these, 2325 (64.9%) students provided baseline data. **Eligibility:** grades 8 and 9 (aged 13-17 years) recommended by school principal or teachers **Sample size:** Baseline 2325 (38 schools) Int 1141 (18 schools) Control 1184 (20 schools) *3-months post-baseline* Follow-up 58.3% (1355/2325) Int 56.2% (641/1141) Control 60.3% (714/1184) Loss to f/u 41.7% **Study Population: Adolescents** Age: 51.8% 15 years (range: 13-17) School level: High school Grade level(s): 8th and 9th Sex: 54.0% female, 46.0% male Race/ethnicity: NR Other details:	**Intervention/program name:** The GOOD Life **Substance(s) focused:** Alcohol specific **Format:** Computer, Smartphone, Internet/web-based **Brief description of intervention and content: normative** feedback specific to each school grade, using three communication channels: classroom sessions, posters, and a web application. Student Response System used for an anonymous quiz to show perceived vs. actual norms with 4–5 messages included in a single classroom activity. Classroom Sessions: 40-minute session led by the research team, introducing social norms and their impact on adolescents. Posters: 4–6 posters displayed around schools for ongoing exposure to social norms messages ***Implementer(s)*** **School involved in intervention or School not involved:** Yes in classroom **Intervention duration:** 2 months	**Outcome: Prevalence of Alcohol use Binge or heavy drinking** Measure: % of students reporting binge drinking in the last 30 days Baseline Int (n=1141): 23.3% Comp (n=1184): 24.4% Follow-up (in months): 3 months Int (n=641): 30.3% Comp (n=714): 28.2% **Absolute change:** +3.2 percentage points **Relative change:** +12.5% **Narrative results:** NR Favorable (Yes/No/No effect): No Statistical significance: NR **Outcome: Alcohol-Related Harms & Consequences** Measure: % of students reporting two or more alcohol-related harms using a summary measure based on a scale used in the SNIPE study Baseline Int (n=1141): 20.5% Comp (n=1184): 15.3% Follow-up (in months): 3 months Int (n=641): 31.0% Comp (n=714): 38.0% **Absolute change**: -12.2 percentage points

	SES: 58.6% perceived family affluence above average **Study population:** Parents and Caregivers N/R **Community characteristics**: NR	**Intervention intensity:** Number of sessions/modules: 3 Time per session: 45-60 mins Total hours: 2hrs 15 mins Booster: No **Comparison group:** Control group assessment only	**Relative change:** -39.1% **Narrative results**: Adjusted OR=0.59 (95% 0.37 to 0.93), p=0.024. Significant intervention effect for two or more alcohol-related harms. Favorable (Yes/No/No effect): Yes Statistical significance: Yes
Author Year: Velicer 2013 **Location:** USA, Rhode Island Study period: 2007 - 2011 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (4 limitations)	**Setting:** School **Urbanicity**: NR **Recruitment:** 58 (11312 students) public middle schools in Rhode Island approached, and only 20 (4158 students) eligible and randomized **Eligibility:** English speaking 6th grade middle school students. Exclusions: schools with only 7th and 8th graders, or requiring active consent or declining to participate **Sample size:** Baseline 4158 (20 schools) Int 1974 (10 schools) Control 2184 (10 schools) *36-months post-baseline* Follow-up 71.7% (2983/4158) Int 71.1% (1404/1974) Control 72.3% (1579/2184) Loss to f/u 28.3% **Study Population: Adolescents (int)** Age: 11.41 years School level: Middle school Grade level(s): 6th Sex: 47.7% female, 52.3% male Race/ethnicity: Black or African American 4.60% Asian 2.60%	**Intervention/program name:** No name **Substance(s) focused:** General Prevention and Tobacco and Alcohol **Format:** Computer-based **Brief description of intervention and content:** in-class computerized sessions to reduce tobacco and alcohol use among adolescents; includes a cessation component for smokers based on transtheoretical model (TTM) Start of 6th grade: 1st session 7th grade: 3 sessions about 2 months apart Start of 8th grade: last session ***Implementer(s)*** **School involved in intervention or School not involved:** Yes, in classroom **Intervention duration:** 36 months **Intervention intensity:** Number of sessions/modules:5 Time per session: 30 mins Total hours: 2hrs 30 mins Booster: No **Comparison group:** Control group,	**Outcome: Alcohol Use Initiation** Measure: Never drinkers and experimental drinkers were asked subsequent questions to determine their stage of drinking acquisition Baseline Int (n2184): 2,2% Comp (n=1974: 2.0% Follow-up (in months): 36 months Int (n=1579): 14.4% Comp (n=1404): 10.1% **Absolute change:** +4.1 percentage points **Relative change:** +29.6% **Narrative results:** The Energy Balance group (control) had significantly lower rates of alcohol acquisition compared to the substance use prevention group, p<0.05 Favorable (Yes/No/No effect): No Statistical significance: Yes **Outcome: Tobacco Use Initiation** Measure: Never smokers and experimental smokers were asked subsequent questions to determine their stage of smoking acquisition Baseline Int (n=2184): 1.7% Comp (n=1974): 1.0% Follow-up (in months): 36 months Int (n=1579): 9.2% Comp (n=1404): 5.7% **Absolute change**: +2.8 percentage points

	White 66.20% American Indian 2.10% Pacific Islander 0.7% Mixed race 17.2% Unknown/NR 6.6% Ethnicity Hispanic 12.20% **Study population: Parents and Caregivers** NR **Community characteristics**: NR	Energy Balance intervention group received by 10 schools focused on physical activity, diet, and TV viewing limits.	**Relative change**: NA **Narrative results:** The Energy Balance (EB) group had significantly lower rates of smoking acquisition compared to the Substance Use Prevention (SP) group at all time points measured. p<.05 Favorable (Yes/No/No effect): No Statistical significance: Yes
Author Year Vogl 2014 **Location:** Australia (Sydney) **Years for Study**: March 2008 – June 2009 **Study Design:** gRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (4 limitations)	**Setting:** School, Online **Urbanicity**: NR **Recruitment:** based on existing relationships with researchers, 30 independent and Catholic secondary schools in Sydney approached, only 21 committed (2309 students). Of eligible students, 1839 (79.6%) consented and randomized, and only 1734 provided baseline data. **Eligibility:** Year 10 students at participating schools **Sample size:** Baseline 1734 (21 schools) Int 906 (11 schools) Control 828 (10 schools) *10-months post- intervention* Follow-up 75.5% (1309/1734) Int 82.1% (744/906) Control 68.2% (565/828) Loss to f/u 24.5% Note: only 37.5% completed all surveys **Study Population: Adolescents** Age: 15.44 years (range: 15-16) School level: High school Grade level(s): Year 10	**Intervention/program name:** Climate Schools: Psychostimulant and Cannabis **Substance(s) focused:** Psychostimulant and Cannabis **Format:** Computer, Internet/web-based **Brief description of intervention and content:** computer-based aimed at reducing cannabis and psychostimulant use/harms based on a social influence approach to prevention education. Each lesson split into a computer component followed by teacher-led activities. Program content includes various topics outlined in Table 1 of the study. ***Implementer(s)*** **School involved in intervention or School not involved:** Yes in classroom **Intervention duration:** 3 months (during Terms 2 & 3) **Intervention intensity:** Number of sessions/modules: 6 Time per session: 40 mins Total hours: 4hrs	**Outcome: Frequency of Cannabis Use** Measure: past 60-day, mean frequency scale Baseline Int (n=906: 0.12 Comp (n=828): 0.23 Follow-up (in months): 10 months Int (n=570): 0.16 Comp (n=403): 0.29 **Absolute change:** -0.01 scale points **Relative change:** NA **Narrative results:** Intervention was not a significant predictor of the frequency of last three-month cannabis use at linear growth over time (Event rate ratio = 1.15, 95% CI: 0.97-1.39) Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Frequency of Illicit Drug Use** Measure: Mean frequency of ecstasy use (5-point scale) Baseline Int (n=906): 0.01 Comp (n=828): 0.15 Follow-up (in months): 10 months Int (n=570): 0.11 Comp (n=403): 0.12 **Absolute change:** +0.04 scale points **Relative change**: NA

	Sex: 33.8% female, 66.2% male Race/ethnicity: NR **Study population: Parents and Caregivers** NR **Community characteristics**: NR	Booster: No **Comparison group:** Usual care, Teachers completed a questionnaire detailing timing and content of usual drug education health classes provided for Year 10 on psychostimulant and cannabis. The number of lessons ranged from 8 to 13.5; and 3 schools used a social influence program with a harm-minimization approach; 1 school delivered a harm-minimization program without specifying approach type: 4 schools did not cover psychostimulants as a topic.	**Narrative results:** There was no significant group differences in the linear growth rate of ecstasy by time [OR = 0.95, (CI: 0.82 to 1.12)] Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Frequency of Illicit Drug Use** Measure: Mean frequency of methamphetamine use (5-point scale) Baseline Int (n=906): 0.08 Comp (n=828): 0.12 Follow-up (in months): 10 months Int (n=570): 0,09 Comp (n=403): 0.1 **Absolute change**: +0.03 scale points **Relative change**: NA **Narrative results**: Intervention was not a significant predictor of the linear growth frequency of methamphetamine use over time [OR = 1.17, (CI: 0.92 to 1.49)] Favorable (Yes/No/No effect): No effect Statistical significance: Yes **Outcome: Cannabis Use Initiation** Measure: Proportion (%) of students reporting ever having used cannabis Baseline Int (n=906): 0.09% Comp (n=828): 0.15% Follow-up (in months): 10 months Int (n=570): 0.12% Comp (n=403): 0.2% **Absolute change:** -0.02 percentage points **Relative change**: -10.0% **Narrative results:** Intervention not a significant predictor of linear growth over time (OR = 1.05, 95% CI: 0.92-1.20). Favorable (Yes/No/No effect): No effect Statistical significance: No

			Outcome: Illicit Drug Use Initiation (Ecstasy) Measure: Proportion (%) of students reporting having ever used ecstasy Baseline Int (n=906): 0.05 % Comp (n=828): 0.07% Follow-up (in months): 10 months Int (n=570): 0.06% Comp (n=403): 0.07% **Absolute change:** +0.01 percentage points **Relative change:** +20.0% **Narrative results:** Intervention condition was not a significant predictor of having ever used ecstasy after taking baseline and gender into account [OR = 1.00 (CI: 0.55 to 1.81)] Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Illicit Drug Use Initiation (Methamphetamines)** Measure: Proportion (%) of students reporting having ever used methamphetamines Baseline Int (n=906): 0.04% Comp (n=828): 0.05% Follow-up (in months): 10 months Int (n=570): 0.04% Comp (n=403): 0.05% **Absolute change:** 0 percentage points **Relative change**: 0% **Narrative results**: Intervention was not a significant predictor of the linear growth in the odds of having used methamphetamine over time [OR = 1.02, (CI: 0.85 to 1.22)] Favorable (Yes/No/No effect): No effect Statistical significance: No
Author Year: Walton 2013 **Location:** USA	**Setting:** Clinic **Urbanicity**: Urban	**Intervention/program name: Project Chill** **Substance(s) focused: General** Prevention	**Outcome: Frequency of Alcohol Use** Measure: Adolescent patient self-report of frequency of alcohol in the past 3 months among baseline cannabis users

Years for Study: April 2007–December 2009 **Study Design:** iRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (3 limitations)	**Recruitment:** adolescent patients were recruited in the waiting areas of 7 federally qualified community health clinics. Screened for cannabis use and randomized to (one of three study arms). Of 1416 adolescents screened, 366 eligible and 328 (89.6%) completed baseline. **Eligibility:** Adolescents (12-18 years) with consent to participate, no other sibling already in the study and who self-reported any/ever cannabis use in the past year **Sample size:** Baseline 210 Int 100 Control 110 *12-months post-baseline* Follow-up 81.4% (171/210) Int 77.0% (77/100) Control 85.5% (94/110) Loss to f/u 18.6% **Study Population: Adolescents (int)** Age: 16.4 years (range: 12-18) School level: Middle, High school Grade level(s): NR Sex: 67.0% female, 33.0% male Race/ethnicity: Black or African American 61.0% Ethnicity Hispanic 16.2% Other details Academic performance (Self-reported) failing grades 28.0% dropped out of school 6.0% **Study population: Parents and Caregivers** NR **Community characteristics**: NR	**Format:** iPad/Tablet **Brief description of intervention and content:** Brief, tailored intervention aimed at preventing cannabis use among adolescents. Delivered in clinic waiting areas via a tablet-based program. Provided brief content focused on reducing cannabis use, covering information on cannabis, alcohol, and other illicit drugs. ***Implementer(s)*** **School involved in intervention or School not involved:** not involved **Intervention duration:** 1 day **Intervention intensity:** Number of sessions/modules: 1 Time per session: NR Total hours: NR Booster: No **Comparison group:** Control group, Information only; handed a tri-fold brochure containing warning signs of cannabis problems, resources (substance use treatment, suicide hotlines, employment services, leisure activities), and cannabis information websites).	Baseline: Int (n=100): 0.91 (SD 1.09) scale points Comp (n=110): 0.98 (SD 1.12) scale points Follow-up (in months): 12 months post single session intervention Int (n=100 imputed): 0.58 (SD 0.82) scale points Comp (n=110 imputed): 0.79 (SD 0.96) scale points **Absolute change:** -0.52 scale points **Relative change:** NA **Narrative results**: Estimate from generalized estimating equation = -0.16 (SE 0.20) p=0.44 Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Frequency of Cannabis Use** Measure: Adolescent patient self-report of frequency of cannabis use in the past 3 months among baseline cannabis users Baseline: Int (n=100): 3.06 scale score (SD 1.90) Comp (n=110): 3.25 scale score (SD 1.87) Follow-up (in months): 12 months post single session intervention Int (n=100 imputed): 2.04 scale score (SD 2.20 Comp (n=110 imputed): 2.14 scale score (SD 2.21) **Absolute change:** +0.09 scale points **Relative change:** NA **Narrative results**: Estimate from generalized estimating equation = -0.03 (SE 0.16) p=0.85 Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Frequency of Illicit or Other Substances as a Combined Measure** Measure: Adolescent patient self-report of frequency of other (listed) drugs in the past 3 months among baseline cannabis users Baseline: Int (n=100): 0.86 (SD 3.01) scale points

			Comp (n=110): 1.16 (SD 2.71) scale points Follow-up (in months): 12 months post single session intervention Int (n=100 imputed): 0.48 (SD 2.13) scale points Comp (n=110 imputed): 0.64 (SD 2.12) scale points **Absolute change:** -0.87 scale points **Relative change:** NA **Narrative results:** Estimate from generalized estimating equation = 0.21 (SE 0.20) p=0.66 Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Cannabis-related Harms & Consequences** Measure: Adolescent patient self-report of number of consequences of cannabis use (items on list) in the past 3 months among baseline cannabis users Baseline: Int (n=100): 14.3 (SD 15.5) items Comp (n=110): 14.0 (SD 15.0) items Follow-up (in months): 12 months post single session intervention Int (n=100 imputed): 12.7 (SD 13.8) items Comp (n=110 imputed): 11.5 (SD 14.4) items **Absolute change**: +0.9 items **Relative change:** NA **Narrative results:** Estimate from generalized estimating equation = 0.08 (SE 0.17) p=0.62 Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Cannabis-related Harms & Consequences (Driving)** Measure: Adolescent patient self-report of frequency of driving under influence of cannabis in the past 3 months among baseline cannabis users Baseline: Int (n=100): 0.48 (SD 1.06) scale points Comp (n=110): 0.26 (SD 0.66) scale points

			Follow-up (in months): 12 months post single session intervention Int (n=100 imputed): 0.45 (SD 0.99) scale points Comp (n=110 imputed): 0.25 (SD 0.85) scale points **Absolute change:** -0.02 scale points **Relative change**: NA **Narrative results:** Estimate from generalized estimating equation =-0.17 (SE 0.44) p=0.70 Favorable (Yes/No/No effect): No effect Statistical significance: No
Author Year Walton 2014 **Location:** USA **Years for Study**: April 2007–December 2009 **Study Design:** iRCT **CG Suitability:** Greatest **Quality of Execution (# of limitations):** Fair (2 limitations)	**Setting:** Clinic **Urbanicity**: Urban **Recruitment: See** Walton 2013 for details. Of 1416 adolescents screened, 714 eligible and 667 (93.4%) completed baseline. **Eligibility:** see Walton 2013 for details. Also had to self-report as non-users of cannabis **Sample size:** Baseline 481 Int 247 Control 234 *12-months post-baseline* Follow-up 88.8% (427/481) Int 89.1% (220/247) Control 88.5% (207/234) Loss to f/u 11.2% **Study Population: Adolescents (int)** Age: 14.7 years (range: 12-18) School level: Middle, High school Grade level(s): 40.1% Grades 6-8 Sex: 55.5% female, 44.5% male Race/ethnicity: Black or African American 62.4% Ethnicity Hispanic 7.0% Other details: Academic performance (Self-reported)	**Intervention/program name:** Project Chill **Substance(s) focused:** General Prevention **Format:** Computer-based **Brief description of intervention and content:** an animated, interactive program for preventing substance use, delivered by a virtual therapist, providing affirmations and summaries. Guided by a buddy chosen by participants, role-play scenarios showed characters in risky situations, with progression over time in various consequences. Program delivered privately in a clinic room and participants given information-only brochure. ***Implementer(s)*** **School involved in intervention or School not involved:** not involved **Intervention duration:** 1 day **Intervention intensity:** Number of sessions/modules: 1 Time per session: 33 mins Total hours: 33 mins Booster: No	**Outcome: Frequency of Cannabis Use (among baseline cannabis non-users)** Measure: Adolescent patient (cannabis non-user at baseline) self-reporting frequency of cannabis use in the past 3 months on a scale Baseline: Int (n=247): 0 by definition Comp (n=234): 0 by definition Follow-up (in months): 12 months post baseline (intervention) Int (n=220): Not reported Comp (n=207): Not reported **Absolute change:** Not reported **Relative change**: Not reported **Narrative results:** Incident rate ratio=0.86 (95%CI 0.58, 1.27), p-value not reported. Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome Frequency of Illicit or Other Substances as a Combined Measure (among baseline cannabis non-users)** Measure: Adolescent patient (cannabis non-user at baseline) self-reporting frequency of other drug use (list) in the past 3 months on a scale Baseline: Int (n=247): 0.2 (SD 0.8) scale points Comp (n=234): 0.2 (SD 1.1) scale points Follow-up (in months): 12 months post baseline (intervention)

	Failing grades 16.6% **Study population: Parents and Caregivers** NR **Community characteristics**: NR	**Comparison group:** Control group given a brochure containing warning signs of problems with cannabis and community resources (e.g. substance use, mental health and leisure activities).	Int (n=220): Not reported Comp (n=207): Not reported **Absolute change:** Not reported **Relative change:** Not reported **Narrative results:** Intervention participants reported a decrease in past 3-month other drug use [Incident Rate Ratio: 0.78 (CI: 0.38, 1.58) p-value not reported. Favorable (Yes/No/No effect): Yes Statistical significance: No **Outcome: Other Alcohol Use Measures (among baseline cannabis non-users)** Measure: Adolescent patient (cannabis non-user at baseline) self-reporting alcohol use in the past 3 months on a summed severity scale Baseline: Int (n=247): 0.2 (SD 0.6) scale points Comp (n=234): 0.2 (SD 0.5) scale points Follow-up (in months): 12 months post baseline (intervention) Int (n=220): Not reported Comp (n=207): Not reported **Absolute change**: Not reported **Relative change**: Not reported **Narrative results:** Incident rate ratio=1.22 (95% CI 0.75, 1.99) No significant effects were observed at 12 months with a reduction in use for the control group. Favorable (Yes/No/No effect): No effect Statistical significance: No **Outcome: Cannabis Use Initiation** Measure: Adolescent patient (cannabis non-user at baseline) self-reported any use of Cannabis in the last 12 months Baseline: Int (n=247): 0% as assigned Comp (n=234): 0% as assigned

			Follow-up (in months): 12 months after baseline (intervention) Int (n=220): 16.82% Comp (n=211): 24.16% **Absolute change**: -7.34 percentage points (95%CI-14.98–0.00); p<0.05 **Relative change**: -30.4% **Narrative results:** Relative Rate (RR) 0.70 (95%CI 0.48, 1.00), p<0.05. Favorable (Yes/No/No effect): Yes Statistical significance: Yes **Outcome: Antisocial behaviors - Delinquency (among baseline cannabis non-users)** Measure: Adolescent patient (cannabis non-user at baseline) self-reporting delinquency behaviors (list of 10) in the past 3 months, summed. Baseline: Int (n=247): 2.0 (SD 4.9) behaviors summed from a list Comp (n=234): 1.8 (SD 4.3) behaviors summed from a list Follow-up (in months): 12 months post baseline (intervention) Int (n=220): Not reported Comp (n=207): Not reported **Absolute change**: Not reported **Relative change**: Not reported **Narrative results**: Incident rate ratio=0.85 (95%CI 0.53, 1.36) p-value not reported. Favorable (Yes/No/No effect): Yes Statistical significance: No