# **BMJ Open** Effectiveness of school-based smoking prevention curricula: systematic review and meta-analysis

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#### ABSTRACT

**Objective:** To assess effectiveness of school-based smoking prevention curricula keeping children never-smokers.

**Design:** Systematic review, meta-analysis. Data: MEDLINE (1966+), EMBASE (1974+), Cinahl, PsycINFO (1967+), ERIC (1982+), Cochrane CENTRAL, Health Star, Dissertation Abstracts, conference proceedings. Data synthesis: pooled analyses, fixed-effects models, adjusted ORs. Risk of bias assessed with Cochrane Risk of Bias tool.

**Setting:** 50 randomised controlled trials (RCTs) of school-based smoking curricula.

**Participants:** Never-smokers age 5–18 (n=143 495); follow-up  $\geq$ 6 months; all countries; no date/language limitations.

**Interventions:** Information, social influences, social competence, combined social influences/competence and multimodal curricula.

**Outcome measure:** Remaining a never-smoker at follow-up.

**Results:** Pooling all curricula, trials with follow-up  $\leq$ 1 year showed no statistically significant differences compared with controls (OR 0.91 (0.82 to 1.01)), though trials of combined social competence/social influences curricula had a significant effect on smoking prevention (7 trials, OR 0.59 (95% CI 0.41 to 0.85)). Pooling all trials with longest follow-up showed an overall significant effect in favour of the interventions (OR 0.88 (0.82 to 0.95)), as did the social competence (OR 0.65 (0.43 to 0.96)) and combined social competence/social influences curricula (OR 0.60 (0.43 to 0.83)). No effect for information, social influences or multimodal curricula. Principal findings were not sensitive to inclusion of booster sessions in curricula or to whether they were peer-led or adult-led. Differentiation into tobacco-only or multifocal curricula had a similar effect on the primary findings. Few trials assessed outcomes by gender: there were significant effects for females at both follow-up periods, but not for males.

**Conclusions:** RCTs of baseline never-smokers at longest follow-up found an overall significant effect with average 12% reduction in starting smoking compared with controls, but no effect for all trials pooled at  $\leq$ 1 year. However, combined social competence/social influences curricula showed a significant effect at both follow-up periods.

#### Strengths and limitations of this study

- This review and meta-analysis provides evidence from 50 randomised controlled trials with 143 495 participants. Comprehensive searches with no limits on data and language mean that it is unlikely trials were missed.
- Using smoking outcomes from cohorts of baseline never-smokers provides the clearest indication of whether smoking prevention curricula are effective.
- Statistical heterogeneity between the trials was low and results were consistent after various sensitivity analyses.
- Not all trials reported outcomes based on cohorts of baseline never-smokers and though authors were contacted it is possible that the data may be incomplete.
- The complexity and reporting of some curricula can make them difficult to classify and therefore the classification of curricula may not be completely accurate.

**Systematic review registration:** Cochrane Tobacco Review Group CD001293.

#### INTRODUCTION

Tobacco use is the main preventable cause of death and disease worldwide, and a global average of 50% of young males and 10% of young females start smoking.<sup>1</sup> It is estimated that smoking will kill about one billion people in the 21st century.<sup>1</sup> Mortality among smokers is 2–3 times higher than never-smokers and smoking causes a loss of 10 years of life.<sup>1</sup>

In the USA, it has been estimated that of those children who were 17 or younger in 1995, five million would die prematurely of tobacco-related causes, and that 20% of deaths could be avoided if smokers had either never started or had quit.<sup>2</sup> In 2007,

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in the USA, 20% of high school students reported smoking in the past 30 days,<sup>3</sup> and in the UK, the prevalence figures report a smoking rate of 6% within the 11-15 age group.<sup>4</sup> Starting smoking usually leads to the behaviour lasting decades, with smokers having great difficulty in quitting. Villanti *et al<sup>p</sup>* identified five types of smoking behaviour as adolescents become young adults: non-smokers, early stable smokers, late starters, guitters and 'light or intermittent smokers'.

Over the past three decades, the school environment has been a particular focus of efforts to influence youth smoking behaviour. The main perceived advantages are that almost all children can be reached through schools and a focus on tobacco education fits naturally within their daily activities. Researchers have used five types of curriculum in schools, each based on a different theoretical orientation: information-only curricula, social competence curricula, social influence curricula, combined social competence/social influences curricula and multimodal curricula<sup>6</sup> (box 1).

Social competence interventions help adolescents refuse offers to smoke by improving their general social competence and personal and social skills. Adolescents are taught a combination of skills to improve problem solving, decision-making, self-control, self-esteem, assertiveness and strategies to cope with stress, and to resist general personal or media influences.

Social influence interventions focus specifically on teaching adolescents skills for awareness of social influences that encourage substance use, and to resist

#### Box 1 Types of curricula in schools to prevent smoking

#### Information only curricula

Interventions that provide information to correct inaccurate perceptions regarding the prevalence of tobacco use and oppose inaccurate beliefs that smoking is social acceptable.

#### Social competence curricula

Interventions that help adolescents refuse offers to smoke by improving their general social competence and personal and social skills. Interventions teach problem solving, decisionmaking, cognitive skills to resist personal or media influences. increase self-control and self-esteem, coping strategies for stress and assertiveness skills.

#### Social influence curricula

Interventions that endeavour to overcome social influences to use tobacco by teaching adolescents to be aware of social influences that encourage substance use, teach skills to resist offers of tobacco, and deal with peer pressure and high-risk situations that might persuade an adolescent directly or indirectly to smoke. Combined social competence and social influences curricula Multimodal curricula

Programmes in schools and the community, involving parents and community members, initiatives to change school or state policies about tobacco sales and taxes, and to prevent sales to minors.

#### Other

School antismoking policies, motivations to smoke, classroom good behaviour.

tobacco offers, peer pressure and high risk situations that might persuade an adolescent directly or indirectly to smoke. Some studies have tested teaching skills to resist multiple problem behaviours such as drinking and drug use as well as tobacco use. Multimodal interventions can be broad ranging, including tobacco prevention interventions in schools, the community, and with parents and community members, and school or state policies to change tobacco sales, increase taxes and prevent sales to minors.

prevent sales to minors. The first edition of this Cochrane review was published in 2002, included 96 studies and was narrative without any meta-analyses. The second edition incorporated meta-analyses for randomised controlled trials (RCTs) 2 with relevant information for smoking prevention, but 8 the largest comparison only contained 13 studies. Authors often include data for never-smokers, triers, quitters, occasional, regular and heavy smokers in their baseline and follow-up data. Some use the term current 'non-smokers' and include never-smokers, triers, experimenters and quitters. It is thus not possible to determine the effect of smoking prevention curricula interventions on each of these groups, and if some groups increased uses rela and others decreased their smoking, the effect of the curricula could be completely obscured. We were thus able to prespecify that the ideal outcome to give the best estimate of the prevention effect would be baseline neversmoking cohorts, and were then able to extract more eviđ text dence from existing and new studies without changing the curricula classification in the review protocol.

Hence, in 2013, the second edition was updated and radically refined: we checked the theoretical orientation da of each trial and all included trials were recategorised. đ and data completely re-extracted and reanalysed based on baseline never-smoking cohorts. The primary objective of this review is to assess the effectiveness of school-based curricula versus no curricula in preventing training, never-smoking children and adolescents from starting smoking. Effectiveness is the appropriate term as researchers tested interventions in real schools, but did are similar technologi of not always control for adherence or attendance. A second objective is to assess which curricula types are the most effective.

#### **METHODS**

#### Search strategy and trial selection

We searched the Cochrane Central Register Controlled Trials (CENTRAL), the Cochrane Tobacco Addiction Group's Specialized Register, MEDLINE, EMBASE, PsycINFO, ERIC, CINAHL, Health Star and Dissertation Abstracts for terms relating to school-based smoking cessation programmes from inception to January 2014, with no date or language restrictions (see online supplementary material A). We checked article bibliographies and ran individual MEDLINE searches for 133 authors who had undertaken research in this area. We searched for all trials evaluating school-based

curricula to prevent smoking. There was no restriction on the theoretical orientation of the curricula providing they aimed to prevent tobacco use. Students aged 5–18 years during the intervention phase of the trial were included as individuals in RCTs and also as classes, schools or school districts in cluster RCTs (C-RCTs). Trials were excluded if there was no control group. Control groups included no curricula, usual practice or an active non-relevant control, for example, homework study group. We required a minimum follow-up of 6 months after completion of the curricula. We did not require biochemical validation of self-reported tobacco use, but recorded its use. We excluded trials that did not assess baseline smoking status or reported only smoking attitudes and knowledge.

Two reviewers (RET and JM) independently assessed all titles, abstracts and full text articles for trials that met the inclusion criteria. Any disagreements were resolved by consensus or referral to a third person (RP).

#### Data extraction and study classification

Data were independently extracted into RevMan<sup>7</sup> by two reviewers (RET and JM) for each included study using a form piloted first in a small subset of trials. Any disagreements were resolved by consensus or referral to the third author (RP). We extracted data for all included trials on design and focus, country and site of school(s), participants (age, gender and ethnicity), curriculum duration and follow-up, curriculum deliverer, a brief overview of the curriculum, and details of the control group. Two authors (RET and JM) classified curricula according to their dominant theoretical orientation: information only, social competence, social skills, combined social competence/social skills or multimodal. An independent reviewer commented on this classification and as a result a small number of trials using strategies that did not fit into these broad types were grouped separately (box 1). Accuracy of category classification between the authors and the independent reviewer was tested using a  $\kappa$  statistic.

We extracted data for never-smokers at baseline and follow-up for curricula and control groups. If authors included in the category of 'non-smoker' both neversmokers and those not currently smoking, we classified non-smokers with previous smoking experience as smokers for this review.

We used the Cochrane risk of bias tool<sup>8</sup> to assess whether trials were at low, high or unclear risk of selection bias (random sequence generation and allocation concealment), detection bias, attrition bias and reporting bias.

If data were missing, or in a format not analysable, we contacted the authors to request the data, new data runs or clarification. We did not impute missing data.

#### **Data analysis**

We extracted data as absolute numbers or ORs, where possible, based on loss of never-smokers from baseline

to follow-up, that is, those children who started smoking. In some instances, if data were available, but only the total number of schools or classes was known and not the numbers allocated to each arm, then the number of schools or classes was estimated based on the proportion of individuals within the group. Where the authors used a denominator that did not include all the participants originally randomised (eg, a sample that the author described as the 'analysis sample,' which excluded dropouts and thus had smaller numbers at follow-up) we recomputed the data based on the same percentage loss to never-smokers using the numbers originally randomised. We calculated adjusted ORs based on the number of never-smokers at specific time points. Adjustment was made for clustering by school/group based on estimated intraclass correlation coefficients (0.097) and cluster sizes to determine design effects for each of the curricula groups. We then used this design effect to determine the effective sample size for each curricula group.

Our analysis used a fixed effects meta-analysis using the generalised inverse variance method. Only trials for which never-smoking outcome data could be extracted were included in the analysis. Trial data were excluded if the publication or author could not provide data or the data were incomplete for either the curricula or control groups for baseline or follow-up, where the number of cluster sizes could not be extracted or estimated, where the data were in an unusable format or where the data were judged to be unreliable or contradictory. The included data were pooled to obtain estimates for an overall effect, with subgroups based on curriculum used. Trials in the 'other curricula' group were sufficiently different from each other so that, although they were presented within the meta-analysis for the entire group, it would be inappropriate to combine them as a distinct group by curriculum within the Results and Discussion sections. If a trial compared more than one curriculum arm then the control group was split equally between the arms for outcome events as well as sample size. We used the I<sup>2</sup> statistic to assess inconsistency across trials and provide a measure of heterogeneity.<sup>9</sup>

Our analysis examined the curricula versus the control groups at two defined times of follow-up: 1 year or less and longest follow-up. In the latter, we used one set of data at the longest follow-up point for each study, meaning that some data sets appeared in both analyses. In order to determine the impact that trials only reporting short-term follow-up (1 year or less) had on our long-term effect estimates, we carried out a sensitivity analysis excluding these studies from this estimate.

A priori we identified attrition and selection as the two most relevant sources of bias. We conducted sensitivity analyses to compare the overall result of trials with low risk of attrition and selection bias to all trials to see whether the quality of the trials had any impact on the overall results. Risk of publication bias was assessed by a visual inspection of a funnel plot.

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We further conducted subanalyses based on gender, peer-led (or substantially peer-led) versus adult-led trials, trials with a tobacco-only focus (tobacco-only) versus multifocal curricula (curricula that focused on tobacco together with other substances such as alcohol and drugs), and curricula that had subsequent booster sessions versus those with none. Booster sessions were additional 'refresher' sessions separate from the initial curricula. Though not prespecified, we subsequently explored whether it was relevant to complete a subanalysis by age (age 11 and under vs over 11).

#### RESULTS

We identified 256 potential RCTs or C-RCTs. Of these, 135 C-RCTs and 1 RCT provided a total of 202 different curricula arms with 431 315 participants providing data (figure 1). Trials were categorised by curricula type; the robustness of this classification was confirmed as very good when the agreement between authors and an independent reviewer was tested ( $\kappa 0.98$ ).

Fifty-seven of the 136 trials followed never-smoking cohorts and of these 50 C-RCTs (74 different intervention arms, n=143 495) provided analysable data for this review (figure 1).

#### Characteristics of included studies

Table 1 provides a summary of the baseline characteristics of included studies. The control groups in the 50 trials were varied. In 22 (44%), the group receiving the curriculum was compared head-to-head with a control group that received 'usual practice,' in 12 trials the control group received no alternative curricula, nine did not state whether the control group received an alternative curricula, 1 provided no alternative curriculum in the control group in six schools and 'usual practice' in the control group in four schools, 2 provided only information, 1 provided a curriculum to help students complete schoolwork, 1 offered a talk by a physician on either tobacco or alcohol, 1 posted four booklets to the control group, 1 asked students to produce a newspaper and 1 helped students with reading skills. Of the 50 trials, 47 were in individual countries and 3 in multiple countries (total 60 country arms): 26 trials were from the USA, 4 each from the UK, Netherlands and Germany, 3 from each from Spain and Italy, 2 each from Australia, Canada and China and the remainder 1 each from South Africa, Thailand and across Europe (Denmark, Finland, Portugal, Austria, Belgium, Greece, Sweden and the Czech Republic).

#### **Principal findings**

(See online supplementary material B for raw data).

All curricula types versus control, with follow-up 1 year or less (26 trials, 41 curriculum arms, figure 2 and table 2)

There was no overall effect for all curricula with follow-up of 1 year or less (OR 0.91, 95% CI 0.82 to 1.01; I<sup>2</sup>=19%). The I<sup>2</sup> statistic for subgroup differences across all

curricula was 45.9%, but within each curriculum type heterogeneity was minimal, except for multimodal ( $I^2=51\%$ ). The combined social competence/social influences curricula (seven C-RCTs/eight arms) showed a statistically significant effect in preventing the onset of smoking at 1 year or less (OR 0.59, CI 0.41 to 0.85; I<sup>2</sup>=0%). However, for the social influences curricula (16 RCTs/25 arms), the multimodal curricula (3 RCTs/5 arms) and 1 small trial,<sup>36</sup> which tested an information-only curriculum, the results were non-significant. There was no RCT testing a social competence curriculum versus control with a follow-up duration of 1 year or less.

All curricula types versus control had the longest ŝ follow-up (50 trials, 74 curriculum arms, figure 3 and table 2).

Fifteen trials (25 arms) provided data for analysis at follow-up of 1 year or less and for longest follow-up (34% of trials). Of the remaining trials, 86% had follow-up of between 1 and 5 years, 10% of between 5 and 10 years and 4% of over 10 years.

There was a significant effect favouring all curricula compared with control for the longest follow-up periods (OR 0.88, 95% CI 0.82 to 0.95; I<sup>2</sup>=12%), with a mean risk reduction of 12%. Heterogeneity was low (0-12%), except for the multimodal curricula trials (I<sup>2</sup>=64%).

Our estimate of long-term effect was robust to the exclusion of trials that reported only short-term (1 year or less) follow-up (see online supplementary material C). There were 10 trials (15 arms) that provided separate data both for analysis at 1 year or less and for the analysis at longest follow-up. Restricting the analysis to these trials alone showed the same overall effects as the data primary findings, no overall effect at 1 year or less follow-up and a statistically significant effect at longest follow-up.

By individual curricula, social competence curricula (5 C-RCTs/7 arms) compared with control showed a statistically significant result in favour of the curricula (OR 0.65, CI 0.43 to 0.96; I<sup>2</sup>=0%) and also the comß bined social competence/social influences (9 C-RCTs/ 11 arms) compared with control (OR 0.60, CI 0.43 to 0.83; I<sup>2</sup>=0%). There were no statistically significant differences for the one information-only curriculum, or the social influences or multimodal curricula. Four trials (six arms) were classified as 'other curricula' and contributed to the overall results, but not to the individual curricula types.<sup>17 32 38 39</sup>

#### Sensitivity analysis

(See online supplementary material D for sensitivity analyses).

Sensitivity analyses restricted to trials at low risk of attrition bias with follow-up of 1 year or less (n=9) found no differences compared with all trials in terms of point estimates, though trials testing combined social competence/ social influences curricula no longer demonstrated a significant effect when studies at unclear or high risk of bias were removed (OR 0.55, CI 0.28 to 1.09). At longest

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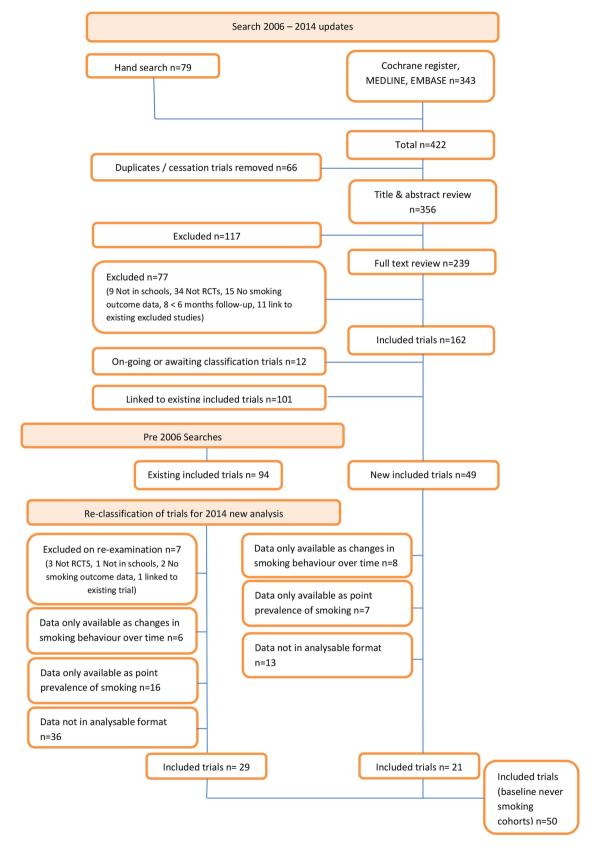


Figure 1 Flow diagram to show selection process (RCTs, randomised controlled trials).

follow-up, analyses restricted to low risk of attrition bias (n=20) were similar to pooled results from all trials, except the CI was wider and hence included the line of

no effect for trials at low risk of bias (OR 0.90, CI 0.80 to 1.03) compared with all trials (OR 0.88, CI 0.82 to 0.95).

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| Study name   | Alternative name<br>(if applicable)                     | Study<br>design | Average<br>age<br>(years) | Gender<br>% female | Curriculum<br>intensity<br>(sessions) | Curriculum<br>duration (months,<br>unless otherwise<br>stated) | Curriculum<br>deliverer           | Control group<br>type                                  | Ethnicity<br>(dominant)     | Country                            |
|--|---|-----------------|---------------------------|--------------------|---------------------------------------|--|-----------------------------------|--|-----------------------------|------------------------------------|
| Armstrong <i>et al</i> (peer) <sup>10</sup>                                      |   | C-RCT           | 12                        | 49                 | 5                                     | 6  | Peers                             | No curriculum  | NS                          | Australia                          |
| Armstrong <i>et al</i> (teacher) <sup>10</sup>                                   |   | C-RCT           | 12                        | 49                 | 5                                     | 6  | Teachers                          | No curriculum  | NS                          | Australia                          |
| Ausems <i>et al</i><br>(in school) <sup>11</sup>                                 |   | C-RCT           | 13                        | 52                 | 3×50 min                              | NS   | Teachers                          | NS   | NS                          | The Netherlands                    |
| Ausems <i>et al</i> (out school) <sup>11</sup>                                   |   | C-RCT           | 13                        | 52                 | NS                                    | NS   | Teachers                          | NS   | NS                          | The Netherlands                    |
| Aveyard<br>et al1999 <sup>12</sup>   |   | C-RCT           | 13.5                      | 50                 | 6×1 h                                 | 12   | Teachers                          | Usual practice   | 86% White                   | UK                                 |
| Botvin and Eng<br>1980 <sup>13</sup>   |   | C-RCT           | 13.5                      | NS                 | 10                                    | 3  | Outside<br>specialists            | No curriculum  | White                       | USA                                |
| Botvin and Eng<br>1982 <sup>14</sup>   |   | C-RCT           | 12.5                      | NS                 | 12×1 h                                | 3  | Peers                             | No curriculum  | 90%+ White                  | USA                                |
| Botvin <i>et al</i> (LST intensive) <sup>15</sup>                                |   | C-RCT           | 12.5                      | NS                 | 15                                    | 1  | Teachers                          | Usual practice   | 91% White                   | USA                                |
| Botvin <i>et al</i><br>(LST) <sup>15</sup>                                       |   | C-RCT           | 12.5                      | NS                 | 15                                    | 3.5  | Teachers                          | Usual practice   | 91% White                   | USA                                |
| Botvin <i>et al</i> <sup>16</sup>  |   | C-RCT           | 11.5                      | 100                | 15+ 10 boosters                       | NS   | Teachers                          | 10 sessions of<br>information only,<br>plus 3 boosters | 60%<br>African-American     | USA                                |
| Brown <i>et al</i> <sup>17</sup>   |   | C-RCT           | 13.5                      | 50                 | NS                                    | NS   | Students and teachers             | Usual practice   | NS                          | Canada                             |
| Buller <i>et al</i><br>(Australia) <sup>18</sup>                                 | Consider This   | C-RCT           | 11 to 14                  | 52                 | 6×1 h                                 | 6  | Web-based                         | Usual practice   | 73% Australian/<br>European | Australia                          |
| Buller <i>et al</i><br>(USA) <sup>18</sup>                                       | Consider This   | C-RCT           | 11 to 13                  | 52                 | 6×1 h                                 | 6  | Web-based                         | Usual practice   | 56% White                   | USA                                |
| Chou et al <sup>19</sup>   |   | C-RCT           | 12.5                      | 48                 | 13×45 min                             | 3  | Health<br>educators<br>(USA)      | Usual practice   | NS                          | China                              |
| Coe et al <sup>20</sup>  |   | C-RCT           | 12.5                      | NS                 | 8                                     | NS   | Medical<br>students               | No curriculum  | 88%+ White                  | USA                                |
| Connell <i>et al<sup>21</sup></i>  | Adolescent<br>Transitions<br>Programme                  | C-RCT           | 11                        | 47                 | 6                                     | 2  | Parent consultants                | NS   | 42% White                   | USA                                |
| Conner and<br>Higgins (I) <sup>22</sup>  | 1 logianino   | C-RCT           | 11.5                      | 50                 | NS                                    | 24   | NS                                | Information and<br>homework<br>intentions              | NS                          | UK                                 |
| Crone <i>et al<sup>23</sup></i><br>De Vries <i>et al</i><br>(High) <sup>24</sup> |   | C-RCT<br>C-RCT  | 10 to 12<br>12.5          | 53<br>NS           | 6×1 h<br>5×45 min                     | 24<br>NS   | Teachers<br>Peers and<br>teachers | Usual practice<br>NS                                   | NS<br>NS                    | The Netherlands<br>The Netherlands |
| De Vries <i>et al</i><br>(Denmark) <sup>25</sup>                                 | European Smoking<br>Prevention<br>Framework<br>Approach | C-RCT           | 13                        | 50                 | 6×1 h                                 | NS   | Teachers                          | Usual practice   | European                    | Denmark                            |

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Table 1 Baseline characteristics of included studies

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| Study name  | Alternative name<br>(if applicable)                     | Study<br>design | Average<br>age<br>(years) | Gender<br>% female | Curriculum<br>intensity<br>(sessions)         | Curriculum<br>duration (months,<br>unless otherwise<br>stated) | Curriculum<br>deliverer  | Control group<br>type                        | Ethnicity<br>(dominant) | Country   |
|---|---|-----------------|---------------------------|--------------------|---|--|--------------------------|--|-------------------------|---|
| De Vries <i>et al</i><br>(Finland) <sup>25</sup>  | European Smoking<br>Prevention<br>Framework<br>Approach | C-RCT           | 13                        | 50                 | 5×45 min                                      | NS   | Teachers                 | Usual practice                               | European                | Finland   |
| De Vries <i>et al</i><br>(Portugal) <sup>25</sup> | European Smoking<br>Prevention<br>Framework<br>Approach | C-RCT           | 13                        | 50                 | 6   | NS   | Teachers                 | Usual practice                               | European                | Portugal  |
| De Vries <i>et al</i><br>(UK) <sup>25</sup>       | European Smoking<br>Prevention<br>Framework<br>Approach | C-RCT           | 13                        | 50                 | 50×30 min                                     | NS   | Teachers                 | Usual practice                               | European                | UK  |
| Denson and<br>Stretch <sup>26</sup>               |   | C-RCT           | 12 to 14                  | NS                 | 3   | 24   | Researcher               | No curriculum                                | NS                      | Canada  |
| Elder <i>et al</i> 1996 <sup>27</sup>             | CATCH   | C-RCT           | 10.5                      | 51                 | 4×50 min                                      | NS   | Teachers                 | No curriculum                                | 71% White               | USA   |
| Ellickson and Bell<br>(HealthEd) <sup>28</sup>    | ALERT   | C-RCT           | 13.5                      | 48                 | 8+3 booster                                   | 2  | Community adults         | No curriculum or usual practice              | 67% White               | USA   |
| Ellickson and Bell 1990 (Teen) <sup>28</sup>      | ALERT   | C-RCT           | 13.5                      | 48                 | 8+3 booster                                   | 2  | Students                 | No curriculum or<br>usual practice           | 67% White               | USA   |
| Ellickson et al <sup>29</sup>                     | ALERT   | C-RCT           | 12.5                      | 50                 | 7+3   | NS   | Teachers                 | Usual practice                               | NS                      | USA   |
| Ennett <i>et al<sup>30</sup></i>                  | DARE  | C-RCT           | 10.5                      | 49                 | 17×1 h  | 4  | Uniformed police officer | NS   | 54% White               | USA   |
| Faggiano <i>et al<sup>81</sup></i>                | Unplugged   | C-RCT           | 12 to 14                  | 48                 | 12x1 h  | 3  | Teachers                 | Usual practice                               | NS                      | Austria, Belgium,<br>Germany, Greece<br>Italy, Spain,<br>Sweden |
| Figa-Talamanca<br>and Modolo <sup>32</sup>        |   | C-RCT           | 15 to 17                  | 47                 | 3   | 3 (days)   | Health<br>educators      | No curriculum                                | NS                      | Italy   |
| Gabrhelik <i>et al<sup>83</sup></i>               | Unplugged   | C-RCT           | 11                        | 50                 | 12×45 min                                     | 12   | Teachers                 | Usual practice                               | Czech                   | Czech Republic  |
| Garcia et al 2005 <sup>34</sup>                   | ALERT   | C-RCT           | 13                        | 47                 | 8×1 h   | NS   | Teachers                 | Usual practice                               | NS                      | Spain   |
| Hort <i>et al<sup>85</sup></i>                    |   | C-RCT           | 13                        | 38                 | 4×1–2 h +<br>15×1 h                           | 24   | Physicians and teachers  | Physician talk on<br>smoking if<br>requested | NS                      | Germany   |
| Howard <i>et al</i> <sup>36</sup>                 |   | C-RCT           | 10                        | 46                 | 5×40 min                                      | NS   | Teachers                 | NS   | NS                      | USA   |
| Johnson <i>et al<sup>67</sup></i>                 | Acadiana Coalition<br>of Teens against<br>Tobacco       | C-RCT           | 15                        | 51                 | NS  | 30   | Teachers                 | NS   | 61% White               | USA   |
| Kellam and<br>Anthony (GBG) <sup>38</sup>         | Good Behaviour<br>Game                                  | C-RCT           | 5.5                       | 50                 | 3× per<br>week×10 min                         | 24   | Teachers                 | Usual practice                               | 70%<br>African-American | USA   |
| La Torre <i>et al</i> (adolescents) <sup>39</sup> |   | C-RCT           | 14                        | 52                 | NS  | NS   | Teachers                 | NS   | NS                      | Italy   |
| Luna-Adame<br>et al <sup>40</sup>                 |   | C-RCT           | 11                        | 51                 | 21×1 h in year 1,<br>12×1 h in<br>second year | 24   | Psychology<br>students   | Usual practice                               | NS                      | Spain   |

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| Study name  | Alternative name<br>(if applicable)                   | Study<br>design | Average<br>age<br>(years) | Gender<br>% female | Curriculum<br>intensity<br>(sessions) | Curriculum<br>duration (months,<br>unless otherwise<br>stated) | Curriculum<br>deliverer       | Control group<br>type                                | Ethnicity<br>(dominant) | Country      |
|---|---|-----------------|---------------------------|--------------------|---------------------------------------|--|-------------------------------|--|-------------------------|--------------|
| lutbeam <i>et al</i><br>=SE) <sup>41</sup>        |   | C-RCT           | 11.5                      | 43                 | 3                                     | NS   | Teachers                      | No curriculum  | NS                      | UK           |
| Peterson <i>et al</i><br>2000 <sup>42</sup>       | Hutchinson<br>Smoking Prevention<br>Project           | C-RCT           | 7 to 9                    | 49                 | 65                                    | NS   | Teachers                      | Usual practice                                       | 90% Caucasian           | USA          |
| Piper <i>et al</i> (HFL<br>Age) <sup>43</sup>     | Healthy for Life<br>Project                           | C-RCT           | 14.5                      | 52                 | 58 (in 3×4-week periods)              | 36   | Community adults              | Usual practice                                       | 92%+ White              | USA          |
| Piper <i>et al</i> (HFL) <sup>43</sup>            | Healthy for Life<br>Project                           | C-RCT           | 14.5                      | 52                 | 54                                    | 12   | Community adults              | Usual practice                                       | 92%+ White              | USA          |
| Prokhorov <i>et al<sup>44</sup></i>               | A Smoking<br>Prevention<br>Interactive<br>Experience  | C-RCT           | 16                        | 59                 | 5×30 min+2<br>boosters                | NS   | Computer                      | Usual practice                                       | 51% Hispanic            | USA          |
| Resnicow <i>et al</i><br>'Harm Min) <sup>45</sup> | Keep Left   | C-RCT           | 14                        | 50                 | 8                                     | 24   | Teachers                      | Usual practice                                       | 60% Black               | South Africa |
| Resnicow <i>et al</i><br>(LST) <sup>45</sup>      | Life Skills Training                                  | C-RCT           | 14                        | 50                 | 8                                     | 24   | Teachers                      | Usual practice                                       | 60% Black               | South Africa |
| Ringwalt <i>et al</i> 46                          | ALERT   | C-RCT           | 11                        | 52                 | 11×45 min+3<br>boosters               | 24   | Teachers                      | No curriculum  | 53% White               | USA          |
| Schulze <i>et al</i> 47                           | Be smart—don't start                                  | C-RCT           | 12                        | 50                 | NS                                    | NS   | Teachers                      | No curriculum  | NS                      | Germany      |
| Seal <sup>48</sup>                                |   | C-RCT           | 15.5                      | 11                 | 10×1 h                                | NS   | NS                            | Usual practice                                       | Thai                    | Thailand     |
| Simons-Morton<br>et af <sup>49</sup>              | Going Places  | C-RCT           | 11                        | 57                 | 18                                    | 36   | Teachers                      | NS   | 72% White               | USA          |
| Spoth <i>et al</i><br>ISFP) <sup>50</sup>         | Iowa Strengthening<br>Families Program                | C-RCT           | 11                        | 55                 | 7                                     | 1 (day)  | Project staff                 | 4 mailed<br>booklets on<br>changes in<br>adolescents | NS                      | USA          |
| Spoth <i>et al</i><br>PDFY) <sup>50</sup>         | Preparing for the<br>Drug Free Years<br>Program       | C-RCT           | 11                        | 55                 | 5                                     | NS   | Project staff                 | 4 mailed<br>booklets on<br>changes in<br>adolescents | NS                      | USA          |
| Spoth <i>et al</i><br>LST + SFP) <sup>51</sup>    | SFP 10  | C-RCT           | 12.5                      | 45                 | 7×1 h + 4<br>boosters                 | 1 (day) + boosters<br>1 yr later                               | Project staff<br>and teachers | NS   | 95%+ White              | USA          |
| Spoth <i>et al</i> (LST) <sup>51</sup>            | SFP 10  | C-RCT           | 12.5                      | 45                 | 15×45 min                             | NS   | Project staff<br>and teachers | NS   | 95%+ White              | USA          |
| Storr <i>et al<sup>52</sup></i>                   |   | C-RCT           | 5.7                       | 47                 | NS                                    | NS   | Teachers                      | Usual practice                                       | 86%<br>African-American | USA          |
| Felch <i>et al</i><br>no peers) <sup>53</sup>     |   | C-RCT           | 12                        | 47                 | 5                                     | 0.75   | Teachers                      | No curriculum  | 24% White               | USA          |
| Telch 1990<br>peers) <sup>53</sup>                |   | C-RCT           | 12                        | 47                 | 5                                     | 0.75   | Peers                         | No curriculum  | 24% White               | USA          |
| Jnger <i>et al</i><br>CHIPS) <sup>54</sup>        | Choosing Healthy<br>Influences for a<br>Positive Self | C-RCT           | 11                        | 54                 | NS                                    | NS   | Health<br>educators           | Usual practice                                       | 61% Hispanic            | USA          |

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| Table 1 Continued                                | ł   |                 |                           |                    |                                       |  |  |                                  |                         |                 |
|--|---|-----------------|---------------------------|--------------------|---------------------------------------|--|--|----------------------------------|-------------------------|-----------------|
| Study name                                       | Alternative name<br>(if applicable)                             | Study<br>design | Average<br>age<br>(years) | Gender<br>% female | Curriculum<br>intensity<br>(sessions) | Curriculum<br>duration (months,<br>unless otherwise<br>stated) | Curriculum<br>deliverer                  | Control group<br>type            | Ethnicity<br>(dominant) | Country         |
| Unger <i>et al</i><br>(FLAVOR) <sup>54</sup>     | Fun Learning About C-RCT 11<br>Vitality, Origins and<br>Respect | C-RCT           | 11                        | 54                 | NS                                    | SN   | Health<br>educators                      | Usual practice                   | 58% Hispanic            | NSA             |
| Valente <i>et al</i> <sup>65</sup>               | Project Towards No C-RCT 16<br>Drug Abuse                       | C-RCT           | 16                        | 38                 | 12                                    | 3-4-weeks  | Peers                                    | Usual practice                   | 72% Hispanic/<br>Latino | NSA             |
| Van Lier <i>et al</i> <sup>66</sup>              | Good Behaviour<br>Game  | C-RCT           | 7                         | 48                 | 3× per<br>week×10 min                 | NS   | Teachers                                 | No curriculum                    | 69% Dutch<br>descent    | The Netherlands |
| Walter <i>et a<sup>67</sup></i>                  | Know your Body  | C-RCT           | 6                         | 47                 | 2 per week                            | 12   | Teachers                                 | Information                      | 84% White               | NSA             |
| Weichold <i>et al</i><br>(peer) <sup>58</sup>    | Life Skills Training  | C-RCT           | 1                         | 44                 | 10×90 min, 5×<br>45 min+boosters      | NS   | Peers                                    | Produced<br>student              | German                  | Germany         |
|  |   |                 |                           |                    |                                       |  |  | newspaper                        |                         |                 |
| Weichold <i>et al</i><br>(teacher) <sup>58</sup> | Life Skills Training  | C-RCT 11        | =                         | 4                  | 10×90 min<br>5×45 min +<br>boosters   | SN   | Teachers                                 | Produced<br>student<br>newspaper | German                  | Germany         |
| Wen <i>et af</i> <sup>59</sup>                   |   | C-RCT           | 13                        | 46                 | NS                                    | 18   | School nurses<br>and health<br>educators | Usual practice                   | NS                      | China           |
| C-RCT, cluster ran                               | C-RCT, cluster randomised controlled trial; NS, not stated      | ; NS, not       | stated.                   |                    |                                       |  |  |                                  |                         |                 |

Furthermore, at 1 year or less follow-up duration, sensitivity analysis restricted to trials at low risk of selection bias (n=12) showed no difference from the principal findings; though, similarly, trials of combined social competence and social influences curricula no longer showed a significant result (OR 0.55, CI 0.28 to 1.10). However, longest follow-up analyses showed sensitivity to selection bias. For all trials classified as low risk of selection bias, the overall effect was no longer significant (OR 0.92, CI 0.83 to 1.01). By curricula type social competence as well as combined social competence and social influences were no longer significant, and the group of multimodal trials now favoured the control groups (OR 1.26, CI 0.78 to 2.04). ş Full details of the risk of bias assessments can be found in the Cochrane review.<sup>60</sup> copyright, including

#### **Publication bias**

A funnel plot of all included studies did not suggest pub lication bias.

### Subgroup analyses

(See online supplementary material D for subgroup analyses).

Gender: At 1 year, for the limited number of trials that presented data by gender, there was a statistically significant effect for females (five trials, seven arms, OR 0.68, CI 0.50 to 0.93;  $I^2=0\%$ ) and no significant effect for males (four trials, six arms, OR 0.76, CI 0.53 to 1.10; I<sup>2</sup>=51%). The largest effect was found in one trial,<sup>25</sup> which tested a multimodal curriculum in males (OR 0.32, CI 0.16 to 0.65). At longest follow-up, the results were similar; statistically significant differences were found for females (seven trials, nine arms, OR 0.80, CI 0.66 to 0.97) whereas results were not statistically significant for males (six trials, eight arms, OR 0.93, CI 0.76 to 1.15).

Adult-led versus peer-led: for adult-led curricula with follow-up  $\leq 1$  year (21 trials, 30 arms), there were no significant effects except for combined social competence/ social influences curricula, which were more effective than controls (OR 0.58, CI 0.40 to 0.85;  $I^2=0\%$ ). For the peer-led curricula (six trials, eight arms) compared with controls there was no overall effect, though it should be noted that social influences interventions were only tested with a single trial<sup>14</sup> that offered a combined social competence/social influences curriculum.

In contrast, at longest follow-up there were significant overall effects for adult-led interventions (42 trials, 57 or arms) compared with the control groups (OR 0.87, CI  $\frac{1}{2}$  0.81 to 0.04. If 2.820  $\frac{1}{2}$ 0.81 to 0.94; I<sup>2</sup>=23%), and significant effects for two of **8** the four curricula tested: social competence (five trials, seven arms, OR 0.62, CI 0.40 to 0.96; I<sup>2</sup>=0%) and combined social competence/social influences (seven trials, eight arms, OR 0.58, CI 0.42 to 0.82;  $I^2=0\%$ ), but not for social influences or multimodal curricula. For peer-led programmes (8 trials, 11 arms) compared with controls there were no statistically significant differences overall, nor for the three curricula tested (social influences, combined social competence/social influences and

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| 50)   | 2.4445<br>0.9839<br>0.36<br>0.3739<br>0.4013<br>0.4026<br>0.7836<br>1.322<br>0.4315<br>0.4347<br>0.4408<br>0.8797<br>1.0673<br>0.1963<br>0.1436<br>0.1436<br>0.1436<br>0.1436<br>0.1442<br>0.4171<br>0.4594<br>0.5772<br>0.4568<br>1.701<br>1.6647<br>0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^2 = 16\%$  | 0.0%<br>0.0%<br>0.0%<br>1.8%<br>1.6%<br>1.6%<br>0.4%<br>0.2%<br>1.4%<br>1.4%<br>1.3%<br>0.2%<br>6.7%<br>12.5%<br>19.8%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 0.88 [0.40, 1.93]<br>0.88 [0.19, 4.10]<br>0.23 [0.02, 2.07]<br>1.43 [0.62, 3.34]<br>1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]<br>0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>3.08 [0.12, 80.52]<br>1.32 [0.38, 4.57]<br>1.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]  |  |
|---|---|---|---|--|
| 39)<br><b>us contro</b><br>-0.5341<br>-0.1076<br>-0.5573<br>-0.0901<br>-0.1296<br>-0.1244<br>-1.4894<br>0.361<br>0.0441<br>0.0771<br>-0.0078<br>0.0344<br>-0.0726<br>0.131<br>0.0539<br>-0.8539<br>-0.8539<br>-0.8549<br>0.8502<br>-0.713<br>0.1128<br><b>2</b> = 0.23);<br><b>50</b><br><b>1 1 5 5 5</b>                             | $  0.9839 \\ 0.36 \\ 0.3739 \\ 0.4013 \\ 0.4026 \\ 0.7836 \\ 1.1322 \\ 0.4315 \\ 0.4347 \\ 0.4408 \\ 0.8797 \\ 1.0673 \\ 0.1963 \\ 0.1436 \\ 0.1142 \\ 0.4171 \\ 0.4594 \\ 0.5772 \\ 0.4568 \\ 1.701 \\ 1.6647 \\ 0.6343 \\ 0.7561 \\ 0.4443 \\ 0.1924 \\  ^2 = 16\% \\   influences \\   0.9839 \\ $ | 0.0%<br>0.3%<br>2.0%<br>1.8%<br>1.6%<br>0.4%<br>0.2%<br>1.4%<br>1.3%<br>0.2%<br>6.7%<br>12.5%<br>19.8%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 0.12 [0.00, 14.87]<br>0.59 [0.09, 4.03]<br>0.90 [0.44, 1.82]<br>0.57 [0.28, 1.19]<br>0.91 [0.42, 2.01]<br>0.88 [0.40, 1.93]<br>0.88 [0.19, 4.10]<br>0.23 [0.02, 2.07]<br>1.43 [0.62, 3.34]<br>1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]<br>0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>3.08 [0.12, 80.52]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br>0.97 [0.86, 1.09]       |  |
| us contro<br>-0.5341<br>-0.1076<br>-0.5573<br>-0.0901<br>-0.1296<br>-0.1296<br>-0.1244<br>-1.4894<br>0.361<br>0.0441<br>0.0771<br>-0.0786<br>0.0344<br>-0.0726<br>0.131<br>0.0583<br>-0.6539<br>-0.821<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>50)<br>nd social<br>-1.5545 | 0.9839<br>0.36<br>0.3739<br>0.4013<br>0.4026<br>0.7836<br>1.1322<br>0.4315<br>0.4347<br>0.4408<br>0.8797<br>1.0673<br>0.1963<br>0.1436<br>0.1142<br>0.4171<br>0.4594<br>0.5772<br>0.4568<br>1.701<br>1.6647<br>0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^2 = 16\%$<br>influences   | 0.3%<br>2.0%<br>1.8%<br>1.6%<br>0.2%<br>1.4%<br>1.3%<br>0.2%<br>6.7%<br>12.5%<br>19.8%<br>1.2%<br>0.8%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 0.59 [0.09, 4.03]<br>0.90 [0.44, 1.82]<br>0.57 [0.28, 1.19]<br>0.91 [0.42, 2.01]<br>0.88 [0.40, 1.93]<br>0.88 [0.40, 1.93]<br>0.88 [0.19, 4.10]<br>0.23 [0.02, 2.07]<br>1.43 [0.62, 3.34]<br>1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]<br>0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>3.08 [0.12, 80.52]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b> |  |
| us contro<br>-0.5341<br>-0.1076<br>-0.5573<br>-0.0901<br>-0.1296<br>-0.1296<br>-0.1244<br>-1.4894<br>0.361<br>0.0441<br>0.0771<br>-0.0786<br>0.0344<br>-0.0726<br>0.131<br>0.0583<br>-0.6539<br>-0.821<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>50)<br>nd social<br>-1.5545 | 0.9839<br>0.36<br>0.3739<br>0.4013<br>0.4026<br>0.7836<br>1.1322<br>0.4315<br>0.4347<br>0.4408<br>0.8797<br>1.0673<br>0.1963<br>0.1436<br>0.1142<br>0.4171<br>0.4594<br>0.5772<br>0.4568<br>1.701<br>1.6647<br>0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^2 = 16\%$<br>influences   | 2.0%<br>1.8%<br>1.6%<br>0.4%<br>0.2%<br>1.4%<br>1.4%<br>1.3%<br>0.3%<br>0.2%<br>6.7%<br>12.5%<br>1.2%<br>0.8%<br>1.5%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br>65.8%                                    | 0.90 [0.44, 1.82]<br>0.57 [0.28, 1.19]<br>0.91 [0.42, 2.01]<br>0.88 [0.40, 1.93]<br>0.88 [0.40, 1.93]<br>0.88 [0.40, 2.07]<br>1.43 [0.62, 3.34]<br>1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]<br>0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>   |  |
| us contro<br>-0.5341<br>-0.1076<br>-0.5573<br>-0.0901<br>-0.1296<br>-0.1296<br>-0.1244<br>-1.4894<br>0.361<br>0.0441<br>0.0771<br>-0.0786<br>0.0344<br>-0.0726<br>0.131<br>0.0583<br>-0.6539<br>-0.821<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>50)<br>nd social<br>-1.5545 | 0.9839<br>0.36<br>0.3739<br>0.4013<br>0.4026<br>0.7836<br>1.1322<br>0.4315<br>0.4347<br>0.4408<br>0.8797<br>1.0673<br>0.1963<br>0.1436<br>0.1142<br>0.4171<br>0.4594<br>0.5772<br>0.4568<br>1.701<br>1.6647<br>0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^2 = 16\%$<br>influences   | 2.0%<br>1.8%<br>1.6%<br>0.4%<br>0.2%<br>1.4%<br>1.4%<br>1.3%<br>0.3%<br>0.2%<br>6.7%<br>12.5%<br>1.2%<br>0.8%<br>1.5%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br>65.8%                                    | 0.90 [0.44, 1.82]<br>0.57 [0.28, 1.19]<br>0.91 [0.42, 2.01]<br>0.88 [0.40, 1.93]<br>0.88 [0.40, 1.93]<br>0.88 [0.40, 2.07]<br>1.43 [0.62, 3.34]<br>1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]<br>0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>   |  |
| -0.5341<br>-0.1076<br>-0.5573<br>-0.0901<br>-0.1244<br>-1.4894<br>-0.0771<br>-0.0078<br>0.0344<br>-0.076<br>0.131<br>-0.0583<br>-0.6539<br>-0.821<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>60<br>   | 0.9839<br>0.36<br>0.3739<br>0.4013<br>0.4026<br>0.7836<br>1.1322<br>0.4315<br>0.4347<br>0.4408<br>0.8797<br>1.0673<br>0.1963<br>0.1436<br>0.1142<br>0.4171<br>0.4594<br>0.5772<br>0.4568<br>1.701<br>1.6647<br>0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^2 = 16\%$<br>influences   | 2.0%<br>1.8%<br>1.6%<br>0.4%<br>0.2%<br>1.4%<br>1.4%<br>1.3%<br>0.3%<br>0.2%<br>6.7%<br>12.5%<br>1.2%<br>0.8%<br>1.5%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br>65.8%                                    | 0.90 [0.44, 1.82]<br>0.57 [0.28, 1.19]<br>0.91 [0.42, 2.01]<br>0.88 [0.40, 1.93]<br>0.88 [0.40, 1.93]<br>0.88 [0.40, 2.07]<br>1.43 [0.62, 3.34]<br>1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]<br>0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>   |  |
| -0.5341<br>-0.1076<br>-0.5573<br>-0.0901<br>-0.1244<br>-1.4894<br>-0.0771<br>-0.0078<br>0.0344<br>-0.076<br>0.131<br>-0.0583<br>-0.6539<br>-0.821<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>60<br>   | 0.9839<br>0.36<br>0.3739<br>0.4013<br>0.4026<br>0.7836<br>1.1322<br>0.4315<br>0.4347<br>0.4408<br>0.8797<br>1.0673<br>0.1963<br>0.1436<br>0.1142<br>0.4171<br>0.4594<br>0.5772<br>0.4568<br>1.701<br>1.6647<br>0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^2 = 16\%$<br>influences   | 2.0%<br>1.8%<br>1.6%<br>0.4%<br>0.2%<br>1.4%<br>1.4%<br>1.3%<br>0.3%<br>0.2%<br>6.7%<br>12.5%<br>1.2%<br>0.8%<br>1.5%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br>65.8%                                    | 0.90 [0.44, 1.82]<br>0.57 [0.28, 1.19]<br>0.91 [0.42, 2.01]<br>0.88 [0.40, 1.93]<br>0.88 [0.40, 1.93]<br>0.88 [0.40, 2.07]<br>1.43 [0.62, 3.34]<br>1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]<br>0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>   |  |
| -0.1076<br>-0.5573<br>-0.0901<br>-0.1296<br>-0.1244<br>-1.4894<br>0.361<br>0.0441<br>0.0771<br>-0.0078<br>0.0344<br>-0.0726<br>0.131<br>-0.583<br>-0.6539<br>-0.8539<br>-0.8539<br>-0.8542<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>60   | $\begin{array}{c} 0.36\\ 0.3739\\ 0.4013\\ 0.4026\\ 0.7836\\ 1.1322\\ 0.4315\\ 0.4347\\ 0.4408\\ 0.8797\\ 1.0673\\ 0.1963\\ 0.1436\\ 0.1436\\ 0.1436\\ 0.1436\\ 0.1442\\ 0.4171\\ 0.4594\\ 0.5772\\ 0.4568\\ 1.701\\ 1.6647\\ 0.6343\\ 0.7561\\ 0.4443\\ 0.1924\\ \textbf{I}^2 = 16\%\\ \begin{array}{c} \textbf{influences} \end{array}$   | 2.0%<br>1.8%<br>1.6%<br>0.4%<br>0.2%<br>1.4%<br>1.4%<br>1.3%<br>0.3%<br>0.2%<br>6.7%<br>12.5%<br>1.2%<br>0.8%<br>1.5%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br>65.8%                                    | 0.90 [0.44, 1.82]<br>0.57 [0.28, 1.19]<br>0.91 [0.42, 2.01]<br>0.88 [0.40, 1.93]<br>0.88 [0.40, 1.93]<br>0.88 [0.40, 2.07]<br>1.43 [0.62, 3.34]<br>1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]<br>0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>   |  |
| -0.5573<br>-0.0901<br>-0.1296<br>-0.1244<br>-1.4894<br>0.361<br>0.0441<br>0.0771<br>-0.0078<br>0.0344<br>-0.0726<br>0.131<br>0.0583<br>-0.6539<br>-0.8512<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>2 = 0.23);<br>50)<br>nd social<br>-1.5545  | 0.3739<br>0.4013<br>0.4026<br>0.7836<br>1.1322<br>0.4315<br>0.4347<br>0.4408<br>0.8797<br>1.0673<br>0.1963<br>0.1436<br>0.1436<br>0.1422<br>0.4171<br>0.4594<br>0.5772<br>0.4568<br>1.701<br>1.6647<br>0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^2 = 16\%$<br>influences   | 1.8%<br>1.6%<br>0.4%<br>0.2%<br>1.4%<br>1.3%<br>0.3%<br>0.2%<br>6.7%<br>12.5%<br>19.8%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.6%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 0.57 [0.28, 1.19]<br>0.91 [0.42, 2.01]<br>0.88 [0.40, 1.93]<br>0.88 [0.19, 4.10]<br>0.23 [0.02, 2.07]<br>1.43 [0.62, 3.34]<br>1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]<br>0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>  |  |
| -0.0901<br>-0.1296<br>-0.1244<br>-1.4894<br>0.361<br>0.0741<br>-0.078<br>0.0344<br>-0.0726<br>0.131<br>0.0583<br>-0.6539<br>-0.8512<br>-1.9741<br>-0.1036<br>0.8502<br>-0.713<br>0.1128<br>2 = 0.23);<br>50)<br>nd social<br>-1.5545  | 0.4013<br>0.4026<br>0.7836<br>1.1322<br>0.4315<br>0.4347<br>0.408<br>0.8797<br>1.0673<br>0.1963<br>0.1436<br>0.1142<br>0.4171<br>0.4594<br>0.5772<br>0.5772<br>0.4568<br>1.701<br>1.6647<br>0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^2 = 16\%$<br>influences  | 1.6%<br>1.6%<br>0.4%<br>0.2%<br>1.4%<br>1.3%<br>0.3%<br>0.2%<br>6.7%<br>12.5%<br>12.5%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.1%<br>0.6%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 0.91 [0.42, 2.01]<br>0.88 [0.40, 1.93]<br>0.88 [0.19, 4.10]<br>0.23 [0.02, 2.07]<br>1.43 [0.62, 3.34]<br>1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>3.08 [0.12, 80.52]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>  |  |
| -0.1296<br>-0.1244<br>-1.4894<br>0.361<br>0.0441<br>0.0771<br>-0.0078<br>0.0344<br>-0.0726<br>0.131<br>0.0583<br>-0.6539<br>-0.821<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>2 = 0.23);<br>50)<br>nd social<br>-1.5545   | 0.4026<br>0.7836<br>1.1322<br>0.4315<br>0.4347<br>0.408<br>0.8797<br>1.0673<br>0.1963<br>0.1436<br>0.1142<br>0.4171<br>0.4594<br>0.5772<br>0.4568<br>1.701<br>1.6647<br>0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^2 = 16\%$<br>influences  | 1.6%<br>0.4%<br>0.2%<br>1.4%<br>1.3%<br>0.2%<br>6.7%<br>12.5%<br>19.8%<br>1.2%<br>0.8%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br><b>65.8%</b>  | 0.88 [0.40, 1.93]<br>0.88 [0.40, 1.93]<br>0.88 [0.19, 4.10]<br>0.23 [0.02, 2.07]<br>1.43 [0.62, 3.34]<br>1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]<br>0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.14 [0.04, 0.43]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>3.08 [0.12, 80.52]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br>0.97 [0.86, 1.09]  |  |
| -0.1244<br>-1.4894<br>0.361<br>0.0441<br>0.0771<br>-0.0078<br>0.0344<br>-0.0726<br>0.131<br>0.0583<br>-0.6539<br>-0.821<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>60<br>md social<br>-1.5545   | 0.7836<br>1.1322<br>0.4315<br>0.4347<br>0.4408<br>0.8797<br>1.0673<br>0.1963<br>0.1436<br>0.1142<br>0.4171<br>0.4594<br>0.5772<br>0.4568<br>1.701<br>1.6647<br>0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^2 = 16\%$<br>influences   | 0.4%<br>0.2%<br>1.4%<br>1.3%<br>0.3%<br>0.2%<br>12.5%<br>19.8%<br>1.2%<br>0.8%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 0.88 [0.19, 4.10]<br>0.23 [0.02, 2.07]<br>1.43 [0.62, 3.34]<br>1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]<br>0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>3.08 [0.12, 80.52]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>   |  |
| -1.4894<br>0.361<br>0.0441<br>0.0771<br>-0.0078<br>0.0344<br>-0.0726<br>0.131<br>0.0583<br>-0.6539<br>-0.821<br>-1.9741<br>-0.103<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>60<br>nd social<br>-1.5545   | $\begin{array}{c} 1.1322\\ 0.4315\\ 0.4347\\ 0.4408\\ 0.8797\\ 1.0673\\ 0.1963\\ 0.1436\\ 0.1142\\ 0.4171\\ 0.4594\\ 0.5772\\ 0.4568\\ 1.701\\ 1.6647\\ 0.6343\\ 0.7561\\ 0.4443\\ 0.1924\\ \end{array}$  | 0.2%<br>1.4%<br>1.3%<br>0.3%<br>0.2%<br>6.7%<br>12.5%<br>19.8%<br>1.25%<br>1.25%<br>1.25%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br><b>65.8%</b>   | 0.23 [0.02, 2.07]<br>1.43 [0.62, 3.34]<br>1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]<br>0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>3.08 [0.12, 80.52]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br>0.97 [0.86, 1.09]   |  |
| 0.361<br>0.0441<br>0.0771<br>-0.0078<br>0.0344<br>-0.0726<br>0.131<br>0.0583<br>-0.6539<br>-0.821<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>60<br>md social<br>-1.5545   | 0.4315<br>0.4347<br>0.4408<br>0.8797<br>1.0673<br>0.1963<br>0.1436<br>0.1142<br>0.4171<br>0.4594<br>0.5772<br>0.4568<br>1.701<br>1.6647<br>0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^2 = 16\%$<br>influences   | 1.4%<br>1.4%<br>1.3%<br>0.2%<br>6.7%<br>12.5%<br>19.8%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 1.43 [0.62, 3.34]<br>1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]<br>0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>   |  |
| 0.0441<br>0.0771<br>-0.0078<br>0.0344<br>-0.0726<br>0.131<br>-0.6539<br>-0.8539<br>-0.8521<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>60)<br>nd social<br>-1.5545   | 0.4347<br>0.4408<br>0.8797<br>1.0673<br>0.1963<br>0.1436<br>0.1142<br>0.4171<br>0.4594<br>0.5772<br>0.4568<br>1.701<br>1.6647<br>0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^2 = 16\%$<br>influences   | 1.4%<br>1.3%<br>0.2%<br>6.7%<br>12.5%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.6%<br>0.5%<br>1.3%<br>7.0%<br>65.8%  | 1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]<br>0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br>0.97 [0.86, 1.09]   |  |
| 0.0771<br>-0.0078<br>0.0344<br>-0.0726<br>0.131<br>0.0583<br>-0.6539<br>-0.821<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>2 = 0.23);<br>50)<br>nd social<br>-1.5545   | 0.4408<br>0.8797<br>1.0673<br>0.1963<br>0.1436<br>0.1420<br>0.4171<br>0.4594<br>0.5772<br>0.4568<br>1.701<br>1.6647<br>0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^2 = 16\%$<br>influences   | 1.3%<br>0.3%<br>0.2%<br>6.7%<br>12.5%<br>19.8%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.6%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 1.08 [0.46, 2.56]<br>0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>   |  |
| -0.0078<br>0.0344<br>-0.0726<br>0.131<br>0.0583<br>-0.6539<br>-0.821<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>60)<br>nd social<br>-1.5545   | 0.8797<br>1.0673<br>0.1963<br>0.1436<br>0.1142<br>0.4171<br>0.4594<br>0.5772<br>0.4568<br>1.701<br>1.6647<br>0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^2 = 16\%$<br>influences   | 0.3%<br>0.2%<br>6.7%<br>12.5%<br>19.8%<br>1.5%<br>1.2%<br>0.1%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>3.08 [0.12, 80.52]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>  |  |
| 0.0344<br>-0.0726<br>0.131<br>0.0583<br>-0.6539<br>-0.821<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>50)<br>ad social<br>-1.5545  | $\begin{array}{c} 1.0673\\ 0.1963\\ 0.1436\\ 0.1142\\ 0.4171\\ 0.4594\\ 0.5772\\ 0.4568\\ 1.701\\ 1.6647\\ 0.6343\\ 0.7561\\ 0.4443\\ 0.1924\\ \end{array}$   | 0.2%<br>6.7%<br>12.5%<br>19.8%<br>1.5%<br>1.2%<br>0.8%<br>0.1%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 1.03 [0.13, 8.38]<br>0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>3.08 [0.12, 80.52]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>   |  |
| -0.0726<br>0.131<br>0.0583<br>-0.6539<br>-0.821<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>50)<br>nd social<br>-1.5545  | $\begin{array}{c} 0.1963\\ 0.1436\\ 0.1142\\ 0.4171\\ 0.4594\\ 0.5772\\ 0.4568\\ 1.701\\ 1.6647\\ 0.6343\\ 0.7561\\ 0.4443\\ 0.1924\\ \end{array}$  | 6.7%<br>12.5%<br>19.8%<br>1.5%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 0.93 [0.63, 1.37]<br>1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>1.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>3.08 [0.12, 80.52]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br>0.97 [0.86, 1.09]   |  |
| 0.131<br>0.0583<br>-0.6539<br>-0.821<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>60)<br>nd social<br>-1.5545   | $\begin{array}{c} 0.1436\\ 0.1142\\ 0.4171\\ 0.4594\\ 0.5772\\ 0.4568\\ 1.701\\ 1.6647\\ 0.6343\\ 0.7561\\ 0.4443\\ 0.1924\\ \end{array}$   | 12.5%<br>19.8%<br>1.5%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br><b>65.8%</b>  | 1.14 [0.86, 1.51]<br>1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>3.08 [0.12, 80.52]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>   |  |
| 0.0583<br>-0.6539<br>-0.821<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>60)<br>nd social<br>-1.5545  | $\begin{array}{c} 0.1142\\ 0.4171\\ 0.4594\\ 0.5772\\ 0.4568\\ 1.701\\ 1.6647\\ 0.6343\\ 0.7561\\ 0.4443\\ 0.1924\\ \end{array}$  | 19.8%<br>1.5%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.1%<br>0.5%<br>1.3%<br>7.0%<br><b>65.8%</b>   | 1.06 [0.85, 1.33]<br>0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>  |  |
| -0.6539<br>-0.821<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>60)<br>nd social<br>-1.5545  | $\begin{array}{c} 0.4171\\ 0.4594\\ 0.5772\\ 0.4568\\ 1.701\\ 1.6647\\ 0.6343\\ 0.7561\\ 0.4443\\ 0.1924\\ \end{array}$   | 1.5%<br>1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.6%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 0.52 [0.23, 1.18]<br>0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>   |  |
| -0.821<br>-1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>60)<br>nd social<br>-1.5545   | 0.4594<br>0.5772<br>0.4568<br>1.701<br>1.6647<br>0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^2 = 16\%$<br>influences   | 1.2%<br>0.8%<br>1.2%<br>0.1%<br>0.6%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 0.44 [0.18, 1.08]<br>0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>3.08 [0.12, 80.52]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>  |  |
| -1.9741<br>-0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>50)<br>ad social<br>-1.5545   | $\begin{array}{l} 0.5772\\ 0.4568\\ 1.701\\ 1.6647\\ 0.6343\\ 0.7561\\ 0.4443\\ 0.1924\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $  | 0.8%<br>1.2%<br>0.1%<br>0.6%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 0.14 [0.04, 0.43]<br>0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>3.08 [0.12, 80.52]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>   |  |
| -0.1036<br>0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>50)<br>nd social<br>-1.5545  | $\begin{array}{l} 0.4568 \\ 1.701 \\ 1.6647 \\ 0.6343 \\ 0.7561 \\ 0.4443 \\ 0.1924 \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$   | 1.2%<br>0.1%<br>0.6%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 0.90 [0.37, 2.21]<br>2.45 [0.09, 68.62]<br>3.08 [0.12, 80.52]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>  |  |
| 0.8947<br>1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>50)<br>nd social<br>-1.5545   | $\begin{array}{c} 1.701 \\ 1.6647 \\ 0.6343 \\ 0.7561 \\ 0.4443 \\ 0.1924 \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$   | 0.1%<br>0.1%<br>0.6%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 2.45 [0.09, 68.62]<br>3.08 [0.12, 80.52]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>   |  |
| 1.1258<br>0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>50)<br>nd social<br>-1.5545   | 1.6647<br>0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^{2} = 16\%$<br>influences  | 0.1%<br>0.6%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 3.08 [0.12, 80.52]<br>1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>   |  |
| 0.2769<br>0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>60)<br>nd social<br>-1.5545   | 0.6343<br>0.7561<br>0.4443<br>0.1924<br>$I^{2} = 16\%$<br>influences  | 0.6%<br>0.5%<br>1.3%<br>7.0%<br>65.8%   | 1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>   |  |
| 0.8502<br>-0.713<br>0.1128<br>P = 0.23);<br>50)<br>nd social<br>-1.5545   | 0.7561<br>0.4443<br>0.1924<br>$I^{2} = 16\%$<br>influences  | 0.5%<br>1.3%<br>7.0%<br>65.8%<br>curricula  | 2.34 [0.53, 10.30]<br>0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>  |  |
| -0.713<br>0.1128<br>P = 0.23);<br>50)<br><b>nd social</b><br>-1.5545  | 0.4443<br>0.1924<br>I <sup>2</sup> = 16%  | 1.3%<br>7.0%<br>65.8%<br>curricula  | 0.49 [0.21, 1.17]<br>1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>  |  |
| 0.1128<br>P = 0.23);<br>50)<br>nd social<br>-1.5545   | 0.1924<br>  <sup>2</sup> = 16%  | 7.0%<br>65.8%<br>curricula  | 1.12 [0.77, 1.63]<br><b>0.97 [0.86, 1.09]</b>   |  |
| P = 0.23);<br>50)<br>nd social<br>-1.5545   | I <sup>2</sup> = 16%<br>influences  | 65.8%<br>curricula  | 0.97 [0.86, 1.09]   |  |
| 60)<br><b>nd social</b><br>-1.5545  | influences  | curricula   |   |  |
|   |   |   | 0.21 [0.00, 9.46]   | <b>↓</b> .   |
|   | 1.1015  | 0.2%  |   |  |
| -1.5413   | 1.058   | 0.2%  | 0.21 [0.03, 1.70]   | <b>←</b> .   |
| -1.0925   | 0.9314  | 0.3%  | 0.34 [0.05, 2.08]   |  |
| -0.5984   | 0.3511  | 2.1%  | 0.55 [0.28, 1.09]   | · · · · · · · · · · · · · · · · · · ·                |
| 0.1286  | 3.5782  | 0.0%  | 1.14 [0.00, 1263.63]  |  |
| -0.9582   | 0.4636  | 1.2%  | 0.38 [0.15, 0.95]   | · • • • • • • • • • • • • • • • • • • •              |
| 0.20421   | 0.282259  | 3.2%<br><b>7.4%</b>   | 0.82 [0.47, 1.42]<br><b>0.59 [0.41, 0.85]</b>   |  |
| 0.78); l <sup>2</sup><br>005)   | = 0%  |   |   |  |
| ıtrol   |   |   |   |  |
| 0.3436  | 0.1948  | 6.8%  | 1.41 [0.96, 2.07]   | ↓ <b>→</b>   |
| -0.1407   | 0.2947  | 3.0%  | 0.87 [0.49, 1.55]   |  |
| -0.3147   | 0.1276  | 15.8%   |   |  |
| -0.3229   | 0.5308  | 0.9%  | - / -   |  |
|   | 1.0951  | 0.2%  |   |  |
|   |   | 26.7%   |   |  |
|   | = 51%   |   |   |  |
|   |   |   |   |  |
| 2.4868  | 2.168   | 0.1%  | 12.02 [0.17. 842.19]  |  |
| -1.1872   | 2.503   | 0.0%  | 0.31 [0.00, 41.21]  | < · ·  |
| 0.071.12  | 1.00/   | 0.1%  | 2.49 [0.10, 61.80]  |  |
| , ,   | = 19%   |   |   |  |
|   |   | 100.0%  | 0.91 [0.82, 1.01]   |  |
|   | 12 1.000  |   |   | ▼  |
| v = 0.14  | $1^{2} = 1.9\%$   |   |   | 0.2 0.5 1 2  |
| 1   | -0.1407<br>-0.3147<br>-0.3229<br>-0.3209<br>-0.09); I <sup>2</sup><br>19)<br>2.4868<br>-1.1872<br>-0.27); I <sup>2</sup><br>58)   | $\begin{array}{ccccc} 0.3436 & 0.1948 \\ -0.1407 & 0.2947 \\ -0.3147 & 0.1276 \\ -0.3229 & 0.5308 \\ -0.3209 & 1.0951 \\ 0.09); 1^2 = 51\% \\ 19) \\ \hline \\ 2.4868 & 2.168 \\ -1.1872 & 2.503 \\ 0.27); 1^2 = 19\% \\ 58) \end{array}$ | $\begin{array}{cccccccc} 0.3436 & 0.1948 & 6.8\% \\ -0.1407 & 0.2947 & 3.0\% \\ -0.3147 & 0.1276 & 15.8\% \\ -0.3229 & 0.5308 & 0.9\% \\ -0.3209 & 1.0951 & 0.2\% \\ 26.7\% & 26.7\% \\ 10.09); 1^2 = 51\% \\ 19) \\ \begin{array}{c} 2.4868 & 2.168 & 0.1\% \\ -1.1872 & 2.503 & 0.0\% \\ 0.27); 1^2 = 19\% \\ 58) \\ \end{array}$   | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ |

Figure 2 Forest plot showing results for all curricula versus control (1 year or less follow-up).

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| Table 2       All curricula versus control groups, broken dow         Theoretical orientation of curricula | Curricula type and overall<br>Curricula versus<br>control (1 year or less)<br>ORs (95% Cl) | Curricula versus<br>control (longest follow-up)<br>ORs (95% Cl) |
|--|--|---|
| Information only   | 0.12 (0.00 to 14.87)   | 0.12 (0.00 to 14.87)  |
| Social competence  | Not estimable  | 0.65 (0.43 to 0.96)   |
| Social influences  | 0.97 (0.86 to 1.09)  | 0.92 (0.84 to 1.00)   |
| Combined social competence and social influences   | 0.59 (0.41 to 0.85)  | 0.60 (0.43 to 0.83)   |
| Multimodal   | 0.88 (0.73 to 1.07)  | 0.88 (0.73 to 1.05)   |
| Overall  | 0.91 (0.82 to 1.01)  | 0.88 (0.82 to 0.95)   |

multimodal). Four trials that compared peer-led and adult-led interventions to controls were not included, either because it was not clear who delivered the programme<sup>22 49</sup> or because it was delivered online.<sup>18 45</sup>

Tobacco only versus multifocal curricula: multifocal curricula showed no overall effect compared with control either at 1 year or at longest follow-up. Multifocal social competence curriculum (five trials, seven arms, OR 0.65, CI 0.43 to 0.96; I<sup>2</sup>=0%) and multifocal combined social competence/influences (five trials, six arms, OR 0.53, CI 0.34 to 0.83;  $I^2=0\%$ ) both showed a significant effect at longest follow-up. Curricula focused on only tobacco compared with control (16 trials, 27 arms) showed no effect for follow-up  $\leq 1$  year (OR 0.93, CI 0.83 to 1.04;  $I^2=31\%$ ), but there was an effect at longest follow-up (28) trials, 43 arms, OR 0.89, CI 0.81 to 0.97; I<sup>2</sup>=24%). None of the other three curricula (social influences, combined social competence/social influences and multimodal) found significant differences at follow-up of either  $\leq 1$  year or longest follow-up.

Adding booster sessions after the main curriculum: six trials had 3,<sup>28</sup> <sup>29</sup> <sup>46</sup> 4,<sup>51</sup> 8<sup>15</sup> and  $10^{16}$  booster sessions ranging from 1 to 2 years after the initial curricula.

Curricula without booster sessions showed no significant effect at follow-up  $\leq 1$  year (24 trials, 37 arms) compared with controls (OR 0.92, CI 0.83 to 1.02;  $I^2=21\%$ ), but did show significant effect at longest follow-up (45 trials, 67 arms, OR 0.90, CI 0.83 to 0.96; I<sup>2</sup>=10%). Similarly, for all curricula with booster sessions there were no significant differences from controls at 1 year or less (three trials, four arms, OR 0.70, CI 0.40 to 1.07;  $I^2=0\%$ ), but at longest follow-up (six trials, seven arms) there was a significant difference (OR 0.73, CI 0.55 to 0.97;  $I^2=21\%$ ). The combined social competence/social influences curricula, with booster sessions, had a positive effect at 1 year or less (OR 0.50, CI 0.26 to 0.96; I<sup>2</sup>=0%) and also at longest follow-up (OR 0.56, CI 0.33 to 0.96;  $I^2=0\%$ ), but only for two<sup>15</sup>  $I^6$ and three trials,<sup>15 16 51</sup> respectively.

Age: an exploratory scatter plot of all trials of age versus odds ratios showed no trend and no subanalysis was completed by age.

#### DISCUSSION

C-RCTs with follow-up of a year or less demonstrated no overall significant effect, and the only individual

curricula types that showed positive results within this group were the combined social competence/social influences curricula. The pooled results of the trials of all curricula at longest follow-up showed a positive effect in preventing starting smoking (OR 0.88, 95% CI 0.82 to 0.95). This represents an average reduction of 12% and suggests that the effect is more evident when assessed over a longer time period. There have been no studies Вu to identify why curricula with longer periods of follow-up are more effective.

The only individual curricula types at longest follow-up that showed a statistically significant result were social competence and combined social competence/social influence curricula.

A significant finding of this review is that over 60% of trials use social influences curricula, but these were not effective. Social influences curricula are widely used worldwide. Forty-three per cent of included trials in this review were based in the USA; here the DARE (Drug Abuse Resistance Education) programme, which is a social influences curriculum, is used in 75% of school districts.<sup>61</sup> Few studies reported results by gender. For curricula presented by adults there were significant overall effects at longest follow-up and also for social competence and combined social competence/social influences curricula. The focus of the curricula, tobacco prevention only or multifocal, did not appear to make a difference. Pooled estimates at either 1 year or less or at longest follow-up showed estimates of a similar size. For curricula with booster sessions there was a significant effect only for combined social competence/social influ-ences interventions with follow-up of 1 year or less and at longest follow-up. Strengths The strengths of the review are the comprehensive searches, use of baseline never-smoker intention to the

searches, use of baseline never-smoker intention-to-treat cohorts, and low heterogeneity between these trials. Comprehensive searches were conducted in multiple electronic databases, grey literature and reference lists with no limitations of date or language, and experts were consulted. It is unlikely that key trials were missed. We either derived cohorts of baseline never-smokers from trial articles or asked authors to provide such cohorts with new data runs. Using smoking outcomes from

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Figure 3 Forest plot showing results for all curricula versus control (longest follow-up).

| 2.1 Information divine   | log[Odds Ratio]  |  | Weight   | Odds Ratio<br>IV, Fixed, 95% CI  | Odds Ratio<br>IV, Fixed, 95% Cl       |
|--|--|--|--|--|---------------------------------------|
| <b>.2.1 Information giving cu</b><br>loward 1996   | -2.092   | 2.4445   | 0.0%   | 0.12 [0.00, 14.87]   |                                       |
| ubtotal (95% CI)   |  |  | 0.0%   | 0.12 [0.00, 14.87]   |                                       |
| eterogeneity: Not applicabl<br>est for overall effect: Z = 0.  |  |  |  |  |                                       |
| .2.2 Social competence cu  | rricula versus control   |  |  |  |                                       |
| Valter 1986  | -1.4055  | 0.7404   | 0.2%   | 0.25 [0.06, 1.05]  | ←                                     |
| poth 2001 (ISFP)<br>poth 2001 (PDFY)   | -0.7252<br>-0.4447   | 0.4367<br>0.4337   | 0.7%<br>0.7%   | 0.48 [0.21, 1.14]<br>0.64 [0.27, 1.50]   |                                       |
| poth 2002 (LST)  | -0.2181  | 0.4821   | 0.6%   | 0.80 [0.31, 2.07]  |                                       |
| torr 2002 (CC)   | -0.3277  | 0.72   | 0.3%   | 0.72 [0.18, 2.95]  |                                       |
| torr 2002 (FSP)<br>Connell 2007  | -0.3218<br>0.1376  | 0.7197<br>0.5431   | 0.3%<br>0.5%   | 0.72 [0.18, 2.97]<br>1.15 [0.40, 3.33]   |                                       |
| ubtotal (95% CI)   | 15 6 (0 0 74) 12   | 00/  | 3.2%   | 0.65 [0.43, 0.96]  | -                                     |
| leterogeneity: Chi <sup>2</sup> = 3.52,<br>est for overall effect: Z = 2.  |  | 0%   |  |  |                                       |
|  |  |  |  |  |                                       |
| L.2.3 Social influences curr<br>Denson 1981  | -1.9186  | 0.8846   | 0.2%   | 0.15 [0.03, 0.83]  | ←────                                 |
| Coe 1982   | -0.5341  | 0.9839   | 0.1%   | 0.59 [0.09, 4.03]  |                                       |
| Armstrong 1990 (Peer)<br>Armstrong 1990 (Teacher)  | -0.071<br>-0.3958  | 0.3369<br>0.3409   | 1.2%<br>1.2%   | 0.93 [0.48, 1.80]<br>0.67 [0.35, 1.31]   |                                       |
| illickson 1990 (HealthEd)  | -0.0232  | 0.3409   | 0.9%   | 0.98 [0.47, 2.05]  |                                       |
| illickson 1990 (Teen)  | -0.1041  | 0.379  | 0.9%   | 0.90 [0.43, 1.89]  |                                       |
| elch 1990 (No peers)<br>elch 1990 (Peers)  | -0.1244<br>-1.4894   | 0.7836<br>1.1322   | 0.2%<br>0.1%   | 0.88 [0.19, 4.10]<br>0.23 [0.02, 2.07]   |                                       |
| lutbeam 1993 (FSE+SAM)   | -1.4894<br>0.0441  | 0.4347   | 0.1%   | 1.05 [0.45, 2.45]  |                                       |
| utbeam 1993 (FSE)  | 0.361  | 0.4315   | 0.7%   | 1.43 [0.62, 3.34]  |                                       |
| Jutbeam 1993 (SAM)   | 0.0771   | 0.4408   | 0.7%   | 1.08 [0.46, 2.56]  |                                       |
| De Vries 1994 (High)<br>De Vries 1994 (Voc)  | -0.0078<br>0.0344  | 0.8797<br>1.0673   | 0.2%<br>0.1%   | 0.99 [0.18, 5.56]<br>1.03 [0.13, 8.38]   | · · ·                                 |
| nnett 1994   | -0.0101  | 0.2004   | 3.3%   | 0.99 [0.67, 1.47]  |                                       |
| fort 1995  | -0.8599  | 0.3903   | 0.9%   | 0.42 [0.20, 0.91]  |                                       |
| ilder 1996<br>weyard 1999  | 0.01<br>0.0583   | 0.1271<br>0.1222   | 8.3%<br>9.0%   | 1.01 [0.79, 1.30]<br>1.06 [0.83, 1.35]   | <b>—</b>                              |
| eterson 2000   | -0.0578  | 0.2056   | 3.2%   | 0.94 [0.63, 1.41]  |                                       |
| De Vries 2003 (UK)   | -0.0619  | 0.1079   | 11.5%  | 0.94 [0.76, 1.16]  | +                                     |
| Ilickson 2003<br>Ausems 2004 (Out School)  | -0.7267<br>-0.8675   | 0.2868 0.427   | 1.6%<br>0.7%   | 0.48 [0.28, 0.85]<br>0.42 [0.18, 0.97]   |                                       |
| usems 2004 (In school)   | -0.6539  | 0.427  | 0.8%   | 0.52 [0.23, 1.18]  |                                       |
| Inger 2004 (CHIPS)   | 0.1306   | 0.4762   | 0.6%   | 1.14 [0.45, 2.90]  |                                       |
| Jnger 2004 (FLAVOR)<br>Garcia 2005   | -0.0393<br>-1.9741   | 0.4831<br>0.5772   | 0.6%<br>0.4%   | 0.96 [0.37, 2.48]<br>0.14 [0.04, 0.43]   | <u> </u>                              |
| Chou 2006  | -0.1036  | 0.4568   | 0.4%   | 0.90 [0.37, 2.21]  | ·                                     |
| chulze 2006  | 0.0558   | 0.1374   | 7.1%   | 1.06 [0.81, 1.38]  |                                       |
| /alente 2007 (TND)<br>/alente 2007 (TNDNetwork)  | 0.8947<br>1.1258   | 1.701<br>1.6647  | 0.0%<br>0.0%   | 2.45 [0.09, 68.62]<br>3.08 [0.12, 80.52]   |                                       |
| uller 2008 (Australia)   | 0.2769   | 0.6343   | 0.0%   | 1.32 [0.38, 4.57]  | ·                                     |
| uller 2008 (USA)   | 0.8502   | 0.7561   | 0.2%   | 2.34 [0.53, 10.30]   |                                       |
| aggiano 2008<br>Irokhorov 2008   | -0.043<br>-1.5878  | 0.2079<br>1.7667   | 3.1%<br>0.0%   | 0.96 [0.64, 1.44]  |                                       |
| lesnicow 2008 (LST)  | -0.8174  | 1.2518   | 0.0%   | 0.20 [0.01, 6.52]<br>0.44 [0.04, 5.14]   |                                       |
| lingwalt 2009a   | 0.1886   | 0.3133   | 1.4%   | 1.21 [0.65, 2.23]  |                                       |
| (an Lier 2009  | -0.245   | 0.3649   | 1.0%   | 0.78 [0.38, 1.60]  |                                       |
| a Torre 2010 (A)<br>a Torre 2010 (C)   | -0.2075<br>-1.972  | 0.5248<br>1.0091   | 0.5%<br>0.1%   | 0.81 [0.29, 2.27]<br>0.14 [0.02, 1.01]   | · · · · · · · · · · · · · · · · · · · |
| Conner 2010 (I)  | -0.322   | 0.305  | 1.4%   | 0.72 [0.40, 1.32]  |                                       |
| Conner 2010 (SE)   | -0.0099  | 0.2946   | 1.5%   | 0.99 [0.56, 1.76]  |                                       |
| Crone 2011<br>Gabrhelik 2012   | -0.5402<br>-0.0623   | 0.4487<br>0.155  | 0.7%<br>5.6%   | 0.58 [0.24, 1.40]<br>0.94 [0.69, 1.27]   |                                       |
| ubtotal (95% CI)   |  |  | 72.1%  | 0.92 [0.84, 1.00]  | •                                     |
| leterogeneity: Chi <sup>2</sup> = 46.55<br>Test for overall effect: Z = 1  |  | = 12%  |  |  |                                       |
|  |  |  |  |  |                                       |
| L.2.4 Combined social com<br>lotvin 1980   | petence and social int<br>-1.5545  | fluences<br>1.9397   | versus co<br>0.0%  |  | <b></b>                               |
| lotvin 1982  | -0.0324  | 1.1015   | 0.0%   | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]   |                                       |
| lotvin 1983 (LST)  | -1.0925  | 0.9314   | 0.2%   | 0.34 [0.05, 2.08]  |                                       |
|  |  | 1.058  | 0.1%   | 0.21 [0.03, 1.70]  | +                                     |
| lotvin 1983 (Intensive)  | -1.5413  |  |  | 0 55 10 20 1 001   |                                       |
| lotvin 1999  | -1.5413<br>-0.5984<br>-0.3394  | 0.3511<br>0.4938   | 1.1%<br>0.6%   | 0.55 [0.28, 1.09]<br>0.71 [0.27, 1.87]   |                                       |
| lotvin 1999<br>ipoth 2002 (LST + SFP)<br>ieal 2006   | -0.5984<br>-0.3394<br>0.1286   | 0.4938<br>3.5782   | 0.6%<br>0.0%   | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]  | · · · · · · · · · · · · · · · · · · · |
| lotvin 1999<br>poth 2002 (LST + SFP)<br>eal 2006<br>tesnicow 2008 (Harm Min)   | -0.5984<br>-0.3394<br>0.1286<br>-0.8853  | 0.4938<br>3.5782<br>0.3933   | 0.6%<br>0.0%<br>0.9%   | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]   |                                       |
| lotvin 1999<br>ipoth 2002 (LST + SFP)<br>ieal 2006   | -0.5984<br>-0.3394<br>0.1286   | 0.4938<br>3.5782   | 0.6%<br>0.0%   | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]  | · · · · ·                             |
| lotvin 1999<br>poth 2002 (LST + SFP)<br>ieal 2006<br>Resnicow 2008 (Harm Min)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Teacher)<br>una-Adame 2013   | -0.5984<br>-0.3394<br>0.1286<br>-0.8853<br>0.3567  | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612   | 0.6%<br>0.0%<br>0.9%<br>0.1%<br>0.1%<br>1.7%   | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18.76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]   | · · · · ·                             |
| iotvin 1999<br>ipoth 2002 (LST + SFP)<br>ieal 2006<br>tesnicow 2008 (Harm Min)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Teacher)<br>una-Adame 2013<br><b>ubtotal (95% CI)</b>   | -0.5984<br>-0.3394<br>0.1286<br>-0.8853<br>0.3567<br>-1.2528<br>-0.20421 0.  | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>.282259  | 0.6%<br>0.0%<br>0.9%<br>0.1%<br>0.1%   | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18.76]<br>0.29 [0.02, 3.38]  | · · · · ·                             |
| iotvin 1999<br>ipoth 2002 (LST + SFP)<br>eal 2006<br>tesnicow 2008 (Harm Min)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Teacher)<br>uma-Adame 2013<br><b>iubtotal (95% CI)</b><br>teterogeneity: Chi <sup>2</sup> = 4.90,  | -0.5984<br>-0.3394<br>0.1286<br>-0.8853<br>0.3567<br>-1.2528<br>-0.20421 0.<br>df = 10 (P = 0.90); I <sup>2</sup> =  | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>.282259  | 0.6%<br>0.0%<br>0.9%<br>0.1%<br>0.1%<br>1.7%   | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18.76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]   | · · · · ·                             |
| lotvin 1999<br>poth 2002 (LST + SFP)<br>eal 2006<br>tesnicow 2008 (Harm Min)<br>veichold 2012 (Teacher)<br>veichold 2012 (Teacher)<br>una-Adame 2013<br><b>uibtolal (95% CI)</b><br>leterogeneity: Chi <sup>2</sup> = 4.90,<br>est for overall effect: Z = 3   | $\begin{array}{c} -0.5984 \\ -0.3394 \\ 0.1286 \\ -0.8853 \\ 0.3567 \\ -1.2528 \\ -0.20421 \\ 0. \\ df = 10 \ (P = 0.90); \ l^2 = \\ 0.4 \ (P = 0.002) \end{array}$  | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>.282259  | 0.6%<br>0.0%<br>0.9%<br>0.1%<br>0.1%<br>1.7%   | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18.76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]   | ·                                     |
| iotvin 1999<br>ipoth 2002 (LST + SFP)<br>eal 2006<br>tesnicow 2008 (Harm Min)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Teacher)<br>uma-Adame 2013<br><b>iubtotal (95% CI)</b><br>teterogeneity: Chi <sup>2</sup> = 4.90,  | $\begin{array}{c} -0.5984 \\ -0.3394 \\ 0.1286 \\ -0.8853 \\ 0.3567 \\ -1.2528 \\ -0.20421 \\ 0. \\ df = 10 \ (P = 0.90); \ l^2 = \\ 0.4 \ (P = 0.002) \end{array}$  | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>.282259  | 0.6%<br>0.0%<br>0.9%<br>0.1%<br>0.1%<br>1.7%   | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18.76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]   | ·                                     |
| Iotvin 1999<br>poth 2002 (LST + SFP)<br>eal 2006<br>tesnicow 2008 (Harm Min)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Peer)<br>Viubtoal (95% CI)<br>leterogeneity: Chi <sup>2</sup> = 4.90,<br>rest for overall effect: Z = 3<br>.2.5 Multimodal programm<br>liper 2000 (HFL Age)   | $\begin{array}{c} -0.5984 \\ -0.394 \\ 0.1286 \\ -0.8853 \\ 0.3567 \\ -1.2528 \\ -0.20421 \\ 0. \\ df = 10 \ (P = 0.90); \ l^2 = \\ 0.4 \ (P = 0.002) \\ \end{array}$  | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>.282259<br>= 0%<br>0.4134<br>0.4171  | 0.6%<br>0.0%<br>0.9%<br>0.1%<br>1.7%<br><b>4.8%</b><br>0.8%  | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18.76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]<br>0.60 [0.43, 0.83]<br>1.03 [0.46, 2.31]<br>2.11 [0.93, 4.77]  | ·                                     |
| Iotvin 1999<br>poth 2002 (LST + SFP)<br>eat 2006<br>tesnicow 2008 (Harm Min)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Teacher)<br>una-Adame 2013<br><b>ibitotal (95% CI)</b><br>teterogeneity: Chi <sup>2</sup> = 4.90,<br>res for overall effect Z = 3<br><b>2.5 Multimodal program</b><br>tiper 2000 (HFL)<br>iper 2000 (HFL Age)<br>be Vries 2003 (Denmark)  | $\begin{array}{c} -0.5984 \\ -0.3394 \\ 0.1286 \\ -0.8853 \\ 0.3567 \\ -1.2528 \\ -0.20421 \\ 0. \\ df = 10 \left( P = 0.90 \right); \ l^2 \\ e \\ 0.4 \left( P = 0.002 \right) \\ mes \ versus \ control \\ 0.027 \\ 0.7458 \\ 0.1398 \end{array}$  | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>.282259<br>= 0%<br>0.4134<br>0.4171<br>0.1847  | 0.6%<br>0.0%<br>0.9%<br>0.1%<br>0.1%<br>1.7%<br>4.8%   | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18.76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]<br>0.60 [0.43, 0.83]<br>1.03 [0.46, 2.31]<br>2.11 [0.93, 4.77]<br>1.15 [0.80, 1.65]   | ·                                     |
| lotvin 1999<br>poth 2002 (LST + SFP)<br>eal 2006<br>tesnicow 2008 (Harm Min)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Teacher)<br>unta-Adame 2013<br>uitotal (95% CI)<br>teterogeneity: Chi <sup>2</sup> = 4.90,<br>"est for overall effect: Z = 3<br>.2.5 Multimodal programm<br>iper 2000 (HFL)<br>iper 2000 (HFL)<br>iper 2000 (HFLAge)<br>be Vries 2003 (Denmark)<br>be Vries 2003 (Denmark)<br>be Vries 2003 (Finland)   | $\begin{array}{c} -0.5984 \\ -0.394 \\ 0.1286 \\ -0.8853 \\ 0.3567 \\ -1.2528 \\ -0.20421 \\ 0. \\ df = 10 \ (P = 0.90); \ l^2 = \\ 0.4 \ (P = 0.002) \\ \end{array}$  | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>.282259<br>= 0%<br>0.4134<br>0.4171  | 0.6%<br>0.0%<br>0.9%<br>0.1%<br>1.7%<br><b>4.8%</b><br>0.8%  | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18, 76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]<br>0.60 [0.43, 0.83]<br>1.03 [0.46, 2.31]<br>2.11 [0.93, 4.77]<br>1.55 [0.82, 2.24]  | ·                                     |
| Iotvin 1999<br>poth 2002 (LST + SFP)<br>eal 2006<br>tesnicow 2008 (Harm Min)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Peacher)<br>una-Adame 2013<br>uibtotal (95% CI)<br>leterogeneity: Chi <sup>2</sup> = 4.90,<br>rest for overall effect. Z = 3<br>.2.5 Multimodal programm<br>riper 2000 (HFL Age)<br>De Vries 2000 (HFL Age)<br>De Vries 2000 (HFLAge)<br>De Vries 2003 (Finland)<br>De Vries 2003 (Fortugal)<br>imons-Morton 2005   | $\begin{array}{c} -0.5984\\ -0.3394\\ 0.1286\\ -0.8853\\ 0.3567\\ -1.2528\\ -0.20421\\ 0.\\ df = 10 \left( P = 0.90 \right); I^2 = \\ 0.04 \left( P = 0.002 \right) \\ \textbf{mes versus control} \\ 0.027\\ 0.7458\\ 0.1398\\ 0.3024\\ -0.478\\ -0.1933 \end{array}$   | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>.282259<br>• 0%<br>0.4134<br>0.4171<br>0.1847<br>0.2582<br>0.1303<br>0.5253  | 0.6%<br>0.9%<br>0.1%<br>0.1%<br>1.7%<br><b>4.8%</b><br>0.8%<br>3.9%<br>2.0%<br>7.9%<br>0.5%  | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18, 76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]<br>0.60 [0.43, 0.83]<br>1.03 [0.46, 2.31]<br>2.11 [0.93, 4.77]<br>1.15 [0.80, 1.65]<br>1.35 [0.82, 2.24]<br>0.62 [0.48, 0.80]<br>0.82 [0.29, 2.31]   |                                       |
| Iotvin 1999<br>poth 2002 (LST + SFP)<br>eal 2006<br>Veichold 2012 (Peer)<br>Veichold 2012 (Teacher)<br>una-Adame 2013<br>Veithold 2012 (Teacher)<br>una-Adame 2013<br>Veithold (95% CI)<br>Ieterogeneity: Chi <sup>2</sup> = 4.90,<br>est for overall effect: Z = 3<br><b>2.5 Multimodal programm</b><br>'iper 2000 (HFL)<br>'iper 2000 (HFL)<br>'iper 2000 (HFL)<br>'iper 2000 (HFL)<br>'iper 2000 (HFL)<br>'be Vries 2003 (Jenmark)<br>De Vries 2003 (Fortugal)<br>imons-Morton 2005<br>Ven 2010   | $\begin{array}{c} -0.5984\\ -0.3394\\ 0.1286\\ -0.8853\\ 0.3567\\ -1.2528\\ -0.20421\\ 0.\\ df=10 \left(P=0.90\right); \ l^2=\\ 0.04 \left(P=0.90\right); \ l^2=\\ 0.04 \left(P=0.902\right) \end{array}$  | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>.282259<br>= 0%<br>0.4134<br>0.4171<br>0.1847<br>0.2582<br>0.1303  | 0.6%<br>0.9%<br>0.1%<br>1.7%<br><b>4.8%</b><br>0.8%<br>3.9%<br>2.0%<br>7.9%<br>0.5%  | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18.76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]<br>0.60 [0.43, 0.83]<br>1.03 [0.46, 2.31]<br>2.11 [0.93, 4.77]<br>1.15 [0.80, 1.65]<br>1.35 [0.82, 2.24]<br>0.62 [0.48, 0.80]<br>0.82 [0.29, 2.31]<br>1.03 [0.17, 6.42]   |                                       |
| Iotvin 1999<br>poth 2002 (LST + SFP)<br>etal 2006<br>tesnicow 2008 (Harm Min)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Teacher)<br>una-Adame 2013<br><b>ibitotal (95% CI)</b><br>iterorgeneity: Chi <sup>2</sup> = 4.90,<br>'est for overall effect: Z = 3<br><b>.2.5 Multimodal program</b><br>tiper 2000 (HFL Age)<br>be Vries 2003 (Chenmark)<br>be Vries 2003 (Chentand)<br>be Vries 2003 (Finland)<br>be Vries 2003 (Fortugal)<br>imons-Morton 2005<br>Ven 2010<br><b>uitotal (95% CI)</b>   | $\begin{array}{c} -0.5984\\ -0.3394\\ 0.1286\\ -0.8853\\ 0.3567\\ -1.2528\\ -0.20421\\ 0.\\ df=10 (P=0.90); \ l^2\\ =0.04 (P=0.90); \ l^2\\ 0.027\\ 0.7458\\ 0.1398\\ 0.3024\\ -0.478\\ -0.1933\\ 0.0299 \end{array}$  | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>282259<br>0%<br>0.4134<br>0.4171<br>0.1847<br>0.2582<br>0.1303<br>0.5253<br>0.9337   | 0.6%<br>0.9%<br>0.1%<br>0.1%<br>1.7%<br><b>4.8%</b><br>0.8%<br>3.9%<br>2.0%<br>7.9%<br>0.5%  | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18, 76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]<br>0.60 [0.43, 0.83]<br>1.03 [0.46, 2.31]<br>2.11 [0.93, 4.77]<br>1.15 [0.80, 1.65]<br>1.35 [0.82, 2.24]<br>0.62 [0.48, 0.80]<br>0.82 [0.29, 2.31]   |                                       |
| Iotvin 1999<br>poth 2002 (LST + SFP)<br>eal 2006<br>Veichold 2012 (Peer)<br>Veichold 2012 (Teacher)<br>una-Adame 2013<br>Veithold 2012 (Teacher)<br>una-Adame 2013<br>Veithold (95% CI)<br>Ieterogeneity: Chi <sup>2</sup> = 4.90,<br>est for overall effect: Z = 3<br><b>2.5 Multimodal programm</b><br>'iper 2000 (HFL)<br>'iper 2000 (HFL)<br>'iper 2000 (HFL)<br>'iper 2000 (HFL)<br>'iper 2000 (HFL)<br>'be Vries 2003 (Jenmark)<br>De Vries 2003 (Fortugal)<br>imons-Morton 2005<br>Ven 2010   | $\begin{array}{c} -0.5984 \\ -0.3394 \\ -0.3394 \\ 0.1286 \\ -0.8853 \\ 0.3567 \\ -1.2528 \\ 0.020421 \\ 0. \\ 0.4 \ (P=0.002) \end{array}$ and the second sec   | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>282259<br>0%<br>0.4134<br>0.4171<br>0.1847<br>0.2582<br>0.1303<br>0.5253<br>0.9337   | 0.6%<br>0.9%<br>0.1%<br>1.7%<br><b>4.8%</b><br>0.8%<br>3.9%<br>2.0%<br>7.9%<br>0.5%  | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18.76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]<br>0.60 [0.43, 0.83]<br>1.03 [0.46, 2.31]<br>2.11 [0.93, 4.77]<br>1.15 [0.80, 1.65]<br>1.35 [0.82, 2.24]<br>0.62 [0.48, 0.80]<br>0.82 [0.29, 2.31]<br>1.03 [0.17, 6.42]   |                                       |
| Iotvin 1999<br>poth 2002 (LST + SFP)<br>eal 2006<br>tesnicow 2008 (Harm Min)<br>Veichold 2012 (Teacher)<br>una-Adame 2013<br>uibtotal (95% CI)<br>teterogeneity: Chi <sup>2</sup> = 4.90,<br>"est for overall effect: Z = 3<br>.2.5 Multimodal programm<br>iper 2000 (HFL Age)<br>De Vries 2003 (Finland)<br>De Vries 2003 (Portugal)<br>imons-Morton 2005<br>Ven 2010<br>uibtotal (95% CI)<br>teterogeneity: Chi <sup>2</sup> = 16.67   | $\begin{array}{c} -0.5984 \\ -0.3394 \\ -0.3394 \\ 0.1286 \\ -0.8853 \\ 0.3567 \\ -1.2528 \\ 0.020421 \\ 0. \\ 0.4 \ (P=0.002) \end{array}$ and the second sec   | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>282259<br>0%<br>0.4134<br>0.4171<br>0.1847<br>0.2582<br>0.1303<br>0.5253<br>0.9337   | 0.6%<br>0.9%<br>0.1%<br>1.7%<br><b>4.8%</b><br>0.8%<br>3.9%<br>2.0%<br>7.9%<br>0.5%  | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18.76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]<br>0.60 [0.43, 0.83]<br>1.03 [0.46, 2.31]<br>2.11 [0.93, 4.77]<br>1.15 [0.80, 1.65]<br>1.35 [0.82, 2.24]<br>0.62 [0.48, 0.80]<br>0.82 [0.29, 2.31]<br>1.03 [0.17, 6.42]   |                                       |
| Iotvin 1999<br>poth 2002 (LST + SFP)<br>eal 2006<br>tesnicow 2008 (Harm Min)<br>Veichold 2012 (Teacher)<br>una-Adame 2013<br>uibtotal (95% CI) = 4.90,<br>rest for overall effect: Z = 3<br>.2.5 Multimodal programm<br>iper 2000 (HFL Age)<br>De Vries 2003 (Finland)<br>De Vries 2003 (Finland)<br>De Vries 2003 (Fortugal)<br>imons-Morton 2005<br>Ven 2010<br>uibtotal (95% CI)<br>teterogeneity: Chi <sup>2</sup> = 16.67<br>est for overall effect: Z = 1  | $\begin{array}{c} -0.5984 \\ -0.3394 \\ -0.3394 \\ 0.1286 \\ -0.8853 \\ 0.3567 \\ -1.2528 \\ 0.020421 \\ 0. \\ 0.4 \ (P=0.002) \end{array}$ and the second sec   | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>282259<br>0%<br>0.4134<br>0.4171<br>0.1847<br>0.2582<br>0.1303<br>0.5253<br>0.9337   | 0.6%<br>0.9%<br>0.1%<br>1.7%<br><b>4.8%</b><br>0.8%<br>3.9%<br>2.0%<br>7.9%<br>0.5%  | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18.76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]<br>0.60 [0.43, 0.83]<br>1.03 [0.46, 2.31]<br>2.11 [0.93, 4.77]<br>1.15 [0.80, 1.65]<br>1.35 [0.82, 2.24]<br>0.62 [0.48, 0.80]<br>0.82 [0.29, 2.31]<br>1.03 [0.17, 6.42]   |                                       |
| Iotvin 1999<br>poth 2002 (LST + SFP)<br>eal 2006<br>Veichold 2012 (Peer)<br>Veichold 2012 (Teacher)<br>una-Adame 2013<br>Veithold 2012 (Teacher)<br>una-Adame 2013<br>Veithold (95% CI)<br>tetrogoneity: Chi <sup>2</sup> = 4.90,<br>rest for overall effect: Z = 3<br>.2.5 Multimodal programm<br>iper 2000 (HFL)<br>iper 2000 | $\begin{array}{c} -0.5984\\ -0.3394\\ 0.1286\\ -0.8853\\ 0.3567\\ -1.2528\\ 0.3667\\ -1.2528\\ 0.020421\\ 0.04 \left( P=0.002 \right) \\ \\ \textbf{ms versus control} \\ 0.027\\ 0.7458\\ 0.1398\\ 0.3024\\ -0.478\\ 0.1398\\ 0.3024\\ -0.478\\ 0.1398\\ 0.3024\\ -0.478\\ -0.1333\\ 0.0299 \\ \textbf{, df}=6 \left( P=0.01 \right) \textbf{, I}^2 = \\ .44 \left( P=0.15 \right) \\ \end{array}$  | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>.282259<br>= 0%<br>0.4134<br>0.4171<br>0.1847<br>0.2582<br>0.1303<br>0.5253<br>0.9337<br>= 64%<br>0.5016<br>0.4808   | 0.6%<br>0.0%<br>0.1%<br>0.1%<br>1.7%<br>4.8%<br>0.8%<br>2.0%<br>7.9%<br>0.5%<br>0.2%<br>16.1%  | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263,63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18,76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]<br>0.60 [0.43, 0.83]<br>1.03 [0.46, 2.31]<br>2.11 [0.93, 4.77]<br>1.15 [0.80, 1.65]<br>1.35 [0.82, 2.24]<br>0.62 [0.48, 0.80]<br>0.82 [0.29, 2.31]<br>1.03 [0.17, 6.42]<br>0.88 [0.73, 1.05]<br>0.73 [0.27, 1.94]<br>0.93 [0.36, 2.39]  |                                       |
| totvin 1999<br>poot 2002 (LST + SFP)<br>eal 2006<br>tesnicow 2008 (Harm Min)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Teacher)<br>una-Adame 2013<br>ubtotal (95% CI)<br>teterogeneity: Chi <sup>2</sup> = 4.90,<br>rest for overall effect: Z = 3<br>2.5 Multimodal programm<br>iper 2000 (HFL)<br>iper 2000 (HFL)<br>iper 2000 (HFL)<br>ver 2003 (Denmark)<br>be Vries 2003 (Pentugal)<br>be Vries 2003 (Pentugal)<br>imons-Morton 2005<br>Ver a 2010<br>ubtotal (95% CI)<br>ubtotal (95% CI)<br>iest for overall effect: Z = 1<br>2.6 Other interventions<br>tellam 1998 (CBG)<br>tellam 1998 (ML) (1)<br>iega-Talamana 1988 (F)  | $\begin{array}{c} -0.5984\\ -0.3994\\ 0.1286\\ -0.8853\\ 0.3567\\ -1.2528\\ -0.20421\\ 0.\\ df=10 (P=0.90); \ l^2=\\ 0.4 (P=0.002) \\ \end{array}$   | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82259<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559759<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559<br>2.82559 | 0.6%<br>0.0%<br>0.1%<br>0.1%<br>1.7%<br>4.8%<br>0.8%<br>3.9%<br>2.0%<br>7.9%<br>0.5%<br>0.2%<br>16.1%  | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18, 76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]<br>0.60 [0.43, 0.83]<br>1.03 [0.46, 2.31]<br>2.11 [0.93, 4.77]<br>1.15 [0.80, 1.65]<br>1.35 [0.82, 2.24]<br>0.62 [0.48, 0.80]<br>0.62 [0.29, 2.31]<br>1.03 [0.17, 6.42]<br>0.88 [0.73, 1.05]<br>0.73 [0.27, 1.94]<br>0.73 [0.27, 1.94]<br>1.20 [0.17, 842.19]                          |                                       |
| Iotvin 1999<br>poth 2002 (LST + SFP)<br>eal 2006<br>Veichold 2012 (Peer)<br>Veichold 2012 (Teacher)<br>una-Adame 2013<br>Veithold 2012 (Teacher)<br>una-Adame 2013<br>Veithold (95% CI)<br>tetrogoneity: Chi <sup>2</sup> = 4.90,<br>rest for overall effect: Z = 3<br>.2.5 Multimodal programm<br>iper 2000 (HFL)<br>iper 2000 | $\begin{array}{c} -0.5984\\ -0.3394\\ 0.1286\\ -0.8853\\ 0.3567\\ -1.2528\\ 0.3667\\ -1.2528\\ 0.020421\\ 0.04 \left( P=0.002 \right) \\ \\ \textbf{ms versus control} \\ 0.027\\ 0.7458\\ 0.1398\\ 0.3024\\ -0.478\\ 0.1398\\ 0.3024\\ -0.478\\ 0.1398\\ 0.3024\\ -0.478\\ -0.1333\\ 0.0299 \\ \textbf{, df}=6 \left( P=0.01 \right) \textbf{, I}^2 = \\ .44 \left( P=0.15 \right) \\ \end{array}$  | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>.282259<br>= 0%<br>0.4134<br>0.4171<br>0.1847<br>0.2582<br>0.1303<br>0.5253<br>0.9337<br>= 64%<br>0.5016<br>0.4808   | 0.6%<br>0.0%<br>0.1%<br>0.1%<br>1.7%<br>4.8%<br>0.8%<br>2.0%<br>7.9%<br>0.5%<br>0.2%<br>16.1%  | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18, 76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]<br>0.60 [0.43, 0.83]<br>1.03 [0.46, 2.31]<br>2.11 [0.93, 4.77]<br>1.15 [0.80, 1.65]<br>1.35 [0.82, 2.24]<br>0.62 [0.48, 0.89, 2.31]<br>1.03 [0.17, 6.42]<br>0.88 [0.73, 1.05]<br>0.73 [0.27, 1.94]<br>0.93 [0.36, 2.39]<br>12.02 [0.17, 842, 19]<br>0.31 [0.00, 41.21]                 |                                       |
| Iotvin 1999<br>poth 2002 (LST + SFP)<br>eal 2006<br>tesnicow 2008 (Harm Min)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Peer)<br>iubtotal (95% CI)<br>Ieterogeneity: Chi <sup>2</sup> = 4.90,<br>"est for overall effect: Z = 3<br><b>.2.5 Multimodal program</b><br>tiper 2000 (HFL Age)<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Chortugal)<br>imons-Morton 2005<br>Ven 2010<br><b>uibtotal (95% CI)</b><br>Ieterogeneity: Chi <sup>2</sup> = 16.67<br>"est for overall effect: Z = 1<br><b>.2.6 Other interventions</b><br>(ellam 1998 (GBG)<br>ellam 1998 (GBG)<br>ellam 1998 (GBG)<br>ellam 1998 (GBG)<br>iga-Talamanca 1989 (N.F)<br>rown 2002<br>ohnson 2009   | $\begin{array}{c} -0.5984 \\ -0.3994 \\ 0.1286 \\ -0.8853 \\ 0.3567 \\ -1.2528 \\ -0.20421 \\ 0.04 \ (P=0.09); I^2=0.04 \ (P=0.09); I^2=0.04 \ (P=0.002) \\ \hline mes \ versus \ control \\ 0.027 \\ 0.7458 \\ 0.1398 \\ 0.3024 \\ -0.478 \\ -0.1933 \\ 0.0299 \\ , df=6 \ (P=0.01); I^2=0.01; $  | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>.282259<br>= 0%<br>0.4134<br>0.4134<br>0.4171<br>0.1847<br>0.2582<br>0.1303<br>0.5253<br>0.9337<br>= 64%<br>0.5016<br>0.4808<br>2.503  | 0.6%<br>0.0%<br>0.1%<br>0.1%<br>0.1%<br>1.7%<br>4.8%<br>0.8%<br>0.8%<br>0.8%<br>0.2%<br>0.2%<br>0.5%<br>0.2%<br>0.5%<br>0.6%<br>0.0%<br>1.5%           | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18, 76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]<br>0.60 [0.43, 0.83]<br>1.03 [0.46, 2.31]<br>2.11 [0.93, 4.77]<br>1.15 [0.80, 1.65]<br>1.35 [0.82, 2.24]<br>0.62 [0.48, 0.80]<br>0.82 [0.29, 2.31]<br>1.03 [0.17, 6.42]<br>0.88 [0.73, 1.05]<br>0.73 [0.27, 1.94]<br>0.31 [0.00, 41.21]<br>0.36 [0.04, 1.61]<br>1.70 [0.60, 1.91]      |                                       |
| lotvin 1999<br>poth 2002 (LST + SFP)<br>eal 2006<br>lesnicow 2008 (Harm Min)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Teacher)<br>una-Adame 2013<br>ubtotal (95% CI)<br>leterogeneity: Chi <sup>2</sup> = 4.90,<br>est for overall effect: Z = 3<br>2.5 Multimodal programm<br>iper 2000 (HFL)<br>iper 2000 (HFL)<br>i  | $\begin{array}{c} -0.5984\\ -0.3994\\ 0.1286\\ -0.8853\\ 0.3567\\ -1.2528\\ -0.20421\\ 0.\\ df=10 (P=0.90); l^2=\\ 0.4 (P=0.002)\\ \hline \textbf{mes versus control}\\ 0.027\\ 0.7458\\ 0.1398\\ 0.3024\\ -0.4788\\ 0.1393\\ 0.0299\\ , df=6 (P=0.01); l^2=\\ -0.3186\\ -0.0705\\ 2.4868\\ -1.1872\\ -0.1496\\ 0.067\\ \end{array}$   | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>2.262259<br>0.4134<br>0.4171<br>0.1847<br>0.2582<br>0.9337<br>0.5253<br>0.9337<br>0.5253<br>0.9337<br>0.5016<br>0.44808<br>2.168<br>2.503<br>0.3428<br>0.2553  | 0.6%<br>0.0%<br>0.1%<br>0.1%<br>0.1%<br>4.8%<br>0.8%<br>3.9%<br>2.0%<br>2.0%<br>16.1%<br>0.5%<br>0.2%<br>0.2%<br>0.5%<br>0.2%<br>0.2%<br>0.2%<br>16.1% | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18.76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]<br>0.60 [0.43, 0.83]<br>1.03 [0.46, 2.31]<br>2.11 [0.93, 4.77]<br>1.15 [0.80, 1.65]<br>1.35 [0.82, 2.24]<br>0.62 [0.48, 0.80]<br>0.82 [0.29, 2.31]<br>1.03 [0.17, 6.42]<br>0.88 [0.73, 1.05]<br>0.73 [0.27, 1.94]<br>0.33 [0.36, 2.39]<br>12.02 [0.17, 842.19]<br>0.31 [0.00, 44, 1.69] |                                       |
| Iotvin 1999<br>poth 2002 (LST + SFP)<br>eai 2006<br>tesnicow 2008 (Harm Min)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Teacher)<br>una-Adame 2013<br><b>Subtotal (95% CI)</b><br>Iteterogeneity: Chi <sup>2</sup> = 4.90,<br>rest for overall effect. Z = 3<br><b>2.5 Multimodal program</b><br>Tiper 2000 (HFL)<br>set for overall effect. Z = 4<br>Veriss 2003 (Pentugal)<br>Withotal (95% CI)<br>Iteterogeneity: Chi <sup>2</sup> = 16.67<br>rest for overall effect. Z = 1<br><b>2.6 Other interventions</b><br>feelam 1998 (GBG)<br>figa-Talamanca 1989 (F)<br>riga-Talamanca 1989 (F)<br>riga-Talamanca 1989 (F)<br>riga-Talamanca 1989 (N-F)<br>riown 2002<br>ohnson 2009<br>ubtotal (95% CI)<br>Iteterogeneity: Chi <sup>2</sup> = 2.10,   | $\begin{array}{c} -0.5984\\ -0.3994\\ 0.1286\\ -0.8853\\ 0.3567\\ -1.2528\\ -0.20421\ 0.\\ df = 10\ (P=0.90);\ l^2\\ = 0.04\ (P=0.90);\ l^2\\ 0.04\ (P=0.90);\ l^2\\ 0.04\ (P=0.002)\\ 0.029\\ 0.$ | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>2.262259<br>0.4134<br>0.4171<br>0.1847<br>0.2582<br>0.9337<br>0.5253<br>0.9337<br>0.5253<br>0.9337<br>0.5016<br>0.44808<br>2.168<br>2.503<br>0.3428<br>0.2553  | 0.6%<br>0.0%<br>0.1%<br>0.1%<br>0.1%<br>1.7%<br>4.8%<br>0.8%<br>0.8%<br>0.8%<br>0.2%<br>0.2%<br>0.5%<br>0.2%<br>0.5%<br>0.6%<br>0.0%<br>1.5%           | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18, 76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]<br>0.60 [0.43, 0.83]<br>1.03 [0.46, 2.31]<br>2.11 [0.93, 4.77]<br>1.15 [0.80, 1.65]<br>1.35 [0.82, 2.24]<br>0.62 [0.48, 0.80]<br>0.82 [0.29, 2.31]<br>1.03 [0.17, 6.42]<br>0.88 [0.73, 1.05]<br>0.73 [0.27, 1.94]<br>0.31 [0.00, 41.21]<br>0.36 [0.04, 1.61]<br>1.70 [0.60, 1.91]      |                                       |
| lotvin 1999<br>poth 2002 (LST + SFP)<br>eal 2006<br>lesnicow 2008 (Harm Min)<br>Veichold 2012 (Peer)<br>Veichold 2012 (Teacher)<br>una-Adame 2013<br>ubtotal (95% CI)<br>leterogeneity: Chi <sup>2</sup> = 4.90,<br>est for overall effect: Z = 3<br>2.5 Multimodal programm<br>iper 2000 (HFL)<br>iper 2000 (HFL)<br>i  | $\begin{array}{c} -0.5984\\ -0.3994\\ 0.1286\\ -0.8853\\ 0.3567\\ -1.2528\\ -0.20421\ 0.\\ df = 10\ (P=0.90);\ l^2\\ = 0.04\ (P=0.90);\ l^2\\ 0.04\ (P=0.90);\ l^2\\ 0.04\ (P=0.002)\\ 0.029\\ 0.$ | 0.4938<br>3.5782<br>0.3933<br>1.3137<br>1.2612<br>2.262259<br>0.4134<br>0.4171<br>0.1847<br>0.2582<br>0.9337<br>0.5253<br>0.9337<br>0.5253<br>0.9337<br>0.5016<br>0.44808<br>2.168<br>2.503<br>0.3428<br>0.2553  | 0.6%<br>0.0%<br>0.1%<br>0.1%<br>0.1%<br>1.7%<br>4.8%<br>0.8%<br>0.8%<br>0.8%<br>0.2%<br>0.2%<br>0.5%<br>0.2%<br>0.5%<br>0.6%<br>0.0%<br>1.5%           | 0.71 [0.27, 1.87]<br>1.14 [0.00, 1263.63]<br>0.41 [0.19, 0.89]<br>1.43 [0.11, 18, 76]<br>0.29 [0.02, 3.38]<br>0.82 [0.47, 1.42]<br>0.60 [0.43, 0.83]<br>1.03 [0.46, 2.31]<br>2.11 [0.93, 4.77]<br>1.15 [0.80, 1.65]<br>1.35 [0.82, 2.24]<br>0.62 [0.48, 0.80]<br>0.82 [0.29, 2.31]<br>1.03 [0.17, 6.42]<br>0.88 [0.73, 1.05]<br>0.73 [0.27, 1.94]<br>0.31 [0.00, 41.21]<br>0.36 [0.04, 1.61]<br>1.70 [0.60, 1.91]      |                                       |

Test for subgroup differences: Chi<sup>2</sup> = 9.23, df = 5 (P = 0.10), l<sup>2</sup> = 45.8% (1) Where the figure entered remains as 0 this is because the data did not provide the absolute number for never smokers rather s

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cohorts of baseline never-smokers provides the clearest indication of whether smoking prevention curricula are effective, and we were able to include 50 trials with 143 495 baseline never-smokers. Statistical heterogeneity between these trials was low and sensitivity analyses that assessed the effects of removing studies at unclear or higher risk of bias did not change the conclusions.

#### Limitations

The limitations of the review are that several trials did not provide data on baseline never-smokers, some trials did not provide analysable data, and the complexity of some curricula makes them difficult to classify. It is well documented that the reporting of interventions from RCTs is poor.<sup>62</sup> This leaves the possibility that the classification of these interventions might not be completely accurate. Nevertheless, given that all information available was extracted from the published articles, we have confidence in our classification, which reported good concordance with an independent evaluator.

We were not able to obtain baseline never-smoker data for 15 trials that reported data as changes in smoking behaviour over time, and 65 trials that provided only point prevalence of smoking data. The analyses for these trials are reported in the Cochrane review.<sup>60</sup> From the original 256 eligible trials, we were unable to include 57 trials because authors did not provide analysable data on basic facts such as smoking outcomes or key elements of trial design (eg, n's in intervention and control groups) either in the article or by email correspondence. A further seven trials were excluded because there was no comparison to a control group or there were concerns over the data that were not resolved by email correspondence. Six trials used unique interventions that could neither be included in the prespecified five basic curricula types, nor grouped together into a sixth group.

The prespecified selection criteria were trials that compared a curriculum to a control group and we did not compare head-to-head the limited number of trials that compared curricula.

It is possible in some trials that 'never-smokers' could include some quitters, although most authors checked for inconsistencies in statements on baseline and follow-up questionnaires. Further bias could have been introduced by certain assumptions made by the review authors in data extraction, and subsequent statistical analysis. However, the consistency of results and low heterogeneity in the comparison suggest a consistent effect.

#### Results in the context of other reviews

This is the most systematic and comprehensive review of these curricula to date. Other reviews have considered large numbers of trials, but none have exclusively used RCTs or examined pure prevention cohorts of neversmokers. There are only three reviews published in the past 5 years, which could be expected to be up-to-date with the most recent studies and potentially comparable. However, none of them focused on assessing the effectiveness of curricula in schools to prevent smoking. Ramo *et al*<sup>63</sup> assessed the co-use of tobacco and marijuana, Lisha and Sussman<sup>64</sup> assessed athletic participation and tobacco and drug use, and Griffin and Botvin<sup>65</sup> described two frequently used school curricula (Life Skills Training and Project Toward No Drug Abuse) and reviewed family and community-based programmes. Griffin provided no outcome data but concluded: "The most effective programs are highly interactive in nature, skills-focused, and implemented over multiple years." Earlier reviews are now out of date.<sup>66–74</sup>

A separate Cochrane review assessed interventions to help adolescent smokers quit.<sup>75</sup>

#### Summary

This review found that for baseline child and adolescent never-smokers there was no effect of school-based smoking prevention curricula with a follow-up of 1 year or less, but a 12% reduction in the onset of smoking when assessed over a longer period of follow-up. When individual curricula are considered, only social competence and combined social competence/social influences studies are effective. One interpretation why social uses r competence interventions are effective may be that students see these as helpful to their personal development and social skills, as they provide general personal and social competence, deal with problem solving, decisionmaking, impart assertiveness and cognitive skills to resist ç interpersonal or media influences, teach coping strate egies for stress, and provide guidance on how to increase self-control and self-esteem. There is no explanation as to why information-only, social influences (60% of all interventions used) and multimodal curricula are not a effective because no focus groups, surveys or design workshops have asked for student evaluations of their experiences with these curricula. It is possible that students perceive information curricula as lectures by adults about substance misuse.

adults about substance misuse. Our review indicates that curricula delivered by adults are more effective. Adding boosters to trials with follow-up of one year or less showed no significant effect, but did at longest follow-up. Trial designers and policymakers should consider tailoring future studies to explore the various aspects of the social competence curricula with adult presenters and no booster sessions.

This review has highlighted that there are still gaps in our knowledge with regard to smoking prevention curricula. Further research is required to test curricula that would be effective for both genders. We noted that over 50% of trials were from North America and that there were limited trials exploring curricula for different ethnic groups. This would suggest that our results may reflect and be more applicable to developed countries rather than developing countries. A limited number of trials used the Internet to deliver curricula; future trials should incorporate the cultural world of adolescents (internet, media, music and teen idols). Future research needs to tailor study design to address these areas.

#### **Open Access**

Methodologically, the next steps in research are to standardise the trial design, definitions of smoking status and the content of interventions, so that more studies examine pure baseline never-smokers. Standardisation of key study design features could enable more reliable research into curricula intensity and duration (optimum number, length and frequency of sessions). Researchers should seek to utilise checklists that improve the quality of reporting<sup>62</sup> and increase the potential impact of study findings. There is minimal information on the costs of developing and implementing these programmes and this is important as many programmes have not proven to be effective. Policymakers need to implement only curricula with proven effectiveness, and fund research projects that meet the above standardisation criteria.

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**Contributors** RET conceived the review. RET and JM completed screening and extraction of data. RP devised the analysis plan, and RET and JM provided statistical support and meta-analyses. RET and JM wrote the text. RET, JM and RP approved the final version of the review.

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#### **Online supplementary material A: Search strategy**

### MEDLINE

'SMOKING'/ all subheadings or 'SMOKING-CESSATION'/ all subheadings or SMOK\* or TOBACCO or NICOTINE or SMOKING CESSATION PREVENT\* or STOP\* or QUIT\* or ABSTIN\* or ABSTAIN\* or REDUC\* or TOBACCO USE DISORDER OR EX-SMOKER OR FREEDOM FROM SMOKING OR ANTI-SMOK\* #1 and #2 'HEALTH-PROMOTION'/ all subheadings explode 'HEALTH-EDUCATION'/ all subheadings 'ADOLESCENT-BEHAVIOR'/ all subheadings 'PSYCHOTHERAPY,-GROUP'/ all subheadings EDUCATION or PREVENT\* or PROMOT\* or TEACH\* or (GROUP near THERAPY) #4 or #5 or #6 or #7 or #8 #3 and #9 'CHILD-' or 'ADOLESCENCE'/ all subheadings or CHILD or ADOLESCEN\* or STUDENT\* or SCHOOL\* or CLASS\* #10 and #11 (CLINICAL-TRIAL IN PT) OR (randomizED-CONTROLLED-TRIAL IN PT) OR (CONTROLLED-CLINICAL-TRIAL IN PT) explode 'CLINICAL-TRIALS'/ all subheadings 'EVALUATION-STUDIES' 'PROGRAM-EVALUATION'/ all subheadings 'META-ANALYSIS' SYSTEMATIC REVIEW **RANDOM\*** #13 or #14 or #15 or #16 or #17 or #18 #12 and #20

CINAHL

#14 #9 and (trial\* or meta-analysis or systematic review)
#13 review
#12 systematic
#11 meta-analysis
#10 trial\*
#9 #2 or #4 or #6 or #8
#8 'Tobacco-Smokeless' /all topical subheadings / in-adolescence, in-infancy-and-childhood in DE
#7 'Tobacco-Smokeless' / all topical subheadings / in-adolescence, in-infancy-and-childhood
# 6 'Smoking-Cessation-Programs' / all topical subheadings / in-adolescence, in-infancy-and-childhood in DE

and-childhood

#4 'Smoking-Cessation' / all topical subheadings / in-adolescence, in-infancy-and-childhood in DE

#3 'Smoking-Cessation' / all topical subheadings / in-adolescence, in-infancy-and-childhood

#2 explode 'Smoking-' / prevention-and-control in-adolescence, in-infancy-and-childhood in DE

#1 explode 'Smoking-' / prevention-and-control in-adolescence, in-infancy-and-childhood

# Online supplementary material B: Data for included studies

|   |                    | Smo  | oking prever  | ntion group   |  | Control   | group  |                 |  |            |           |
|---|--------------------|--|---|---|--|---|--|-----------------|--|------------|-----------|
| Study name                                | Curriculum<br>type | Number<br>lost to<br>baseline<br>never-<br>smokers | Number<br>of<br>never-<br>smokers<br>at<br>baseline | Number of<br>clusters<br>(schools<br>unless stated) | Number<br>lost to<br>baseline<br>never-<br>smokers | Number<br>of<br>never-<br>smokers<br>at<br>baseline | Number of clusters<br>(schools unless<br>stated) | OR              | Follow-<br>up post<br>curriculu<br>m period<br>(yrs) | In(OR)     | SE(InOR)  |
| Armstrong 1990 (Peer) <sup>10</sup>       | SI                 | 96   | 331   | 15  | 106  | 339   | 15   |                 | 1  | -0.107638  | 0.3600305 |
| Armstrong 1990 (Peer)                     | SI                 | 132  | 331   | 15  | 70.5   | 169.5   | 7.5  |                 | 2  | -0.0709958 | 0.3369252 |
| Armstrong 1990<br>(Teacher) <sup>10</sup> | SI                 | 74   | 358   | 15  | 106  | 339   | 15   |                 | 1  | -0.5573098 | 0.3738808 |
| Armstrong 1990<br>(Teacher) <sup>10</sup> | SI                 | 116  | 358   | 15  | 70.5   | 169.5   | 7.5  |                 | 2  | -0.3958404 | 0.3408929 |
| Ausems 2004 (In school) <sup>11</sup>     | SI                 |  |   | 9   |  |   | 9 baseline/7@1 yr                                | 0.52<br>(adj)   | 1  | -0.6539265 | 0.4171404 |
| Ausems 2004 (Out<br>School) <sup>11</sup> | SI                 |  |   | 8<br>baseline/6@1<br>yr                             |  |   | 9 baseline/8@1 yr                                | 0.44<br>(adj)   | 1  | -0.8209806 | 0.4594327 |
| Ausems 2004 (Out school) <sup>11</sup>    | SI                 |  |   | 7<br>baseline/5@18<br>mths                          |  |   | 8 baseline/7 @18<br>mths                         | 0.42<br>(adj)   | 1.5  | -0.8675006 | 0.4270348 |
| Aveyard 1999 <sup>12</sup>                | SI                 |  |   | 27  |  |   | 26   | 1.14<br>(unadj) | 1  | 0.1310283  | 0.1436052 |
| Aveyard 1999 <sup>12</sup>                | SI                 |  |   | 27  |  |   | 26   | 1.06<br>(unadj) | 2  | 0.0582689  | 0.1221937 |
| Botvin 1980 <sup>13</sup>                 | С                  | 3  | 79  | 1   | 17   | 108   | 1  |                 | 0.5  | -1.5544749 | 1.9397012 |
| Botvin 1982 <sup>14</sup>                 | С                  | 26   | 120   | 1   | 32   | 144   | 1  |                 | 1  | -0.0324353 | 1.1015238 |
| Botvin 1983 (LST intensive) <sup>15</sup> | С                  | 13   | 170   | 2   | 70   | 251   | 3  |                 | 1  | -1.5412947 | 1.0579649 |
| Botvin 1983 (LST) 15                      | С                  | 31   | 270   | 2   | 70   | 251   | 3  |                 | 1  | -1.0924746 | 0.9313686 |
| Botvin 1999 <sup>16</sup>                 | С                  | 144  | 1263  | 29 total  | 173  | 912   | 29 total   |                 | 1  | -0.5983711 | 0.3510914 |
| Brown 2002 <sup>17</sup>                  | Other              | 176  | 1313  | 15  | 183  | 1201  | 15   |                 | 2  | -0.1495555 | 0.3428201 |
| Buller 2008 (Australia) <sup>18</sup>     | SI                 | 34   | 608   | 13  | 26   | 605   | 12   |                 | 0.5  | 0.2769371  | 1.9529914 |

| Buller 2008 (USA) <sup>18</sup>            | SI | 41  | 616  | 10 | 11  | 372    | 11 |               | 0.5  | 0.8501847  | 3.144401  |
|--|----|-----|------|----|-----|--------|----|---------------|------|------------|-----------|
| Chou 2006 <sup>19</sup>                    | SI | 142 | 862  | 7  | 175 | 975    | 7  |               | 1    | -0.1035984 | 0.4568406 |
| Coe 1982 <sup>20</sup>                     | SI | 8   | 66   | 2  | 16  | 84     | 2  |               | 1    | -0.5340825 | 0.9838762 |
| Connell 2007 <sup>21</sup>                 | SC | 95  | 196  | 3  | 100 | 222    | 3  |               | 11   | 0.1376072  | 0.5431    |
| Conner 2010 (I) <sup>22</sup>              | SI | 65  | 297  | 15 | 104 | 373    | 19 |               | 2    | -0.3220296 | 0.3050    |
| Conner 2010 (SE) <sup>22</sup>             | SI | 82  | 257  | 13 | 115 | 358    | 18 |               | 2    | -0.0099374 | 0.2946    |
| Crone 2011 <sup>23</sup>                   | SI | 25  | 1311 | 62 | 33  | 1022   | 59 |               | 1.6  | -0.5402293 | 0.4487    |
| De Vries 1994 (High) <sup>24</sup>         | SI | 26  | 317  | 5  | 19  | 230    | 3  |               | 1    | -0.0078076 | 0.8797456 |
| De Vries 1994 (Voc) 24                     | SI | 9   | 109  | 3  | 6   | 75     | 3  |               | 1    | 0.0344014  | 1.0672853 |
| De Vries 2003<br>(Denmark) <sup>25</sup>   | MM |     |      | 30 |     |        | 30 | 1.41          | 1    | 0.3435897  | 0.1947775 |
| De Vries 2003<br>(Denmark) <sup>25</sup>   | MM |     |      | 30 |     |        | 30 | 1.15<br>(adj) | 2.5  | 0.1397619  | 0.1846732 |
| De Vries 2003 (Finland)                    | MM | 185 | 756  | 13 | 248 | 913    | 14 |               | 1    | -0.1406751 | 0.2947061 |
| De Vries 2003 (Finland)                    | MM | 404 | 756  | 13 | 419 | 913    | 14 |               | 2.5  | 0.3024483  | 0.2582134 |
| De Vries 2003<br>(Portugal) <sup>25</sup>  | ММ |     |      | 14 |     |        | 11 | 0.73<br>(adj) | 1    | -0.3147107 | 0.1276131 |
| De Vries 2003<br>(Portugal) <sup>25</sup>  | MM |     |      | 14 |     |        | 11 | 0.62<br>(adj) | 2.5  | -0.4780358 | 0.1303127 |
| De Vries 2003 (UK) 25                      | SI |     |      | 22 |     |        | 21 | 1.06<br>(adj) | 1    | 0.0582689  | 0.1142086 |
| De Vries 2003 (UK) 25                      | SI |     |      | 22 |     |        | 21 | 0.94<br>(adj) | 2.5  | -0.0618754 | 0.1078716 |
| Denson 1981 <sup>26</sup>                  | SI | 8   | 256  | 6  | 49  | 272    | 6  |               | 2    | -1.9186357 | 0.8845767 |
| Elder 1996 <sup>27</sup>                   | SI |     |      | 56 |     |        | 40 | 1.01<br>(adj) | 3    | 0.0099503  | 0.1270629 |
| Ellickson 1990<br>(HealthEd) <sup>28</sup> | SI | 506 | 2099 | 10 | 561 | 2175   | 10 |               | 1    | -0.0900877 | 0.4013297 |
| Ellickson 1990<br>(HealthEd) <sup>28</sup> | SI | 642 | 2099 | 10 | 338 | 1087.5 | 5  |               | 1.25 | -0.0231861 | 0.3770386 |
| Ellickson 1990 (Teen) 28                   | SI | 527 | 2253 | 10 | 561 | 2175   | 10 |               | 1    | -0.1296114 | 0.4025698 |
| Ellickson 1990 (Teen) 28                   | SI | 651 | 2253 | 10 | 338 | 1087.5 | 5  |               | 1.25 | -0.1041381 | 0.3789543 |
| Ellickson 2003 <sup>29</sup>               | SI | 152 | 1765 | 34 | 191 | 1171   | 21 |               | 1.5  | -0.7266914 | 0.2867711 |
| Ennett 1994 <sup>30</sup>                  | SI |     |      | 18 |     |        | 18 | 0.93<br>(adj) | 1    | -0.0725707 | 0.1963062 |
| Ennett 1994 <sup>30</sup>                  | SI |     |      | 18 |     |        | 18 | 0.99<br>(adj) | 2    | -0.0101    | 0.2004    |

| Faggiano 2008 <sup>31</sup>                | SI      | 245  | 2939 | 78        | 242   | 2791  | 65        | 1.5 | -0.0430055   | 0.2079089 |
|--|---------|------|------|-----------|-------|-------|-----------|-----|--------------|-----------|
| Figa-Talamanca 1989<br>(F) <sup>32</sup>   | Other   | 10   | 99   | 8         | 1     | 108   | 8         | 1   | 2.4867776    | 2.1680235 |
| Figa-Talamanca 1989<br>(N.F) <sup>32</sup> | Other   | 0    | 88   | 8         | 1     | 108   | 8         | 1   | -1.1871657   | 2.5029619 |
| Gabrhelik 2012 <sup>33</sup>               | SI      | 160  | 917  | 40        | 125   | 787   | 34        | 1   | 0.1127624    | 0.1923887 |
| Gabrhelik 2012 <sup>33</sup>               | SI      | 262  | 917  | 40        | 235   | 787   | 34        | 2   | -0.0623282   | 0.1549634 |
| Garcia 2005 <sup>34</sup>                  | SI      | 7    | 147  | 6         | 18    | 68    | 4         | 1   | -1.974081    | 0.5771636 |
| Hort 1995 <sup>35</sup>                    | SI      | 50   | 268  | 9         | 84    | 239   | 10        | 2   | -0.8598637   | 0.3903232 |
| Howard 1996 <sup>36</sup>                  | Ι       | 0    | 51   | 3 classes | 3     | 47    | 3 classes | 1   | -2.0920028   | 2.4444723 |
| Johnson 2009 <sup>37</sup>                 | Other   | 381  | 891  | 10        | 459   | 1116  | 10        | 4   | 0.0670225    | 0.2953    |
| Kellam 1998 (GBG) <sup>38</sup>            | Other   | 92   | 348  | 6         | 299   | 904   | 6         | 8   | -0.318604    | 1.6092447 |
| Kellam 1998 (ML) <sup>38</sup>             | Other   | 111  | 352  | 7         | 299   | 904   | 6         | 8   | -0.0704818   | 0.4808    |
| La Torre 2010 (A) <sup>39</sup>            | SI      | 22   | 135  | 8         | 23    | 119   | 7         | 2   | -0.2074914   | 0.5248481 |
| La Torre 2010 (C) <sup>39</sup>            | SI      | 3    | 197  | 11        | 24    | 240   | 13        | 2   | -1.9720213   | 1.0091488 |
| Luna-Adame 2013 <sup>40</sup>              | SI & SC | 124  | 367  | 14        | 174   | 452   | 14        | 1   | -0.204214063 | 0.282259  |
| Nutbeam 1993 (FSE) 41                      | SI      | 362  | 848  | 10        | 325   | 951   | 10        | 1   | 0.3610075    | 0.4314552 |
| Nutbeam 1993<br>(FSE+SAM) <sup>41</sup>    | SI      | 325  | 924  | 10        | 325   | 951   | 10        | 1   | 0.0441355    | 0.4347184 |
| Nutbeam 1993 (SAM) 41                      | SI      | 263  | 732  | 9         | 325   | 951   | 10        | 1   | 0.0771232    | 0.4408302 |
| Peterson 2000 <sup>42</sup>                | SI      | 1466 | 3684 | 20        | 1547  | 3756  | 20        | 12  | -0.0578459   | 0.2056236 |
| Piper 2000 (HFL Age) 43                    | MM      | 385  | 614  | 7         | 159.5 | 359.5 | 4         | 4   | 0.7457948    | 0.4171    |
| Piper 2000 (HFL) 43                        | MM      | 254  | 564  | 7         | 159.5 | 359.5 | 4         | 4   | 0.0270354    | 0.4134    |
| Prokhorov 200844                           | SI      | 2    | 380  | 9         | 8     | 317   | 8         | 1.5 | -1.5878473   | 1.7666892 |
| Resnicow 2008 (Harm<br>Min) <sup>45</sup>  | С       | 126  | 1392 | 12        | 226   | 1097  | 12        | 1   | -0.9582287   | 0.4636    |
| Resnicow 2008 (Harm<br>Min) <sup>45</sup>  | С       | 206  | 1392 | 12        | 162.5 | 548.5 | 6         | 2   | -0.885306    | 0.3933    |
| Resnicow 2008 (LST) 45                     | SI      | 182  | 1161 | 12        | 226   | 1097  | 12        | 1   | -0.7130      | 0.4443    |
| Resnicow 2008 (LST) 45                     | SI      | 182  | 1161 | 12        | 162.5 | 548.5 | 6         | 2   | -0.8173656   | 1.2518    |
| Ringwalt 2009a <sup>46</sup>               | SI      | 368  | 2335 | 17        | 332   | 2475  | 17        | 3   | 0.1886451    | 0.313302  |
| Schulze 2006 <sup>47</sup>                 | SI      | 838  | 1205 | 89        | 596   | 872   | 83        | 1.5 | 0.0558165    | 0.1373784 |

| Seal 2006 <sup>48</sup>                    | С       | 0   | 52   | 1  | 1     | 59    | 1   | 0.5 | 0.1286174  | 3.5782467 |
|--|---------|-----|------|----|-------|-------|-----|-----|------------|-----------|
| Simons-Morton 200549                       | MM      | 333 | 1249 | 3  | 361   | 1080  | 4   | 1   | -0.3228905 | 0.5308    |
| Simons-Morton 200549                       | MM      | 357 | 1249 | 3  | 353   | 1080  | 4   | 3   | -0.1932719 | 0.5253    |
| Spoth 2001 (ISFP) 50                       | SC      | 46  | 141  | 11 | 71    | 142   | 11  | 4   | -0.7252355 | 0.4366601 |
| Spoth 2001 PDFY) <sup>50</sup>             | SC      | 50  | 128  | 11 | 71    | 142   | 11  | 4   | -0.4446858 | 0.4337062 |
| Spoth 2002 (LST +<br>SFP) <sup>51</sup>    | С       | 48  | 385  | 12 | 34    | 204   | 6   | 1.5 | -0.339444  | 0.4938    |
| Spoth 2002 (LST) 51                        | SC      | 64  | 462  | 12 | 68    | 408   | 12  | 1.5 | -0.218131  | 0.4821    |
| Storr 2002 (CC) 52                         | SC      | 60  | 230  | 3  | 72    | 219   | 3   | 6   | -0.3276874 | 0.7200    |
| Storr 2002 (FSP) 52                        | SC      | 60  | 229  | 3  | 72    | 219   | 3   | 6   | -0.3217877 | 0.7197    |
| Telch 1990 (No peers) <sup>53</sup>        | SI      | 14  | 115  | 4  | 27    | 199   | 7   | 0.5 | -0.1244056 | 0.7836    |
| Telch 1990 (Peers) 53                      | SI      | 4   | 117  | 4  | 27    | 199   | 7   | 0.5 | -1.4894358 | 1.1322    |
| Unger 2004 (CHIPS) <sup>54</sup>           | SI      | 201 | 847  | 8  | 115.5 | 538.5 | 4   | 1.5 | 0.1306071  | 0.4762    |
| Unger 2004 (FLAVOR)                        | SI      | 194 | 933  | 8  | 115.5 | 538.5 | 4   | 1.5 | -0.0393381 | 0.4831    |
| Valente 2007 (TND) <sup>55</sup>           | SI      | 3   | 106  | 22 | 1     | 85    | 28  | 1   | 0.8947001  | 1.7010    |
| Valente 2007<br>(TNDNetwork) <sup>55</sup> | SI      | 4   | 113  | 25 | 1     | 85    | 28  | 1   | 1.1257633  | 1.66471   |
| Van Lier 2009 <sup>56</sup>                | SI      | 52  | 349  | 16 | 51    | 279   | 15  | 4   | -0.2449684 | 0.3649    |
| Walter 1986 <sup>57</sup>                  | SC      | 16  | 447  | 8  | 61    | 464   | 7   | 6   | -1.4054567 | 0.7404415 |
| Weichold 2011 (Peer) <sup>58</sup>         | SI & SC | 5   | 9    | 1  | 3.5   | 7.5   | 0.5 | 2   | 0.3566749  | 1.3137    |
| Weichold 2012<br>(Teacher) <sup>58</sup>   | SI & SC | 9   | 45   | 3  | 3.5   | 7.5   | 0.5 | 2   | -1.252763  | 1.2612    |
| Wen 2010 <sup>59</sup>                     | MM      | 92  | 1162 | 2  | 89    | 840   | 2   | 1   | -0.3208561 | 1.0951    |
| Wen 2010 <sup>59</sup>                     | MM      | 77  | 571  | 2  | 59    | 449   | 2   | 2   | 0.0298792  | 0.9337    |

I Information; SI social influences; SC social competence; MM multi-modal; OR odds ratio; Ln(OR) natural log odds ratio; SE(InOR) standard error of the natural log odds ratio; yrs years

# Online supplementary material C: Table to show longest follow-up, with short term

## (one year or less) data removed

| Theoretical orientation of curricula                | Longest follow-up<br>Odds ratios (95% CI) | Longest follow up with short<br>term (1 year or less) data<br>removed<br>Odds ratios (95% CI) |
|---|---|---|
| Information only                                    | 0.12 (0.00, 14.87)                        | Not estimable   |
| Social competence                                   | 0.65 (0.43, 0.96)                         | 0.65 (0.43, 0.96)   |
| Social influences                                   | 0.92 (0.84, 1.00)                         | 0.93 (0.85, 1.01)   |
| Combined Social competence<br>and Social influences | 0.60 (0.43, 0.83)                         | 0.52 (0.29, 0.92)   |
| Multi Modal   | 0.88 (0.73, 1.05)                         | 0.88 (0.73, 1.05)   |
| Overall   | 0.88 (0.82, 0.95)                         | 0.90 (0.83, 0.97)   |

# Online supplementary material D: Forest plots showing Sensitivity and Sub-group

### analyses

Forest plot showing results for curricula with low risk of attrition versus control (one year or

less follow-up)

|  | % 0.12 [0.00, 14.87]         % 0.12 [0.00, 14.87]         % 0.12 [0.00, 14.87]         % 1.32 [0.38, 4.57]         % 2.34 [0.53, 10.30]         % 0.99 [0.18, 5.56]         % 1.03 [0.13, 8.38]         % 0.91 [0.42, 2.01]         % 0.93 [0.63, 1.37]         % 0.93 [0.63, 1.37] |
|--|---|
| Howard 1996       -2.092       2.4445       0.29         Subtotal (95% CI)       0.29         Heterogeneity: Not applicable       0.29         Test for overall effect: Z = 0.86 (P = 0.39)       0.2769         Social influences curriculaversus control       0.29         Buller 2008 (Australia)       0.2769       0.6343         Buller 2008 (USA)       0.8502       0.7561       2.19         De Vries 1994 (High)       -0.0078       0.8797       1.69         De Vries 1994 (Voc)       0.0344       1.0673       1.19         Ellickson 1990 (HealthEd)       -0.0901       0.4013       7.69         Ellickson 1990 (Teen)       -0.1296       0.4026       7.69 | %     0.12 [0.00, 14.87]       %     1.32 [0.38, 4.57]       %     2.34 [0.53, 10.30]       %     0.99 [0.18, 5.56]       %     1.03 [0.13, 8.38]       %     0.91 [0.42, 2.01]       %     0.88 [0.40, 1.93]       %     0.93 [0.63, 1.37]       %     1.12 [0.77, 1.63]           |
| Buller 2008 (Australia)         0.2769         0.6343         3.09           Buller 2008 (USA)         0.8502         0.7561         2.19           De Vries 1994 (High)         -0.0078         0.8797         1.69           De Vries 1994 (Voc)         0.0344         1.0673         1.19           Ellickson 1990 (HealthEd)         -0.0901         0.4013         7.69           Ellickson 1990 (Teen)         -0.1296         0.4026         7.69  | %       2.34 [0.53, 10.30]         %       0.99 [0.18, 5.56]         %       1.03 [0.13, 8.38]         %       0.91 [0.42, 2.01]         %       0.88 [0.40, 1.93]         %       0.93 [0.63, 1.37]         %       1.12 [0.77, 1.63]  |
| Buller 2008 (Australia)         0.2769         0.6343         3.09           Buller 2008 (USA)         0.8502         0.7561         2.19           De Vries 1994 (High)         -0.0078         0.8797         1.69           De Vries 1994 (Voc)         0.0344         1.0673         1.19           Ellickson 1990 (HealthEd)         -0.0901         0.4013         7.69           Ellickson 1990 (Teen)         -0.1296         0.4026         7.69  | %       2.34 [0.53, 10.30]         %       0.99 [0.18, 5.56]         %       1.03 [0.13, 8.38]         %       0.91 [0.42, 2.01]         %       0.88 [0.40, 1.93]         %       0.93 [0.63, 1.37]         %       1.12 [0.77, 1.63]  |
| Buller 2008 (USA)         0.8502         0.7561         2.19           De Vries 1994 (High)         -0.0078         0.8797         1.69           De Vries 1994 (Voc)         0.0344         1.0673         1.19           Ellickson 1990 (HealthEd)         -0.0901         0.4013         7.69           Ellickson 1990 (Teen)         -0.1296         0.4026         7.69   | %       2.34 [0.53, 10.30]         %       0.99 [0.18, 5.56]         %       1.03 [0.13, 8.38]         %       0.91 [0.42, 2.01]         %       0.88 [0.40, 1.93]         %       0.93 [0.63, 1.37]         %       1.12 [0.77, 1.63]  |
| De Vries 1994 (High)         -0.0078         0.8797         1.69           De Vries 1994 (Voc)         0.0344         1.0673         1.19           Ellickson 1990 (HealthEd)         -0.0901         0.4013         7.69           Ellickson 1990 (Teen)         -0.1296         0.4026         7.69  | %     0.99     [0.18, 5.56]       %     1.03     [0.13, 8.38]       %     0.91     [0.42, 2.01]       %     0.88     [0.40, 1.93]       %     0.93     [0.63, 1.37]       %     1.12     [0.77, 1.63]   |
| De Vries 1994 (Voc)         0.0344         1.0673         1.19           Ellickson 1990 (HealthEd)         -0.0901         0.4013         7.69           Ellickson 1990 (Teen)         -0.1296         0.4026         7.69   | %     1.03 [0.13, 8.38]       %     0.91 [0.42, 2.01]       %     0.88 [0.40, 1.93]       %     0.93 [0.63, 1.37]       %     1.12 [0.77, 1.63]   |
| Ellickson 1990 (HealthEd)         -0.0901         0.4013         7.69           Ellickson 1990 (Teen)         -0.1296         0.4026         7.69  | % 0.91 [0.42, 2.01]<br>% 0.88 [0.40, 1.93]<br>% 0.93 [0.63, 1.37]<br>% 1.12 [0.77, 1.63]  |
| Ellickson 1990 (Teen) -0.1296 0.4026 7.69  | % 0.88 [0.40, 1.93]<br>% 0.93 [0.63, 1.37]<br>% 1.12 [0.77, 1.63]   |
|  | % 0.93 [0.63, 1.37]   |
| 2.0120 0.1000 01.07  | % 1.12 [0.77, 1.63]   |
| Gabrhelik 2012 0.1128 0.1924 33.19   |   |
| Valente 2007 (TND) 0.8947 1.701 0.49   |   |
| Valente 2007 (TNDNetwork) 1.1258 1.6647 0.49   |   |
| Subtotal (95% CI) 88.8%  |   |
| Heterogeneity: Chi <sup>2</sup> = 2.72, df = 9 (P = 0.97); l <sup>2</sup> = 0%<br>Test for overall effect: $Z = 0.32$ (P = 0.75)   |   |
| Combined social competence and social influences curri   |   |
| Botvin 1999 -0.5984 0.3511 9.99  | ······································  |
| Subtotal (95% CI) 9.9%   | % 0.55 [0.28, 1.09]   |
| Heterogeneity: Not applicable<br>Test for overall effect: $Z = 1.70$ (P = 0.09)  |   |
| Multimo dal curricula versus control   |   |
|  |   |
| Wen 2010 -0.3209 1.0951 1.09<br>Subtotal (95% CI) 1.09   |   |
| Heterogeneity: Not applicable  |   |
| Test for overall effect: $Z = 0.29$ (P = 0.77)   |   |
| Total (95% CI) 100.0%  | % 0.97 [0.78, 1.20]   |
| Heterogeneity: Chi² = 6.45, df = 12 (P = 0.89); l² = 0%  |   |
| Test for overall effect: Z = 0.31 (P = 0.76)   | 0.2 0.5 1 2 5<br>Favourscurricula Favourscontrol  |
| Test for subgroup differences: Chi <sup>2</sup> = 3.73, df = 3 (P = 0.29), $I2 = 1$  | 9.6%  |

# Forest plot showing results for curricula with low risk of attrition versus control (longest follow-up)

| Study or Subgroup<br>Information curricula                                    | log[Odds Ratio]                    | SE       | Weight                | OddsRatio<br>IV, Fixed, 95% CI           | OddsRatio<br>IV, Fixed, 95% Cl        |
|---|------------------------------------|----------|-----------------------|--|---------------------------------------|
| Information curricula<br>Howard 1996<br>Subtotal (95% CI)                     |                                    | 2.4445   |                       | 0.12 (0.00, 14.87)<br>0.12 (0.00, 14.87) | ·                                     |
| Heterogeneity: Not applicable   | 0                                  |          | 0.176                 | 0.12 [0.00, 14.01]                       |                                       |
| Fest for overall effect: Z = 0.8  |                                    |          |                       |  |                                       |
| Social competence cu  |                                    |          |                       |  |                                       |
| Spoth 2001 (ISFP)   | -0.7252                            |          | 2.2%                  | 0.48 [0.21, 1.14]                        |                                       |
| Spoth 2001 (PDFY)   | -0.4447                            |          | 2.2%                  | 0.64 [0.27, 1.50]                        |                                       |
| Spoth 2002 (LST)  | -0.2181                            |          | 1.8%                  | 0.80 [0.31, 2.07]                        |                                       |
| Storr 2002 (CC)   | -0.3277                            | 0.72     | 0.8%                  | 0.72 [0.18, 2.95]                        | · · · · ·                             |
| Storr 2002 (FSP)<br>Subtotal (95% CI)   | -0.3218                            | 0.7197   | 0.8%<br>7 <b>.</b> 9% | 0.72 [0.18, 2.97]<br>0.64 [0.41, 1.01]   |                                       |
| Heterogeneity: Chi <sup>2</sup> = 0.69, o<br>Test for overall effect: Z = 1.9 |                                    | )%       |                       |  |                                       |
| Social influences cur   | riculaversus contro                | 1        |                       |  |                                       |
| Buller 2008 (Australia)   |                                    | 0.6343   | 1.0%                  | 1.32 [0.38, 4.57]                        |                                       |
| Buller 2008 (USA)   | 0.8502                             |          | 0.7%                  | 2.34 [0.53, 10.30]                       |                                       |
| De Vries 1994 (High)  | -0.0078                            |          | 0.5%                  | 0.99 [0.18, 5.56]                        | <b> </b>                              |
| De Vries 1994 (Voc)   | 0.0344                             |          | 0.4%                  | 1.03 [0.13, 8.38]                        | ←                                     |
| Ellickson 1990 (HealthEd)   | -0.0232                            | 0.377    | 3.0%                  | 0.98 [0.47, 2.05]                        |                                       |
| Ellickson 1990 (Teen)   | -0.1041                            | 0.379    | 2.9%                  | 0.90 [0.43, 1.89]                        | <b>.</b>                              |
| Ellickson 2003  | -0.7267                            |          | 5.1%                  | 0.48 [0.28, 0.85]                        |                                       |
| Ennett 1994   | -0.0101                            |          | 10.5%                 | 0.99 [0.67, 1.47]                        | <b>_</b>                              |
| Gabrhelik 2012  | -0.0623                            | 0.155    | 17.5%                 | 0.94 [0.69, 1.27]                        | _ <b>_</b>                            |
| La Torre 2010 (A)   | -0.2075                            |          | 1.5%                  | 0.81 [0.29, 2.27]                        |                                       |
| La Torre 2010 (C)   |                                    | 1.0091   | 0.4%                  | 0.14 [0.02, 1.01]                        | ←────                                 |
| Peterson 2000   | -0.0578                            |          | 9.9%                  | 0.94 [0.63, 1.41]                        | <b>_</b>                              |
| Prokhorov 2008  | -1.5878                            |          | 0.1%                  | 0.20 [0.01, 6.52]                        | <b>←</b>                              |
| Ringwalt 2009a  | 0.1886                             |          | 4.3%                  | 1.21 [0.65, 2.23]                        |                                       |
| Schulze 2006  | 0.0558                             |          | 22.2%                 | 1.06 [0.81, 1.38]                        | _ <b>_</b>                            |
| Unger 2004 (CHIPS)  |                                    | 0.4762   | 1.9%                  | 1.14 [0.45, 2.90]                        |                                       |
| Unger 2004 (FLAVOR)   | -0.0393                            |          | 1.8%                  | 0.96 [0.37, 2.48]                        |                                       |
| Valente 2007 (TND)  | 0.8947                             | 1.701    | 0.1%                  | 2.45 [0.09, 68.62]                       | ←                                     |
| Valente 2007 (TNDNetwork)   |                                    |          | 0.2%                  | 3.08 [0.12, 80.52]                       | · · · · · · · · · · · · · · · · · · · |
| Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 13.93,                 | df = 18 (P = 0.73); I <sup>2</sup> | = 0%     | 84.1%                 | 0.96 [0.83, 1.10]                        | •                                     |
| Test for overall effect: Z = 0.0  | 63 (P = 0.53)                      |          |                       |  |                                       |
| Combined social com   | petence and social                 | influenc |                       |  |                                       |
| Botvin 1999   | -0.5984                            |          | 3.4%                  |  | +                                     |
| Weichold 2012 (Peer)  |                                    | 1.3137   |                       | 1.43 [0.11, 18.76]                       |                                       |
| Weichold 2012 (Teacher)<br>Subtotal (95% CI)                                  | -1.2528                            | 1.2612   | 0.3%<br>3.9%          | 0.29 [0.02, 3.38]<br>0.56 [0.29, 1.06]   |                                       |
| Heterogeneity: Chi <sup>z</sup> = 0.80, d<br>Test for overall effect: Z = 1.3 |                                    | )%       | J.J /0                | 5.50 [6.2 <i>3</i> , 1.00]               |                                       |
| Multimo del ourrieules  | voreue control                     |          |                       |  |                                       |
| Multimodal curricula v<br>Won 2010  |                                    | 0.0007   | 0.701                 | 4 0 2 10 4 7 0 4 7                       |                                       |
| Wen 2010<br>Subtotal (95% CI)   | 0.0299                             | 0.9337   | 0.5%<br>0.5%          | 1.03 [0.17, 6.42]<br>1.03 [0.17, 6.42]   |                                       |
| Heterogeneity: Not applicabl<br>Test for overall effect: Z = 0.1              |                                    |          |                       |  |                                       |
| Other interventions   |                                    |          |                       |  |                                       |
| Brown 2002<br>Subtotal (95% CI)   | -0.1496                            | 0.3428   | 3.6%<br>3.6%          | 0.86 [0.44, 1.69]<br>0.86 [0.44, 1.69]   |                                       |
| Heterogeneity: Not applicabl<br>Test for overall effect: Z = 0.4              |                                    |          |                       |  |                                       |
|   |                                    |          | 100.000               | 0.00.000                                 |                                       |
|   |                                    |          | 100.0%                | 0.90 [0.80, 1.03]                        | •                                     |
| Total (95% CI)<br>Heterogeneity: Chi <sup>z</sup> = 21.15,                    | 46-00 (0 - 0 00) 17                | - 0.07   |                       |  |                                       |

Forest plot showing results for curricula with low risk of selection bias versus control (one year or less follow-up)

|  |  |                  |              | Odds Ratio  | Odds Ratio  |
|--|--|------------------|--------------|---|---|
| Study or Subgroup  | log[Odds Ratio]  |                  | Weight       | IV, Fixed, 95% Cl   | IV, Fixed, 95% Cl                                     |
| Social influences curric   |  | -                |              |   |   |
| Aveyard 1999   |  | 0.1436           | 42.0%        | 1.14 [0.86, 1.51]   |   |
| Buller 2008 (Australia)  |  | 0.6343           | 2.2%         | 1.32 [0.38, 4.57]   |   |
| Buller 2008 (USA)  |  | 0.7561           | 1.5%         | 2.34 [0.53, 10.30]  |   |
| Chou 2006  | -0.1036  |                  | 4.2%         | 0.90 [0.37, 2.21]   | · · · · · · · · · · · · · · · · · · ·                 |
| De Vries 1994 (High)   | -0.0078  |                  | 1.1%         | 0.99 [0.18, 5.56]   | •   |
| De Vries 1994 (Voc)  | 0.0344   | 1.0673           | 0.8%         | 1.03 [0.13, 8.38]   | • •   |
| Ellickson 1990 (HealthEd)  | -0.0901  |                  | 5.4%         | 0.91 [0.42, 2.01]   |   |
| Ellickson 1990 (Teen)  | -0.1296  | 0.4026           | 5.3%         | 0.88 [0.40, 1.93]   |   |
| Gabrhelik 2012   | 0.1128   | 0.1924           | 23.4%        | 1.12 [0.77, 1.63]   |   |
| Garcia 2005  | -1.9741  | 0.5772           | 2.6%         | 0.14 [0.04, 0.43]   | ←───  |
| Valente 2007 (TND)   | 0.8947   | 1.701            | 0.3%         | 2.45 [0.09, 68.62]  | · · · · · · · · · · · · · · · · · · ·                 |
| Valente 2007 (TNDNetwork)  | 1.1258   | 1.6647           | 0.3%         | 3.08 [0.12, 80.52]  | •   |
| Subtotal (95% CI)  |  |                  | 89.1%        | 1.05 [0.86, 1.27]   | +   |
| Combined social comp<br>Botvin 1999<br>Seal 2006<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 0.04, df =<br>Test for overall effect: Z = 1.69 | -0.5984<br>0.1286<br>= 1 (P = 0.84); I <sup>2</sup> = (  | 0.3511<br>3.5782 | 7.0%         | s control<br>0.55 (0.28, 1.09)<br>1.14 (0.00, 1263.63)<br>0.55 (0.28, 1.10) |   |
|  | (ų = 0.03)   |                  |              |   |   |
| Multimo dal curricula ve   | rsus control   |                  |              |   |   |
|  |  |                  |              |   |   |
| Simons-Morton 2005   | -0.3229  | 0.5308           | 3.1%         | 0.72 [0.26, 2.05]   |   |
| Wen 2010   | -0.3229<br>-0.3209   |                  | 0.7%         | 0.73 [0.08, 6.21]   | ·   |
|  |  |                  |              |   |   |
| Wen 2010   | -0.3209<br>= 1 (P = 1.00); I <sup>2</sup> = (  | 1.0951           | 0.7%         | 0.73 [0.08, 6.21]   |   |
| Wen 2010<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 0.00, df :<br>Test for overall effect: Z = 0.68   | -0.3209<br>= 1 (P = 1.00); I <sup>2</sup> = (  | 1.0951           | 0.7%         | 0.73 [0.08, 6.21]<br>0.72 [0.28, 1.85]                                      |   |
| Wen 2010<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 0.00, df :<br>Test for overall effect: Z = 0.68<br>Total (95% CI)                       | -0.3209<br>= 1 (P = 1.00); I <sup>z</sup> = (<br>} (P = 0.50)                                      | 1.0951<br>)%     | 0.7%<br>3.8% | 0.73 [0.08, 6.21]   |   |
| Wen 2010<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 0.00, df :<br>Test for overall effect: Z = 0.68   | -0.3209<br>= 1 (P = 1.00); I <sup>2</sup> = (<br>3 (P = 0.50)<br>f = 15 (P = 0.23); I <sup>2</sup> | 1.0951<br>)%     | 0.7%<br>3.8% | 0.73 [0.08, 6.21]<br>0.72 [0.28, 1.85]<br>0.99 [0.82, 1.18]                 | 0.2 0.5 1 2 5<br>Favours experimental Favours control |

# Forest plot showing results for curricula with low risk of selection bias versus control (longest follow-up)

| Study or Subgroup   | log[Odds Ratio] SE             | Weight                | OddsRatio<br>IV,Fixed,95%C             | OddsRatio<br>IV, Fixed, 95% CI |
|---|--------------------------------|-----------------------|--|--------------------------------|
| Social competence cur   |                                | risignt               | 19,11760,0070 G                        |                                |
| Connell 2007  | 0.1376 0.5431                  | 0.9%                  | 1.15 [0.40, 3.33]                      |                                |
| Spoth 2001 (ISFP)   | -0.7252 0.4367                 | 1.4%                  | 0.48 [0.21, 1.14]                      |                                |
| Spoth 2001 (PDFY)   | -0.4447 0.4337                 | 1.4%                  | 0.64 [0.27, 1.50]                      |                                |
| Storr 2002 (CC)   | -0.3277 0.72                   | 0.5%                  | 0.72 [0.18, 2.95]                      |                                |
| Storr 2002 (FSP)  | -0.3218 0.7197                 | 0.5%                  | 0.72 [0.18, 2.97]                      |                                |
| Subtotal (95% CI)   |                                | 4.7%                  | 0.68 [0.43, 1.08]                      |                                |
| Heterogeneity: Chi² = 1.57, df<br>Test for overall effect: Z = 1.69             |                                |                       |  |                                |
| Social influences curri   | culaversus control             |                       |  |                                |
| Aveyard 1999  | 0.0583 0.1222                  | 17.6%                 | 1.06 [0.83, 1.35]                      |                                |
| Buller 2008 (Australia)   | 0.2769 0.6343                  | 0.7%                  | 1.32 [0.38, 4.57]                      |                                |
| Buller 2008 (USA)   | 0.8502 0.7561                  | 0.5%                  | 2.34 [0.53, 10.30]                     |                                |
| Chou 2006   | -0.1036 0.4568                 | 1.3%                  | 0.90 [0.37, 2.21]                      |                                |
| Crone 2011  | -0.5402 0.4487                 | 1.3%                  | 0.58 [0.24, 1.40]                      |                                |
| De Vries 1994 (High)  | -0.0078 0.8797                 | 0.3%                  | 0.99 [0.18, 5.56]                      |                                |
| De Vries 1994 (Voc)   | 0.0344 1.0673                  | 0.2%                  | 1.03 [0.13, 8.38]                      | •                              |
| De Vries 2003 (UK)  | -0.0619 0.1079                 | 22.5%                 | 0.94 [0.76, 1.16]                      |                                |
| Ellickson 1990 (HealthEd)   | -0.0232 0.377                  | 1.8%                  | 0.98 [0.47, 2.05]                      |                                |
| Ellickson 1990 (Teen)<br>Ellickson 2002   |                                | 1.8%                  | 0.90 [0.43, 1.89]                      |                                |
| Ellickson 2003<br>Eaggiano 2008   | -0.7267 0.2868                 | 3.2%<br>6.1%          | 0.48 [0.28, 0.85]                      |                                |
| Faggiano 2008<br>Gabrhelik 2012   | -0.043 0.2079<br>-0.0623 0.155 | 6.1%<br>10.9%         | 0.96 [0.64, 1.44]                      |                                |
| Garcia 2005   | -1.9741 0.5772                 | 0.8%                  | 0.94 [0.69, 1.27]<br>0.14 [0.04, 0.43] | <b>←</b>                       |
| La Torre 2010 (A)   | -0.2075 0.5248                 | 1.0%                  | 0.81 [0.29, 2.27]                      |                                |
| La Torre 2010 (C)   | -1.972 1.0091                  | 0.3%                  | 0.14 [0.02, 1.01]                      | <b></b>                        |
| Peterson 2000   | -0.0578 0.2056                 | 6.2%                  | 0.94 [0.63, 1.41]                      |                                |
| Prokhorov 2008  | -1.5878 1.7667                 | 0.1%                  | 0.20 [0.01, 6.52]                      | ←                              |
| Ringwalt 2009a  | 0.1886 0.3133                  | 2.7%                  | 1.21 [0.65, 2.23]                      |                                |
| Unger 2004 (CHIPS)  | 0.1306 0.4762                  | 1.2%                  | 1.14 [0.45, 2.90]                      | <b>.</b>                       |
| Unger 2004 (FLAVOR)   | -0.0393 0.4831                 | 1.1%                  | 0.96 [0.37, 2.48]                      |                                |
| Valente 2007 (TND)  | 0.8947 1.701                   | 0.1%                  | 2.45 [0.09, 68.62]                     | <b>←</b>                       |
| Valente 2007 (TNDNetwork)   | 1.1258 1.6647                  | 0.1%                  | 3.08 [0.12, 80.52]                     | ←                              |
| Van Lier 2009   | -0.245 0.3649                  | 2.0%                  | 0.78 [0.38, 1.60]                      |                                |
| Subtotal (95% CI)   |                                | 83.6%                 | 0.92 [0.83, 1.03]                      | •                              |
| Heterogeneity: Chi <sup>2</sup> = 26.45, d<br>Test for overall effect: Z = 1.40 | · · · ·                        |                       |  |                                |
| Combined social comp  | etence and social influenc     | es versu              | s control                              |                                |
| Botvin 1999   | -0.5984 0.3511                 | 2.1%                  | 0.55 [0.28, 1.09]                      | <del>_</del>                   |
| Seal 2006   | 0.1286 3.5782                  |                       | 1.14 [0.00, 1263.63]                   | <b>←</b>                       |
| Subtotal (95% CI)   |                                | 2.1%                  | 0.55 [0.28, 1.10]                      |                                |
| Heterogeneity: Chi² = 0.04, df<br>Test for overall effect: Z = 1.6              |                                |                       |  |                                |
| Multimo dal curricula v   | ersus control                  |                       |  |                                |
| Piper 2000 (HFL Age)  | 0.7458 0.4171                  | 1.5%                  | 2.11 [0.93, 4.77]                      | +                              |
| Piper 2000 (HFL)  | 0.027 0.4134                   | 1.5%                  | 1.03 [0.46, 2.31]                      |                                |
| Simons-Morton 2005  | -0.1933 0.5253                 | 1.0%                  | 0.82 [0.29, 2.31]                      |                                |
| Nen 2010  | 0.0299 0.9337                  | 0.3%                  | 1.03 [0.17, 6.42]                      | -                              |
| Subtotal (95% CI)   |                                | 4.3%                  | 1.26 [0.78, 2.04]                      |                                |
| Heterogeneity: Chi <sup>z</sup> = 2.47, df<br>Test for overall effect: Z = 0.93 |                                |                       |  |                                |
| Other interventions   |                                |                       |  |                                |
| Brown 2002  | -0.1496 0.3428                 | 2.2%                  | 0.86 [0.44, 1.69]                      |                                |
| Johnson 2009<br>Subtotal (95% CI)   | 0.067 0.2953                   | 3.0%<br>5 <b>.</b> 2% | 1.07 [0.60, 1.91]<br>0.98 [0.63, 1.51] |                                |
| Heterogeneity: Chi² = 0.23, df<br>Test for overall effect: Z = 0.11             |                                |                       |  |                                |
|   |                                |                       |  |                                |
| Total (95% CI)  |                                | 100.0%                | 0.92 [0.83, 1.01]                      |                                |
| Total (95% CI)<br>Heterogeneity: Chi² = 36.22, d                                | lf = 36 (P = 0.46); I² = 1%    | 100.0%                | 0.92 [0.83, 1.01]                      |                                |

# Forest plot showing results for curricula with female only data versus control (one year or less follow-up)

|  |                                  |           |                         | Odds Ratio         | Odds Ratio                        |
|--|----------------------------------|-----------|-------------------------|--------------------|-----------------------------------|
| Study or Subgroup                          | log[Odds Ratio]                  | SE        | Weight                  | IV, Fixed, 95% CI  | IV, Fixed, 95% CI                 |
| Social influences curri                    | culaversus contro                | ol        |                         |                    |                                   |
| Armstrong 1990 (Peer)                      | -0.4967                          | 0.417     | 14.0%                   | 0.61 [0.27, 1.38]  |                                   |
| Armstrong 1990 (Teacher)                   | -0.3966                          | 0.407     | 14.7%                   | 0.67 [0.30, 1.49]  |                                   |
| Chou 2006                                  | -0.091                           | 0.5831    | 7.1%                    | 0.91 [0.29, 2.86]  |                                   |
| Resnicow 2008 (LST)                        | -0.4037                          | 0.5259    | 8.8%                    | 0.67 [0.24, 1.87]  |                                   |
| Subtotal (95% CI)                          |                                  |           | 44.6%                   | 0.68 [0.43, 1.08]  |                                   |
| Heterogeneity: Chi <sup>2</sup> = 0.33, df | · · · ·                          | 0%        |                         |                    |                                   |
| Test for overall effect: Z = 1.6           | 3 (P = 0.10)                     |           |                         |                    |                                   |
| Combined social comp                       | etence and social                | influen   | ces curric              | ula versus control |                                   |
| Botvin 1999                                | -0.5984                          | 0.3511    | 19.7%                   | 0.55 [0.28, 1.09]  |                                   |
| Resnicow 2008 (Harm Min)                   | -0.4157                          | 0.5275    | 8.7%                    | 0.66 [0.23, 1.86]  |                                   |
| Subtotal (95% CI)                          |                                  |           | 28.4%                   | 0.58 [0.33, 1.03]  |                                   |
| Heterogeneity: Chi <sup>2</sup> = 0.08, df | = 1 (P = 0.77); I <sup>2</sup> = | 0%        |                         |                    |                                   |
| Test for overall effect: Z = 1.8           | 6 (P = 0.06)                     |           |                         |                    |                                   |
| Multimo dal curricula v                    | ersus control                    |           |                         |                    |                                   |
| De Vries 2003 (Finland)                    | -0.2038                          | 0.2998    | 27.0%                   | 0.82 [0.45, 1.47]  |                                   |
| Subtotal (95% CI)                          |                                  |           | 27.0%                   | 0.82 [0.45, 1.47]  |                                   |
| Heterogeneity: Not applicable              |                                  |           |                         |                    |                                   |
| Test for overall effect: Z = 0.6           | 8 (P = 0.50)                     |           |                         |                    |                                   |
| Total (95% CI)                             |                                  |           | 100.0%                  | 0.68 [0.50, 0.93]  | ◆                                 |
| Heterogeneity: Chi <sup>2</sup> = 1.06, df | = 6 (P = 0.98); I <sup>z</sup> = | 0%        |                         |                    |                                   |
| Test for overall effect: Z = 2.43          | 3 (P = 0.02)                     |           |                         |                    | Favours curricula Favours control |
| Test for subgroup differences:             | Chi² = 0.65, df = 2              | (P = 0.7) | 2), I <sup>z</sup> = 0% | 5                  |                                   |

## Forest plot showing results for curricula with female only data versus control (longest followup)

|  |                                    |          |                          | Odds Ratio        | Odds Ratio   |
|--|------------------------------------|----------|--------------------------|-------------------|--|
| Study or Subgroup                          | log[Odds Ratio]                    | SE       | Weight                   | IV, Fixed, 95% CI | IV, Fixed, 95% CI                                  |
| Social influences curr                     | iculaversus contro                 |          |                          |                   |  |
| Armstrong 1990 (Peer)                      | -0.486                             | 0.3813   | 6.4%                     | 0.62 [0.29, 1.30] |  |
| Armstrong 1990 (Teacher)                   | -0.4881                            | 0.3763   | 6.6%                     | 0.61 [0.29, 1.28] |  |
| Chou 2006                                  | -0.091                             | 0.5831   | 2.7%                     | 0.91 [0.29, 2.86] |  |
| Hort 1995                                  | -1.1153                            | 0.4144   | 5.4%                     | 0.33 [0.15, 0.74] | ←  |
| Resnicow 2008 (LST)                        | -0.3294                            | 0.4091   | 5.6%                     | 0.72 [0.32, 1.60] |  |
| Schulze 2006                               | -0.0101                            | 0.1383   | 48.7%                    | 0.99 [0.75, 1.30] |  |
| Subtotal (95% CI)                          |                                    |          | 75.4%                    | 0.82 [0.66, 1.02] | •  |
| Heterogeneity: Chi² = 8.05, d              |                                    | 38%      |                          |                   |  |
| Test for overall effect: Z = 1.7           | 8 (P = 0.07)                       |          |                          |                   |  |
| Combined social com                        | petence and social                 | influen  | ces versu                | s control         |  |
| Botvin 1999                                | -0.5984                            | 0.3511   | 7.6%                     | 0.55 [0.28, 1.09] |  |
| Resnicow 2008 (Harm Min)                   | -0.5175                            | 0.4194   | 5.3%                     | 0.60 [0.26, 1.36] |  |
| Subtotal (95% CI)                          |                                    |          | 12.9%                    | 0.57 [0.34, 0.96] |  |
| Heterogeneity: Chi <sup>2</sup> = 0.02, dt | f = 1 (P = 0.88); I <sup>2</sup> = | 0%       |                          |                   |  |
| Test for overall effect: Z = 2.1           | 0 (P = 0.04)                       |          |                          |                   |  |
| Multimo dal curricula v                    | ersus control                      |          |                          |                   |  |
| De Vries 2003 (Finland)                    | -0.0057                            | 0.2818   | 11.7%                    | 0.99 [0.57, 1.73] |  |
| Subtotal (95% CI)                          |                                    |          | 11.7%                    | 0.99 [0.57, 1.73] |  |
| Heterogeneity: Not applicable              | )                                  |          |                          |                   |  |
| Test for overall effect: Z = 0.0           | 2 (P = 0.98)                       |          |                          |                   |  |
| Total (95% CI)                             |                                    |          | 100.0%                   | 0.80 [0.66, 0.97] | •  |
| Heterogeneity: Chi <sup>z</sup> = 10.33,   | df = 8 (P = 0.24);                 | : 23%    |                          |                   |  |
| Test for overall effect: Z = 2.3           | 1 (P = 0.02)                       |          |                          |                   | U.2 U.5 1 2 5<br>Favours curricula Favours control |
| Test for subgroup differences              | : Chi <sup>2</sup> = 2.26, df = 2  | (P = 0.3 | 2), I <sup>2</sup> = 11. | .5%               |  |
|  |                                    |          |                          |                   |  |

Forest plot showing results for curricula with male only data versus control (one year or less follow-up)

|   |                                     |          |                          | Odds Ratio          | Odds Ratio                                       |
|---|-------------------------------------|----------|--------------------------|---------------------|--|
| Study or Subgroup                         | log[Odds Ratio]                     | SE       | Weight                   | IV, Fixed, 95% CI   | IV, Fixed, 95% CI                                |
| Social influences curr                    | iculaversus contre                  | ol       |                          |                     |  |
| Armstrong 1990 (Peer)                     | 0.2446                              | 0.4072   | 20.7%                    | 1.28 [0.57, 2.84]   |  |
| Armstrong 1990 (Teacher)                  | -0.3072                             | 0.4249   | 19.0%                    | 0.74 [0.32, 1.69]   |  |
| Chou 2006                                 | -0.2937                             | 0.5108   | 13.1%                    | 0.75 [0.27, 2.03]   |  |
| Resnicow 2008 (LST)                       | 0.5559                              | 0.56     | 10.9%                    | 1.74 [0.58, 5.23]   |  |
| Subtotal (95% CI)                         |                                     |          | 63.7%                    | 1.02 [0.65, 1.61]   |  |
| Heterogeneity: Chi <sup>z</sup> = 2.19, d |                                     | 0%       |                          |                     |  |
| Test for overall effect: Z = 0.1          | 0 (P = 0.92)                        |          |                          |                     |  |
| Combined social com                       | petence and social                  | linfluen | ces currio               | cula versus control |  |
| Resnicow 2008 (Harm Min)                  | 0.1407                              | 0.579    | 10.2%                    | 1.15 [0.37, 3.58]   |  |
| Subtotal (95% CI)                         |                                     |          | 10.2%                    | 1.15 [0.37, 3.58]   |  |
| Heterogeneity: Not applicable             | e                                   |          |                          |                     |  |
| Test for overall effect: Z = 0.2          | 24 (P = 0.81)                       |          |                          |                     |  |
| Multimo dal curricula v                   | ersus control                       |          |                          |                     |  |
| De Vries 2003 (Finland)                   | -1.1478                             | 0.3626   | 26.1%                    | 0.32 [0.16, 0.65]   | ← ∎  |
| Subtotal (95% CI)                         |                                     |          | 26.1%                    | 0.32 [0.16, 0.65]   |  |
| Heterogeneity: Not applicable             | e                                   |          |                          |                     |  |
| Test for overall effect: $Z = 3.1$        | 7 (P = 0.002)                       |          |                          |                     |  |
| Total (95% CI)                            |                                     |          | 100.0%                   | 0.76 [0.53, 1.10]   | -  |
| Heterogeneity: Chi <sup>z</sup> = 10.15,  | df = 5 (P = 0.07); I <sup>2</sup> : | = 51%    |                          |                     |  |
| Test for overall effect: Z = 1.4          | 1 11                                |          |                          |                     | 0.2 0.5 1 2 5<br>Favourscurricula Favourscontrol |
| Test for subgroup differences             | : Chi² = 7.96, df = 2               | (P = 0.0 | 2), l <sup>2</sup> = 74. | .9%                 | ravouistumtuna ravouistonuron                    |
|   |                                     |          |                          |                     |  |

Forest plot showing results for curricula with male only data versus control (longest follow-up)

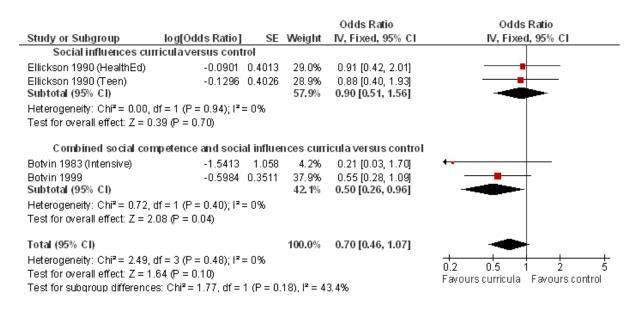
| Study or Subgroup                                 | log[Odds Ratio]                     | SE     | Weight       | OddsRatio<br>IV. Fixed, 95% Cl | OddsRatio<br>IV. Fixed, 95% Cl  |
|---|-------------------------------------|--------|--------------|--------------------------------|---------------------------------|
| Social influences currie                          | <u></u>                             | 3L     | weight       | IV, TIACO, 3570 CT             | TV, TIXEA, 35% CT               |
| Armstrong 1990 (Peer)                             |                                     | 0.393  | 7.4%         | 1.43 [0.66, 3.09]              |                                 |
| Armstrong 1990 (Feer)<br>Armstrong 1990 (Teacher) | -0.3655 0.4                         |        | 7.4%<br>6.8% | 0.69 [0.31, 1.55]              |                                 |
| Chou 2006   | -0.3855 0.4                         |        |              | • • •                          |                                 |
|   |                                     |        | 4.4%         | 0.75 [0.27, 2.03]              |                                 |
| Hort 1995   | -0.7658 0.4                         |        | 4.8%         | 0.46 [0.18, 1.22]              |                                 |
| Resnicow 2008 (LST)                               | -0.3773 0.4                         |        | 5.3%         | 0.69 [0.28, 1.71]              |                                 |
| Schulze 2006<br>Subbasel (05% - Cl)               | 0.0488 0                            | D.151  | 50.3%        | 1.05 [0.78, 1.41]              |                                 |
| Subtotal (95% CI)                                 |                                     |        | 79.0%        | 0.95 [0.75, 1.20]              |                                 |
| Heterogeneity: Chi <sup>z</sup> = 4.95, df        | , ,,                                | 6      |              |                                |                                 |
| Test for overall effect: Z = 0.49                 | 5 (P = 0.65)                        |        |              |                                |                                 |
| Combined social comp                              | etence and social in                | flueno | ces curric   | ula versus control             |                                 |
| Resnicow 2008 (Harm Min)                          | -0.2559 0.4                         | 4524   | 5.6%         | 0.77 [0.32, 1.88]              |                                 |
| Subtotal (95% CI)                                 |                                     |        | 5.6%         | 0.77 [0.32, 1.88]              |                                 |
| Heterogeneity: Not applicable                     |                                     |        |              |                                |                                 |
| Test for overall effect: Z = 0.5;                 | 7 (P = 0.57)                        |        |              |                                |                                 |
| Multimo dal curricula v                           | ersus control                       |        |              |                                |                                 |
| De Vries 2003 (Finland)                           | -0.0769 0                           | 0.273  | 15.4%        | 0.93 [0.54, 1.58]              |                                 |
| Subtotal (95% CI)                                 |                                     |        | 15.4%        | 0.93 [0.54, 1.58]              |                                 |
| Heterogeneity: Not applicable                     |                                     |        |              | . , .                          | T                               |
| Test for overall effect: Z = 0.28                 | 2/P - 0.79)                         |        |              |                                |                                 |
|   | 5 (( = 0.70)                        |        |              |                                |                                 |
| Total (95% CI)                                    |                                     |        | 100.0%       | 0.93 [0.76, 1.15]              | +                               |
| Heterogeneity: Chi <sup>2</sup> = 5.14, df        | = 7 (P = 0.64); I <sup>2</sup> = 0% | 6      |              |                                |                                 |
| Test for overall effect: Z = 0.6                  | · //                                |        |              |                                | 0.2 0.5 1 2 5                   |
| Test for subgroup differences:                    | · /                                 | = 0.91 | 1) P= 0%     |                                | Favourscurricula Favourscontrol |

Forest plot showing results for curricula with no booster sessions versus control (one year or less follow-up)

| Study or Subgroup  | log[Odds Ratio]   | SE  | Weight   | OddsRatio<br>IV, Fixed, 95% Cl   | OddsRatio<br>IV, Fixed, 95% CI        |
|--|---|---|--|--|---------------------------------------|
| Information curricula  | versus control  |   | Ŭ  |  |                                       |
| Howard 1996  | -2.092  | 2.4445  | 0.0%   | 0.12 [0.00, 14.87]   | ← →                                   |
| Subtotal (95% CI)  |   |   | 0.0%   | 0.12 [0.00, 14.87]   |                                       |
| Heterogeneity: Not applicable  |   |   |  |  |                                       |
| Test for overall effect: Z = 0.8   | 36 (P = 0.39)   |   |  |  |                                       |
| Social influences curr   | icula versus control  |   |  |  |                                       |
| Armstrong 1990 (Peer)  | -0.1076   | 0.36  | 2.1%   | 0.90 [0.44, 1.82]  |                                       |
| Armstrong 1990 (Teacher)   | -0.5573   | 0.3739  | 2.0%   | 0.57 [0.28, 1.19]  |                                       |
| Ausems 2004 (In school)  | -0.6539   | 0.4171  | 1.6%   | 0.52 [0.23, 1.18]  |                                       |
| Ausems 2004 (Out School)   | -0.821  | 0.4594  | 1.3%   | 0.44 [0.18, 1.08]  |                                       |
| Aveyard 1999   | 0.131   | 0.1436  | 13.2%  | 1.14 [0.86, 1.51]  |                                       |
| Buller 2008 (Australia)  | 0.2769  | 0.6343  | 0.7%   | 1.32 [0.38, 4.57]  |                                       |
| Buller 2008 (USA)  | 0.8502  | 0.7561  | 0.5%   | 2.34 [0.53, 10.30]   |                                       |
| Chou 2006  | -0.1036   | 0.4568  | 1.3%   | 0.90 [0.37, 2.21]  |                                       |
| Coe 1982   | -0.5341   | 0.9839  | 0.3%   | 0.59 [0.09, 4.03]  |                                       |
| De Vries 1994 (High)   | -0.0078<br>0.0344   | 0.8797<br>1.0673  | 0.4%<br>0.2%   | 0.99 [0.18, 5.56]  |                                       |
| De Vries 1994 (Voc)<br>De Vries 2003 (UK)  | 0.0544  | 0.1142  | 20.9%  | 1.03 [0.13, 8.38]<br>1.06 [0.85, 1.33]   |                                       |
| Ennett 1994  | -0.0726   | 0.1142  | 7.1%   | 0.93 [0.63, 1.37]  |                                       |
| Gabrhelik 2012   | 0.1128  | 0.1903  | 7.4%   | 1.12 [0.77, 1.63]  |                                       |
| Garcia 2005  | -1.9741   | 0.5772  | 0.8%   | 0.14 [0.04, 0.43]  | ←───                                  |
| Nutbeam 1993 (FSE)   | 0.361   | 0.4315  | 1.5%   | 1.43 [0.62, 3.34]  |                                       |
| Nutbeam 1993 (FSE+SAM)   | 0.0441  | 0.4347  | 1.4%   | 1.05 [0.45, 2.45]  |                                       |
| Nutbeam 1993 (SAM)   | 0.0771  | 0.4408  | 1.4%   | 1.08 [0.46, 2.56]  |                                       |
| Resnicow 2008 (LST)  | -0.713  | 0.4443  | 1.4%   | 0.49 [0.21, 1.17]  |                                       |
| Telch 1990 (No peers)  | -0.1244   | 0.7836  | 0.4%   | 0.88 [0.19, 4.10]  |                                       |
| Telch 1990 (Peers)   | -1.4894   | 1.1322  | 0.2%   | 0.23 [0.02, 2.07]  | ←                                     |
| Valente 2007 (TND)   | 0.8947  | 1.701   | 0.1%   | 2.45 [0.09, 68.62]   | ← →                                   |
| Valente 2007 (TNDNetwork)<br>Subtotal (95% CI)   | 1.1258  | 1.6647  | 0.1%<br>66.2%  | 3.08 [0.12, 80.52]<br>0.97 [0.86, 1.10]  | · · · · · · · · · · · · · · · · · · · |
| Test for overall effect: Z = 0.4   | 15 (P = 0.66)   |   |  |  |                                       |
| Heterogeneity: Chi <sup>2</sup> = 28.64,<br>Test for overall effect: Z = 0.4<br>Combined social comp<br>Botvin 1980<br>Botvin 1982   | 15 (P = 0.66)<br>petence and social i<br>-1.5545  | influences<br>1.9397  | 0.1%   | 0.21 [0.00, 9.46]  |                                       |
| Test for overall effect: Z = 0.4<br>Combined social com<br>Botvin 1980<br>Botvin 1982  | 15 (P = 0.66)<br>petence and social i   | influences<br>1.9397<br>1.1015  | 0.1%<br>0.2%   | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]   | ++                                    |
| Test for overall effect: Z = 0.4<br>Combined social com<br>Botvin 1980   | 45 (P = 0.66)<br>petence and social<br>-1.5545<br>-0.0324<br>-1.0925  | influences<br>1.9397  | 0.1%   | 0.21 [0.00, 9.46]  | ++                                    |
| Test for overall effect: Z = 0.4<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)   | 45 (P = 0.66)<br>petence and social<br>-1.5545<br>-0.0324<br>-1.0925  | influences<br>1.9397<br>1.1015<br>0.9314  | 0.1%<br>0.2%<br>0.3%   | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]  | ++                                    |
| Test for overall effect: Z = 0.4<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006   | 45 (P = 0.66)<br>petence and social<br>-1.5545<br>-0.0324<br>-1.0925<br>-0.20421  | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259  | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%<br>0.0%   | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>1.14 [0.00, 1263.63]  |                                       |
| Test for overall effect: Z = 0.4<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006<br>Subtotal (95% CI)  | 45 (P = 0.66)<br>petence and social<br>-1.5545<br>-0.0324<br>-1.0925<br>-0.20421<br>-0.9582<br>0.1286   | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259<br>0.4636<br>3.5782  | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%   | 0.21 (0.00, 9.46)<br>0.97 (0.11, 8.39)<br>0.34 (0.05, 2.08)<br>0.82 (0.47, 1.42)<br>0.38 (0.15, 0.95)  |                                       |
| Test for overall effect: Z = 0.4<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006   | 45 (P = 0.66)<br>petence and social 1<br>-1.5545<br>-0.0324<br>-1.0925<br>-0.20421<br>-0.9582<br>0.1286<br>f = 5 (P = 0.71); I² = 0   | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259<br>0.4636<br>3.5782  | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%<br>0.0%   | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>1.14 [0.00, 1263.63]  |                                       |
| Test for overall effect: Z = 0.4<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 2.93, di  | 45 (P = 0.66)<br>petence and social i<br>-1.5545<br>-0.0324<br>-1.0925<br>-0.20421<br>-0.9582<br>0.1286<br>f = 5 (P = 0.71); I² = 0<br>07 (P = 0.05)  | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259<br>0.4636<br>3.5782  | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%<br>0.0%   | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>1.14 [0.00, 1263.63]  |                                       |
| Test for overall effect: Z = 0.4<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 2.93, di<br>Test for overall effect: Z = 1.9  | 45 (P = 0.66)<br>petence and social i<br>-1.5545<br>-0.0324<br>-1.0925<br>-0.20421<br>-0.9582<br>0.1286<br>f = 5 (P = 0.71); I² = 0<br>07 (P = 0.05)  | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259<br>0.4636<br>3.5782  | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%<br>0.0%   | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>1.14 [0.00, 1263.63]  |                                       |
| Test for overall effect: Z = 0.4<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 2.93, di<br>Test for overall effect: Z = 1.9<br>Multimo dal curricula v<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Finland)   | 15 (P = 0.66)<br>petence and social 1<br>-1.5545<br>-0.0324<br>-1.0925<br>-0.20421<br>-0.9582<br>0.1286<br>f = 5 (P = 0.71); I² = 0<br>37 (P = 0.05)<br>versus control<br>0.3436<br>-0.1407   | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259<br>0.4636<br>3.5782<br>0%<br>0.1948<br>0.2947  | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%<br>0.0%<br>5.3%<br>7.2%<br>3.1%   | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>1.14 [0.00, 1263.63]<br>0.64 [0.41, 1.00]<br>1.41 [0.96, 2.07]<br>0.87 [0.49, 1.55]   |                                       |
| Test for overall effect: Z = 0.4<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 2.93, di<br>Test for overall effect: Z = 1.9<br>Multimo dal curricula v<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Portugal)  | 15 (P = 0.66)<br>petence and social 1<br>-1.5545<br>-0.0324<br>-1.0925<br>-0.20421<br>-0.9582<br>0.1286<br>f = 5 (P = 0.71); I² = 0<br>07 (P = 0.05)<br>versus control<br>0.3436<br>-0.1407<br>-0.3147  | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259<br>0.4636<br>3.5782<br>0%<br>0.1948<br>0.2947<br>0.1276  | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%<br>0.0%<br>5.3%<br>7.2%<br>3.1%<br>16.8%                                  | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>1.14 [0.00, 1263.63]<br>0.64 [0.41, 1.00]<br>1.41 [0.96, 2.07]<br>0.87 [0.49, 1.55]<br>0.73 [0.57, 0.94]  |                                       |
| Test for overall effect: Z = 0.4<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 2.93, di<br>Test for overall effect: Z = 1.9<br>Multimo dal curricula v<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Portugal)<br>Simons-Morton 2005  | IS (P = 0.66)<br>petence and social 1<br>-1.5545<br>-0.0324<br>-1.0925<br>-0.20421<br>-0.9582<br>0.1286<br>f = 5 (P = 0.71); I² = 0<br>07 (P = 0.05)<br>versus control<br>0.3436<br>-0.1407<br>-0.3147<br>-0.3229   | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259<br>0.4636<br>3.5782<br>0%<br>0.1948<br>0.2947<br>0.1276<br>0.5308  | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%<br>0.0%<br>5.3%<br>7.2%<br>3.1%<br>16.8%<br>1.0%                          | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>1.14 [0.00, 1263.63]<br>0.64 [0.41, 1.00]<br>1.41 [0.96, 2.07]<br>0.87 [0.49, 1.55]<br>0.73 [0.57, 0.94]<br>0.72 [0.26, 2.05]   |                                       |
| Test for overall effect: Z = 0.4<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 2.93, di<br>Test for overall effect: Z = 1.9<br>Multimo dal curricula v<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Portugal)<br>Simons-Morton 2005<br>Wen 2010  | 15 (P = 0.66)<br>petence and social 1<br>-1.5545<br>-0.0324<br>-1.0925<br>-0.20421<br>-0.9582<br>0.1286<br>f = 5 (P = 0.71); I² = 0<br>07 (P = 0.05)<br>versus control<br>0.3436<br>-0.1407<br>-0.3147  | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259<br>0.4636<br>3.5782<br>0%<br>0.1948<br>0.2947<br>0.1276  | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%<br>0.0%<br>5.3%<br>7.2%<br>3.1%<br>16.8%<br>1.0%<br>0.2%                  | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>1.14 [0.00, 1263.63]<br>0.64 [0.41, 1.00]<br>1.41 [0.96, 2.07]<br>0.87 [0.49, 1.55]<br>0.73 [0.57, 0.94]<br>0.72 [0.26, 2.05]<br>0.73 [0.08, 6.21]  |                                       |
| Test for overall effect: Z = 0.4<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 2.93, di<br>Test for overall effect: Z = 1.9<br>Multimo dal curricula v<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Portugal)<br>Simons-Morton 2005<br>Wen 2010<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 8.17, di  | $F_{P} = 0.66)$ $petence and social 1 -1.5545 -0.0324 -1.0925 -0.20421 -0.9582 0.1286 f = 5 (P = 0.71);  ^{2} = 0 0.7 (P = 0.05) rersus \ control \\0.3436 -0.1407 -0.3147 -0.3229 -0.3209 f = 4 (P = 0.09);  ^{2} = 6$   | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259<br>0.4636<br>3.5782<br>0%<br>0.1948<br>0.2947<br>0.1276<br>0.5308<br>1.0951                                | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%<br>0.0%<br>5.3%<br>7.2%<br>3.1%<br>16.8%<br>1.0%                          | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>1.14 [0.00, 1263.63]<br>0.64 [0.41, 1.00]<br>1.41 [0.96, 2.07]<br>0.87 [0.49, 1.55]<br>0.73 [0.57, 0.94]<br>0.72 [0.26, 2.05]   |                                       |
| Test for overall effect: $Z = 0.4$<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 2.93, dt<br>Test for overall effect: $Z = 1.9$<br>Multimo dal curricula v<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Portugal)<br>Simons-Morton 2005<br>Wen 2010<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 8.17, dt<br>Test for overall effect: $Z = 1.3$<br>Other interventions   | $F = 0.66)$ $petence and social 1 -1.5545 -0.0324 -1.0925 -0.20421 -0.9582 0.1286 f = 5 (P = 0.71); I^2 = 0 0.7 (P = 0.05) rersus \ control 0.3436 -0.1407 -0.3147 -0.3229 -0.3209 f = 4 (P = 0.09); I^2 = 5 81 (P = 0.19)$   | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259<br>0.4636<br>3.5782<br>0%<br>0.1948<br>0.2947<br>0.1276<br>0.5308<br>1.0951<br>i1%                         | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%<br>0.0%<br>5.3%<br>7.2%<br>3.1%<br>16.8%<br>1.0%<br>0.2%<br>28.3%         | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>1.14 [0.00, 1263.63]<br>0.64 [0.41, 1.00]<br>1.41 [0.96, 2.07]<br>0.87 [0.49, 1.55]<br>0.73 [0.57, 0.94]<br>0.72 [0.26, 2.05]<br>0.73 [0.08, 6.21]<br>0.88 [0.73, 1.07]   |                                       |
| Test for overall effect: $Z = 0.4$<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 2.93, dt<br>Test for overall effect: $Z = 1.9$<br>Multimodal curricula v<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Portugal)<br>Simons-Morton 2005<br>Wen 2010<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 8.17, dt<br>Test for overall effect: $Z = 1.3$<br>Other interventions<br>Figa-Talamanca 1989 (F)   | F = 0.66) petence and social i<br>-1.5545<br>-0.0324<br>-1.0925<br>-0.20421<br>-0.9582<br>0.1286<br>f = 5 (P = 0.71); I <sup>2</sup> = 0<br>07 (P = 0.05)<br>versus control<br>0.3436<br>-0.1407<br>-0.3147<br>-0.3229<br>-0.3209<br>f = 4 (P = 0.09); I <sup>2</sup> = 5<br>81 (P = 0.19)  | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259<br>0.4636<br>3.5782<br>0%<br>0.1948<br>0.2947<br>0.1296<br>0.5308<br>1.0951<br>i1%<br>2.168                | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%<br>0.0%<br>5.3%<br>7.2%<br>3.1%<br>16.8%<br>1.0%<br>0.2%<br>28.3%         | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>1.14 [0.00, 1263.63]<br>0.64 [0.41, 1.00]<br>1.41 [0.96, 2.07]<br>0.87 [0.49, 1.55]<br>0.73 [0.57, 0.94]<br>0.72 [0.26, 2.05]<br>0.73 [0.08, 6.21]<br>0.88 [0.73, 1.07]   |                                       |
| Test for overall effect: Z = 0.4<br>Combined so cial com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 2.93, df<br>Test for overall effect: Z = 1.9<br>Multimo dal curricula v<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Portugal)<br>Simons-Morton 2005<br>Wen 2010<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 8.17, df<br>Test for overall effect: Z = 1.3<br>Other interventions<br>Figa-Talamanca 1989 (F)<br>Figa-Talamanca 1989 (N.F)  | $F = 0.66)$ $petence and social 1 -1.5545 -0.0324 -1.0925 -0.20421 -0.9582 0.1286 f = 5 (P = 0.71); I^2 = 0 0.7 (P = 0.05) rersus \ control 0.3436 -0.1407 -0.3147 -0.3229 -0.3209 f = 4 (P = 0.09); I^2 = 5 81 (P = 0.19)$   | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259<br>0.4636<br>3.5782<br>0%<br>0.1948<br>0.2947<br>0.1276<br>0.5308<br>1.0951<br>i1%                         | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%<br>0.0%<br>5.3%<br>7.2%<br>3.1%<br>16.8%<br>1.0%<br>0.2%<br>28.3%         | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>1.14 [0.00, 1263.63]<br>0.64 [0.41, 1.00]<br>1.14 [0.96, 2.07]<br>0.87 [0.49, 1.55]<br>0.73 [0.57, 0.94]<br>0.72 [0.26, 2.05]<br>0.73 [0.08, 6.21]<br>0.88 [0.73, 1.07]<br>12.02 [0.17, 842.19]<br>0.31 [0.00, 41.21]                       |                                       |
| Test for overall effect: $Z = 0.4$<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 2.93, dt<br>Test for overall effect: $Z = 1.9$<br>Multimodal curricula v<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Portugal)<br>Simons-Morton 2005<br>Wen 2010<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 8.17, dt<br>Test for overall effect: $Z = 1.3$<br>Other interventions<br>Figa-Talamanca 1989 (F)   | $F_{F} = 0.66)$ $F_{F} = 0.66)$ $F_{F} = 0.66)$ $F_{F} = 0.0324$ $F_{F} = 0.0324$ $F_{F} = 0.02421$ $F_{F} = 0.025$ $F_{F} = 0.027$ $F_{F} = 1$ $F_{F} = 0.027$ $F_{F} = 1$   | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259<br>0.4636<br>3.5782<br>0%<br>0.1948<br>0.2947<br>0.1276<br>0.5308<br>1.0951<br>51%<br>2.168<br>2.503       | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%<br>0.0%<br>5.3%<br>7.2%<br>3.1%<br>16.8%<br>1.0%<br>0.2%<br>28.3%         | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>1.14 [0.00, 1263.63]<br>0.64 [0.41, 1.00]<br>1.41 [0.96, 2.07]<br>0.87 [0.49, 1.55]<br>0.73 [0.57, 0.94]<br>0.72 [0.26, 2.05]<br>0.73 [0.08, 6.21]<br>0.88 [0.73, 1.07]   |                                       |
| Test for overall effect: $Z = 0.4$<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 2.93, di<br>Test for overall effect: $Z = 1.9$<br>Multimo dal curricula v<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Portugal)<br>Simons-Morton 2005<br>Wen 2010<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 8.17, di<br>Test for overall effect: $Z = 1.3$<br>Other interventions<br>Figa-Talamanca 1989 (F):<br>Figa-Talamanca 1989 (N:F)<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 1.23, di<br>Test for overall effect: $Z = 0.5$                   | $F_{F} = 0.66)$ $F_{F} = 0.66)$ $F_{F} = 0.66)$ $F_{F} = 0.0324$ $F_{F} = 0.0324$ $F_{F} = 0.02421$ $F_{F} = 0.025$ $F_{F} = 0.027$ $F_{F} = 1$ $F_{F} = 0.027$ $F_{F} = 1$   | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259<br>0.4636<br>3.5782<br>0%<br>0.1948<br>0.2947<br>0.1276<br>0.5308<br>1.0951<br>51%<br>2.168<br>2.503       | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%<br>0.0%<br>5.3%<br>7.2%<br>3.1%<br>16.8%<br>1.0%<br>0.2%<br>28.3%<br>0.1% | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>1.14 [0.00, 1263.63]<br>0.64 [0.41, 1.00]<br>1.41 [0.96, 2.07]<br>0.87 [0.49, 1.55]<br>0.73 [0.57, 0.94]<br>0.72 [0.26, 2.05]<br>0.73 [0.08, 6.21]<br>0.88 [0.73, 1.07]<br>12.02 [0.17, 842.19]<br>0.31 [0.00, 41.21]<br>2.49 [0.10, 61.80] |                                       |
| Test for overall effect: $Z = 0.4$<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 2.93, di<br>Test for overall effect: $Z = 1.9$<br>Multimo dal curricula v<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Portugal)<br>Simons-Morton 2005<br>Wen 2010<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 8.17, di<br>Test for overall effect: $Z = 1.3$<br>Other interventions<br>Figa-Talamanca 1989 (F):<br>Figa-Talamanca 1989 (N:F)<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 1.23, di<br>Test for overall effect: $Z = 0.5$<br>Total (95% CI) | $F_{1}(P = 0.66)$ $F_{1}(P = 0.66)$ $F_{1}(F_{1}(P = 0.66))$ $F_{1}(F_{1}(P = 0.71))$ $F_{2}(F_{1}(P = 0.71))$ $F_{2}(F_{2}(P = 0.77))$ | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259<br>0.4636<br>3.5782<br>1%<br>0.1948<br>0.2947<br>0.1276<br>0.5308<br>1.0951<br>31%<br>2.168<br>2.503<br>9% | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%<br>0.0%<br>5.3%<br>7.2%<br>3.1%<br>16.8%<br>1.0%<br>0.2%<br>28.3%         | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>1.14 [0.00, 1263.63]<br>0.64 [0.41, 1.00]<br>1.14 [0.96, 2.07]<br>0.87 [0.49, 1.55]<br>0.73 [0.57, 0.94]<br>0.72 [0.26, 2.05]<br>0.73 [0.08, 6.21]<br>0.88 [0.73, 1.07]<br>12.02 [0.17, 842.19]<br>0.31 [0.00, 41.21]                       |                                       |
| Test for overall effect: $Z = 0.4$<br>Combined social com<br>Botvin 1980<br>Botvin 1982<br>Botvin 1983 (LST)<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Seal 2006<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 2.93, di<br>Test for overall effect: $Z = 1.9$<br>Multimo dal curricula v<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Portugal)<br>Simons-Morton 2005<br>Wen 2010<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 8.17, di<br>Test for overall effect: $Z = 1.3$<br>Other interventions<br>Figa-Talamanca 1989 (F):<br>Figa-Talamanca 1989 (N:F)<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 1.23, di<br>Test for overall effect: $Z = 0.5$                   | $F_{1}(P = 0.66)$ petence and social f<br>-1.5545<br>-0.0324<br>-1.0925<br>-0.20421<br>-0.9582<br>0.1286<br>f = 5 (P = 0.71);  ^2 = 0<br>0.3436<br>-0.1407<br>-0.3147<br>-0.3229<br>-0.3209<br>f = 4 (P = 0.09);  ^2 = 5<br>31 (P = 0.19)<br>2.4868<br>-1.1872<br>f = 1 (P = 0.27);  ^2 = 1<br>56 (P = 0.58)<br>df = 36 (P = 0.13);  ^2   | influences<br>1.9397<br>1.1015<br>0.9314<br>0.282259<br>0.4636<br>3.5782<br>1%<br>0.1948<br>0.2947<br>0.1276<br>0.5308<br>1.0951<br>31%<br>2.168<br>2.503<br>9% | 0.1%<br>0.2%<br>0.3%<br>3.4%<br>1.3%<br>0.0%<br>5.3%<br>7.2%<br>3.1%<br>16.8%<br>1.0%<br>0.2%<br>28.3%<br>0.1% | 0.21 [0.00, 9.46]<br>0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>1.14 [0.00, 1263.63]<br>0.64 [0.41, 1.00]<br>1.41 [0.96, 2.07]<br>0.87 [0.49, 1.55]<br>0.73 [0.57, 0.94]<br>0.72 [0.26, 2.05]<br>0.73 [0.08, 6.21]<br>0.88 [0.73, 1.07]<br>12.02 [0.17, 842.19]<br>0.31 [0.00, 41.21]<br>2.49 [0.10, 61.80] |                                       |

| Study or Subgroup<br>Information curricula ve   | log[Odds Ratio]<br>ersus control   | эE   | Weight                                       | IV, Fixed, 95% C   | I IV, Fixed, 95% CI                     |
|---|--|--|--|--|---|
| Howard 1996<br>Subtotal (95% CI)  | -2.092   | 2.4445   | 0.0%<br>0 <b>.0</b> %                        | 0.12 [0.00, 14.87]<br>0.12 [0.00, 14.87]   |   |
| Heterogeneity: Not applicable   |  |  | 0.0%   | 0.12 [0.00, 14.87]   |   |
| Test for overall effect: Z = 0.86   | i (P = 0.39)   |  |  |  |   |
| Social competence curi  | ricula versus contro   | )  |  |  |   |
| Connell 2007  | 0.1376   | 0.5431   | 0.5%   | 1.15 [0.40, 3.33]  |   |
| Spoth 2001 (ISFP)   | -0.7252  | 0.4367   | 0.8%   | 0.48 [0.21, 1.14]  |   |
| Spoth 2001 (PDFY)<br>Spoth 2002 (LST)   | -0.4447<br>-0.2181   | 0.4337<br>0.4821                                       | 0.8%<br>0.6%                                 | 0.64 [0.27, 1.50]<br>0.80 [0.31, 2.07]   |   |
| Storr 2002 (CC)   | -0.3277  | 0.72   | 0.3%   | 0.72 [0.18, 2.95]  | <b>←</b>                                |
| Storr 2002 (FSP)  | -0.3218  | 0.7197   | 0.3%   | 0.72 [0.18, 2.97]  |   |
| Walter 1986<br>Subtatal (05%, CI)   | -1.4055  | 0.7404   | 0.3%   | 0.25 [0.06, 1.05]  |   |
| Subtotal (95% CI)<br>Heterogeneity: Chi² = 3.52, df:  | $= 6 (P = 0.74) \cdot I^2 = 0$   | κ.   | 3.4%   | 0.65 [0.43, 0.96]  |   |
| Test for overall effect: Z = 2.14   |  |  |  |  |   |
|   |  |  |  |  |   |
| Social influences curric<br>Armstrong 1990 (Peer)   | -0.071   | 0.3369   | 1.3%   | 0.93 [0.48, 1.80]  |   |
| Armstrong 1990 (Teacher)  | -0.3958  | 0.3409   | 1.2%   | 0.67 [0.35, 1.31]  |   |
| Ausems 2004 (In school)   | -0.6539  | 0.4171   | 0.8%   | 0.52 [0.23, 1.18]  |   |
| Ausems 2004 (Out School)  | -0.8675  | 0.427  | 0.8%   | 0.42 [0.18, 0.97]  | ·                                       |
| Aveyard 1999<br>Roller 2000 (Australia)   | 0.0583   | 0.1222   | 9.6%<br>0.4%                                 | 1.06 [0.83, 1.35]  |   |
| Buller 2008 (Australia)<br>Buller 2008 (USA)  | 0.2769<br>0.8502   | 0.6343<br>0.7561                                       | 0.4%   | 1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30]  |   |
| Chou 2006   | -0.1036  | 0.4568   | 0.7%   | 0.90 [0.37, 2.21]  |   |
| Coe 1982  | -0.5341  | 0.9839   | 0.1%   | 0.59 [0.09, 4.03]  | ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ←   |
| Conner 2010 (I)<br>Conner 2010 (CE)   | -0.322   | 0.305  | 1.5%   | 0.72 [0.40, 1.32]  |   |
| Conner 2010 (SE)<br>Crone 2011  | -0.0099<br>-0.5402   | 0.2946<br>0.4487                                       | 1.7%<br>0.7%                                 | 0.99 [0.56, 1.76]<br>0.58 [0.24, 1.40]   |   |
| De Vries 1994 (High)  | -0.0078  | 0.8797   | 0.2%   | 0.99 [0.18, 5.56]  | ←                                       |
| De Vries 1994 (Voc)   | 0.0344   | 1.0673   | 0.1%   | 1.03 [0.13, 8.38]  | +                                       |
| De Vries 2003 (UK)  | -0.0619  | 0.1079   | 12.3%  | 0.94 [0.76, 1.16]  | <del>+</del>                            |
| Denson 1981<br>Elder 1996   | -1.9186<br>0.01  | 0.8846<br>0.1271                                       | 0.2%<br>8.9%                                 | 0.15 [0.03, 0.83]  | ·                                       |
| Ennett 1996<br>Ennett 1994  | -0.0101  | 0.1271   | 3.6%   | 1.01 [0.79, 1.30]<br>0.99 [0.67, 1.47]   | <u> </u>                                |
| Faggiano 2008   | -0.043   | 0.2079   | 3.3%   | 0.96 [0.64, 1.44]  | <del></del>                             |
| Gabrhelik 2012  | -0.0623  | 0.155  | 6.0%   | 0.94 [0.69, 1.27]  |   |
| Garcia 2005<br>Hort 1995  | -1.9741<br>-0.8599   | 0.5772   | 0.4%<br>0.9%                                 | 0.14 [0.04, 0.43]<br>0.42 [0.20, 0.91]   |   |
| La Torre 2010 (A)   | -0.2075  | 0.5903   | 0.5%   | 0.81 [0.29, 2.27]  |   |
| La Torre 2010 (C)   | -1.972   | 1.0091   | 0.1%   | 0.14 [0.02, 1.01]  | ·                                       |
| Nutbeam 1993 (FSE)  | 0.361  | 0.4315   | 0.8%   | 1.43 [0.62, 3.34]  |   |
| Nutbeam 1993 (FSE+SAM)  | 0.0441   | 0.4347   | 0.8%   | 1.05 [0.45, 2.45]  |   |
| Nutbeam 1993 (SAM)<br>Peterson 2000   | 0.0771<br>-0.0578  | 0.4408<br>0.2056                                       | 0.7%<br>3.4%                                 | 1.08 [0.46, 2.56]<br>0.94 [0.63, 1.41]   |   |
| Prokhorov 2008  | -1.5878  | 1.7667   | 0.0%   | 0.20 [0.01, 6.52]  | <b>+-</b>                               |
| Resnicow 2008 (LST)   | -0.8174  | 1.2518   | 0.1%   | 0.44 [0.04, 5.14]  | ← · · · · · · · · · · · · · · · · · · · |
| Schulze 2006<br>Talah 4999 (Namaana)  | 0.0558   | 0.1374   | 7.6%   | 1.06 [0.81, 1.38]  |   |
| Telch 1990 (No peers)<br>Telch 1990 (Peers)   | -0.1244<br>-1.4894   | 0.7836   | 0.2%<br>0.1%                                 | 0.88 [0.19, 4.10]<br>0.23 [0.02, 2.07]   | ••••••                                  |
| Unger 2004 (CHIPS)  | 0.1306   | 0.4762   | 0.6%   | 1.14 [0.45, 2.90]  |   |
| Unger 2004 (FLAVOR)   | -0.0393  | 0.4831   | 0.6%   | 0.96 [0.37, 2.48]  |   |
| Valente 2007 (TND)<br>Valente 2007 (TNDNetwork)   | 0.8947<br>1.1258   | 1.701<br>1.6647  | 0.0%<br>0.1%                                 | 2.45 [0.09, 68.62]   |   |
| Van Lier 2007 (TNDNetwork)  | -0.245   | 0.3649   | 1.1%   | 3.08 [0.12, 80.52]<br>0.78 [0.38, 1.60]  | ·                                       |
| Subtotal (95% CI)   |  |  | 72.0%  | 0.93 [0.85, 1.01]  | •                                       |
| Heterogeneity: Chi <sup>2</sup> = 40.71, dt   |  | 9%   |  |  |   |
| Test for overall effect: Z = 1.70   | ) (P = 0.09)   |  |  |  |   |
| Combined social comp  |  |  |  |  |   |
| Botvin 1980<br>Potvin 1982  | -1.5545  | 1.9397   | 0.0%   | 0.21 [0.00, 9.46]  |   |
| Botvin 1982<br>Botvin 1983 (LST)  | -0.0324<br>-1.0925   | 0.9314   | 0.1%   | 0.97 [0.11, 8.39]<br>0.34 [0.05, 2.08]   | · · · · · · · · · · · · · · · · · · ·   |
| Luna-Adame 2013   | -0.20421   |  | 1.8%   | 0.82 [0.47, 1.42]  | +-                                      |
| Resnicow 2008 (Harm Min)  | -0.8853  | 0.3933   | 0.9%   | 0.41 [0.19, 0.89]  |   |
| Seal 2006<br>Alaishaid 2012 (Rear)  | 0.1286   | 3.5782<br>1.3137                                       |  | 1.14 [0.00, 1263.63]   |   |
| Weichold 2012 (Peer)<br>Weichold 2012 (Teacher)   | 0.3567<br>-1.2528  | 1.313/   | 0.1%<br>0.1%                                 | 1.43 [0.11, 18.76]<br>0.29 [0.02, 3.38]  |   |
| Subtotal (95% CI)   |  |  | 3.2%   | 0.63 [0.41, 0.95]  | -                                       |
| Heterogeneity: Chi <sup>z</sup> = 3.73, df :  |  | X6   |  |  |   |
| Test for overall effect: Z = 2.22   | : (+' = 0.03)  |  |  |  |   |
| 4.2.5 Multimo dal curricula ve  | rsus control   |  |  |  |   |
| De Vries 2003 (Denmark)   | 0.1398   | 0.1847   | 4.2%   | 1.15 [0.80, 1.65]  | +                                       |
| De Vries 2003 (Finland)   | 0.3024   | 0.2582   | 2.2%   | 1.35 [0.82, 2.24]  |   |
| De Vries 2003 (Portugal)<br>Piper 2000 (HFL Age)  | -0.478<br>0.7458   | 0.1303   | 8.5%<br>0.8%                                 | 0.62 [0.48, 0.80]<br>2.11 [0.93, 4.77]   |   |
| Piper 2000 (HFL)  | 0.027  | 0.4171   | 0.8%   | 1.03 [0.46, 2.31]  |   |
| Simons-Morton 2005  | -0.1933  | 0.5253   | 0.5%   | 0.82 [0.29, 2.31]  |   |
|   | 0.0299   | 0.9337   | 0.2%   | 1.03 [0.17, 6.42]  |   |
| /Ven 2010   |  |  | 17.2%  | 0.88 [0.73, 1.05]  | -                                       |
| /Ven 2010<br>Subtotal (95% CI)  | 1=6(P=001)·P=4   | i4%  |  |  |   |
| /Ven 2010   |  | 64%  |  |  |   |
| /Ven 2010<br>Subtotal (95% CI)<br>Heterogeneity: Chi² = 16.67, dt   |  | 54%  |  |  |   |
| Wen 2010<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>#</sup> = 16.67, dr<br>Test for overall effect: Z = 1.44<br>Other interventions<br>Brown 2002  | l (P = 0.15)<br>-0.1496  | 0.3428   | 1.2%   | 0.86 (0.44, 1.69)  |   |
| Wen 2010<br>Subtotal (95% CI)<br>Heterogeneity: Chi≢= 16.67, di<br>Test for overall effect: Z = 1.44<br>Other interventions<br>Brown 2002<br>Figa-Talamanca 1989 (F)  | -0.1496<br>2.4868  | 0.3428<br>2.168  | 0.0%   | 12.02 [0.17, 842.19]   |   |
| Wen 2010<br>Subtotal (95% C1)<br>Heterogeneith: Chi¤ = 18.67, di<br>Test for overall effect: Z = 1.44<br>Other interventions<br>Brown 2002<br>Figa-Talamanca 1989 (F)<br>Figa-Talamanca 1989 (NF)   | -0.1496<br>2.4868<br>-1.1872   | 0.3428<br>2.168<br>2.503                               | 0.0%<br>0.0%                                 | 12.02[0.17, 842.19]<br>0.31[0.00, 41.21]   |   |
| Wen 2010<br>Subtotal (95% C1)<br>Heterogeneity: Chi¤ = 16.67, di<br>Test for overall effect: Z = 1.44<br>Other interventions<br>Brown 2002<br>Figa-Talamanca 1989 (F)<br>Figa-Talamanca 1989 (NF)<br>Johnson 2009   | -0.1496<br>2.4868<br>-1.1872<br>0.067  | 0.3428<br>2.168<br>2.503<br>0.2953                     | 0.0%<br>0.0%<br>1.6%                         | 12.02 [0.17, 842.19]<br>0.31 [0.00, 41.21]<br>1.07 [0.60, 1.91]  |   |
| Wen 2010<br>Subtotal (95% C1)<br>Heterogeneity: Chi <sup>a</sup> = 16.67, di<br>Test for overall effect: Z = 1.44<br>Other interventions<br>Brown 2002<br>Figa-Talamanca 1989 (F)<br>Figa-Talamanca 1989 (NF)<br>Johnson 2009<br>Kellam 1998 (ML)   | -0.1496<br>2.4868<br>-1.1872   | 0.3428<br>2.168<br>2.503                               | 0.0%<br>0.0%<br>1.6%<br>0.6%<br>0.6%         | 12.02 [0.17, 842.19]<br>0.31 [0.00, 41.21]<br>1.07 [0.60, 1.91]<br>0.73 [0.27, 1.94]<br>0.93 [0.36, 2.39]                      |   |
| Wen 2010<br>Subtotal (95% C1)<br>Heterogeneity: Chi <sup>2</sup> = 16.67, di<br>Test for overall effect: Z = 1.44<br>Other interventions<br>Brown 2002<br>Figa-Talamanca 1989 (F)<br>Figa-Talamanca 1989 (NF)<br>Johnson 2009<br>Kellam 1998 (OBG)<br>Kellam 1998 (ML)<br>Subtotal (95% C1)   | -0.1496<br>2.4868<br>-1.1872<br>0.067<br>-0.3186<br>-0.0705  | 0.3428<br>2.168<br>2.503<br>0.2953<br>0.5016<br>0.4808 | 0.0%<br>0.0%<br>1.6%<br>0.6%                 | 12.02 [0.17, 842.19]<br>0.31 [0.00, 41.21]<br>1.07 [0.60, 1.91]<br>0.73 [0.27, 1.94]   |   |
| Wen 2010<br>Subtotal (95% C1)<br>Heterogeneity: Chi≅ = 16.67, df<br>Test for overall effect: Z = 1.44<br>Other interventions<br>Brown 2002<br>Figa-Talamanca 1989 (F)<br>Figa-Talamanca 1989 (NF)<br>Johnson 2009<br>Kellam 1998 (GBG)<br>Kellam 1998 (ML)<br>Subtotal (95% C1)<br>Heterogeneity: Chi≅ = 2.10, df =   | -0.1496<br>2.4866<br>-1.1872<br>0.067<br>-0.3186<br>-0.0705<br>= 5 (P = 0.83);   <sup>2</sup> = 05 | 0.3428<br>2.168<br>2.503<br>0.2953<br>0.5016<br>0.4808 | 0.0%<br>0.0%<br>1.6%<br>0.6%<br>0.6%         | 12.02 [0.17, 842.19]<br>0.31 [0.00, 41.21]<br>1.07 [0.60, 1.91]<br>0.73 [0.27, 1.94]<br>0.93 [0.36, 2.39]                      |   |
| Wen 2010<br>Subtotal (95% C1)<br>Heterogeneity: Chi <sup>2</sup> = 16.67, di<br>Test for overall effect: Z = 1.44<br>Other interventions<br>Brown 2002<br>Figa-Talamanca 1989 (F)<br>Figa-Talamanca 1989 (NF)<br>Johnson 2009<br>Kellam 1998 (OBG)<br>Kellam 1998 (ML)<br>Subtotal (95% C1)   | -0.1496<br>2.4866<br>-1.1872<br>0.067<br>-0.3186<br>-0.0705<br>= 5 (P = 0.83);   <sup>2</sup> = 05 | 0.3428<br>2.168<br>2.503<br>0.2953<br>0.5016<br>0.4808 | 0.0%<br>0.0%<br>1.6%<br>0.6%<br>0.6%         | 12.02 [0.17, 842.19]<br>0.31 [0.00, 41.21]<br>1.07 [0.60, 1.91]<br>0.73 [0.27, 1.94]<br>0.93 [0.36, 2.39]                      |   |
| Wen 2010<br>Subtotal (95% C1)<br>Heterogeneity: Chi≅ = 16.67, df<br>Test for overall effect: Z = 1.44<br>Other interventions<br>Brown 2002<br>Figa-Talamanca 1989 (F)<br>Figa-Talamanca 1989 (NF)<br>Johnson 2009<br>Kellam 1998 (GBG)<br>Kellam 1998 (ML)<br>Subtotal (95% C1)<br>Heterogeneity: Chi≅ = 2.10, df =   | -0.1496<br>2.4866<br>-1.1872<br>0.067<br>-0.3186<br>-0.0705<br>= 5 (P = 0.83);   <sup>2</sup> = 05 | 0.3428<br>2.168<br>2.503<br>0.2953<br>0.5016<br>0.4808 | 0.0%<br>0.0%<br>1.6%<br>0.6%<br>0.6%         | 12.02 [0.17, 842.19]<br>0.31 [0.00, 41.21]<br>1.07 [0.60, 1.91]<br>0.73 [0.27, 1.94]<br>0.93 [0.36, 2.39]                      |   |
| Wen 2010<br>Subtotal (95% C1)<br>Heterogeneity: Chi <sup>a</sup> = 16.67, df<br>Test for overall effect: Z = 1.44<br>Other interventions<br>Brown 2002<br>Figa-Talamanca 1989 (F)<br>Figa-Talamanca 1989 (F)<br>Johnson 2009<br>Kellam 1998 (OBG)<br>Kellam 1998 (ML)<br>Subtotal (95% C1)<br>Heterogeneity: Chi <sup>a</sup> = 2.10, df<br>Test for overall effect: Z = 0.32 | -0.1496<br>2.4866<br>-1.1872<br>0.067<br>-0.3186<br>-0.0705<br>= 5 (P = 0.83);   <sup>2</sup> = 05 | 0.3428<br>2.168<br>2.503<br>0.2953<br>0.5016<br>0.4808 | 0.0%<br>0.0%<br>1.6%<br>0.6%<br>0.6%<br>4.1% | 12.02 [0.17, 842.19]<br>0.31 [0.00, 41.21]<br>1.07 [0.60, 1.91]<br>0.73 [0.27, 1.94]<br>0.93 [0.36, 2.39]<br>0.94 [0.65, 1.36] |   |

Forest plot showing results for curricula with no booster sessions versus control (longest follow-up) Forest plot showing results for curricula with booster sessions versus control (one year or less follow-up)



Forest plot showing results for curricula with booster sessions versus control (longest followup)

| 01  |                                 |          | 104-1-14      | Odds Ratio           | Odds Ratio                            |
|---|---------------------------------|----------|---------------|----------------------|---------------------------------------|
| Study or Subgroup                           | log[Odd's Ratio]                |          | Weight        | IV, Fixed, 95% CI    | IV, Fixed, 95% CI                     |
| Social influences cu                        | riculaversus contr              | 0        |               |                      |                                       |
| Ellickson 1990 (HealthEd)                   | -0.0232                         | 0.377    | 14.2%         | 0.98 [0.47, 2.05]    |                                       |
| Ellickson 1990 (Teen)                       | -0.1041                         | 0.379    | 14.1%         | 0.90 [0.43, 1.89]    |                                       |
| Ellickson 2003                              | -0.7267                         | 0.2868   | 24.6%         | 0.48 [0.28, 0.85]    |                                       |
| Ringwalt 2009a                              | 0.1886                          | 0.3133   | 20.6%         | 1.21 [0.65, 2.23]    | <b>+</b>                              |
| Subtotal (95% CI)                           |                                 |          | 73.5%         | 0.81 [0.58, 1.12]    |                                       |
| Heterogeneity: Chi <sup>z</sup> = 5.19,     | $df = 3 (P = 0.16); I^2 =$      | 42%      |               |                      |                                       |
| Test for overall effect: $Z = 1$            |                                 |          |               |                      |                                       |
| Combined social cor                         | npetence and socia              | Linflue  | ices curr     | icula versus control |                                       |
| Botvin 1983 (Intensive)                     |                                 | 1.058    | 1.8%          | 0.21 [0.03, 1.70]    | <b>+</b>                              |
| Botvin 1999                                 | -0.5984                         |          | 16.4%         | 0.55 [0.28, 1.09]    | ·                                     |
|   |                                 |          |               | 0.71 [0.27, 1.87]    |                                       |
| Spoth 2002 (LST + SFP)<br>Subtotal (95% CI) | -0.3394                         | 0.4938   | 8.3%<br>26.5% | 0.56 [0.33, 0.96]    | -                                     |
| ( )   | - K O (D O CO), 17              |          | 20.3%         | 0.50 [0.55, 0.50]    |                                       |
| Heterogeneity: Chi <sup>2</sup> = 1.07,     | , ,,                            | 0%       |               |                      |                                       |
| Test for overall effect: Z = 2              | .11 (P = 0.04)                  |          |               |                      |                                       |
| Total (95% CI)                              |                                 |          | 100.0%        | 0.73 [0.55, 0.97]    | •                                     |
| Heterogeneity: Chi <sup>2</sup> = 7.55,     | $df = 6 (P = 0.27) \cdot 1^2 -$ | 21%      |               |                      | · · · · · · · · · · · · · · · · · · · |
| Test for overall effect: Z = 2              | · //                            | 2170     |               |                      | 0.2 0.5 1 2 5                         |
|   | • •                             | (D = 0)  | 251 18 - 2    | 2.00                 | Favourscurricula Favourscontrol       |
| Test for subgroup difference                | es. Chi≓ = 1.30, df = 1         | (P = 0.) | 20), if = 2   | 2.970                |                                       |

# Forest plot showing results for multifocal curricula versus control (one year or less follow-up)

| Study or Subgroup  | lo di Oddo Patio I              | SE.      | Weight                | OddsRatio<br>IV. Fixed. 95% CI            | OddsRatio<br>IV, Fixed, 95% Cl        |
|--|---------------------------------|----------|-----------------------|---|---------------------------------------|
| Information curricula vers   | log[Odd's Ratio]<br>sus control | ЭE       | weight                | IV, FIXed, 95% CI                         | IV, FIXed, 95% CI                     |
| Howard 1996<br>Subtotal (95% CI)   |                                 | 2.4445   | 0.2%<br><b>0.2</b> %  | 0.12 [0.00, 14.87]<br>0.12 [0.00, 14.87]  |                                       |
| Heterogeneity: Not applicable<br>Test for overall effect: Z = 0.86 (F                  | ° = 0.39)                       |          |                       |   |                                       |
| Social influences curricul   | aversus contro                  | I        |                       |   |                                       |
| Ellickson 1990 (HealthEd)  | -0.0901                         | 0.4013   | 6.9%                  | 0.91 [0.42, 2.01]                         |                                       |
| Ellickson 1990 (Teen)  | -0.1296                         | 0.4026   | 6.8%                  | 0.88 [0.40, 1.93]                         |                                       |
| Ennett 1994  | -0.0726                         | 0.1963   | 28.8%                 | 0.93 [0.63, 1.37]                         |                                       |
| Gabrhelik 2012   | 0.1128                          | 0.1924   | 30.0%                 | 1.12 [0.77, 1.63]                         | <b></b>                               |
| Resnicow 2008 (LST)  | -0.713                          | 0.4443   | 5.6%                  | 0.49 [0.21, 1.17]                         | <b>-</b>                              |
| Telch 1990 (No peers)  | -0.1244                         | 0.7836   | 1.8%                  | 0.88 [0.19, 4.10]                         |                                       |
| Telch 1990 (Peers)   | -1.4894                         | 1.1322   | 0.9%                  | 0.23 [0.02, 2.07]                         | ←                                     |
| Valente 2007 (TND)   | 0.8947                          | 1.701    | 0.4%                  | 2.45 [0.09, 68.62]                        | · · · · · · · · · · · · · · · · · · · |
| Valente 2007 (TNDNetwork)  | 1.1258                          | 1.6647   | 0.4%                  | 3.08 [0.12, 80.52]                        | · · · · · · · · · · · · · · · · · · · |
| Subtotal (95% CI)  |                                 |          | 81.6%                 | 0.94 [0.75, 1.18]                         | <b>•</b>                              |
| Heterogeneity: Chi <sup>2</sup> = 5.43, df = 6<br>Test for overall effect: Z = 0.52 (F | , ,,                            | )%       |                       |   |                                       |
| Combined social compete  | ence and social                 | influenc | es curric             | ula versus control                        |                                       |
| Botvin 1999  | -0.5984                         | 0.3511   | 9.0%                  | 0.55 [0.28, 1.09]                         |                                       |
| Resnicow 2008 (Harm Min)   | -0.9582                         | 0.4636   | 5.2%                  | 0.38 [0.15, 0.95]                         | ←                                     |
| Seal 2006<br>Subtotal (95% CI)   | 0.1286                          | 3.5782   | 0.1%<br>14.3%         | 1.14 [0.00, 1263.63]<br>0.48 [0.28, 0.84] | ·                                     |
| Heterogeneity: Chi² = 0.44, df = 0<br>Test for overall effect: Z = 2.60 (F             | · //                            | )%       |                       |   |                                       |
| Multimo dal curricula vers   | us control                      |          |                       |   |                                       |
| Simons-Morton 2005<br>Subtotal (95% CI)  | -0.3229                         | 0.5308   | 3.9%<br>3 <b>.</b> 9% | 0.72 [0.26, 2.05]<br>0.72 [0.26, 2.05]    |                                       |
| Heterogeneity: Not applicable<br>Test for overall effect: Z = 0.61 (F                  | ° = 0.54)                       |          |                       |   |                                       |
| Total (95% CI)   |                                 |          | 100.0%                | 0.84 [0.69, 1.04]                         | •                                     |
| Heterogeneity: Chi <sup>2</sup> = 11.40, df =<br>Test for overall effect: Z = 1.61 (F  |                                 | = 0%     |                       |   | 0.2 0.5 1 2 5                         |
| Test for subgroup differences: Cl  |                                 | P = 0.14 | ), I² = 45.           | 7%  | Favourscurricula Favourscontrol       |

# Forest plot showing results for multifocal curricula versus control (longest follow-up)

| Study or Subgroup   | log[Odds Ratio]         | SE Weight        | OddsRatio<br>IV, Fixed, 95% CI | OddsRatio<br>IV, Fixed, 95% Cl          |
|---|-------------------------|------------------|--------------------------------|---|
| Information curricula v   |                         | monght           | , / //// of // of              |   |
| Howard 1996   | -2.092 2.44             | 45 0.1%          | 0.12 [0.00, 14.87]             | •                                       |
| Subtotal (95% CI)   |                         | 0.1%             |                                |   |
| Heterogeneity: Not applicable   |                         |                  |                                |   |
| Fest for overall effect: Z = 0.8  |                         |                  |                                |   |
| Social competence cu  | ricula versus control   |                  |                                |   |
| Connell 2007  | 0.1376 0.54             | 31 1.4%          | 1.15 [0.40, 3.33]              |   |
| Spoth 2001 (ISFP)   | -0.7252 0.43            |                  |                                |   |
| Spoth 2001 (PDFY)   | -0.4447 0.43            |                  |                                |   |
| Spoth 2002 (LST)  | -0.2181 0.48            |                  |                                |   |
| Storr 2002 (CC)   | -0.3277 0               | 72 0.8%          | • • •                          | ← · · · · · · · · · · · · · · · · · · · |
| Storr 2002 (FSP)  | -0.3218 0.71            | 97 0.8%          |                                | ← · · · · · · · · · · · · · · · · · · · |
| Valter 1986   | -1.4055 0.74            | 04 0.7%          |                                | ←                                       |
| Subtotal (95% CI)   |                         | 9.7%             | 0.65 [0.43, 0.96]              |   |
| Heterogeneity: Chi <sup>2</sup> = 3.52, df<br>Fest for overall effect: Z = 2.1-       |                         |                  |                                |   |
| Social influences curri   | culaversus control      |                  |                                |   |
| Elder 1996  | 0.01 0.12               | .71 25.1%        | 1.01 [0.79, 1.30]              |   |
| Ellickson 1990 (HealthEd)   | -0.0232 0.3             |                  |                                |   |
| Ellickson 1990 (Teen)   | -0.1041 0.3             |                  | • • •                          |   |
| Ellickson 2003  | -0.7267 0.28            |                  | • • •                          |   |
| Ennett 1994   | -0.0101 0.20            |                  |                                |   |
| aqqiano 2008  | -0.043 0.20             |                  |                                |   |
| Gabrhelik 2012  | -0.0623 0.1             |                  |                                | <b>_</b>                                |
| Resnicow 2008 (LST)   | -0.8174 1.25            |                  |                                | <                                       |
| Ringwalt 2009a  | 0.1886 0.31             |                  |                                |   |
| Felch 1990 (No peers)   | -0.1244 0.78            |                  |                                |   |
| Felch 1990 (Peers)  | -1.4894 1.13            |                  | • • •                          | ←                                       |
| /alente 2007 (TND)  | 0.8947 1.7              |                  |                                | ←                                       |
| /alente 2007 (TNDNetwork)   | 1.1258 1.66             |                  |                                | ←                                       |
| /an Lier 2009<br>Subtotal (95% CI)  | -0.245 0.38             | 49 3.0%<br>80.7% |                                |   |
| Heterogeneity: Chi <sup>2</sup> = 9.45, df  | = 13 (P = 0.74); P = 0% |                  |                                | 1                                       |
| Test for overall effect: $Z = 0.9$  |                         |                  |                                |   |
| Combined social comp  | etence and social influ | ences currio     | cula versus control            |   |
| Botvin 1999   | -0.5984 0.35            | 11 3.3%          | 0.55 [0.28, 1.09]              | +                                       |
| Resnicow 2008 (Harm Min)  | -0.8853 0.39            | 33 2.6%          | 0.41 [0.19, 0.89]              |   |
| Seal 2006   | 0.1286 3.57             | 82 0.0%          | 1.14 [0.00, 1263.63]           | ←                                       |
| Spoth 2002 (LST + SFP)  | -0.3394 0.49            |                  | 0.71 [0.27, 1.87]              |   |
| Veichold 2012 (Peer)  | 0.3567 1.31             | 37 0.2%          | 1.43 [0.11, 18.76]             | ←                                       |
| Veichold 2012 (Teacher)<br>Subtotal (95% CI)  | -1.2528 1.20            | 12 0.3%<br>8.1%  |                                |   |
| Heterogeneity: Chi² = 1.63, df<br>Fest for overall effect: Z = 2.8                    |                         | 5                |                                |   |
| Multimo dal curricula v   | ersus control           |                  |                                |   |
| Simons-Morton 2005  | -0.1933 0.52            | .53 1.5%         | 0.82 [0.29, 2.31]              |   |
| Subtotal (95% CI)   | -0.1300 -0.02           | .03 1.0%<br>1.5% |                                |   |
| Heterogeneity: Not applicable   |                         |                  |                                |   |
| Fest for overall effect: Z = 0.3  | 7 (P = 0.71)            |                  |                                |   |
|   |                         | 100.0%           | 0.86 [0.76, 0.97]              |   |
| otal (95% CI)   |                         | 100.070          | 0.00 [0.70, 0.97]              | $\bullet$                               |
| fotal (95% CI)<br>Heterogeneity: Chi² = 23.03, c<br>Fest for overall effect: Z = 2.4; |                         |                  | 0.00 [0.10, 0.97]              |   |

Forest plot showing results for tobacco-only curricula versus control (one year or less follow-up)

|  |                |          |                      | Odds Ratio                               | Odds Ratio   |
|--|----------------|----------|----------------------|--|--|
|  | og[Odds Ratio] | SE       | Weight               | IV, Fixed, 95% CI                        | IV, Fixed, 95% CI                                  |
| Social influence curricula   |                |          |                      |  |  |
| Armstrong 1990 (Peer)  | -0.1076        | 0.36     | 2.6%                 | 0.90 [0.44, 1.82]                        |  |
| Armstrong 1990 (Teacher)   | -0.5573        | 0.3739   | 2.4%                 | 0.57 [0.28, 1.19]                        |  |
| Ausems 2004 (In school)  | -0.6539        | 0.4171   | 1.9%                 | 0.52 [0.23, 1.18]                        |  |
| Ausems 2004 (Out School)   | -0.821         | 0.4594   | 1.6%                 | 0.44 [0.18, 1.08]                        |  |
| Aveyard 1999   | 0.131          | 0.1436   | 16.3%                | 1.14 [0.86, 1.51]                        | - <b>+</b>   |
| Buller 2008 (Australia)  | 0.2769         | 0.6343   | 0.8%                 | 1.32 [0.38, 4.57]                        |  |
| Buller 2008 (USA)  | 0.8502         | 0.7561   | 0.6%                 | 2.34 [0.53, 10.30]                       |  |
| Chou 2006  | -0.1036        | 0.4568   | 1.6%                 | 0.90 [0.37, 2.21]                        |  |
| Coe 1982   | -0.5341        | 0.9839   | 0.3%                 | 0.59 [0.09, 4.03]                        | · · · · · · · · · · · · · · · · · · ·              |
| De Vries 1994 (High)   | -0.0078        | 0.8797   | 0.4%                 | 0.99 [0.18, 5.56]                        |  |
| De Vries 1994 (Voc)  | 0.0344         | 1.0673   | 0.3%                 | 1.03 [0.13, 8.38]                        | •  |
| De Vries 2003 (UK)   | 0.0583         | 0.1142   | 25.8%                | 1.06 [0.85, 1.33]                        |  |
| Garcia 2005  | -1.9741        | 0.5772   | 1.0%                 | 0.14 [0.04, 0.43]                        | ←───   |
| Nutbeam 1993 (FSE)   | 0.361          | 0.4315   | 1.8%                 | 1.43 [0.62, 3.34]                        |  |
| Nutbeam 1993 (FSE+SAM)   | 0.0441         | 0.4347   | 1.8%                 | 1.05 [0.45, 2.45]                        |  |
| Nutbeam 1993 (SAM)   | 0.0771         | 0.4408   | 1.7%                 | 1.08 [0.46, 2.56]                        | <b>-</b>   |
| Subtotal (95% CI)  |                |          | <b>61.0</b> %        | 0.98 [0.85, 1.13]                        | •  |
| Heterogeneity: Chi <sup>≈</sup> = 23.21, df =<br>Fest for overall effect: Z = 0.29 (F                          | ° = 0.78)      |          |                      |  |  |
| Combined social compete  |                |          |                      |  | .  |
| Botvin 1980  | -1.5545        | 1.9397   | 0.1%                 | 0.21 [0.00, 9.46]                        |  |
| Botvin 1982  | -0.0324        | 1.1015   | 0.3%                 | 0.97 [0.11, 8.39]                        |  |
| Botvin 1983 (Intensive)  | -1.5413        | 1.058    | 0.3%                 | 0.21 [0.03, 1.70]                        |  |
| Botvin 1983 (LST)  | -1.0925        | 0.9314   | 0.4%                 | 0.34 [0.05, 2.08]                        |  |
| Luna-Adame 2013<br>Subtetel (05%, CD   | -0.20421       | 0.282259 | 4.2%                 | 0.82 [0.47, 1.42]                        |  |
| Subtotal (95% CI)  |                |          | 5.3%                 | 0.70 [0.43, 1.14]                        |  |
| Heterogeneity: Chi <sup>z</sup> = 2.64, df = 4<br>Test for overall effect: Z = 1.42 (F                         |                | 1%       |                      |  |  |
| Multimo dal curricula ∨ers   | us control     |          |                      |  |  |
| De Vries 2003 (Denmark)  | 0.3436         | 0.1948   | 8.9%                 | 1.41 [0.96, 2.07]                        |  |
| De Vries 2003 (Finland)  | -0.1407        | 0.2947   | 3.9%                 | 0.87 [0.49, 1.55]                        |  |
| De Vries 2003 (Portugal)   | -0.3147        | 0.1276   | 20.6%                | 0.73 [0.57, 0.94]                        | - <b>-</b> -                                       |
| Nen 2010   | -0.3209        | 1.0951   | 0.3%                 | 0.73 [0.08, 6.21]                        | ← → ↓  |
| Subtotal (95% CI)  |                |          | 33.6%                | 0.89 [0.73, 1.08]                        |  |
| Heterogeneity: Chi≊ = 8.03, df = 3<br>Fest for overall effect: Z = 1.22 (F                                     | , ,,           | 3%       |                      |  |  |
| Other interventions  |                |          |                      |  |  |
| Figa-Talamanca 1989 (F)  | 2.4868         | 2.168    | 0.1%                 | 12.02 [0.17, 842.19]                     |  |
| Figa-Talamanca 1989 (N.F)<br>Subtotal (95% CI)   | -1.1872        | 2.503    | 0.1%<br><b>0.1</b> % | 0.31 [0.00, 41.21]<br>2.49 [0.10, 61.80] |  |
| Heterogeneity: Chi² = 1.23, df = 1<br>Fest for overall effect: Z = 0.56 (F                                     |                | 9%       |                      |  |  |
| fotal (95% CI)   |                |          | 100.0%               | 0.93 [0.83, 1.04]                        | •  |
| Heterogeneity: Chi² = 37.48, df =<br>Test for overall effect: Z = 1.24 (F<br>Test for subgroup differences: Cl | P = 0.22)      |          | I² = 0%              |  | 0.2 0.5 1 2 5<br>Favours curricula Favours control |

|              |  |                                     |                  |               | Odds Ratio                              | Odds Ratio   |
|--------------|--|-------------------------------------|------------------|---------------|---|--|
|              | Study or Subgroup<br>Social influences curri                                   | log[Odds Ratio]                     | SE               | Weight        | IV, Fixed, 95% C                        | I IV, Fixed, 95% CI                                |
|              | Armstrong 1990 (Peer)  | -0.071                              | 0.3369           | 1.8%          | 0.93 (0.48, 1.80)                       |  |
|              | Armstrong 1990 (Teacher)   | -0.3958                             | 0.3409           | 1.8%          | 0.67 [0.35, 1.31]                       |  |
|              | Ausems 2004 (In school)  | -0.6539                             | 0.4171           | 1.2%          | 0.52 [0.23, 1.18]                       |  |
|              | Ausems 2004 (Out School)   | -0.8675                             | 0.427            | 1.1%          | 0.42 [0.18, 0.97]                       |  |
|              | Aveyard 1999<br>Bulley 2009 (Austrolic)  | 0.0583                              | 0.1222           | 13.8%         | 1.06 [0.83, 1.35]                       |  |
|              | Buller 2008 (Australia)<br>Buller 2008 (USA)                                   | 0.2769<br>0.8502                    | 0.6343<br>0.7561 | 0.5%<br>0.4%  | 1.32 [0.38, 4.57]<br>2.34 [0.53, 10.30] |  |
|              | Chou 2006  | -0.1036                             | 0.4568           | 1.0%          | 0.90 [0.37, 2.21]                       |  |
|              | Coe 1982   | -0.5341                             | 0.9839           | 0.2%          | 0.59 [0.09, 4.03]                       | ←  |
|              | Conner 2010 (I)  | -0.322                              | 0.305            | 2.2%          | 0.72 [0.40, 1.32]                       |  |
|              | Conner 2010 (SE)   | -0.0099                             | 0.2946           | 2.4%          | 0.99 [0.56, 1.76]                       |  |
|              | Crone 2011   | -0.5402                             | 0.4487           | 1.0%          | 0.58 [0.24, 1.40]                       | · · · · · · · · · · · · · · · · · · ·              |
|              | De Vries 1994 (High)<br>De Vries 1994 (Voc)                                    | -0.0078<br>0.0344                   | 0.8797           | 0.3%<br>0.2%  | 0.99 [0.18, 5.56]                       |  |
|              | De Vries 2003 (UK)   | -0.0619                             | 0.1079           | 17.7%         | 1.03 [0.13, 8.38]<br>0.94 [0.76, 1.16]  | · _ ·  |
|              | Denson 1981  | -1.9186                             | 0.8846           | 0.3%          | 0.15 [0.03, 0.83]                       | ·  |
|              | Garcia 2005  | -1.9741                             | 0.5772           | 0.6%          | 0.14 [0.04, 0.43]                       | ←───   |
|              | Hort 1995  | -0.8599                             | 0.3903           | 1.3%          | 0.42 [0.20, 0.91]                       |  |
|              | La Torre 2010 (A)  | -0.2075                             | 0.5248           | 0.7%          | 0.81 [0.29, 2.27]                       |  |
|              | La Torre 2010 (C)  | -1.972                              | 1.0091           | 0.2%          | 0.14 [0.02, 1.01]                       |  |
|              | Nutbeam 1993 (FSE)<br>Nutbeam 1993 (FSE+SAM)                                   | 0.361<br>0.0441                     | 0.4315<br>0.4347 | 1.1%<br>1.1%  | 1.43 [0.62, 3.34]                       |  |
| _            | Nutbeam 1993 (FSE+SAM)<br>Nutbeam 1993 (SAM)                                   | 0.0441                              | 0.4347           | 1.1%          | 1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]  |  |
| Forest plot  | Peterson 2000  | -0.0578                             | 0.2056           | 4.9%          | 0.94 [0.63, 1.41]                       | <b>_</b>   |
| showing      | Prokhorov 2008   | -1.5878                             | 1.7667           | 0.1%          | 0.20 [0.01, 6.52]                       | ← →  |
| 0            | Schulze 2006   | 0.0558                              | 0.1374           | 10.9%         | 1.06 [0.81, 1.38]                       |  |
| results for  | Unger 2004 (CHIPS)   | 0.1306                              | 0.4762           | 0.9%          | 1.14 [0.45, 2.90]                       |  |
| tobacco-only | Unger 2004 (FLAVOR)<br>Subtotal (95% CI)                                       | -0.0393                             | 0.4831           | 0.9%<br>69.4% | 0.96 [0.37, 2.48]<br>0.91 [0.82, 1.01]  |  |
| curricula    | Heterogeneity: Chi <sup>2</sup> = 37.03,                                       |                                     | 27%              |               |   | •  |
| versus       | Test for overall effect: Z = 1.7   | 3 (P = 0.08)                        |                  |               |   |  |
| control      | Combined social com  | etence and social i                 | nfluences        | s curricul    | a versus control                        |  |
| (longest     | Botvin 1980  | -1.5545                             | 1.9397           | 0.1%          | 0.21 [0.00, 9.46]                       | ← →  |
|              | Botvin 1982  | -0.0324                             | 1.1015           | 0.2%          | 0.97 [0.11, 8.39]                       |  |
| follow-up)   | Botvin 1983 (Intensive)  | -1.5413                             | 1.058            | 0.2%          | 0.21 [0.03, 1.70]                       |  |
|              | Botvin 1983 (LST)<br>Luna-Adame 2013   | -1.0925<br>-0.20421 (               | 0.9314           | 0.2%<br>2.6%  | 0.34 [0.05, 2.08]<br>0.82 [0.47, 1.42]  |  |
|              | Subtotal (95% CI)  | -0.20421                            | 5.202255         | 3.2%          | 0.70 [0.43, 1.14]                       |  |
|              | Heterogeneity: Chi <sup>2</sup> = 2.64, dt<br>Test for overall effect: Z = 1.4 |                                     | %                |               |   |  |
|              | Multimo dal curricula v  | ersus control                       |                  |               |   |  |
|              | De Vries 2003 (Denmark)  | 0.1398                              | 0.1847           | 6.0%          | 1.15 [0.80, 1.65]                       | - <del> .</del>                                    |
|              | De Vries 2003 (Finland)  | 0.3024                              | 0.2582           | 3.1%          | 1.35 [0.82, 2.24]                       |  |
|              | De Vries 2003 (Portugal)   | -0.478                              | 0.1303           | 12.1%         | 0.62 [0.48, 0.80]                       | _ <b>_</b>   |
|              | Wen 2010<br>Subtotal (95% CI)  | 0.0299                              | 0.9337           | 0.2%<br>21.4% | 1.03 [0.17, 6.42]<br>0.83 [0.68, 1.01]  |  |
|              | Heterogeneity: Chi <sup>2</sup> = 11.76, 0                                     | df = 3 (P = 0.008);  ² =            | 75%              | 21.470        | 0.05 [0.00, 1.01]                       | •  |
|              | Test for overall effect: Z = 1.9   |                                     |                  |               |   |  |
|              | Other interventions  |                                     |                  |               |   |  |
|              | Brown 2002   | -0.1496                             | 0.3428           | 1.7%          | 0.86 [0.44, 1.69]                       |  |
|              | Figa-Talamanca 1989 (F)<br>Figa-Talamanca 1989 (NE)                            | 2.4868                              | 2.168            |               | 12.02 [0.17, 842.19]                    |  |
|              | Figa-Talamanca 1989 (N.F)<br>Johnson 2009                                      | -1.1872<br>0.067                    | 2.503<br>0.2953  | 0.0%<br>2.4%  | 0.31 [0.00, 41.21]<br>1.07 [0.60, 1.91] |  |
|              | Kellam 1998 (GBG)  | -0.3186                             | 0.2903           | 0.8%          | 0.73 [0.27, 1.94]                       |  |
|              | Kellam 1998 (ML)   | -0.0705                             | 0.4808           | 0.9%          | 0.93 [0.36, 2.39]                       |  |
|              | Subtotal (95% CI)  |                                     |                  | 5.9%          | 0.94 [0.65, 1.36]                       |  |
|              | Heterogeneity: Chi² = 2.10, dt<br>Test for overall effect: Z = 0.3             |                                     | %                |               |   |  |
|              | Total (95% CI)   |                                     |                  | 100.0%        | 0.89 [0.81, 0.97]                       | •  |
|              | Heterogeneity: Chi <sup>2</sup> = 55.23,                                       | df= 42 (P = 0.08); I <sup>2</sup> = | 24%              |               |   |  |
|              | Test for overall effect: Z = 2.6   | 6 (P = 0.008)                       |                  |               |   | 0.2 0.5 1 2 5<br>Favours curricula Favours control |
|              | Test for subgroup differences  | : Chi² = 1.70, df = 3 (F            | P = 0.64),       | ² = 0%        |   |  |

Forest plot showing results for curricula delivered by peers versus control (one year or less follow-up)

|                                    |          |   | Odds Ratio  | Odds Ratio   |
|------------------------------------|----------|---|---|--|
| log[Odds Ratio]                    | SE       | Weight  | IV, Fixed, 95% CI   | IV, Fixed, 95% CI  |
| ulaversus control                  |          |   |   |  |
| -0.1076                            | 0.36     | 42.0%   | 0.90 [0.44, 1.82]   |  |
| -0.0078                            | 0.8797   | 7.0%  | 0.99 [0.18, 5.56]   | ←  |
| 0.0344                             | 1.0673   | 4.8%  | 1.03 [0.13, 8.38]   | <→   |
| -0.1296                            | 0.4026   | 33.6%   | 0.88 [0.40, 1.93]   |  |
| -1.4894                            | 1.1322   | 4.2%  | 0.23 [0.02, 2.07]   | <b>↓</b>   |
| 0.8947                             | 1.701    | 1.9%  | 2.45 [0.09, 68.62]  | ← →  |
| 1.1258                             | 1.6647   | 2.0%  | 3.08 [0.12, 80.52]  | ← →  |
|                                    |          | 95.5%   | 0.89 [0.56, 1.42]   |  |
| = 6 (P = 0.88); I <sup>2</sup> = 0 | )%       |   |   |  |
| (P = 0.62)                         |          |   |   |  |
| etence and social                  | influenc | es currico  | ula versus control  |  |
| -0.0324                            | 1.1015   | 4.5%  | 0.97 (0.11, 8.39)   | ← →  |
|                                    |          | 4.5%  | 0.97 [0.11, 8.39]   |  |
|                                    |          |   |   |  |
| (P = 0.98)                         |          |   |   |  |
|                                    |          | 100.0%  | 0.89 [0.57, 1.41]   | -  |
| = 7 (P = 0.93); I <sup>2</sup> = 0 | )%       |   |   |  |
| (P = 0.63)                         |          |   |   | 0.2 0.5 1 2 5<br>Favourscurricula Favourscontrol   |
| Chi² = 0.01, df = 1 (              | P = 0.94 | ), I² = 0%  |   |  |
|                                    |          | ulaversus control<br>-0.1076 0.36<br>-0.0078 0.8797<br>0.0344 1.0673<br>-0.1296 0.4026<br>-1.4894 1.1322<br>0.8947 1.701<br>1.1258 1.6647<br>= 6 (P = 0.88); I <sup>2</sup> = 0%<br>(P = 0.62)<br>etence and social influenc<br>-0.0324 1.1015<br>= 7 (P = 0.98); I <sup>2</sup> = 0%<br>(P = 0.63) | ulaversus control         -0.1076       0.36       42.0%         -0.0078       0.8797       7.0%         0.0344       1.0673       4.8%         -0.1296       0.4026       33.6%         -1.4894       1.1322       4.2%         0.8947       1.701       1.9%         1.1258       1.6647       2.0%         95.5%       6       (P = 0.88); I <sup>2</sup> = 0%         etence and social influences currict       -0.0324       1.1015       4.5%         0.92.5%       4.5%       4.5%         1.00.0%       = 7 (P = 0.93); I <sup>2</sup> = 0%       100.0% | log[Odds Ratio]         SE         Weight         IV, Fixed, 95% C1           ulaversus control         -0.1076         0.36         42.0%         0.90 [0.44, 1.82]           -0.0078         0.8797         7.0%         0.99 [0.18, 5.56]         0.0344         1.0673         4.8%         1.03 [0.13, 8.38]           -0.1296         0.4026         33.6%         0.88 [0.40, 1.93]         -1.4894         1.1322         4.2%         0.23 [0.02, 2.07]         0.8947         1.701         1.9%         2.45 [0.09, 68.62]         1.1258         1.6647         2.0%         3.08 [0.12, 80.52]         95.5%         0.89 [0.56, 1.42]         6 (P = 0.88); I <sup>2</sup> = 0%         (P = 0.62)         95.5%         0.97 [0.11, 8.39]         4.5%         0.97 [0.11, 8.39]         4.5%         0.97 [0.11, 8.39]         4.5%         0.97 [0.11, 8.39]         4.5%         0.97 [0.11, 8.39]         95.5%         0.89 [0.57, 1.41]         57 (P = 0.98)         100.0%         0.89 [0.57, 1.41]         57 (P = 0.93); I <sup>2</sup> = 0%         100.0%         0.89 [0.57, 1.41]         57 (P = 0.63)         100.0%         0.89 [0.57, 1.41]         100.0%         0.89 [0.57, 1.41]         100.0%         0.89 [0.57, 1.41]         100.0%         0.89 [0.57, 1.41]         100.0%         0.89 [0.57, 1.41]         100.0%         0.89 [0.57, 1.41]         100.0%         0.89 [0 |

## Forest plot showing results for curricula delivered by peers versus control (longest follow-up)

|  |                                    |          |                   | Odds Ratio         | Odds Ratio                              |
|--|------------------------------------|----------|-------------------|--------------------|---|
| Study or Subgroup                            | log[Odds Ratio]                    | SE       | Weight            | IV, Fixed, 95% CI  | IV, Fixed, 95% CI                       |
| Social influences curric                     | ulaversus control:                 |          |                   |                    |   |
| Armstrong 1990 (Peer)                        | -0.071                             | 0.3369   | 27.2%             | 0.93 [0.48, 1.80]  |   |
| De Vries 1994 (High)                         | -0.0078                            | 0.8797   | 4.0%              | 0.99 [0.18, 5.56]  | • |
| De Vries 1994 (Voc)                          | 0.0344                             | 1.0673   | 2.7%              | 1.03 [0.13, 8.38]  | <→                                      |
| Ellickson 1990 (Teen)                        | -0.1041                            | 0.379    | 21.5%             | 0.90 [0.43, 1.89]  |   |
| Telch 1990 (Peers)                           | -1.4894                            | 1.1322   | 2.4%              | 0.23 [0.02, 2.07]  | <b>←</b>                                |
| Valente 2007 (TND)                           | 0.8947                             | 1.701    | 1.1%              | 2.45 [0.09, 68.62] | ← →                                     |
| Valente 2007 (TNDNetwork)                    | 1.1258                             | 1.6647   | 1.1%              | 3.08 [0.12, 80.52] | <→                                      |
| Subtotal (95% CI)                            |                                    |          | 59.9%             | 0.91 [0.59, 1.42]  |   |
| Heterogeneity: Chi2 = 2.42, df :             | = 6 (P = 0.88); I <sup>2</sup> = 0 | %        |                   |                    |   |
| Test for overall effect: Z = 0.40            | ) (P = 0.69)                       |          |                   |                    |   |
|  |                                    |          |                   |                    |   |
| Combined social comp                         |                                    |          |                   |                    |   |
| Botvin 1982                                  | -0.0324                            |          | 2.5%              | 0.97 [0.11, 8.39]  |   |
| Weichold 2012 (Peer)                         | 0.3567                             | 1.3137   | 1.8%              | 1.43 [0.11, 18.76] |   |
| Subtotal (95% CI)                            |                                    |          | 4.3%              | 1.14 [0.22, 5.95]  |   |
| Heterogeneity: Chi <sup>2</sup> = 0.05, df : | · //                               | %        |                   |                    |   |
| Test for overall effect: Z = 0.15            | 5 (P = 0.88)                       |          |                   |                    |   |
| Multimo dal curricula ve                     | arsus control                      |          |                   |                    |   |
| Piper 2000 (HFL Age)                         | 0.7458                             | 0.4171   | 17.7%             | 2.11 [0.93, 4.77]  |   |
| Piper 2000 (HFL)                             | 0.027                              | 0.4134   | 18.0%             | 1.03 [0.46, 2.31]  | <b>_</b>                                |
| Subtotal (95% CI)                            |                                    |          | 35.8%             | 1.47 [0.83, 2.61]  |   |
| Heterogeneity: Chi <sup>2</sup> = 1.50, df : | = 1 (P = 0.22); I <sup>2</sup> = 3 | 3%       |                   |                    |   |
| Test for overall effect: Z = 1.31            | (P = 0.19)                         |          |                   |                    |   |
| Total (95% CI)                               |                                    |          | 100.0%            | 1.09 [0.77, 1.54]  | -                                       |
| Heterogeneity: Chi <sup>2</sup> = 5.61, df:  | = 10 (P = 0.85); I <sup>2</sup> =  | 0%       |                   |                    |   |
| Test for overall effect: Z = 0.50            | , ,,                               |          |                   |                    |   |
| Test for subgroup differences:               |                                    | P = 0.44 | ), <b> ²</b> = 0% |                    | Favourscurricula Favourscontrol         |
|  |                                    |          |                   |                    |   |

# Forest plot showing results for curricula delivered by adults versus control (one year or less follow-up)

| Study or Subgroup   | log[Odds Ratio]  | SE   | Weight  | OddsRatio<br>IV, Fixed, 95% Cl   | OddsRatio<br>IV,Fixed,95%Cl |
|---|--|--|---|--|-----------------------------|
| Information curricula   |  |  | 0.0   |  |                             |
| Howard 1996   | -2.092   | 2.4445   | 0.0%  | 0.12 [0.00, 14.87]   | ←                           |
| Subtotal (95% CI)   |  |  | 0.0%  | 0.12 [0.00, 14.87]   |                             |
| Heterogeneity: Not applicable   | е  |  |   |  |                             |
| est for overall effect: Z = 0.8   | 36 (P = 0.39)  |  |   |  |                             |
| Social influences curr  | iculaversus control  |  |   |  |                             |
| Armstrong 1990 (Teacher)  | -0.5573  | 0.3739   | 2.0%  | 0.57 [0.28, 1.19]  |                             |
| Ausems 2004 (In school)   | -0.6539  | 0.4171   | 1.6%  | 0.52 [0.23, 1.18]  |                             |
| Ausems 2004 (Out School)  | -0.821   | 0.4594   | 1.3%  | 0.44 [0.18, 1.08]  |                             |
| Aveyard 1999  | 0.131  | 0.1436   | 13.3%   | 1.14 [0.86, 1.51]  | - <b>+</b>                  |
| Chou 2006   | -0.1036  | 0.4568   | 1.3%  | 0.90 [0.37, 2.21]  |                             |
| Coe 1982  | -0.5341  | 0.9839   | 0.3%  | 0.59 [0.09, 4.03]  | ← − − −                     |
| De Vries 2003 (UK)  | 0.0583   | 0.1142   | 21.0%   | 1.06 [0.85, 1.33]  |                             |
| Ellickson 1990 (HealthEd)   | -0.0901  | 0.4013   | 1.7%  | 0.91 [0.42, 2.01]  |                             |
| Ennett 1994   | -0.0726  | 0.1963   | 7.1%  | 0.93 [0.63, 1.37]  |                             |
| Gabrhelik 2012  | 0.1128   | 0.1924   | 7.4%  | 1.12 [0.77, 1.63]  | - <b>-</b>                  |
| Garcia 2005   | -1.9741  | 0.5772   | 0.8%  | 0.14 [0.04, 0.43]  | ←───                        |
| Nutbeam 1993 (FSE)  | 0.361  | 0.4315   | 1.5%  | 1.43 [0.62, 3.34]  |                             |
| Nutbeam 1993 (FSE+SAM)  | 0.0441   | 0.4347   | 1.4%  | 1.05 [0.45, 2.45]  |                             |
| Nutbeam 1993 (SAM)  | 0.0771   | 0.4408   | 1.4%  | 1.08 [0.46, 2.56]  |                             |
| Resnicow 2008 (LST)   | -0.713   | 0.4443   | 1.4%  | 0.49 [0.21, 1.17]  |                             |
| Felch 1990 (No peers)   | -0.1244  | 0.7836   | 0.4%  | 0.88 [0.19, 4.10]  |                             |
| Subtotal (95% CI)   |  |  | 63.9%   | 0.96 [0.85, 1.10]  | <b>+</b>                    |
| Botvin 1980<br>Botvin 1983 (Intensive)<br>Botvin 1983 (LST)<br>Botvin 1999<br>Luna-Adame 2013<br>Resnicow 2008 (Harm Min)<br>Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 3.78, d<br>Fest for overall effect: Z = 2.8<br>Multimo dal curricula v<br>De Vries 2003 (Denmark)<br>De Vries 2003 (Portugal)<br>De Vries 2003 (Portugal)<br>Simons-Morton 2005<br>Wen 2010 | -0.9582<br>f = 5 (P = 0.58); I <sup>2</sup> = 0 <sup>4</sup><br>34 (P = 0.005) | 1.9397<br>1.058<br>0.9314<br>0.3511<br>0.282259<br>0.4636<br>%<br>0.1948<br>0.2947<br>0.1276<br>0.5308<br>1.0951 | 0.1%<br>0.2%<br>0.3%<br>2.2%<br>3.4%<br>1.3%<br>7.6%<br>7.2%<br>3.2%<br>16.8%<br>1.0%<br>0.2% | 0.21 [0.00, 9.46]<br>0.21 [0.03, 1.70]<br>0.34 [0.05, 2.08]<br>0.55 [0.28, 1.09]<br>0.82 [0.47, 1.42]<br>0.38 [0.15, 0.95]<br>0.58 [0.40, 0.85]<br>1.41 [0.96, 2.07]<br>0.87 [0.49, 1.55]<br>0.73 [0.57, 0.94]<br>0.72 [0.26, 2.05]<br>0.73 [0.08, 6.21] |                             |
| Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 8.17, d<br>Fest for overall effect: Z = 1.3<br>Other interventions<br>Figa-Talamanca 1989 (F)<br>Figa-Talamanca 1989 (N.F.)  |  | 1%<br>2.168<br>2.503   | 28.4%<br>0.1%<br>0.0%   | 0.88 [0.73, 1.07]<br>12.02 [0.17, 842.19]<br>0.31 [0.00, 41.21]  |                             |
| Subtotal (95% CI)<br>Heterogeneity: Chi <sup>2</sup> = 1.23, d<br>Fest for overall effect: Z = 0.5  | f = 1 (P = 0.27); I² = 19  |  | 0.1%  | 2.49 [0.10, 61.80]   |                             |
| fotal (95% CI)  | df= 29 (P = 0.03); I <sup>2</sup> =  | 2604   | 100.0%  | 0.90 [0.82, 1.00]  | 0.2 0.5 1 2                 |

|                       | Study or Subgroup la  | g[Odds Ratio]       | SE                                | Weight        | OddsRatio<br>IV,Fixed,95%C                 | OddsRatio<br>I IV, Fixed, 95% Cl      |
|-----------------------|---|---------------------|-----------------------------------|---------------|--|---------------------------------------|
|                       | Information curricula vers  |                     | 02                                | Holgin        | 10,117,004,007,007                         |                                       |
|                       | Howard 1996<br>Subtotal (95% CI)  | -2.092              | 2.4445                            | 0.0%<br>0.0%  | 0.12 [0.00, 14.87]<br>0.12 [0.00, 14.87]   |                                       |
|                       | Heterogeneity: Not applicable   |                     |                                   | 0.076         | 0.12[0.00, 14.07]                          |                                       |
|                       | Test for overall effect: Z = 0.86 (P  |                     |                                   |               |  |                                       |
|                       | Social competence curric  |                     |                                   |               |  |                                       |
|                       | Connell 2007<br>Spoth 2001 (ISFP)   | 0.1376<br>-0.7252   | 0.5431<br>0.4367                  | 0.5%<br>0.8%  | 1.15 [0.40, 3.33]<br>0.48 [0.21, 1.14]     |                                       |
|                       | Spoth 2001 (PDFY)   | -0.4447             | 0.4337                            | 0.8%          | 0.64 [0.27, 1.50]                          |                                       |
|                       | Spoth 2002 (LST)<br>Storr 2002 (CC)   | -0.2181<br>-0.3277  | 1.4413<br>0.72                    | 0.1%<br>0.3%  | 0.80 [0.05, 13.56]<br>0.72 [0.18, 2.95]    |                                       |
|                       | Storr 2002 (FSP)  | -0.3218             | 0.7197                            | 0.3%          | 0.72 [0.18, 2.97]                          | · · · · · · · · · · · · · · · · · · · |
|                       | Walter 1986<br>Subtotal (95% CI)  | -1.4055             | 0.7404                            | 0.3%<br>3.0%  | 0.25 [0.06, 1.05]                          |                                       |
|                       | Heterogeneity: Chi <sup>2</sup> = 3.30, df = 6<br>Test for overall effect: Z = 2.15 (P  |                     | 1%                                | 5.0%          | 0.62 [0.40, 0.96]                          |                                       |
|                       | Social influences curricula   | aversus control     |                                   |               |  |                                       |
| Forest plot showing   | Armstrong 1990 (Teacher)  | -0.3958             | 0.3409                            | 1.3%          | 0.67 [0.35, 1.31]                          |                                       |
|                       | Ausems 2004 (In school)<br>Ausems 2004 (Out School)   | -0.6539<br>-0.8675  | 0.4171<br>0.427                   | 0.8%<br>0.8%  | 0.52 [0.23, 1.18]<br>0.42 [0.18, 0.97]     |                                       |
| results for curricula | Aveyard 1999  | 0.0583              | 0.1222                            | 9.8%          | 1.06 [0.83, 1.35]                          |                                       |
| delivered by adults   | Chou 2006<br>Coe 1982   | -0.1036             | 0.4568                            | 0.7%          | 0.90 [0.37, 2.21]                          |                                       |
| •                     | Crone 2011  | -0.5341<br>-0.5402  | 0.9839<br>0.4487                  | 0.2%<br>0.7%  | 0.59 [0.09, 4.03]<br>0.58 [0.24, 1.40]     | ·                                     |
| versus control        | De Vries 2003 (UK)  | -0.0619             | 0.1079                            | 12.6%         | 0.94 [0.76, 1.16]                          |                                       |
| (longest follow-up)   | Denson 1981<br>Elder 1996   | -1.9186             | 0.8846                            | 0.2%<br>9.1%  | 0.15 [0.03, 0.83]                          | ·                                     |
|                       | Elder 1996<br>Ellickson 1990 (HealthEd)   | 0.01<br>-0.0232     | 0.1271<br>0.377                   | 9.1%          | 1.01 [0.79, 1.30]<br>0.98 [0.47, 2.05]     | <b>[</b>                              |
|                       | Ellickson 2003  | -0.7267             | 0.2868                            | 1.8%          | 0.48 [0.28, 0.85]                          | — <u> </u>                            |
|                       | Ennett 1994<br>Faggiano 2008  | -0.0101<br>-0.043   | 0.2004<br>0.2079                  | 3.7%<br>3.4%  | 0.99 [0.67, 1.47]<br>0.96 [0.64, 1.44]     |                                       |
|                       | Gabrhelik 2012  | -0.0623             | 0.155                             | 6.1%          | 0.94 [0.69, 1.27]                          |                                       |
|                       | Garcia 2005   | -1.9741             | 0.5772                            | 0.4%          | 0.14 [0.04, 0.43]                          | ←                                     |
|                       | Hort 1995<br>La Torre 2010 (A)  | -0.8599<br>-0.2075  | 0.3903<br>0.5248                  | 1.0%<br>0.5%  | 0.42 [0.20, 0.91]<br>0.81 [0.29, 2.27]     |                                       |
|                       | La Torre 2010 (C)   | -1.972              | 1.0091                            | 0.1%          | 0.14 [0.02, 1.01]                          | ←────                                 |
|                       | Nutbeam 1993 (FSE)  | 0.361               | 0.4315                            | 0.8%          | 1.43 [0.62, 3.34]                          |                                       |
|                       | Nutbeam 1993 (FSE+SAM)<br>Nutbeam 1993 (SAM)  | 0.0441<br>0.0771    | 0.4347<br>0.4408                  | 0.8%<br>0.8%  | 1.05 [0.45, 2.45]<br>1.08 [0.46, 2.56]     |                                       |
|                       | Peterson 2000   | -0.0578             | 0.2056                            | 3.5%          | 0.94 [0.63, 1.41]                          |                                       |
|                       | Resnicow 2008 (LST)   | -0.8174             | 1.2518                            | 0.1%          | 0.44 [0.04, 5.14]                          |                                       |
|                       | Ringwalt 2009a<br>Schulze 2006  | 0.1886<br>0.0558    | 0.3133<br>0.1374                  | 1.5%<br>7.8%  | 1.21 [0.65, 2.23]<br>1.06 [0.81, 1.38]     |                                       |
|                       | Telch 1990 (No peers)   | -0.1244             | 0.7836                            | 0.2%          | 0.88 [0.19, 4.10]                          |                                       |
|                       | Unger 2004 (CHIPS)  | 0.1306              | 0.4762                            | 0.6%          | 1.14 [0.45, 2.90]                          |                                       |
|                       | Unger 2004 (FLAVOR)<br>Van Lier 2009  | -0.0393<br>-0.245   | 0.4831<br>0.3649                  | 0.6%<br>1.1%  | 0.96 [0.37, 2.48]<br>0.78 [0.38, 1.60]     |                                       |
|                       | Subtotal (95% CI)   |                     |                                   | 72.0%         | 0.92 [0.84, 1.00]                          | •                                     |
|                       | Heterogeneity: Chi <sup>z</sup> = 40.88, df =<br>Test for overall effect: Z = 1.90 (P   |                     | = 29%                             |               |  |                                       |
|                       | Combined social compete<br>Botvin 1980  |                     | influences<br>1.9397              |               |  |                                       |
|                       | Botvin 1983 (Intensive)   | -1.5545<br>-1.5413  | 1.9397                            | 0.0%<br>0.1%  | 0.21 [0.00, 9.46]<br>0.21 [0.03, 1.70]     | ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ |
|                       | Botvin 1983 (LST)   | -1.0925             | 0.9314                            | 0.2%          | 0.34 [0.05, 2.08]                          | · · · · · · · · · · · · · · · · · · · |
|                       | Botvin 1999<br>Luna-Adame 2013  | -0.5984<br>-0.20421 | 0.3511<br>0.282259                | 1.2%<br>1.8%  | 0.55 [0.28, 1.09]<br>0.82 [0.47, 1.42]     |                                       |
|                       | Resnicow 2008 (Harm Min)  | -0.8853             | 0.3933                            | 0.9%          | 0.41 [0.19, 0.89]                          |                                       |
|                       | Spoth 2002 (LST + SFP)  | -0.3394             | 0.4938                            | 0.6%          | 0.71 [0.27, 1.87]                          |                                       |
|                       | Weichold 2012 (Teacher)<br>Subtotal (95% CI)  | -1.2528             | 1.2612                            | 0.1%<br>5.0%  | 0.29 [0.02, 3.38]<br>0.58 [0.42, 0.82]     | -                                     |
|                       | Heterogeneity: Chi <sup>2</sup> = 4.22, df = 7 (P = 0.75); l <sup>2</sup> = 0%<br>Test for overall effect: Z = 3.14 (P = 0.002) |                     |                                   |               |  |                                       |
|                       | Multimo dal curricula vers  |                     |                                   |               |  |                                       |
|                       | De Vries 2003 (Denmark)<br>De Vries 2003 (Einland)  | 0.1398<br>0.3024    | 0.1847                            | 4.3%          | 1.15 [0.80, 1.65]                          |                                       |
|                       | De Vries 2003 (Finland)<br>De Vries 2003 (Portugal)   | 0.3024<br>-0.478    | 0.2582<br>0.1303                  | 2.2%<br>8.6%  | 1.35 [0.82, 2.24]<br>0.62 [0.48, 0.80]     |                                       |
|                       | Simons-Morton 2005  | -0.1933             | 0.5253                            | 0.5%          | 0.82 [0.29, 2.31]                          |                                       |
|                       | Wen 2010<br>Subtotal (95% CI)   | 0.0299              | 0.9337                            | 0.2%<br>15.8% | 1.03 [0.17, 6.42]<br>0.83 [0.69, 1.00]     |                                       |
|                       | Heterogeneity: Chi <sup>2</sup> = 11.77, df =<br>Test for overall effect: Z = 1.94 (P   |                     | 66%                               |               |  |                                       |
|                       | Other interventions   |                     |                                   |               |  |                                       |
|                       | Brown 2002  | -0.1496             | 0.3428                            | 1.2%          | 0.86 [0.44, 1.69]                          |                                       |
|                       | Figa-Talamanca 1989 (F)<br>Figa-Talamanca 1989 (N.F)  | 2.4868<br>-1.1872   | 2.168<br>2.503                    | 0.0%<br>0.0%  | 12.02 [0.17, 842.19]<br>0.31 [0.00, 41.21] |                                       |
|                       | Johnson 2009  | 0.067               | 0.2953                            | 1.7%          | 1.07 [0.60, 1.91]                          | <del></del>                           |
|                       | Kellam 1998 (GBG)<br>Kallam 1999 (ML)   | -0.3186             | 0.5016                            | 0.6%          | 0.73 [0.27, 1.94]                          |                                       |
|                       | Kellam 1998 (ML)<br>Subtotal (95% CI)   | -0.0705             | 0.4808                            | 0.6%<br>4.2%  | 0.93 [0.36, 2.39]<br>0.94 [0.65, 1.36]     |                                       |
|                       | Heterogeneity: Chi <sup>2</sup> = 2.10, df = 5<br>Test for overall effect: Z = 0.32 (P  |                     | 1%                                |               |  |                                       |
|                       | Total (95% CI)  | 0.87 [0.81, 0.94]   | •                                 |               |  |                                       |
|                       | Heterogeneity: Chi <sup>2</sup> = 72.46, df =   |                     | = 23%                             |               |  |                                       |
|                       | Test for overall effect: Z = 3.54 (P<br>Test for subgroup differences: Ch   | %                   | Favours curricula Favours control |               |  |                                       |