

INPLASY

Behaviour Change Interventions for Sustainability

INPLASY202540028

doi: 10.37766/inplasy2025.4.0028

Received: 8 April 2025

Published: 8 April 2025

Rebek, JL.; Bruni, T; Cooper, KJ; Wyper-Haig, ER; Barker, TJ; Van Weerden, T.

Corresponding author:

Jody Lynn Rebek

jody.rebek@algomau.ca

Author Affiliation:

Algoma University.

ADMINISTRATIVE INFORMATION**Support** - Responsibility-Centred Budget.**Review Stage at time of this submission** - Formal screening of search results against eligibility criteria.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202540028**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 8 April 2025 and was last updated on 8 April 2025.**INTRODUCTION**

Review question / Objective Understanding the current state of research on behaviour changes is imperative for advancing sustainability progress. Recent scholarship has identified important links between transforming inner capacities such as character, resilience, and positive changes for collective wellbeing (Chopra et al., 2019; Crossan et al., 2023; Osberg & Wamsler, 2022; Washburn et al., 2011). Here we define behaviour change as a change process for personal growth that has positive implications for sustainability.

This scoping review serves three main purposes. First, it will identify and systematically analyze behaviour change and character development training interventions aimed at empowering individuals to overcome personal limitations, developing new capacities, and aligning their values and behaviours. Second, it will evaluate the extent that these interventions catalyze sustainability-aligned inner transformations in

established and emerging leaders. Third, it will identify the challenges and opportunities for interventions aimed at behaviour change to inform the design of future leadership development programs.

Our inclusion criteria covers studies on behaviour change interventions and research aimed at enhancing sustainability practices through individual and/or group training. We will consider qualitative, quantitative, and mixed-method studies published in English in peer-reviewed journals from 2015-2025. Our exclusion criteria involve studies unrelated to behavioural changes, interventions, research lacking a clear connection to sustainability, grey literature, and sources without methodological details. Studies will be screened by multiple reviewers, and selected based on strict inclusion protocols.

Our main research question is: To what extent and how do different interventions for behaviour change support sustainability progress?

Our sub-questions include:

How do studies define sustainability?
 What outcomes and impacts were identified/
 measured within current studies?
 How do studies measure behaviour and attitudinal
 change?
 What was the length, cost and delivery (in-person
 vs. online) of intervention methods?
 What content did the intervention entail?
 What overarching theoretical aspects existed, if
 any?
 Who was the target audience of the interventions?
 What goals and learning objectives exist within
 current interventions/studies?

Background As global challenges such as climate change, economic inequality, and geopolitics intensify, it is increasingly important for current and future leaders to cultivate inner capacities to inform decision making in turbulent conditions (United Nations, 2024). While research has demonstrated that traits such as resilience are essential for leadership in times of uncertainty (Breen, 2017), it is unclear how to best cultivate these capacities at scale. There is therefore an urgent need for a systematic mapping of existing literature on behavior change interventions for sustainability to identify critical gaps, guide future research, and inform best practices.

We hypothesize that by cultivating certain character traits, such as resilience, psychological flexibility, adaptability, and empathy, leaders will be better skilled at responding to emerging challenges. Specifically, we anticipate that these skills will support leaders in learning, adapting, and creating more innovative and impactful solutions to complex issues. Accordingly, we seek to examine the relationship between value-based leadership practices that align with individual and collective wellbeing and interventions that foster these capacities.

Rationale Existing research suggests that character development interventions can benefit from evaluation through a sustainability assessment lens (Hall et al., 2022). Specifically, we will examine how and to what extent interventions drive behaviour change that supports sustainability progress. While definitions of sustainability vary, the general notion refers to ensuring the conditions for an equitable and flourishing future for all. As such, this research is thus to foster leader development that drives sustainability progress that nourishes planetary life.

By identifying the challenges and opportunities for behaviour change interventions, we seek to identify best practices for future leadership

development programs. To do so, we will examine how various training interventions influence behavioural changes in participants and how current research operationally defines and measures the broader implications of sustainability. For our study, we use the term intervention to describe programs, training, or workshops related to the cultivation of personal change.

To inform these critical gaps of understanding, we will systematically review existing research on behaviour change as it relates to sustainability. We will include all studies identifying behaviour change as the primary independent variable and sustainability behaviour, attitudes, and practices as the primary dependent variable. We will consider qualitative, quantitative, and mixed-method studies published in English in peer-reviewed journals. Our exclusion criteria involve studies focused solely on policies without training components, those not related to inner development interventions, research lacking a clear link to sustainability practices, grey literature, and non-full-text articles, editorials, commentaries, and policy briefs that do not include methodologies. By examining studies from 2015-2025, we will cover the most relevant publications to this inquiry. Through strict adherence to our inclusion protocol and the use of multiple screenings, we will minimize biases and ensure rigorous analysis of the studies.

METHODS

Strategy of data synthesis Search strategy

The search strategy will target peer reviewed published studies. A three-step search strategy will be utilized in this review. First, an initial search of Scopus will be undertaken to identify the quantity of articles on the topic and determine the finalized search terms. Then, we will conduct our true search based on these predetermined search terms, and our detailed search strategy (including boolean operators for inclusion and exclusion). The search strategy, including all identified keywords and index terms, will be adapted for each included database and/or information source.

Studies published in English, or translated to English will be included.

The databases to be searched include: Scopus, EBSCO, and ProQuest. Sources of unpublished studies and gray literature will not be included.

Study/Source of Evidence Selection

Following the search, all identified citations will be collated and uploaded into Covidence, and duplicates removed. Following a pilot test, titles and abstracts will be screened by two or more independent reviewers for assessment using the inclusion/exclusion criteria. The full text of selected

citations will then be assessed in detail using the inclusion/exclusion criteria by two or more independent reviewers. Reasons for the exclusion of sources of evidence in full-text that do not meet the inclusion criteria will be recorded and reported in the scoping review. Any disagreements that arise between the reviewers at each stage of the selection process will be resolved through discussion, or with an additional reviewer/s. The results of the search and the study inclusion process will be reported in full in the final scoping review and presented in a PRISMA flow diagram.

Eligibility criteria Inclusion criteria

Participants

Our scoping review will examine interventions for behaviour change that incorporate sustainability considerations. Participants will vary in backgrounds, cultures, and demographics in higher education and leadership, and will exclude individuals under 18 years of age.

Concept

Our inclusion criteria includes studies that report on virtual or in-person interventions for behaviour change, as well as research focusing on improving sustainability practices and behaviours. Our exclusion criteria includes grey literature, studies focused on policies without training elements, studies not focused on behavioural changing interventions, and research without a clear connection to sustainability practices and behaviours. We will also exclude studies/training that consist of commercialized programs with anecdotal reports, and studies that are focused exclusively on financial sustainability without consideration of environmental or social impacts.

Context

We will include studies published between 2015 and 2025 to ensure relevance, as this period aligns with the adoption of the United Nations Sustainable Development Goals (SDGs) in 2015.

Types of sources

This scoping review examines qualitative, quantitative, and mixed-method studies in English language, published in peer-reviewed journals. Grey literature, non full-text articles, editorials, commentaries, and literature reviews that do not include methodologies, research design/criteria, and policy briefs/papers will not be considered, and will be excluded from this scoping review. Inclusion criteria

Participants

Our scoping review will examine interventions for behaviour change that incorporate sustainability considerations. Participants will vary in backgrounds, cultures, and demographics in

higher education and leadership, and will exclude individuals under 18 years of age.

Concept

Our inclusion criteria includes studies that report on virtual or in-person interventions for behaviour change, as well as research focusing on improving sustainability practices and behaviours. Our exclusion criteria includes grey literature, studies focused on policies without training elements, studies not focused on behavioural changing interventions, and research without a clear connection to sustainability practices and behaviours. We will also exclude studies/training that consist of commercialized programs with anecdotal reports, and studies that are focused exclusively on financial sustainability without consideration of environmental or social impacts.

Context

We will include studies published between 2015 and 2025 to ensure relevance, as this period aligns with the adoption of the United Nations Sustainable Development Goals (SDGs) in 2015.

Types of sources

This scoping review examines qualitative, quantitative, and mixed-method studies in English language, published in peer-reviewed journals. Grey literature, non full-text articles, editorials, commentaries, and literature reviews that do not include methodologies, research design/criteria, and policy briefs/papers will not be considered, and will be excluded from this scoping review.

Source of evidence screening and selection

Data will be extracted from papers included in the scoping review by two or more independent reviewers using a data extraction tool developed by the reviewers. The data extracted will include specific details about the participants, concept, context, study methods and key findings relevant to the review question(s).

The draft data extraction tool will be modified and revised as necessary during the process of extracting data from each included evidence source. Modifications will be detailed in the scoping review. Any disagreements that arise between the reviewers will be resolved through discussion, or with an additional reviewer(s). If appropriate, authors of papers will be contacted to request missing or additional data, where required.

Search strategy

A pilot search was conducted on March 13, 2025 across three databases. A copy of the search strategy and results is provided below.

Search conducted on: March 13, 2025

Search Terms: intervention, program, workshop, training, behaviour, behaviour change, sustainability

Search 1: (intervention OR program OR workshop OR training) AND (behavior OR "behavior change" OR behaviour OR "behaviour change") AND (sustainability)
Filters: 2015-2025; English; Journal Articles; Article Abstract, Title, Keywords
Database: Scopus
Number of results: 4673

Search 2: (TI(intervention OR program OR workshop OR training) OR AB(intervention OR program OR workshop OR training)) AND (TI(behavio* OR "behavio* change") OR AB(behavio* OR "behavio* change")) AND (TI(sustainability) OR AB(sustainability))
Filters: 2015-2025; Academic Journals; Peer Reviewed
Database: EBSCO
Results: 2615

Search 3: (TI(intervention OR program OR workshop OR training) OR AB(intervention OR program OR workshop OR training)) AND (TI(behavio* OR "behavio* change") OR AB(behavio* OR "behavio* change")) AND (TI(sustainability) OR AB(sustainability))
Filters: 2015-2025; English; Scholarly Journals
Database: ProQuest
Results: 3113.

Data management This scoping review will follow a structured and transparent approach to data management throughout the research process. All identified records from database searches (e.g., Scopus, EBSCO, and ProQuest) will be exported and stored in a secure reference management software (Zotero) for de-duplication and initial organization.

Screening will be conducted in Covidence, where titles, abstracts, and full texts will be reviewed independently by at least two reviewers. Decisions and discrepancies will be recorded, and a PRISMA-ScR flowchart will document the selection process. Inclusion/exclusion decisions will be based on predefined criteria, and all versions of the screening protocol will be stored in a shared, access-controlled cloud folder (e.g., Google Drive).

Data extraction will be carried out using a standardized charting form (Excel/Google Sheets), capturing relevant variables as described in

question 10. Extracted data will be reviewed for consistency and accuracy by a second reviewer.

All data files, including search strategies, extracted data, and coding frameworks, will be backed up regularly and stored securely with version control. This plan ensures the responsible handling, storage, and sharing of data in alignment with FAIR (Findable, Accessible, Interoperable, Reusable) research principles.

Reporting results / Analysis of the evidence The findings from this scoping review will be presented in a structured and accessible format, following the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) guidelines. The final output will include a peer-reviewed academic article, an academic conference presentation, and a visual summary of key findings. The range of knowledge dissemination approaches will help to ensure accessibility for multiple audiences, including researchers, educators, and practitioners in sustainability and leadership development as well as adjacent fields.

The review will begin with an overview of the research rationale, objectives, and guiding questions. A PRISMA-ScR flow diagram will detail the article selection process, including the number of records identified, screened, and included, along with reasons for exclusion at each stage.

Results will be organized thematically, highlighting the types of behavior change and character development interventions identified, their key components (e.g., inner capacities, values alignment, leadership outcomes), and their relevance to sustainability. Tables and charts will visually summarize intervention characteristics, conceptions of sustainability, and methodological approaches. Where applicable, case examples will be used to illustrate particularly innovative or effective interventions.

A critical synthesis will follow, identifying patterns, gaps, and emerging themes across the literature. This section will also evaluate the extent to which interventions foster inner transformations that align with sustainability goals and collective well-being. Opportunities for future research, practice, and program development will be outlined.

Presentation of the results The findings of this scoping review will be presented in a clear and structured format, adhering to the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses – Scoping Review) guidelines.

Outputs will include a peer-reviewed journal article, a conference presentation, and a visual summary of key insights. This multi-format dissemination strategy is designed to ensure broad accessibility and relevance for diverse audiences, including researchers, educators, and practitioners in sustainability, leadership development, and related fields.

Language restriction Yes. Only English studies will be screened.

Country(ies) involved Canada.

References

Moss Breen, J. (2017). Leadership Resilience in a VUCA World: Thriving in the New VUCA Context. 10.1108/978-1-78714-242-820171003.

Chopra, R. & Nebhrajani, V. & Tripathi, S. (2019). The Interface of Psychology and Contemplation : New Paradigms in Well-being. V. 626-639.

Hall, A., Shoesmith, A., Doherty, E., McEvoy, B., Mettert, K., Lewis, C. C., Wolfenden, L., Yoong, S., Kingsland, M., Shelton, R. C., Wiltsey Stirman, S., Imad, N., Sutherland, R., & Nathan, N. (2022b). Evaluation of measures of sustainability and sustainability determinants for use in community, public health, and clinical settings: A systematic review. *Implementation Science*, 17(1). <https://doi.org/10.1186/s13012-022-01252-1>

Ives, C. D., Freeth, R., & Fischer, J. (2019). Inside-out sustainability: The neglect of Inner Worlds. *Ambio*, 49(1), 208–217. <https://doi.org/10.1007/s13280-019-01187-w>

M. M. Crossan, B. Nguyen, D. Vera, R. E. Sturm and A. R. Pardo. (2023) Leader Character in Engineering Projects: A Case Study of Character Activation, Contagion, and Embeddedness. *IEEE Transactions on Engineering Management*, 71, pp. 7088–7100, 2023, doi: 10.1109/TEM.2023.3287191.

Osberg, G., & Wamsler, C. (Eds.) (2022). *BeChange: Sustainability education and leadership development: Assessing the links between inner development and outer change for transformation*. <https://doi.org/10.17605/OSF.IO/5G78S>
PRISMA for Scoping Reviews (PRISMA-ScR). PRISMA . (n.d.). <https://www.prisma-statement.org/scoping>
United Nations. (2024). The Sustainable Development Goals Report 2024. Sustainable Development Goals. <https://unstats.un.org/sdgs/>

<report/2024/The-Sustainable-Development-Goals-Report-2024.pdf>

Washburn, I.J., Acock, A., Vuchinich, S. et al. Effects of a Social-Emotional and Character Development Program on the Trajectory of Behaviors Associated with Social-Emotional and Character Development: Findings from Three Randomized Trials. *Prev Sci* 12, 314–323 (2011). <https://doi.org/10.1007/s11121-011-0230-9>

Keywords leadership; character development; sustainability.

Dissemination plans The outputs of this scoping review will consist of a peer-reviewed journal article, a conference presentation, and a visual summary highlighting key insights. This diverse dissemination strategy aims to enhance accessibility and engagement across a wide range of audiences, including researchers, educators, and practitioners working in sustainability, leadership development, and adjacent disciplines.

Contributions of each author

Author 1 - Jody Lynn Rebek - JR contributed to the preliminary drafting of the scoping review protocol, as well as contributing to the conception and design. All authors reviewed the final version and approved the scoping review protocol.

Email: jody.rebek@algomau.ca

Author 2 - Bruni Teryn - TB contributed to the preliminary drafting of the scoping review protocol, as well as contributing to the conception and design. All authors reviewed the final version and approved the scoping review protocol.

Email: teryn.bruni@algomau.ca

Author 3 - Kira Jade Cooper - KC contributed to the preliminary drafting of the scoping review protocol, as well as contributing to the conception and design. KC and EWH prepared the final version of the manuscript. All authors reviewed the final version and approved the scoping review protocol.

Email: kira.cooper@algomau.ca

Author 4 - Enid R. Wyper-Haig - EWH contributed to the preliminary drafting of the scoping review protocol, as well as contributing to the conception and design. KC and EWH prepared the final version of the manuscript. All authors reviewed the final version and approved the scoping review protocol.

Email: ewyperhaig@algomau.ca

Author 5 - Taylor J. Barker - TJB contributed to the preliminary drafting of the scoping review protocol, as well as contributing to the conception and design. All authors reviewed the final version and approved the scoping review protocol.

Email: tbarker@algomau.ca

Author 6 - Tim Van Weerden - TVW contributed to the preliminary drafting of the scoping review protocol, as well as contributing to the conception and design. All authors reviewed the final version and approved the scoping review protocol.
Email: tim.vanweerden@algomau.ca