# Supplementary Appendix A

## Search strategy

A systematic meta-review was conducted in August 2013 searching electronic databases: Medline, PsycINFO and the Cochrane Library of Systematic Reviews. Databases were searched using a combination of MeSH terms and text words pertaining to depression and dysthymia (exp Depressive Disorder, exp Major Depression, exp Dysthymic Disorder, “dysthymia.mp.”), anxiety (exp anxiety, exp generalised anxiety disorder, exp panic disorder, exp social phobia, exp agoraphobia, exp obsessive compulsive disorder, exp post-traumatic stress disorder), prevention (exp Primary Prevention, exp Preventative Psychiatry, “prevention.mp.”), and intervention trials (exp Intervention Studies, “intervention.mp.”). The initial searches were limited to reviews only (systematic review or meta-analysis), written in the English language and published from 1980-August 2013. Other sources of information included the reference lists of systematic and non-systematic reviews were identified in the search strategy. An additional search of empirical studies dating from August 2010 to August 2014 was conducted to identify recently published randomised controlled trials not included in the existing reviews. This additional search was conducted in the electronic databases Medline and PsycINFO, separately for depression and anxiety, using the search string ((((depress\* OR dysthymi\*)) OR ((((anxiety OR generalized anxiety disorder OR panic disorder OR agoraphobia OR post-traumatic stress disorder OR obsessive compulsive disorder)) AND (child\* OR adolescen\*)) AND (prevent\* OR early intervention\* OR risk OR at-risk OR vulnerab\*)) AND (randomised controlled trial OR controlled trial [Publication Type]).

## Table A1. Description of intervention approaches used in the included studies

|  |  |
| --- | --- |
| Intervention type | Description (studies) |
| *Psychological* |  |
| Aussie Optimism Program (AOP) | A structured 10-module school-based intervention designed to prevent depression among children aged 8-13. The intervention can be implemented universally or on a selective or indicated basis. Modules include identifying thoughts and feelings, the connection between feelings and thoughts, identifying positive and negative thoughts, changing negative thoughts, and developing skills in assertiveness, communication and coping skills.[1](#_ENREF_1), [2](#_ENREF_2)  |
| Cool Kids, Cool Little Kids  | A structured skill-based program designed to teach children aged 7-17 (and their parents) how to better manage anxiety, including learning about feelings and anxiety, detective thinking patterns and constructing positive thoughts, how parents can help, facing fear, problem solving, and developing assertiveness. A specific program (Cool Little Kids) has been designed for younger children (up to 12 years).[3](#_ENREF_3) |
| Coping Cat, Coping Koala | Coping Cat is a manualised CBT program targeted for children aged 7-13 years with separation anxiety disorder and/or social phobia, typically delivered in group format over 16 weekly sessions lasting 60 minutes. The Coping Koala program is an Australian adaptation of the Coping Cat program, designed for use with children who exhibit anxiety symptoms in the absence of a diagnosed anxiety disorder. The adaptation comprises 10 sessions, focusing on graduated exposure to fear stimuli.[4-6](#_ENREF_4)  |
| Coping with Stress (CWS) | A manualised CBT course targeted at adolescents at risk of developing depression, typically delivered in 15 45-minute sessions, incorporating cognitive techniques to identify and challenge negative or irrational thoughts. The intervention also incorporates cartoons, role play and group discussion.[7-10](#_ENREF_7)  |
| ERASE Stress  | Stands for: Enhancing Resiliency Among Students Experiencing Stress. A combined psychological and educational intervention delivered in 12 90-minute sessions covering topics such as what happens to the body when under stress coping styles, identifying and controlling emotions, dealing with anger, boosting self-esteem, building support systems and developing future plans and goals.[11](#_ENREF_11), [12](#_ENREF_12)  |
| FRIENDS | Stands for: Feeling worried? Relax and feel good, Inner thoughts, Explore plans of action, Nice work, reward yourself, Don’t forget to practice, Stay cool A brief, cognitive-behavioural intervention initially designed as a group-based treatment for anxious children incorporating relaxation, cognitive restructuring, attentional training, parent-assisted exposure and family and peer support.[13-22](#_ENREF_13)  |
| Interpersonal Psychotherapy –Adolescent Skills Training (IP-AST) | An 8-session individual or group based intervention designed to prevent depression by teaching the communication and social skills necessary to maintain positive relationships, including interpersonal role transitions, interpersonal role disputes, and interpersonal deficits.[10](#_ENREF_10), [23](#_ENREF_23) |
| LARS and LISA-T | A manualised school-based prevention program based on the social information processing (SIP) model, using various cognitive behavioural techniques, including understanding the relationship between cognition, emotion and behaviour, identifying and challenging negative thoughts, and developing skills in communications, assertiveness and social competence.[24-26](#_ENREF_24) |
| Penn Resiliency Program (PRP), Penn Prevention Program | A program designed for young adolescents and intended for delivery within schools, comprising cognitive behavioural and social problem solving skills, typically delivered in 12 9-minute sessions. Topics include detecting inaccurate thoughts, challenging negative beliefs, problem solving and coping strategies, assertiveness, negotiation, decision making and relaxation.[27-34](#_ENREF_27)  |
| Penn Enhancement Program (PEP) | An alternative intervention to the Penn Resiliency Program (PRP), designed to focus on content relevant to depression and to control for non-CBT specific factors, such as group cohesion and facilitator attention.[34](#_ENREF_34), [35](#_ENREF_35)  |
| Positive Thinking Program (PTP) | Involves cognitive and behavioural principles, theories and strategies in order to explore the connection between thoughts, feelings and behaviours and to evaluate and challenge thoughts, learning to think more positively and relaxation and distraction techniques.[36](#_ENREF_36)  |
| Resourceful Adolescent Program (RAP)  | A 9-session school-based universal depression prevention program (50-60 minutes duration) designed to be delivered to whole classes (by external facilitators in addition to the class teacher), based on cognitive behavioural therapy techniques, including emotion-regulation, coping mechanisms and thinking styles.[37-39](#_ENREF_37) |
| Relaxation, Encouragement, Appreciation, Communication, Helpfulness (REACH) | A structured, 5-session (60 minutes duration) adolescent-oriented intervention designed to prevent post-partum depression, including video snippets, interactive role-playing and homework designed to improve effective communication skills to manage relationship conflicts pre-and post-partum.[40](#_ENREF_40) |
| Teaching Kids to Cope (TKC) | A 10-session psychoeducational group intervention designed to reduce depression and stress among adolescents by enhancing coping skills. Topics include cognitive reframing, skill building (including assertiveness, social skills, role-playing, relaxation, art therapy) and group therapy (including altruism, cohesiveness).[41](#_ENREF_41)  |
| Wisconsin Early Intervention (WEI) | A short-term social development program designed for low socio-economic status rural elementary school children based on social learning, cognitive social problem solving and behavioural skills.[42](#_ENREF_42)  |
| *Educational* | Intervention approaches included distribution of education pamphlets, videos, and educational lectures with information regarding identifying symptoms of depression and anxiety, communication skills, and identifying available health services. [40](#_ENREF_40), [42-54](#_ENREF_42)Parents were often involved in this information provision. Bibliotherapy techniques including expressive writing and journaling[55](#_ENREF_55) were also identified, mostly among older children.  |
| *Physical* | Intervention approaches included aerobic exercise [56](#_ENREF_56), [57](#_ENREF_57), stretching, running and goal setting, [58](#_ENREF_58) and yoga, breathing exercises, deep relaxation and medication techniques.[59](#_ENREF_59) |

## Table A2a. Summary of included studies examining universal prevention interventions, 54 studies (based on 42 papers), *n*=30,159.

| **Ref** | **Authors** | **Year** | **Depression**  | **Anxiety** | **Country** | **N** | **Mean age (years)** | **Intervention type** | **Control group1** | **Setting** | **Facilitator2** | **Total time (minutes)3** | **Study length****(months)4** | **Disorder outcome** | **Symptom outcome** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [60](#_ENREF_60) | Araya | 2013 | Yes | No | Chile  | 2512 | 14.5 | Psychological | No int. | School | Clinician | 660 | 14·75 | No | Yes |
| [61](#_ENREF_61) | Aune & Stiles | 2009 | No | Yes | Norway | 2418 | 12.6 | Psych + Educ | No int. | School | Clinician | 135 | 12 | No | Yes |
| [14](#_ENREF_14) | Barrett  | 2001a | Yes  | Yes | Australia | 489 | - | Psychological | No int. | School | Clinician | 900 | 5·5 | No | Yes |
| [14](#_ENREF_14) | Barrett  | 2001b | Yes | Yes | Australia | As above | - | Psychological | No int. | School | Teacher | 900 | 5·5 | No | Yes |
| [11](#_ENREF_11) | Berger | 2007 | No | Yes | Israel | 142 | - | Psych + Educ | No int. | School | Teacher | 720 | 4 | Yes | Yes |
| [62](#_ENREF_62) | Bond | 2004 | Yes | No | Australia | 2678 | 14.0 | Psychological | No int. | School | Teacher |  - | 36 | Yes | Yes |
| [63](#_ENREF_63) | Bouchard | 2013 | No | Yes | Canada | 59 | 10.4 | Psych + Educ | No int. | School | Clinician | 750 | 2·5 | No | Yes |
| [64](#_ENREF_64) | Calear  | 2009 | Yes | Yes | Australia | 1477 | 14.3 | Psychological | No int. | School | Clinician | 10200 | 7·25 | No | Yes |
| [27](#_ENREF_27) | Cardemil  | 2002a | Yes | No | US | 49 | 11.3 | Psychological | No int. | School | Clinician | 1080 | 27 | Yes | Yes |
| [27](#_ENREF_27) | Cardemil  | 2002b | Yes | No | US | 103 | 10.9 | Psychological | No int. | School | Clinician | 1080 | 27 | Yes | Yes |
| [28](#_ENREF_28) | Chaplin  | 2006a | Yes | No | US | 208 | 12.6 | Psychological | No int. | School | Clinician | 1080 | 15 | No | Yes |
| [28](#_ENREF_28) | Chaplin | 2006b | Yes | No | US | As above | 12.6 | Psychological | No int. | School | Clinician | 1080 | 15 | No | Yes |
| [44](#_ENREF_44) | Clarke | 1993a | Yes | No | US | 622 | 15.3 | Educ | No int. | School | Teacher | 150 | 3 | No | Yes |
| [44](#_ENREF_44) | Clarke | 1993b | Yes | No | US | 380 | 15.1 | Psychological | No int. | School | Teacher | 250 | 3 | No | Yes |
| [16](#_ENREF_16) | Cooley-Strickland | 2011 | No | Yes | US | 93 | 9.4 | Psychological | No int. | School | Clinician | 780 | 1·5 | No | Yes |
| [17](#_ENREF_17) | Essau  | 2012 | No | Yes | Germany | 638 | 10.9 | Psychological | No int. | School | Clinician | 600 | 14·5 | Yes | Yes |
| [65](#_ENREF_65) | Gallegos | 2009a | No | Yes | Mexico | 1030 | 9.9 | Psychological | No int. | School | Clinician | 30 | 2 | No | Yes |
| [66](#_ENREF_66) | Gillham | 2012a | Yes | No | US | 408 | - | Psychological | No int. | School | Clinician | 900 | 12 | Yes | Yes |
| [66](#_ENREF_66) | Gillham | 2012b | Yes | No | US | As above | - | Psych + Educ | No int. | School | Teacher | 900 | 8·5 | Yes | Yes |
| [35](#_ENREF_35) | Gillham | 2007a | Yes | No | US | 466 | 12.13 | Psychological | No int. | School | Clinician | 1080 | 8·5 | No | Yes |
| [35](#_ENREF_35) | Gillham | 2007b | Yes | No | US | As above | 12.13 | Psychological | No int. | School | Clinician | 1080 | 27 | No | Yes |
| [67](#_ENREF_67) | Hains | 1994 | Yes | Yes | US | 21 | - | Psychological | No int. | School | Clinician | 650 | 27 | No | Yes |
| [68](#_ENREF_68) | Hains | 1992 | Yes | Yes | US | 25 | - | Psychological | No int. | School | Clinician | 160 | 2 | No | Yes |
| [69](#_ENREF_69) | Hains | 1990 | Yes | No | US | 21 | - | Psychological | No int. | School | Clinician | 12160 | 4 | No | Yes |
| [10](#_ENREF_10) | Horowitz | 2007a | Yes | No | US | 281 | 14.43 | Psych + Educ | No int. | School | Clinician | 720 | 4 | No | Yes |
| [10](#_ENREF_10) | Horowitz | 2007b | Yes | No | US | As above | 14.43 | Educ | No int. | School | Clinician | 720 | 8 | No | Yes |
| [70](#_ENREF_70) | Keogh | 2006 | No | Yes | UK | 160 | 15.57 | Psych + Educ | No int. | School | Clinician | 600 | 8 | No | Yes |
| [71](#_ENREF_71) | Kiselica  | 1994 | No | Yes | US | 48 | - | Psychological | Other | School | Clinician | 480 | 2·5 | No | Yes |
| [72](#_ENREF_72) | Kraag  | 2009 | Yes | Yes | Netherlands | 1467 | 10.3 | Psychological | No int. | School | Teacher | 780 | 3 | No | Yes |
| [20](#_ENREF_20) | Lock & Barrett | 2003 | Yes | Yes | Australia | 977 | - | Psychological | No int. | School | Clinician |  - | 12 | Yes | Yes |
| [73](#_ENREF_73) | LowryWebster | 2001 | Yes | Yes | Australia | 594 | - | Psychological | No int. | School | Teacher | 750 | 40 | Yes | Yes |
| [48](#_ENREF_48) | Mason | 2007 | Yes | No | US | 883 | 11.35 | Psychological | No int. | School | Clinician | 600 | 14·5 | No | Yes |
| [37](#_ENREF_37) | Merry  | 2004 | Yes | No | NZ | 364 | 14.2 | Psychological | Other | School | Teacher |  - | 9·5 | No | Yes |
| [21](#_ENREF_21) | Miller et al | 2011b(i) | No | Yes | Canada | 253 | 9.8 | Psychological | Other | School | Clinician | 540 | 21 | No | Yes |
| [21](#_ENREF_21) | Miller et al | 2011b(ii) | No | Yes | Canada | 533 | 9.7 | Psychological | No int. | School | Clinician |  - | 17 | No | Yes |
| [31](#_ENREF_31) | Pattison  | 2001a | Yes | No | Australia | 63 | 10.4- | Psychological | Other | School | Clinician | 1320 | 2·5 | No | Yes |
| [31](#_ENREF_31) | Pattison  | 2001b | Yes | No | Australia | As above | 10.4 | Psychological | No int. | School | Clinician | 1320 | 11 | No | Yes |
| [31](#_ENREF_31) | Pattison  | 2001c | Yes | No | Australia | As above | 10.4 | Psychological | No int. | School | Clinician | 1320 | 11 | No | Yes |
| [31](#_ENREF_31) | Pattison  | 2001d | Yes | No | Australia | As above | 10.4 | Psychological | No int. | School | Clinician | 1320 | 11 | No | Yes |
| [25](#_ENREF_25) | Possel | 2013a | Yes | No | US | 518 | 15.1 | Psychological | Other | School | Clinician | 900 | 11 | No | Yes |
| [25](#_ENREF_25) | Possel | 2013b | Yes | No | US | As above | 15.1 | Psychological | No int. | School | Clinician | 900 | 18·2 | No | Yes |
| [24](#_ENREF_24) | Possel | 2004 | Yes | No | Germany | 342 | 14.0 | Psychological | No int. | School | Clinician | 900 | 18·2 | No | Yes |
| [26](#_ENREF_26) | Possel  | 2008 | Yes | No | Germany | 301 | 13.7 | Psychological | No int. | School | Clinician | 900 | 8 | No | Yes |
| [32](#_ENREF_32) | Quayle  | 2001 | Yes | No | Australia | 47 | - | Psychological | No int. | School | Clinician | 320 | 8·5 | Yes | Yes |
| [38](#_ENREF_38) | Rivet | 2005 | Yes | No | Mauritius | 160 | 14.0 | Psychological | No int. | School | Teacher | 550 | 8 | Yes | Yes |
| [2](#_ENREF_2) | Rooney  | 2013 | Yes | Yes | Australia | 910 | 8.7 | Psychological | No int. | School | Clinician | 600 | 9 | Yes | Yes |
| [36](#_ENREF_36) | Rooney  | 2006 | Yes | Yes | - | 136 | 9.1 | Psychological | No int. | School | Clinician | 480 | 20·5 | Yes | Yes |
| [74](#_ENREF_74) | Ruini | 2009 | No | Yes | Italy | 227 | 14.4 | Psychological | No int. | School | Clinician | 720 | 20 | No | Yes |
| [75](#_ENREF_75) | Sawyer | 2010 | Yes | No | Australia | 5634 | 13.1 | Psychological | No int. | School | Teacher | 1350 | 7·5 | No | Yes |
| [34](#_ENREF_34) | Shatte | 1997a | Yes | No | US | 102 | 12.5 | Psychological | No int. | School | Clinician | 1440 | 54 | Yes | Yes |
| [34](#_ENREF_34) | Shatte | 1997b | Yes | No | US | As above | 12.5 | Psychological | No int. | School | Clinician | 1440 | 15 | Yes | Yes |
| [76](#_ENREF_76) | Sheffield | 2006a | Yes | Yes | Australia | 1226 | 14.3 | Psychological | No int. | School | Teacher | 36400 | 15 | Yes | Yes |
| [77](#_ENREF_77) | Short | 1993 | No | Yes | Canada | 118 | 9.7 | Psychological | No int. | School | Clinician | 480 | 1·5 | No | Yes |
| [78](#_ENREF_78) | Wong | 2014 | Yes | Yes | Australia | 976 | - | Psych + Educ | No int. | School | Teacher | 360 | 13 | No | Yes |
| **Total** | **54 studies (42 papers)5** |  | **42** | **24** |  | **30,159** | **12.4#** |  |  |  |  | **1910.7#** | **14.7#** | **16** | **54** |

Note:

- = Not recorded

# = mean values

1. For control group type: ”No int” = no intervention, waitlist control or treatment as usual; “Other” = placebo, attention control or other intervention.
2. For facilitator type: “Teacher” = teacher or other school employee for whom no additional training or resources were needed; “Clinician” = psychologist, external counsellor, clinical research staffs, or other external facilitators.
3. Total time (in minutes): this is the maximum potential exposure to the intervention possible as outlined in the study protocol.
4. Study length (in months): Length of the study from beginning of intervention to final follow up in months.
5. Where papers included multiple comparisons, intervention arms or separate trials, these were treated as independent studies for the purposes of both data extraction and analysis.

## Table A2b. Summary of included studies examining selective prevention interventions, 45 studies (based on 37 papers), *n*=6,485.

| Ref | **Authors** | **Year** | **Depression** | **Anxiety** | **Risk type** | **Country** | **N** | **Mean age (years)** | **Intervention type** | **Control group1** | **Setting** | **Facilitator2** | **Total time3** | **Study length4** | **Disorder outcome** | **Symptom outcome** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [79](#_ENREF_79) | Barnet | 2007 | Yes | No | Teen pregnancy | US | 81 | 16.9 | Psych + Educ | No int. | Home | Clinician |  - | 24 | Yes | Yes |
| [43](#_ENREF_43) | Barnet | 2002 | Yes | No | Teens given birth < 6 months | US | 232 | 16.0 | Educational | No int. | Home | Clinician | 4680 | 38 | No | Yes |
| [80](#_ENREF_80) | Beardslee | 1997 | Yes | Yes | Child with at least one parent with affective disorder | US | 128 | 12.0 | Psych + Educ | Other | Clinic | Clinician |  - | 5 | Yes | No |
| [81](#_ENREF_81) | Berger, Pat Horenczyk & Gelkopf | 2012 | No | Yes | Traumatic war-related stress | Israel | 154 | 12.8 | Educational | No int. | School | Clinician | 1440 | 4 | No | Yes |
| [82](#_ENREF_82) | Castellanos  | 2006 | Yes | No | 1 SD above mean on personality risk subscale | UK | 423 | 14.0 | Psych + Educ | No int. | School | Clinician | 180 | 7 | No | Yes |
| [8](#_ENREF_8) | Clarke | 2001 | Yes | No | Children of parents treated for depression | US | 94 | 14.6 | Psychological | No int. | Clinic | Clinician | 900 | 25 | Yes | Yes |
| [83](#_ENREF_83) | Compas | 2009 | Yes | No | Children of parents with current depression | US | 111 | 11.4 | Psychological | Other | School | Clinician |  - | 30 | Yes | Yes |
| [84](#_ENREF_84) | Cowell | 2009 | Yes | No | Mexican immigrant families | US | 302 | 10.4 | Psychological | No int. | School | Clinician |  - | 16 | No | No |
| [85](#_ENREF_85) | Cradock | 1978a | No | Yes | Elevated scores on public speaking confidence scale | US | 40 | - | Psychological | No int. | School | Clinician | 360 | 1 | No | No |
| [85](#_ENREF_85) | Cradock | 1978b | No | Yes | Elevated scores on public speaking confidence scale | US | As above | - | Psychological | No int. | School | Clinician | 360 | 1 | No | No |
| [86](#_ENREF_86) | Dybdahl | 2001 | Yes | No | Children of displaced families | Bosnia & Herzegovina | 87 | 5.5 | Psychological | No int. | NR | Clinician |  - | 5 | No | Yes |
| [9](#_ENREF_9) | Garber | 2009 | Yes | No | Child of parent with depressive disorder | US | 316 | 14.8 | Psychological | No int. | Clinic | Clinician | 1260 | 34 | Yes | Yes |
| [12](#_ENREF_12) | Gelkopf & Berger | 2009 | No | Yes | Exposure to terrorist attack | Israel | 114 | 13.05 | Psych + Educ | No int. | School | Clinician | 36 | 6 | No | Yes |
| [87](#_ENREF_87) | Ginsburg | 2009 | No | Yes | Children of parents with anxiety disorders | US | 40 | 8.9 | Psychological | No int. | Clinic | Clinician | 660 | 12 | No | Yes |
| [88](#_ENREF_88) | Grey | 1998 | Yes | No | Children with medical comorbidity | US | 65 | 15.4 | Psychological | No int. | Community | Clinician | 720 | 5 | No | Yes |
| [58](#_ENREF_58) | Hilyer | 1982 | Yes | No | Male young offenders at state industrial school | US  | 60 | 17.0 | Physical | No int. | School | Clinician | 5400 | 5 | No | Yes |
| [89](#_ENREF_89) | Hyun | 2005 | Yes | No | Runaway adolescents | Sth Korea | 27 | 15.5 | Psychological | No int. | Community | Clinician |  - | 2 | No | Yes |
| [42](#_ENREF_42) | King  | 1990a | Yes | No | Children in top 20% for behaviour problems | US | 135 | 8.2  | Psych + Educ | Other | School | Clinician | 97200 | 6 | No | Yes |
| [42](#_ENREF_42) | King  | 1990b | Yes | No | Children in top 20% for behaviour problems | US | As above  | As above | Educational | No int. | School | Clinician | 97200 | 6 | No | No |
| [90](#_ENREF_90) | Kumakech | 2009 | Yes | No | Parental death due to AIDS | Uganda | 326 | 11.8 | Psychological | No int. | School | Teacher | 600 | 2.5 | No | Yes |
| [46](#_ENREF_46) | Lam | 2008a | Yes | No | Children of parents with alcohol use disorder | US | 30 | 8.5 | Educational | Other | Community | Clinician | 1440 | 18 | No | Yes |
| [46](#_ENREF_46) | Lam | 2008b | Yes | No | Children of parents with alcohol use disorder | US | As above  | As above | Educational | Other | Community | Clinician | 1440 | 18 | No | Yes |
| [91](#_ENREF_91) | Layne | 2008 | Yes | No | War-related trauma exposure | Bosnia | 159 | 15.9 | Psychological | Other | School | Clinician | 2386500 | 5.5 | No | Yes |
| [47](#_ENREF_47) | Logsdon | 2005a | Yes | No | Pregnant adolescents | US | 128 | 16.0 | Educational | No int. | School | Clinician |  - | 3 | No | Yes |
| [47](#_ENREF_47) | Logsdon | 2005b | Yes | No | Pregnant adolescents | US | As above  | As above | Educational | No int. | School | Clinician |  - | 3 | No | Yes |
| [47](#_ENREF_47) | Logsdon | 2005c | Yes | No | Pregnant adolescents | US | As above  | As above | Educational | No int. | School | Clinician |  - | 3 | No | Yes |
| [57](#_ENREF_57) | MacMahon  | 1988 | Yes | No | Incarcerated youths | US | 98 | 16.3 | Physical | Other |  Community | Clinician | 1920 | 4 | No | Yes |
| [92](#_ENREF_92) | Mason | 2012 | Yes | No | Children of parents with elevated depressive symptoms | US | 30 | 13.9 | Educational | No int. | NR | Clinician | 725 | 5 | No | Yes |
| [49](#_ENREF_49) | McLaughlin | 2007 | Yes | No | Low SES | US | 111 | 4.4 | Educational | No int. | School | Teacher |  - | 252 | Yes | Yes |
| [93](#_ENREF_93) | O'Leary-Barrett | 2013 | Yes | Yes | 1 SD above school average on substance use risk profile scale (SURPS) | UK | 1210 | 13.7 | Psychological | No int. | School | Clinician | 180 | 24 | No | Yes |
| [94](#_ENREF_94) | Palermo | 2009 | Yes | No | Chronic pain | US | 48 | 14.8 | Psychological | No int. | Clinic | Clinician |  - | 5 | No | Yes |
| [40](#_ENREF_40) | Phipps | 2013 | Yes | No | Teen pregnancy | US  |   | 16.0 | Educational | Other | Clinic | Clinician | 300 | 12 | Yes | No |
| [95](#_ENREF_95) | Rapee | 2005 | No | Yes | Elevated behavioural inhibition | Australia | 146 | 3.9 | Psych + Educ | No int. | Home | Clinician | 540 | 12 | Yes | No |
| [1](#_ENREF_1) | Roberts | 2010 | Yes | Yes | Low SES | Australia | 496 | 12.0 | Psychological | No int. | School | Teacher | 600 | 23 | No | Yes |
| [96](#_ENREF_96) | Sandler | 1992 | Yes | No | Parental death < 2 years  | US | 72 | 12.4 | Psychological | No int. | Community | Clinician |  - | 3 | No | Yes |
| [50](#_ENREF_50) | Sanford | 2003 | Yes | No | Parent with current MDD | US | 44 | 10.6 | Psychological | No int. | Clinic | Clinician | 960 | 5 | No | Yes |
| [97](#_ENREF_97) | Schmiege | 2006 | Yes | No | Death of parent < 30 months | - | 244 | 11.4 | Psychological | Other | Clinic  | Clinician | 1440 | 14 | No | Yes |
| [98](#_ENREF_98) | Shen | 2002 | Yes | No | Exposure to earthquake | Taiwan | 30 | - | Psychological | No int. | School | Clinician | 400 | 1 | No | Yes |
| [51](#_ENREF_51) | Stallard  | 2006 | No | Yes | Exposure to traffic accident | UK | 158 | 14.85 | Educational | No int. | Clinic | Clinician |  - | 22 | No | Yes |
| [52](#_ENREF_52) | Stolberg  | 1994a | Yes | Yes | Children of parental divorce | US | 103 | 9.8 | Educational | No int. | School | Clinician |  - | 14 | No | Yes |
| [52](#_ENREF_52) | Stolberg | 1994b | Yes | Yes | Children of parental divorce | US | As above  | As above | Psychological | No int. | School | Clinician |  - | 14 | No | Yes |
| [52](#_ENREF_52) | Stolberg  | 1994c | Yes | Yes | Children of parental divorce | US | As above  | As above | Psychological | No int. | School | Clinician |  - | 14 | No | Yes |
| [99](#_ENREF_99) | Tol | 2008 | Yes | No | Exposure to violent political-based events | Indonesia | 403 | 9.9 | Psych + Educ | No int. | School | Clinician |  - | 7 | No | Yes |
| [100](#_ENREF_100) | Wolchik | 2000a | Yes | No | Children of divorce < 2 years  | US | 240 | 10.4 | Psychological | Other | Clinic | Clinician | 1155 | 7 | Yes | Yes |
| [100](#_ENREF_100) | Wolchik | 2000b | Yes | No | Children of divorce < 2 years  | US | As above  | As above | Psychological | Other | Clinic | Clinician | As above | 7 | Yes | Yes |
| **Total** | **45 studies (37 papers)5** |  | **38** | **13** |  |  | **6,485** | **12.4#** |  |  |  |  | **96,614.7#** | **16.2#** | **10** | **38** |

Note:

- = Not recorded

# = mean values

SD =Standard deviation

AIDS = Acquired immunodeficiency syndrome

MDD = Major depressive disorder

SURPS = Substance use risk profile scale

1. For control group type: ”No int” = no intervention, waitlist control or treatment as usual; “Other” = placebo, attention control or other intervention.
2. For facilitator type: “Teacher” = teacher or other school employee for whom no additional training or resources were needed; “Clinician” = psychologist, external counsellor, clinical research staffs, or other external facilitators.
3. Total time (in minutes): this is the maximum potential exposure to the intervention possible as outlined in the study protocol.
4. Study length (in months): Length of the study from beginning of intervention to final follow up in months.
5. Where papers included multiple comparisons, intervention arms or separate trials, these were treated as independent studies for the purposes of both data extraction and analysis.

## Table A2c. Summary of included studies examining indicated prevention interventions 47 studies (based on 38 papers), *n*=9,283.

| Ref | **Authors** | **Year** | **Depression** | **Anxiety** | **Risk type** | **Country** | **N** | **Mean age (years)** | **Intervention type** | **Control group1** | **Setting** | **Facilitator2** | **Total time3** | **Study length4** | **Disorder outcome** | **Symptom outcome** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [101](#_ENREF_101) | Arnarson | 2009 | Yes | No | Elevated scores on the CDI | Iceland | 171 |  - | Psychological | No int. | School | Clinician |  - | 24 | Yes | No |
| [13](#_ENREF_13) | Balle | 2010 | Yes | Yes | 80th percentile on Childhood Anxiety sensitivity index | Spain | 92 |  - | Psychological | No int. | School | Clinician | 270 | 8 | No | Yes |
| [102](#_ENREF_102) | BarHaim  | 2011 | Yes | Yes | Top 50% of sample distribution on SCARED | Israel | 34 | 10.1 | Psychological | Other | Clinic | Clinician | 240 | 0·5 | No | Yes |
| [56](#_ENREF_56) | Beffert  | 1993 | Yes | No | Scores > 75 on RADS | US | 24 |  - | Physical | No int. | School | Teacher | 360 | 3·5 | No | Yes |
| [15](#_ENREF_15) | Bernstein | 2008 | No | Yes | Elevated scores on MASC>48 | US | 61 |  - | Psychological | No int. | School | Clinician | 20.25 | 14 | No | Yes |
| [103](#_ENREF_103) | Berry | 2009 | Yes | No | 1 SD above mean on SCARED + bullied  | Australia | 46 | 13.0 | Psychological | No int. | School | Clinician | 480 | 5 | No | Yes |
| [7](#_ENREF_7) | Clarke | 1995 | Yes | No | Elevated CES-D scores > 24 | US | 150 | 15.3 | Psychological | No int. | School | Clinician | 675 | 13 | Yes | Yes |
| [5](#_ENREF_5) | Dadds  | 1997 | No | Yes | Elevated scores on RCMAS>20 | Australia | 128 | 9.4 | Psychological | No int. | School | Clinician | 1200 | 8·5 | Yes | Yes |
| [65](#_ENREF_65) | Gallegos | 2009b | No | Yes | Anxiety scores > 41 on SCAS | Mexico | 1030 | 9.9 | Psychological | No int. | School | Clinician | 30 | 8·5 | No | Yes |
| [104](#_ENREF_104) | Gillham | 1995b(i) | Yes | No | Elecated scores on CDI | US | 108 |  - | Psychological | No int. | School | Clinician | 1440 | 12 | Yes | Yes |
| [104](#_ENREF_104) | Gillham | 1995b(ii) | Yes | No | Elevated scores on CDI | US | As above |  - | Psych + Educ | No int. | School | Clinician | 960 | 12 | Yes | Yes |
| [29](#_ENREF_29) | Gillham, Hamilton | 2006 | Yes | No | Elevated scores on CDI | US | 271 |  - | Psychological | No int. | Clinic | Clinician | 1080 | 27 | Yes | Yes |
| [30](#_ENREF_30) | Gillham, Reivich | 2006 | Yes | Yes | Elevated scores on CDI and RCMAS | US | 74 |  - | Psychological | No int. | School | Clinician | 720 | 14 | Yes | Yes |
| [18](#_ENREF_18) | Hunt  | 2009 | Yes | Yes | Elevated anxiety scores | Australia | 260 | 12.0 | Psychological | No int. | School | Clinician | 600 | 48 | No | Yes |
| [19](#_ENREF_19) | Liddle & Macmillan | 2010 | No | Yes | Teacher reported elevated signs of anxiety | Scotland | 58 |  - | Psychological | No int. | School | Clinician | - | 11 | No | Yes |
| [6](#_ENREF_6) | Manassis | 2010 | Yes | No | Elevated internalising symptoms on MASC | Canada | 148 |  - | Psychological | Other | School | Clinician | 720 | 15 | Yes | Yes |
| [105](#_ENREF_105) | McCarty | 2013 | Yes | No | Elevated scores on the MFQ > 14 | US | 120 | 12.7 | Psych + Educ | Other | School | Clinician | 600 | 3 | No | Yes |
| [106](#_ENREF_106) | McCarty | 2011 | Yes | No | Elevated scores on the MFQ > 14 | US | 67 | 13.0 | Psychological | No int. | School | Clinician |  - | 21 | No | Yes |
| [21](#_ENREF_21) | Miller  | 2011a | No | Yes | Elevated self-reported anxiety score | Canada | 191 | 10.1 | Psychological | Other | School | Clinician | 540 | 17 | No | Yes |
| [107](#_ENREF_107) | Misfud  | 2005 | No | Yes | Elevated anxiety symptoms on RCMAS; Low SES | Australia | 91 | 9.5 | Psychological | No int. | School | Clinician | 480 | 4 | No | Yes |
| [3](#_ENREF_3) | Nobel  | 2012 | Yes | Yes | Elevated scores on ADIS, T scores 60-70 | Canada | 78 | 9.1 | Psychological | Other | School | Clinician | 1080 | 3 | No | Yes |
| [41](#_ENREF_41) | Puskar | 2003 | Yes | No | Elevated score on RADS > 60 | US | 89 | 16 | Psychological | No int. | School | Clinician | 450 | 14 | No | Yes |
| [33](#_ENREF_33) | Roberts  | 2003 | Yes | Yes | Elevated CDI scores; rural school | Australia | 189 | 11.9 | Psychological | No int. | School | Clinician |  - | 36 | No | Yes |
| [108](#_ENREF_108) | Rohde | 2014a | Yes | No | Endorsing 2 or more symptoms on CES-D at intake  | US | 378 | 15.5 | Psych + Educ | No int. | School | Clinician | 360 | 7·5 | Yes | Yes |
| [108](#_ENREF_108) | Rohde | 2014b | Yes | No | Endorsing 2 or more symptoms on CES-D at intake  | US | As above  | As above | Psychological | No int. | School | Clinician | 360 | 7·5 | Yes | Yes |
| [109](#_ENREF_109) | Seligman | 2007 | Yes | No | Elevated scores on BDI 9-24 | US | 240 |  - | Psychological | No int. | Community | Clinician | 960 | 8 | Yes | Yes |
| [110](#_ENREF_110) | Seligman | 1999 | Yes | No | Score in pessimistic quartile of ASQ | US | 231 |  - | Psychological | No int. | Community | Clinician | 480960 | 36 | Yes | Yes |
| [76](#_ENREF_76) | Sheffield | 2006b | Yes | Yes | Top 20% of combined CDI and CES-D scores | Australia | 1226 | 14.3 | Psychological | No int. | School | Clinician | 720 | 18 | Yes | Yes |
| [76](#_ENREF_76) | Sheffield | 2006c | Yes | Yes | Top 20% of combined CDI and CES-D scores | Australia | As above  | As above | Psychological | No int. | School | Clinician | 1440 | 18 | Yes | Yes |
| [111](#_ENREF_111) | Simon, Bogels & Voncken | 2011 | No | Yes | Elevated scores on SCARED | Netherlands | 58 |  - | Psych + Educ | No int. | Home | Clinician | 720 | 24 | No | Yes |
| [112](#_ENREF_112) | Simpson | 2008 | Yes | No | Elevated anxious and depressive symptoms | Canada | 66 | 9.02 | Psychological | Other | School | Clinician |  - | 3 | No | Yes |
| [22](#_ENREF_22) | Siu | 2007 | Yes | Yes | Elevated CBCL scores > 13 | Hong Kong | 47 | 8.4 | Psychological | No int. | School | Clinician | 720 | 2 | No | Yes |
| [113](#_ENREF_113) | Spence | 2003 | Yes | No | Elevated score on BDI > 13 | Australia | 1500 | 12.9 | Psychological | No int. | School | Teacher | 20280 | 48 | No | Yes |
| [39](#_ENREF_39) | Stallard  | 2012a | Yes | No | Elevated scores on SMFQ > 5 | UK | 1064 | 14.2 | Psychological | Other | School | Clinician | 660 | 14·7 | Yes | Yes |
| [39](#_ENREF_39) | Stallard  | 2012b | Yes | No | Elevated scores on SMFQ > 5 | UK |   | As above | Psychological | No int. | School | Clinician | 660 | 14·7 | Yes | Yes |
| [114](#_ENREF_114) | Stice | 2008a | Yes | No | Elevated score on CES-D>20 | US | 341 | 15.6 | Psychological | No int. | School | Clinician | 360 | 30 | Yes | Yes |
| [114](#_ENREF_114) | Stice | 2008b | Yes | No | Elevated score on CES-D>20 | US | As above | As above | Psychological | No int. | School | Clinician | 360 | 30 | Yes | Yes |
| [114](#_ENREF_114) | Stice | 2008c | Yes | No | Elevated score on CES-D>20 | US | As above | As above | Psych + Educ | No int. | School | Clinician |  - | 30 | Yes | Yes |
| [55](#_ENREF_55) | Stice  | 2007a | Yes | No | Elevated score on CES-D>20 | US | 225 | 18 | Psychological | No int. | NR | Clinician | 240 | 7 | No | Yes |
| [55](#_ENREF_55) | Stice  | 2007b | Yes | No | Elevated score on CES-D>20 | US | As above  | As above  | Psychological | No int. | NR | Clinician | 240 | 7 | No | Yes |
| [55](#_ENREF_55) | Stice  | 2007c | Yes | No | Elevated score on CES-D>20 | US | As above   | As above  | Psych + Educ | No int. | NR | Clinician | 240 | 7 | No | Yes |
| [55](#_ENREF_55) | Stice  | 2007d | Yes | No | Elevated score on CES-D>20 | US | As above   | As above  | Educational | No int. | NR | Clinician | 240 | 7 | No | Yes |
| [55](#_ENREF_55) | Stice  | 2007e | Yes | No | Elevated score on CES-D>20 | US | As above   | As above  | Educational | No int. | NR | Clinician | 240 | 7 | No | Yes |
| [115](#_ENREF_115) | Weisz | 1997 | Yes | No | Elevated scores on CDI > 11 | US | 48 | 9.6 | Psychological | No int. | School | Clinician | 400 | 11 | No | Yes |
| [116](#_ENREF_116) | Wijnhoven | 2013 | Yes | No | Elevates scores on CDI > 16 | Netherlands | 118 | 13.3 | Psychological | No int. | School | Clinician | 400 | 8 | No | Yes |
| [23](#_ENREF_23) | Young  | 2006 | Yes | No | Elevated scores on CES-D | US | 41 | 13.4 | Psychological | No int. | School | Clinician | 900 | 8·5 | Yes | Yes |
| [117](#_ENREF_117) | Yu  | 2002 | Yes | No | Elevated scores on CDI | China | 220 | 11.8 | Psychological | No int. | School | Teacher | 1200 | 8·5 | Yes | Yes |
| **Total** | **47 studies (38 papers)5** |  | **39** | **16** |  |  | **9,283** | **12.0#** |  |  |  |  | **14,930.3#** | **16.3#** | **21** | **46** |

Note:

- = Not recorded

# = mean values

CDI = Children’s Depression Inventory

SCARED = Screen for Child Anxiety Related Disorders

RADS = Reynolds Adolescent Depression Scale

CES-D = Center for Epidemiologic – Depression Scale

RCMAS = Revised Children’s Manifest Anxiety Scale

SCBE = Social Competence and Behaviour Evaluation

MFQ = Mood and Feeling Questionnaire

ADIS = Anxiety Disorders Interview Schedule

BDI = Beck Depression Inventory

ASQ = Anxiety Screening Questionnaire

CBCL = Child Behaviour Checklist

1. For control group type: ”No int” = no intervention, waitlist control or treatment as usual; “Other” = placebo, attention control or other intervention.
2. For facilitator type: “Teacher” = teacher or other school employee for whom no additional training or resources were needed; “Clinician” = psychologist, external counsellor, clinical research staffs, or other external facilitators.
3. Total time: this is the maximum potential exposure to the intervention possible as outlined in the study protocol.
4. Study length: Length of the study from beginning of intervention to final follow up in months.
5. Where papers included multiple comparisons, intervention arms or separate trials, these were treated as independent studies for the purposes of both data extraction and analysis.

## Table A3. Impact of universal prevention interventions upon depressive (42 studies, *n=*24,440), anxiety (24 studies, *n*=14,017) and combined internalising symptoms (54 studies, *n*=31,159) (Cohen’s *d*) by intervention type and time since intervention.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Depressive symptoms | Anxiety symptoms | Internalising symptoms |
|  | Studies(n) | N | *d* (95% CI) | Studies(n) | N | *d* (95% CI) | Studies(n)a | N | *d* (95% CI) |
| **Psychological only** | **37** | **22,561** |  | **20** | **10,404** |  | **46** | **25,643** |  |
| Post-intervention | 36 | 20,049 | **-0.09 (-0.15 to -0.03)\*** | 18 | 9,729 | **-0.15 (-0.27 to -0.03)\*** | 43 | 22,363 | **-0.12 (-0.20 to -0.04)\*** |
| 1-3 months | 8 | 3,875 | **-0.15 (-0.23 to -0.06)\*** | 3 | 602 | -0.34 (-0.85 to 0.16) | 10 | 4,456 | **-0.23 (-0.37 to -0.09)\*** |
| 6-9 months | 24 | 10,651 | **-0.20 (-0.29 to -0.10)\*** | 9 | 7644 | **-0.12 (-0.24 to -0.01)\*** | 28 | 13,079 | **-0.19 (-0.28 to -0.10)\*** |
| 12 months | 17 | 13,220 | **-0.09 (-0.17 to -0.01)\*** | 5 | 3,688 | -0.22 (-0.52 to 0.08) | 19 | 14,111 | **-0.15 (-0.25 to -0.04)\*** |
| 18 months | 7 | 8,487 | 0.01 (-0.04 to 0.06) | 3 | 2,023 | 0.11 (-0.52 to 0.08) | 7 | 8,487 | 0.04 (-0.02 to 0.11) |
| 24-48 months | - | - | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **Educational only** | **2** | **622** |  |  |  |  | **2** | **622** |  |
| Post-intervention | 2 | 622 | -0.13 (-0.33 to 0.07) | **-** | **-** | **-** | 2 | 622 | -0.13 (-0.33 to 0.07)2 |
| 1-3 months | 1 | 622 | 0.05 (-0.12 to 0.23)1 | - | - | **-** | 1 | 622 | 0.05 (-0.12 to 0.23)1,2 |
| 6-9 months | 1 | 622 | -0.05 (-0.34 to 0.24)1 | **-** | **-** | **-** | 1 | 622 | -0.05 (-0.34 to 0.24)1,2 |
| 12 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 18 months | - | - | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 24-48 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **Psychological + educational** | **3** | **1,257** |  | **4** | **3,613** |  | **6** | **3,894** |  |
| Post-intervention | 3 | 1,257 | **-0.29 (-0.40 to -0.18)\*** | 4 | 3,613 | **-0.27 (-0.40 to -0.13)\*** | 6 | 3,894 | **-0.26 (-0.40 to -0.17)\*** |
| 1-3 months | **-** | **-** | **-** | 1 | 142 | **-1.06 (-1.04 to -0.71)\*1** | 1 | 142 | **-1.06 (-1.04 to -0.71)\*1,3** |
| 6-9 months | 2 | 281 | -0.19 (-0.40 to 0.02) | **-** | **-** | **-** | 2 | 281 | -0.19 (-0.40 to 0.02)2 |
| 12 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 18 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 24-48 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **Physical interventions** | **-** | **-** | - | **-** | **-** | **-** | **-** | **-** | **-** |
| **All interventions** | **42** | **24,440** |  | **24** | **14,017** |  | **54** | **30,159** |  |
| Post-intervention | 41 | 21,928 | **-0.11 (-0.16 to -0.05)\*** | 22 | 13,342 | **-0.16 (-0.27 to -0.06)\*b** | 51 | 26,879 | **-0.15 (-0.21 to -0.08)\*** |
| 1-3 months | 9 | 4,497 | **-0.12 (-0.21 to -0.04)\*** | 4 | 744 | **-0.52 (-1.03 to -0.03)\*b** | 12 | 5,220 | **-0.27 (-0.47 to -0.09)\*** |
| 6-9 months | 27 | 11,554 | **-0.19 (-0.27 to -0.11)\*** | 9 | 7,644 | **-0.12 (-0.24 to -0.01)b\*** | 31 | 13,982 | **-0.19 (-0.26 to -0.11)\*** |
| 12 months  | 17 | 13,220 | **-0.09 (-0.17 to -0.01)\*** | 5 | 3,688 | -0.22 (-0.52 to 0.08)b | 19 | 14,111 | **-0.13 (-0.25 to -0.01)\*** |
| 18 months  | 7 | 8,487 | 0.01 (-0.04 to 0.06) | 3 | 2,023 | 0.11 (-0.52 to 0.08) | 7 | 8,487 | 0.04 (-0.02 to 0.11) |
| 24-48 months | **-** | **-** | **-** |  |  | **-** | **-** | **-** | **-** |

a = Note that number of studies and participants is not additive across columns, as some studies examined both outcomes.

b = Significant heterogeneity where *I2* > 75%, and should be interpreted with caution [118](#_ENREF_118).

-No data available.

\* Indicates p< .05.

1. estimate based on one study.
2. estimate based on depression data only.
3. estimate based on anxiety data only.

## Table A4. Impact of selective prevention interventions upon depressive (34 studies, *n*=5,395), anxiety (9 studies, *n*=2,275) and combined internalising symptoms (38 studies, *n*=5,859) (Cohen’s *d*) by intervention type and time since intervention

|  |  |  |  |
| --- | --- | --- | --- |
|  | Depressive symptoms | Anxiety symptoms | Internalising symptoms |
|  | Studies(n) | N | *d* (95% CI) | Studies(n) | N | *d* (95% CI) | Studies(n)a | N | *d* (95% CI) |
| **Psychological only** | **17** | **3,539** |  | **5** | **1,746** |  | **18** | **3,579** |  |
| Post-intervention | 14 | 2,087 | -0.12 (-0.27 to 0.02) | 4 | 536 | 0.21 (-0.13 to 0.55) | 15 | 2127 | -0.09 (-0.25 to 0.6) |
| 1-3 months | 2 | 246 | 0.07 (-0.25 to 0.39) | **-** | **-** | **-** | 2 | 246 | 0.07 (-0.25 to 0.39)2 |
| 6-9 months | 4 | 1,052 | -0.05 (-0.28 to 0.18) | 2 | 536 | -0.38 (-1.24 to 0.49) | 5 | 1,092 | -0.20 (-0.55 to 0.14) |
| 12 months | 4 | 355 | -0.06 (-0.41 to 0.28) | 3 | 40 | -0.31 (-1.80 to 1.17) | 5 | 439 | -0.29 (-1.09 to 0.52) |
| 18 months | 2 | 1706 | -0.05 (-0.21 to 0.11) | 2 | 1706 | 0.02 (-0.32 to 0.35) | 2 | 1,706 | -0.04 (-0.22 to 0.14) |
| 24-48 months | - | - | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **Educational only** | **11** | **708** |  | **3** | **415** |  | **13** | **1020** |  |
| Post-intervention | 10 | 476 | -0.19 (-0.41 to 0.03) | 3 | 415 | -0.04 (-0.27 to 0.19) | 12 | 788 | -0.09 (-0.26 to 0.08) |
| 1-3 months |  |  | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 6-9 months | 3 | 60 | -0.28 (-0.99 to 0.44) | **-** | **-** | **-** | 3 | 60 | -0.28 (-0.99 to 0.44)2 |
| 12 months | 4 | 365 | -0.24 (-0.80 to 0.31) | 1 | 103 | 0.10 (-0.67 to 0.88) | 4 | 365 | -0.23 (-0.82 to 0.37) |
| 18 months |  |  | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 24-48 months |  |  | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **Psychological + educational** | **4** | **988** |  | **1** | **114** |  | **5** | **1,102** |  |
| Post-intervention | 4 | 988 | **-0.29 (-0.48 to -0.10)\*** | **-** | **-** | **-** | 4 | 988 | **-0.29 (-0.48 to -0.10)\*2** |
| 1-3 months |  |  | **-** | 1 | 114 | **-0.69 (-1.08 to -0.30)\*1** | 1 | 114 |  |
| 6-9 months | 1 | 403 | **-0.34 (-0.60 to -0.08)\*1** | **-** | **-** | **-** | 1 | 403 | **-0.34 (-0.60 to -0.08)\*1,2** |
| 12 months |  |  | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 18 months |  |  | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 24-48 months |  |  | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **Physical interventions** | **2** | **158** |  |  |  |  | **2** | **158** |  |
| Post-intervention | 2 | 158 | **-1.30 (-2.31 to -0.29)\*** | - | - | - | 2 | 158 | **-1.30 (-2.31 to -0.29)\*2** |
| 1-3 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 6-9 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 12 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 18 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 24-48 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **All interventions** | **34** | **5,395** |  | **9** | **2,275** |  | **38** | **5,859** |  |
| Post-intervention | 30 | 3,709 | **-0.23 (-0.36 to -0.09)\*** | 7 | 951 | 0.10 (-0.10 to 0.30) | 33 | 4061 | **-0.20 (-0.35 to -0.05)\*** |
| 1-3 months | 2 | 246 | 0.07 (-0.25 to 0.39) | 1 | 114 | **-0.69 (-1.08 to -0.30)\*1** | 3 | 360 | -0.18 (-0.68 to 0.31) |
| 6-9 months | 8 | 1,515 | -0.13 (-0.33 to 0.07) | 2 | 536 | -0.38 (-1.24 to 0.48) | 9 | 1,555 | -0.24 (-0.50 to 0.01) |
| 12 months  | 8 | 764 | -0.13 (-0.37 to 0.11) | 4 | 143 | -0.31 (-1.87 to 0.63)b | 9 | 804 | -0.27 (-0.76 to 0.23) |
| 18 months  | 2 | 1,706 | -0.05 (-0.21 to 0.11) | 2 | 1,706 | 0.02 (-0.32 to 0.35) | 2 | 1,706 | -0.04 (-0.22 to 0.14) |
| 24-48 months |  |  | **-** |  |  | **-** | **-** | **-** | **-** |

a = Note that number of studies and participants is not additive across columns, as some studies examined both outcomes.

b = Significant heterogeneity where *I2* > 75%, and should be interpreted with caution [118](#_ENREF_118).

- No data available.

\* Indicates p<.05.

1. estimate based on one data point only.
2. estimate based on depression data only.
3. estimate based on anxiety data only.

## Table A5. Impact of indicated prevention interventions upon depressive (39 studies, *n*=7,495), anxiety (17 studies, *n*=3,659) and combined internalising symptoms (46 studies, *n*=9,283) (Cohen’s *d*) according to follow-up time

|  |  |  |  |
| --- | --- | --- | --- |
|  | Depressive symptoms | Anxiety symptoms | Internalising symptoms |
|  | Studies(n) | N | *d* (95% CI) | Studies(n) | N | *d* (95% CI) | Studies(n)a | N | *d* (95% CI) |
| **Psychological only** | **31** | **6,973** |  | **15** | **3,559** |  | **36** | **8,478** |  |
| Post-intervention | 27 | 5,541 | **-0.31 (-0.46 to -0.15)\*** | 14 | 3,299 | **-**0.08 (-0.32 to 0.16) | 33 | 7,100 | **-0.26 (-0.40 to -0.12)\*** |
| 1-3 months | 6 | 712 | **-0.50 (-0.75 to -0.25)\*** | 3 | 343 | -0.22 (-0.63 to 0.19) | 9 | 1,055 | **-0.31 (-0.49 to -0.14)\*** |
| 6-9 months | 20 | 4,343 | **-0.27 (-0.43 to -0.11)\*** | 8 | 2,800 | -0.07 (-0.23 to 0.09) | 23 | 5,562 | **-0.24 (-0.38 to -0.09)\*** |
| 12 months | 12 | 4,863 | -0.09 (-0.19 to 0.08) | 5 | 1,552 | 0.08 (-0.43 to 0.27) | 14 | 5,115 | -0.09 (-0.20 to 0.03) |
| 18 months | 7 | 2,628 | -0.07 (-0.14 to 0.01) | 2 | 449 | -0.03 (-0.23 to 0.17) | 7 | 2,628 | -0.07 (-0.21 to 0.01) |
| 24-48 months | 1 | 260 | -0.02 (-0.24 to 0.28)1 | **1** | **260** | 0.00 (-0.26 to 0.26)1 | 1 | 260 | 0.01 (-0.24 to 0.21) |
| **Educational only** | **2** | **225** |  |  |  |  | **2** | **225** |  |
| Post-intervention | 2 | 225 | -0.09 (-1.25 to 1.07) | - | - | **-** | 2 | 225 | -0.09 (-1.25 to 1.07)2 |
| 1-3 months | 2 | 225 | -0.33 (-0.82 to 0.15) | **-** | **-** | **-** | 2 | 225 | -0.33 (-0.82 to 0.15)2 |
| 6-9 months | 2 | 225 | -0.17 (-0.65 to 0.31) | **-** | **-** |  | 2 | 225 | -0.17 (-0.65 to 0.31)2 |
| 12 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 18 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 24-48 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **Psychological + educational** | **5** | **498** |  | **1** | **58** |  | **6** | **556** |  |
| Post-intervention | 5 | 498 | **-**0.16 (-0.34 to 0.02) | **-** | **-** | **-** | 5 | 498 | **-**0.16 (-0.34 to 0.02)2 |
| 1-3 months | 2 | 333 | **-**0.24 (-0.79 to 0.30) | **-** | **-** | **-** | 2 | 333 | **-**0.24 (-0.79 to 0.30)2 |
| 6-9 months | 3 | 449 | **-**0.21 (-0.56 to 0.14) | **-** | **-** | **-** | 3 | 449 | **-**0.21 (-0.56 to 0.14)2 |
| 12 months | 1 | 108 | **-**0.29 (-0.61 to 0.24)1 | 1 | 58 | **-**0.13 (-0.52 to 0.25)1 | 2 | 166 | -0.16 (-0.45 to 0.13) |
| 18 months | 1 | 108 | **-**0.11 (-0.54 to 0.21)1 | 1 | 58 | **-**0.21 (-0.65 to 0.22)1 | 2 | 166 | -0.16 (-0.47 to 0.14) |
| 24-48 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **Physical interventions** | **1** | **24** |  |  |  |  | **1** | **24** |  |
| Post-intervention | 1 | 24 | **-0.87 (-1.69 to -0.06)\*1** | **-** | **-** | **-** | 1 | 24 | **-0.87 (-1.69 to -0.06)\*1,2** |
| 1-3 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 6-9 months | - | - | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 12 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 18 months | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | - |
| 24-48 months | - | - | - |  |  | - | - | - | - |
| **All interventions** | **39** | **7,495** |  | **17** | **3,659** |  | **46** | **9,283** |  |
| Post-intervention | 35 | 6,288 | **-0.33 (-0.46 to -0.20)\*** | 14 | 3,299 | -0.01 (-0.27 to 0.26) | 41 | 7,622 | **-0.26 (-0.39 to -0.13)\*** |
| 1-3 months | 10 | 1,270 | **-0.43 (-0.63 to -0.24)\*** | 3 | 343 | -0.22 (-0.63 to 0.19) | 13 | 1,613 | **-0.29 (-0.41 to -0.17)\*** |
| 6-9 months | 25 | 5,017 | **-0.26 (-0.39 to -0.12)\*** | 8 | 2,800 | -0.07 (-0.23 to 0.09) | 28 | 6,281 | **-0.23 (-0.36 to -0.11)\*** |
| 12 months  | 13 | 4,971 | -0.03 (-0.11 to 0.05) | 6 | 1,610 | 0.00 (-0.20 to 0.21) | 16 | 5,173 | -0.01 (-0.19 to 0.00) |
| 18 months  | 8 | 2,736 | -0.07 (-0.14 to 0.01) | 3 | 507 | -0.03 (-0.21 to 0.16) | 9 | 2,794 | -0.07 (-0.21 to 0.01) |
| 24-48 months | 1 | 260 | -0.02 (-0.24 to 0.28)1 | 1 | 260 | 0.00 (-0.26 to 0.26)1 | 1 | 260 | -0.01 (-0.24 to 0.21) |

a = Note that number of studies and participants is not additive across columns, as some studies examined both outcomes.

b = Significant heterogeneity where *I2* > 75%, and should be interpreted with caution [118](#_ENREF_118).

- No data available.

\*Indicates p<.05.

1. estimate based on one data point only.
2. estimate based on depression data only.
3. estimate based on anxiety data only.

## Figure A1: The formula used to calculate the covariance of the depression and anxiety outcomes for: internalising disorder diagnosis and internalising disorder symptoms

*Source:* Introduction to meta-analysis, Chapter 5: Complex data structures[119](#_ENREF_119) *© John Wiley & Sons, 2009.*

Note:

var = covariance

Y1 = effect size for depression

Y2 = effect size for anxiety

V1 = variance of the effect size for depression

V2 = variance of the effect size for anxiety

r = correlation between depression and anxiety (determined to be 0.37 based on the comorbidity of depression and anxiety disorders in the 2007 Australian National Survey of Mental Health and Wellbeing[120](#_ENREF_120))





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## Figure A2. Risk of bias summary: review authors' judgements about each risk of bias item for each included study.



## Figure A3. Risk of bias graph: review authors' judgements about each risk of bias item presented as percentages across all included studies

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