Behavioral Activation interventions delivered to children and adolescents in the school setting: A systematic review protocol

Sarah A. Stoddard, PhD[1], Chelsea R. Moore, MSN[2], Crystal Cederna, Psy.D.[3], Francesca G. De Geronimo, BA[4], Julia W. Felton, PhD[5]

Background

Behavioral Activation (BA) is a brief, evidence-based intervention for the treatment of depression and anxiety. BA is a person-centered, strengths-based, and highly flexible approach to a) improving the overall well-being of teens, b) reducing depressive symptoms while improving functioning, and c) promoting resiliency. BA focuses on improving individuals' self-monitoring of their own activities, identifying positive/rewarding activities and then scheduling these activities into their day. Research suggests that BA can be effective when delivered by either a mental health specialist (Martin & Oliver, 2019) or individuals without specialized mental health training (Anvari et al, 2023), and when delivered in a variety of settings (Martin & Oliver, 2019).

Purpose

The purpose of the current review is to examine and synthesize the current state of the literature on the use of BA in the school-setting to improve child/adolescent depression and anxiety. The review is guided by the research question:

Are behavioral activation interventions delivered in the school setting acceptable, feasible, and effective in improving depression/anxiety/mood outcomes for children and/or adolescents?

Methods

This systematic review will follow the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) approach (Page et al., 2021).

Inclusion & Exclusion Criteria

Studies will include empirical papers that evaluate the effectiveness (of clinical or activation outcomes), feasibility, or acceptability of manualized/time-limited BA interventions delivered in the school setting to children and youth in primary or secondary schools (i.e., grades K-12; or the equivalent for studies conducted outside the United States) with the aim of improving depression and anxiety. Interventions delivered outside of the school setting (e.g., students referred to off-site support) will be excluded. Studies on mood disorders (bipolar or unspecified mood issues) will not be included.

BA is defined as a manualized intervention consisting of increasing patient self-monitoring of daily activities and scheduling of activities (Ekers et al., 2014). Studies that explicitly state they assess interventions including BA elements along with other components/interventions (e.g., cognitive therapies) will be reviewed and kept only if the results are reported in a way that allows for assessment of BA effects alone; studies that only report combined cognitive behavioral therapy will not be included.

Studies must be written in English, report original quantitative or qualitative research, and be peer-reviewed. Thus, books, book chapters, editorials, commentaries, protocol papers, conceptual papers, reviews and meta-analyses, and gray literature, such as newspapers or

----
* Correspondence: sastodda@umich.edu
[1] Associate Professor, School of Nursing, University of Michigan
[2] Doctoral candidate, School of Nursing, University of Michigan
[3] Associate Professor, Charles Stewart Mott Department of Public Health, Michigan State University
[4] Graduate student, Teachers College, Columbia University
[5] Assistant Scientist, Center for Health Policy and Health Services Research, Henry Ford Health System

magazines, will be excluded. Moreover, we will limit our included studies to those published after 2017 (specifically, December, where monthly specification is available) in order to capture studies published after a similar search by Martin and Oliver (2019); while the current review will be more narrowly focused than that by Martin and Oliver (2019), there is substantial overlap in our foci, and we aim to build upon this previous literature synthesis.

Search Strategy

Reviewers will search four databases, including PsycInfo, PubMed, EMBASE, and Scopus, using tailored search strings appropriate for each database. Search results will be restricted to those written in English language and published between December 2017 - March 2024 (or 2017-2024 for databases that don't allow months to be specified). The search will be run on March 11, 2024, with abstracts exported and pooled in EndNote20, where we will remove duplicate results. Once duplicates have been deleted, all abstracts will then be imported into Rayyan.ai software. A second/final round of de-duplication will be conducted in Rayyan.ai, resulting in the final collection of abstracts to be reviewed. A full search strategy for each database can be found in the Appendix.

Screening & Selection

Two independent reviewers will screen titles and abstracts using Rayyan.ai software, with one additional reviewer available to consult and resolve discrepancies. Once potentially relevant titles and abstracts have been identified, two independent reviewers will then read the full text of these articles to ensure eligibility criteria are met for final inclusion; one additional reviewer will be available to consult and resolve discrepancies. Inclusion and exclusion of articles will be tracked according to PRISMA guidelines and documented in a flow diagram (Page et al., 2021).

Data Extraction

A custom data extraction table will be developed and used to identify relevant information from all included articles, thereby facilitating synthesis of results. Data to be extracted from each article (Table 1, below) includes: study design and limitations, description of the intervention and interventionist characteristics, description of the student participants, and outcomes. Two independent reviewers will read through the included articles and extract data to ensure full and accurate information is included in the final synthesis.

Quality Assessment

Two independent reviewers will conduct quality assessment of each included study. The National Heart, Lung, and Blood Institute's (NHLBI's) Quality Assessment of Controlled Intervention Studies tool will be used for randomized control trials (RCTs). The NHLBI's Quality Assessment Tool for Before-After (Pre-Post) Studies with No Control Group will be used for studies without a control group (e.g., open-label pilots, stepped-wedge trails, etc.) (U.S. Department of Health and Human Services, 2021). Qualitative studies will be evaluated using the Critical Appraisal Skills Programme (CASP, 2024) checklist.

Synthesis of Results

We will narratively synthesize findings from the studies, grouped by interventionist characteristics and clinical outcomes. Summaries of intervention effects and implementation outcomes will be included. As stated previously, a PRISMA flow diagram will be used to display how the final number of included studies was arrived at. An evidence table will also be used to highlight the key criteria from the data extraction table.

Table 1. Data Extraction Table Components

Data to be gathered from each study and cataloged in a single spreadsheet:	
Description of the Interventionist (e.g., community health worker, teacher, etc)	• Sample size • Age • Race/Ethnicity • Training • Supervision
Description of student population	• Sample size • Age • Race/ethnicity • Clinical diagnosis, when available
Study Design	• Study methodology (e.g., RCT) • Study-identified limitations • Control condition description
Intervention Characteristics	• Description of intervention setting • Description of intervention (BA manual) used • Number of Sessions • Description of control condition • Recruitment strategy
Outcomes	• Study completion rates • Clinical outcomes and times of measurement • Implementation outcomes (e.g., fidelity, acceptability, satisfaction)

Dissemination

Findings from this systematic review will be submitted for presentation at both local and national conferences. Additionally, findings will be detailed in full for a manuscript to be submitted for publication in a topically relevant peer-reviewed journal.

Supplementary Information
• Additional File 1 Search Strategy

Contributions

All authors have contributed substantially and meet authorship criteria per the Committee on Publication Ethics (COPE) guidelines.

Ethical and Institutional Review
Not applicable

Consent for publication
Not applicable

Conflict of Interest
All authors are free from competing interests.

References

Anvar, M.S., Hampton, T., Tong, M.P., Kahn, G., Triemstra, J.D., Magidson, J.F., & Felton, J.W
(2023). Behavioral Activation Disseminated by Non-Mental Health Professionals,
Paraprofessionals, and Peers: A Systematic Review. Behavioral Therapy, 54(3),524-
538. doi: 10.1016/j.beth.2022.12.007. PMID: 37088508.
F
Critical Appraisal Skills Programme. (2024). *CASP Checklists: Critical Appraisal Checklists*.
https://casp-uk.net/aboutus/

Ekers, D., Webster, L., Straten, A. V., Cuijpers, P., Richards, D., & Gilbody, S. (2014).
Behavioural Activation for Depression; An Update of Meta-Analysis of Effectiveness and
Sub Group Analysis. *PLOS ONE*, 9(6), e100100.
https://doi.org/10.1371/journal.pone.0100100

Martin, F., & Oliver, T. (2019). Behavioral activation for children and adolescents: a systematic
review of progress and promise. *European Child & Adolescent Psychiatry*, 28(4), 427–
441. https://doi.org/10.1007/s00787-018-1126-z

Page M.J., McKenzie J.E., Bossuyt P.M., Boutron I., Hoffmann T.C., Mulrow C.D., . . . D, M.
(2021). The PRISMA 2020 statement: An updated guideline for reporting systematic
reviews. *BMJ* 2021;372:n71. https://doi.org/10.1136/bmj.n71

U.S. Department of Health and Human Services. (2021, July). *Study Quality Assessment Tools*.
National Heart Lung and Blood Institute. https://www.nhlbi.nih.gov/health-topics/study-
quality-assessment-tools