**Table S1**

*Descriptive Information of Each Included Study*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Study** | **Sample Characteristics** | **Study Characteristics**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Control Group(s)** | **Dose**   |  |  | | --- | --- | | **Sessions** | **Duration** | | **Measures** | | **Effect Sizes (*g*)** | **Study Quality** |
| Corbin et al. (2001) | *N* = 62 (30); *A* = 29%  50% F; 87% W  *M* age = 20; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 3 | 60 | | AEQ; TLFB; DDQ; Drinking/Expectancy chart | | E = –.57  Se = –.63   So = –.80  T = –.79 | 11 |
| Cruz (2007) | *N* = 259 (130); *A* = 11% 53% F; 72% W *M* age = 14; HSS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO, AE | |  |  | | --- | --- | | 1 | 45 | | TLFB; MMBEQ | | A = .18, –.83 | 9 |
| Darkes & Goldman (1993) | *N* = 54 (36); *A* = 32%  0% F; 95% W *M* age = 21; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO, AE | |  |  | | --- | --- | | 3 | 75 | | ECQ; AEQ;  TLFB; Drinking/ Expectancy chart | | A = –.85 E = –.47 | 12 |
| Darkes & Goldman (1998) | *N* = 50 (15); *A* = 19% 0% F; 87% W *M* age = 20; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 3 | 105 | | ECQ; AEQ;  AEI; TLFB; Drinking/Expectancy/ Drinking Reaction/Daily Activities charts | | A = –.65, –.62   Se= –.44, –.67 | 11 |
| Dietz (2016) | *N* = 180 (76); *A* = 40% 57% F; 62% W *M* age = 18; HSS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 1 | 35 | | TLFB; CEOA | | A = –.18  So = .28  T = .20  L = .15  C = –.05  R = –.02  S = –.15 | 8 |
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| **Study** | **Sample Characteristics** | **Study Characteristics**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Control Group(s)** | **Dose**   |  |  | | --- | --- | | **Sessions** | **Duration** | | **Measures** | | **Effect Sizes (*g*)** | **Study Quality** |
| Fried (2010) | *N* = 318 (159); *A* = 33% 51% F; 83% W *M* age = 20; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 1 | 50 | | TLFB; CEOA | | A = –.28, –.47  Se = –.30, –.26 So = –.52, –.26  T = –.52 –.38  L = –.19, –.28  C = –.02, .14  R = –.17, –.08  S = –.27, .13 | 8 |
| Fried & Dunn (2012) | *N* = 209 (124); *A* = 11%  0% F; 79% W *M* age = 20; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 1 | 50 | | TLFB; CEOA | | A = –.51  Se = –.42 So = –.41  T = –.36  L = –.32  C = –.01  R = –.11  S = –.24 | 10 |
| Hunt (2004) | *N* = 158 (104); *A* = 0% 0% F; 64% W *M* age = 21; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 1 | 35 | | AEC; TLFB | | A = .07, .01  Se= –.11, –.11 | 12 |
| Jones et al. (1995) | *N* = 90 (60); *A* = 10% 46% F; 90% W *M* age = 19; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 2 | 35 | | AEQ; QFV | | A = .14, .10 | 7 |
| Keillor et al. (1999) | *N* = 25 (12); *A* = 24%  0% F; 90% W *M* age = 19; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 2 | 90 | | AEQ; ECQ; TLFB | | A = .20  E = .22  Se = .17  So = –.19 | 10 |
| Lau-Barraco & Dunn (2008) | *N* = 178 (114); *A* = 9% 57% F; 87% W *M* age = 20; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO, AE | |  |  | | --- | --- | | 1 | 105 | | TLFB; AEQ | | A = –.27  E = –.26  Se = –.23  So = –.56  T = –.24 | 13 |

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| **Study** | **Sample Characteristics** | **Study Characteristics**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Control Group(s)** | **Dose**   |  |  | | --- | --- | | **Sessions** | **Duration** | | **Measures** | | **Effect Sizes (*g*)** | **Study Quality** |
| Musher-Eizenman & Kulick (2003) | *N* = 37 (19); *A* = 23% 100% F; 95% W *M* age = 19; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 3 | 60 | | AEQ-A; Drinking/Daily Activity chart | | A = –.05  E = –.76  Se = –.72  So = –.51  T = –.51  C = –.58 | 11 |
| Portelli (2018) | *N* = 119 (53); *A* = 32% 48% F; 99% W *M* age = 14; HSS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 3 | 45 | | TLFB; AEQ-A | | A = –.13 So = –.60  T = –.61  C = –.41 | 11 |
| Schreiner (2010) | *N* = 407 (198); *A* = 49% 70% F; 69% W *M* age = 20; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 1 | 55 | | TLFB; CEOA | | A = –.46, .01   Se = –.34, –.09  So = ­–.53, –.75  T = –.32, –.29  L = –.48, –.27  C = .34, .13  R = –.31, –.13  S = –.01, .05 | 6 |
| Schreiner (2014) | *N* = 865 (432); *A* = 13% 61% F; 63% W *M* age = 18; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 1 | 55 | | TLFB; CEOA | | A = –.02, –.01  Se = –.58 So = ­–.59  T = –.63  L = –.81  C = .44  R = –.49  S = –.23 | 10 |
| Sivasithamparam (2008) | *N* = 120 (48); *A* = 5% 68% F; 71% W *M* age = 18; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 1 | 50 | | TLFB; CEOA | | A = –.32   Se = .19  So = .06  T = .13  L = .34  C = –.20  R = .19  S = .02 | 7 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Study** | **Sample Characteristics** | **Study Characteristics**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Control Group(s)** | **Dose**   |  |  | | --- | --- | | **Sessions** | **Duration** | | **Measures** | | **Effect Sizes (*g*)** | **Study Quality** |
| Sivasithamparam (2011) | *N* = 364 (215); *A* = 76% 51% F; 66% W  *M* age = 16; HSS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 1 | 50 | | TLFB; CEOA | | A = –.60, .10  Se = –.25, –.03, –.03, .36 So = ­–.05, –.49, –.40, .32  T = –.18, –.11, –.42, .12  L = –.20, –.04, –.38, .29  C = .51, .34, .04, –.04  R = –.06, –.08, .17, –.05  S = .38, –.08, –.30, –.03 | 10 |
| Stanick (1996) | *N* = 56 (28); *A* = 5% 100% F; 97% W *M* age = 20; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 2 | 60 | | AEQ; ECQ; TLFB | | A = .26  E = .11 | 8 |
| van de Luitgaarden et al. (2007) | *N* = 234 (163); *A* = 22% 0% F; 100% W *M* age = 18; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 1 | 50 | | Drinking Diary & Questionnaire;  VAS | | A = –.08 | 7 |
| Wiers & Kummeling (2004) | *N* = 25 (16); *A* = 55% 56% F; 100% W *M* age = 21; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 3 | 60 | | ECQ; VAV; TLFB;  Drinking Diary | | A = .16, .67  E = –.89, .10 | 11 |
| Wiers et al. (2005) | *N* = 92 (49); *A* = 4% 50% F; 88% W *M* age = 21; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 2 | 60 | | TLFB; Drinking diary; VAS; IAT | | A = –.82  E = ­–.22  T = –.20 | 13 |
| Wood et al. (2007) | *N* = 168 (89); *A* = 18% 53% F; 90% W *M* age = 21; CS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO, BMI | |  |  | | --- | --- | | 2 | 90 | | TLFB; ECQ; CEOA | | A = –.61 | 12 |
| Wooten (1996) | *N* = 52 (25); *A* = 64% 51% F; 62% W *M* age = 14; HSS | |  |  |  |  |  | | --- | --- | --- | --- | --- | | AO | |  |  | | --- | --- | | 4 | 45 | | ECQ; AEQ-A; TLFB; DSQ | | E = –1.05  T = –.27 | 6 |

*Note. N* = sample size (intervention condition); *A* = attrition; *F* = female; *W* = white; *CS* = sample of college students; *HSS* = sample of high school students; *AO* = assessment only; *AE* = alcohol education; *BMI* = Brief Motivational Intervention (Miller & Rollnick, 2002); *Dose* = total number of sessions and minutes per session; *AEQ* = Alcohol Expectancy Questionnaire (Brown et al., 1987); *TLFB* = Timeline Followback Interview (Sobell & Sobell, 1990); *DDQ* = Daily Drinking Questionnaire (Collins et al., 1985); *MMBEQ* = Memory-Model Based Expectancy Measure (Dunn & Goldman, 1996); *ECQ* = Expectancy Context Questionnaire (Darkes & Goldman, 1993); *AEI* = Alcohol Expectancy Inventory (Rather et al., 1992); *CEOA* = Comprehensive Effects of Alcohol (Fromme et al., 1993); *AEC* = Alcohol Expectancy Circumplex (Rather & Goldman, 1994); *QFV* = Quantity-Frequency-Variability Index (Cahalan et al., 1967); *AEQ-A* = Alcohol Expectancy Questionnaire Adolescent Form (Christiansen et al., 1982); *VAS* = Visual Analogue Scale of Arousal-Sedation Expectancies (Wiers et al., 2002); *VAV* = Vragenlijst Alcohol Verwachtingen (Wiers et al., 1997); *IAT* = Implicit Association Test (Greenwald et al., 1998); *DSQ* = Drinking Styles Questionnaire (Smith et al., 1995); *E* =global expectancies; *Se* =sexual expectancies*; So* =social expectancies; *T =* tension expectancies; *A* = alcohol consumption; *L* = liquid courage expectancies; *C* = cognitive behavioral consequences expectancies; *R* = risk aggression expectancies; *S* = self-perception expectancies; *g* =corrected effect size (for studies with several subgroups, effect sizes per outcome variable for all subgroups are included).

**Table S2**

*Trim-and-Fill Analysis of Publication Bias Per Outcome Variable*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Outcome | *k+* | *g* | 95% CI | *Z* | *Q* |
| Alcohol Consumption | 0 | –.20 | –.31 –.09 | –3.70c | 36.56 |
| Global Alcohol Expectancies | ­­­­0 | –.35 | ­–.59 –.11 | –2.88b | 7.79 |
| Sexual Expectancies | 6 | –.39 | –.53 –.23 | –5.04c | 46.54b |
| Social Expectancies | 1 | –.35 | –.51 –.17 | –3.99c | 35.82b |
| Tension Expectancies | 0 | –.30 | –.44 –.16 | –4.23c | 26.04 |
| Liquid Courage Expectancies | 0 | –.20 | –.45 .04 | –1.61 | 42.17 |
| Cognitive Consequences | 6 | .29 | .12 .46 | 3.31c | 50.80c |
| Risk Aggression Expectancies | 7 | –.32 | –.44 –.19 | –4.90c | 20.15 |
| Self-Perception Expectancies | 5 | –.20 | –.32 –.08 | –3.33c | 20.15 |

*Note. k+*= number of effect sizes added by the trim-and-fill-analysis; *g* = weighted mean effect size; *95% CI* = lower and upper limits of the 95% confidence interval*; Z* = test for significance of *g*; *Q* = test for homogeneity of effect sizes.

Negative effect sizes reflect changes in the desired direction (i.e., decrease of alcohol consumption and positive alcohol expectancies, and increase of negative expectancies).

a *p* < .05, b *p* < .01, c *p* < .001

**References**

Brown, S. A., Christiansen, B. A., & Goldman, M. S. (1987). The Alcohol Expectancy Questionnaire: an instrument for the assessment of adolescent and adult alcohol expectancies. *Journal of Studies on Alcohol, 48*(5), 483-491. https://doi.org/10.15288/jsa.1987.48.483

Cahalan, D., Cisin, I., & Crossley, H. (1967). *American Drinking Practices: A National Survey of Behavior and Attitudes Related to Alcoholic Beverages*, Report No. 3, George Washington University, Washington, DC.

Christiansen, B. A, Goldman, M. S., & Inn, A (1982). Development of alcohol-related expectancies in adolescents: Separating pharmacological from social learning influences. *Journal of Consulting and Clinical Psychology, 50*(3), 336-344. https://doi.org/10.1037//0022-006x.50.3.336

Collins, R. L., Parks, G. A., & Marlatt, G. A. (1985). Social determinants of alcohol consumption: the effects of social interaction and model status on the self-administration of alcohol. *Journal of Consulting and Clinical Psychology, 53*(2), 189-200. https://doi.org/10.1037//0022-006x.53.2.189

Darkes, J., & Goldman, M. S. (1993). Expectancy challenge and drinking reduction: Experimental evidence for amediational process. *Journal of Consulting and Clinical Psychology, 61*(2), 344-353. https://doi.org/10.1037//0022-006x.61.2.344

Dunn, M.E., & Goldman, M.S. (1996). Empirical modeling of an alcohol expectancy network in elementary school children as a function of grade. *Experimental and Clinical Psychopharmacology, 4*(2), 209-217. https://doi.org/10.1037/1064-1297.4.2.209

Fromme, K., Stroot, E. A., & Kaplan, D. (1993). Comprehensive effects of alcohol: Development and psychometric assessment of a new expectancy questionnaire. *Psychological Assessment, 5*(1), 19-26. https://doi.org/10.1037/1040-3590.5.1.19

Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. (1998). Measuring individual differences in implicit cognition: The Implicit Association Test. *Journal of Personality and Social Psychology, 74*(6),1464-1480. https://doi.org/10.1037//0022-3514.74.6.1464

Miller, W. R., & Rollnick, S. (2002). *Motivational interviewing: Preparing people for change* (2nd ed.). New York: Guilford.

Rather, B. C., & Goldman, M. S. (1994). Drinking-related differences in the memory organization of alcohol expectancies. *Experimental and Clinical Psychopharmacology, 2*(2), 167-183. https://doi.org/10.1037/1064-1297.2.2.167

Rather, B. C., Goldman, M.S., Roehrich, L., & Brannick, M. (1992). Empirical Modeling of an Alcohol Expectancy Memory Network Using Multidimensional Scaling. *Journal of Abnormal Psychology,101*(1), 174-183. https://doi.org/10.1037//0021-843x.101.1.174

Smith, G.T., McCarthy, D.M., & Goldman, M.S. (1995). Self-reported drinking and alcohol-related problems among early adolescents: Dimensionality and validity over 24 months. *Journal of Studies on Alcohol, 56*(4), 383-394. https://doi.org/10.15288/jsa.1995.56.383

Sobell, L. C., & Sobell, M. B. (1990). Self-report issues in alcohol-abuse: State of the art and future directions. *Behavioral Assessment, 12*(1), 77-90.

Wiers, R. W., Hoogeveen, K. J., Sergeant, J. A., & Gunning, W. B. (1997). High- and low-dose alcohol-related expectancies and the differential associations with drinking in male and female adolescents and young adults. *Addiction, 92*(7), 871-888. https://doi.org/10.1111/j.1360-0443.1997.tb02956.x

Wiers, R. W., Van Woerden, N., Smulders, F. T., & De Jong, P. J. (2002). Implicit and explicit alcohol-related cognitions in heavy and light drinkers. *Journal of Abnormal Psychology, 111*(4), 648-658. https://doi.org/10.1037/0021-843X.111.4.648