Systematic Review of Universal Resilience-Focused Interventions Targeting Child and Adolescent Mental Health in the School Setting

Julia Dray, BPsych(Hons1), Jenny Bowman, PhD, Elizabeth Campbell, PhD, Megan Freund, PhD, Luke Wolfenden, PhD, Rebecca K. Hodder, MAppPsych, Kathleen McElwaine, PhD, Danika Tremain, BPsych(Hons), Kate Bartlem, PhD, Jacqueline Bailey, BPsych(Hons), Tameka Small, BNutrDiet, Kerrin Palazzi, MPH, Christopher Oldmeadow, PhD, John Wiggers, PhD

Objective: To examine the effect of universal, school-based, resilience-focused interventions on mental health problems in children and adolescents.

Method: Eligible studies were randomized controlled trials (RCTs) of universal, school-based interventions that included strategies to strengthen a minimum of 3 internal resilience protective factors, and included an outcome measure of mental health problems in children and adolescents aged 5 to 18 years. Six databases were searched from 1995 to 2015. Results were pooled in meta-analyses by mental health outcome (anxiety symptoms, depressive symptoms, hyperactivity, conduct problems, internalizing problems, externalizing problems, and general psychological distress), for all trials (5–18 years). Subgroup analyses were conducted by age (child: 5–10 years; adolescent: 11–18 years), length of follow-up (short: post-≤12 months; long: >12 months), and gender (narrative).

Results: A total of 57 included trials were identified from 5,984 records, with 49 contributing to meta-analyses. For all trials, resilience-focused interventions were effective relative to a control in reducing 4 of 7 outcomes: depressive symptoms, internalizing problems, externalizing problems, and general psychological distress. For child trials (meta-analyses for 6 outcomes), interventions were effective for anxiety symptoms and general psychological distress. For adolescent trials (meta-analyses for 5 outcomes), interventions were effective for internalizing problems. For short-term follow-up, interventions were effective for 2 of 7 outcomes: depressive symptoms and anxiety symptoms. For long-term follow-up (meta-analyses for 5 outcomes), interventions were effective for internalizing problems.

Conclusion: The findings may suggest most promise for using universal resilience-focused interventions at least for short-term reductions in depressive and anxiety symptoms for children and adolescents, particularly if a cognitive-behavioral therapy–based approach is used. The limited number of trials providing data amenable for meta-analysis for some outcomes and subgroups, the variability of interventions, study quality, and bias mean that it is not possible to draw more specific conclusions. Identifying what intervention qualities (such as number and type of protective factor) achieve the greatest positive effect per mental health problem outcome remains an important area for future research.

Systematic review protocol and registration: Systematic Review of Universal Resilience Interventions Targeting Child and Adolescent Mental Health in the School Setting; http://dx.doi.org/10.1186/s13643-015-0172-6; PROSPERO CRD42015025908.

Key words: mental health, universal intervention, school, resilience, meta-analysis

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Worldwide, 10% to 20% of children and adolescents experience mental health problems,[1] with age of onset for many disorders reported to be from 12 to 24 years.[2] Mental health problems in children and adolescents have been shown to contribute to lower achievement in education, and increased rates of engagement in health risk behaviors, self-harm, and suicide,[2,3] with the impacts of such problems often persisting into adulthood.[4,5] Thus, the prevention of mental health problems in children and adolescents is integral to promoting positive life outcomes for young people.

In recent decades, there has been a shift in the focus of mental health research from risk and psychopathology to the promotion of positive outcomes such as resilience.[6] Although much variation exists in the operationalization of resilience,[7] researchers commonly refer to the construct as dynamic[8] and multifactorial,[7] involving the maintenance of, or return to, positive mental health following adversity by using a collection of multiple internal (personal

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characteristics or strengths) and external (qualities of wider family, social, and community environments) resilience protective factors (assets and resources) that enable an individual to thrive and to overcome disadvantage or adversity.[9-14] Findings of studies that have quantitatively examined the association between specific resilience protective factors and mental health outcomes are consistent with suggestions that the strengthening of resilience protective factors may reduce mental health problems in children and adolescents.[15] For example, studies have reported high levels of protective factors (strong attachment to family,[16] high levels of pro-social behavior in family, school, and community,[16] high social skills/competence,[16-18] strong moral beliefs,[16] high levels of religiosity,[16] positive personal disposition,[17,18] positive social support,[17,18] and strong family cohesion[16-18]) to be associated with lower levels of anxiety symptoms, depressive symptoms, stress, and obsessive-compulsive disorder in children and adolescents.[16-18]

Resilience-focused interventions target the strengthening of multiple protective factors, often termed "building resilience," and are one suggested approach for reducing mental health problems in children and adolescents.[7,19] Resilience-focused interventions take many forms and vary by intervention mode (e.g., curriculum-based lessons, or broader capacity-building strategies to enable schools to identify school-specific needs and to use their own and external resources to sustain strategies to target protective factors), length, and frequency of curriculum-based lessons, overall duration of intervention, facilitator, and delivery (e.g., face-to-face, online). Such interventions are commonly school based and adopt universal frameworks, targeting whole populations or groups not identified as having, or being at risk for, mental health problems.[20] Schools provide access to children and adolescents for prolonged periods at critical times in development and have existing resources, infrastructure, and values that are conducive to supporting the development of positive health, mental health, and resilience in young people.[21-23]

Many universal, school-based, resilience-focused interventions have been implemented internationally. Two meta-analyses[24,25] have reported the effectiveness of randomized controlled trials of the universal application of one particular resilience-focused school-based intervention, the PENN Resiliency Program (PRP). The PRP is a 12-week program based on cognitive-behavioral principles implemented in the United States, and targeting internal protective factors of children and adolescents (8–18 years) through structured curriculum activities within group sessions.[26] The first meta-analysis examined the effect on the single outcome of depressive symptoms at immediate postintervention, 6- to 8-month follow-up, and 12-month follow-up,[24] finding a reduction in depressive symptoms at 12-month follow-up only.[24] The second, a more recent meta-analysis, examined 2 outcomes, namely, anxiety symptoms and depressive symptoms, and found no evidence of effect on either at immediate postintervention.[25] No later follow-up data points were examined. No systematic review has quantitatively synthesized the effect of universal, school-based, resilience-focused interventions more generally, nor considered a broader range of mental health outcomes in children and adolescents.

In addition, gender differences have been consistently identified in both the prevalence of mental health problems[27-33] and in the type of resilience protective factors that children and adolescents use.[16,18] Knowledge of such differences lends itself well to the suggestion that the effect of resilience-focused interventions targeting mental health problems in children and adolescents may also vary by gender, and hence be valuable to consider in systematic reviews. Likewise, examination of effects separately for children and adolescents can help inform whether resilience-focused interventions may have greater benefit if implemented early in childhood.[34] Finally, there is value in understanding the length of any positive intervention effects. Such information can assist in understanding the cost-versus-benefit ratios of these programs.

To address identified evidence gaps, a review was undertaken to assess the effectiveness of universal, school-based, resilience-focused interventions on 7 prevalent and frequently reported mental health problems in children and adolescents (aged 5–18 years). The outcomes were anxiety symptoms, depressive symptoms, hyperactivity, conduct problems, internalizing problems, externalizing problems, and general psychological distress. A secondary aim was to examine the differential effects of such interventions by age (child; adolescent), gender (male; female), and length of follow-up (short-term; long-term).

METHOD

The review was prospectively registered with PROSPERO (reference number CRD42015025908), and the methods are described in detail in the related protocol.[35] The Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guidelines were used to guide development of the review protocol[36] and reporting of the review findings.[37]

Study Inclusion Criteria

Study Type. Included studies were randomized controlled trials (RCTs), including cluster randomized controlled trials (CRCTs) that compared a universal, school-based, resilience-focused intervention to a control or an alternative intervention.

Outcome Measures. Studies eligible for inclusion reported the prevalence or extent of occurrence of at least 1 of 7 mental health problems for participants aged 5 to 18 years: depressive symptoms, anxiety symptoms, hyperactivity, conduct problems, internalizing problems, externalizing problems, or general psychological distress.

Setting and Intervention. Included trials assessed interventions that addressed at least 3 internal resilience protective factors. These criteria were established a priori[35] and were based on literature suggesting resilience as multifactorial,[19] as well as the minimum number of internal resilience protective factors targeted in previously identified studies of resilience-focused interventions with mental health outcomes in children and adolescents.[9,11,26,38] Interventions conducted in war zones were excluded because of their unique context and the differences in conceptual approaches to strengthening resilience in such environments.[39]