

# Technology Delivered Interventions for Depression and Anxiety in Children and Adolescents: A Systematic Review and Meta-analysis

BABCP, BATH 2019, 47<sup>th</sup> Annual Conference & Workshops  
4<sup>th</sup> September 2019

Rebecca Grist<sup>1,3</sup> · Abigail Croker<sup>2</sup> · Megan Denne<sup>2</sup> · Paul Stallard<sup>1,2</sup>

## Abstract

**Background:** Depression and anxiety are common during adolescence. Whilst effective interventions are available treatment services are limited resulting in many adolescents being unable to access effective help. Delivering mental health interventions via technology, such as computers or the internet, offers one potential way to increase access to psychological treatment.

**Aims:** The aim of this systematic review and meta-analysis was to update previous work and investigate the current evidence for the effect of technology delivered interventions for children and adolescents (aged up to 18 years) with depression and anxiety.

**Methods:** A systematic search of eight electronic databases identified 34 randomized controlled trials involving 3113 children and young people aged 6–18. The trials evaluated computerized and internet cognitive behavior therapy programs (CBT:  $n = 17$ ), computer-delivered attention bias modification programs (ABM:  $n = 8$ ) cognitive bias modification programs (CBM:  $n = 3$ ) and other interventions ( $n = 6$ ).

**Results:** Our results demonstrated a small effect in favor of technology delivered interventions compared to a waiting list control group:  $g = 0.45$  [95% CI 0.29, 0.60]  $p < 0.001$ . CBT interventions yielded a medium effect size ( $n = 17$ ,  $g = 0.66$  [95% CI 0.42–0.90]  $p < 0.001$ ). ABM interventions yielded a small effect size ( $n = 8$ ,  $g = 0.41$  [95%CI 0.08–0.73]  $p < 0.01$ ). CBM and ‘other’ interventions failed to demonstrate a significant benefit over control groups. Type of control condition, problem severity, therapeutic support, parental support, and continuation of other ongoing treatment significantly influenced effect sizes.

**Conclusions:** Our findings suggest there is a benefit in using CBT based technology delivered interventions where access to traditional psychotherapies is limited or delayed.

Rebecca Grist

r.grist@brighton.ac.uk

1 Department for Health, University of Bath, 6.19 Wessex House, Bath BA2 7AY, UK

2 Oxford Health NHS Foundation Trust, Child, and Adolescent Mental Health Service, Temple House, Keynsham, UK

3 School of Applied Social Science, University of Brighton, Mayfield House, Falmer, Brighton BN1 9PH, UK