Education Endowment Foundation

Understanding school and classroom climate and its impact on pupil outcomes

Protocol for Review 1: Understanding and Conceptualising School and Classroom Climate

Darren Moore, Eleni Dimitrellou, Alison Bethel, Tom Ralph, Neil Harrison.

February 2026

University of Exeter

The Education Endowment Foundation is an independent charity dedicated to breaking the link between family income and education achievement. We support schools, colleges, and early years settings to improve teaching and learning for 2 – 19-year-olds through better use of evidence.

We do this by:

- **Summarising evidence**. Reviewing the best available evidence on teaching and learning and presenting in an accessible way.
- **Finding new evidence.** Funding independent evaluations of programmes and approaches that aim to raise the attainment of children and young people from socio-economically disadvantaged backgrounds. Putting evidence to use.
- **Putting evidence to use**. Supporting education practitioners, as well as policymakers and other organisations, to use evidence in ways that improve teaching and learning.

We were set up in 2011 by the Sutton Trust partnership with Impetus with a founding £125m grant from the Department for Education. In 2022, we were reendowed with an additional £137m from government, allowing us to continue our work until at least 2032.

For more information about the EEF or this report please contact:

Education Endowment Foundation
5th Floor, Millbank Tower
21–24 Millbank
SW1P 4QP

0207 802 1653

info@eefoundation.org.uk

www.educationendowmentfoundation.org.uk

Table of contents

Background and review rationale

School climate (SC) and classroom climate (CC) are consistently associated with a broad range of desirable outcomes for school pupils and staff (Moore, 2025; Wang et al., 2020). Research shows that a beneficial SC or CC is linked to small-to-medium improvements in academic achievement, motivation, engagement, and social competence, and slight reductions in externalising behaviours and socioemotional distress (Bonell et al., 2020; Daily et al., 2019; Kim et al., 2014). At staff level SC and CC are related to job satisfaction and wellbeing (Charlton et al., 2021). Positive SC and/or CC (SC/CC) are argued to be key to improving behaviour across schools (Savolainen et al., 2025; Wang & Degol, 2016). There is international policy consensus on the importance of both SC and CC for promoting school improvement and children's academic and wellbeing outcomes (Wang & Degol, 2016; Wang et al., 2020). These findings show that SC and CC are important factors influencing both education and health outcomes (Moore, 2025).

SC and CC are both well-researched areas (Renick et al., 2025), with SC dating back to 1908 (Perry, 1908), and CC examples from before 1950 (Anderson, 1939; Withall, 1949). Research on SC and CC has grown rapidly this century (Grazia & Molinari, 2021; Moore, 2025). Despite the long history of research and encouraging evidence for SC and CC, there is no universal definition of either SC or CC in the literature. Grazia & Molinari (2021) note that the field still grapples with heterogeneous labels and measurement strategies, making it hard to compare studies and draw overall conclusions. There is variation between abstract and concrete definitions of SC/CC (Freiberg & Stein, 1999; Pianta & Hamre, 2009). The literature frequently uses other terms either synonymously with or as phenomena overlapping with SC/CC. This adds complexity and necessitates considering research using terms such as school environment (Coe et al., 2022), school culture (Cross et al., 2018), school connectedness (Wang & Degol, 2016), classroom quality (Pianta & Hamre, 2009), behaviour climate (Savolainen et al., 2025), teaching climate (Görel et al., 2023), and classroom dynamics (Wang et al., 2020). Furthermore, some interventions focus on SC/CC without using either of these terms, e.g. SEHER[1] (Shinde et al., 2018); while other approaches include 'climate' in the name but may only focus on certain dimensions (Bradshaw et al., 2021).

Despite the complexity brought about by the range of conceptualisations of these terms, there is some consensus in review literature that:

1) SC and CC are multi-dimensional constructs (Wang et al., 2020),
2) both include relationships, environment, teaching and learning, and safety as key elements (Wang & Degol, 2016), and
3) they are related to each other, with CC often seen as a microsystem of SC (Moore, 2025),

However, despite some agreement across definitions and components of SC and CC, there are still opposing views and findings in the literature. Rather than a multi-dimensional construct, some researchers use simpler policy-oriented definitions, such as the quality and character of school life (Renick et al., 2025). Furthermore, while ecological systems perspectives situate CC as nested in SC (Rudasill et al., 2018), Savolainen et al. (2025) found that SC had little association with CC in Finnish schools where pupils were surveyed. When there is consensus on SC and CC as multi-component constructs, the hierarchy and scope of the multi-faceted aspects vary. For instance, some researchers focus on broader domains where agreement is stronger, such as safety, relationships and teaching practices (Baumsteiger et al., 2023). Others seek to pinpoint dimensions which are more specific indicators that operationalise domains. As an example, a domain might be relationships, whereas dimensions or indicators within this domain include peer relationships, teacher-pupil relationships, autonomy, and partnership (Wang & Degol, 2016).

To navigate this conceptual variability and ensure that potentially relevant studies are not excluded simply because they use different terminology, we adopt an inclusive working definition of SC and CC. For the purposes of study selection, we define SC and CC as the overall atmosphere of a school or classroom, shaped by domains commonly highlighted in existing literature – such as safety, relationships, teaching and learning, and the wider institutional environment. This

[1] SEHER (Strengthening Evidence base on scHool-based intErventions for pRomoting adolescent health programme in the state of Bihar, India) is a school health promotion intervention which sought to improve school climate and health-promoting behaviours

working definition enables us to determine what is in scope even when studies do not explicitly use the terms "school climate" or "classroom climate", and it provides an initial anchor point for comparing the diverse definitions, models, and measures identified in the review. Although this definition reflects patterns observed in existing reviews located during our scoping phase, it is provisional; our synthesis will refine, expand, or replace it where stronger or more coherent conceptualisations emerge.

Recent reviews consistently highlight that measurement of school and classroom climate remains inconsistent, with instruments varying widely in scope, item content, and theoretical alignment. Many tools are adapted ad hoc and few allow comparison across students, teachers, and parents. This lack of standardisation and rigorous psychometric testing limits comparability across studies and limits understanding of how climate operates differently across schools (Baumsteiger et al., 2023; Grazia & Molinari, 2021).

While many studies link positive SC/CC to better pupil outcomes, fewer have examined whole-school interventions that aim to improve these climates through everyday practice rather than isolated activities. Examples of such approaches include restorative behaviour approaches, data-driven action plans specific to school context, pupil voice in decision-making, relationship-building, and classroom management strategies that have consistently shown small beneficial effects on academic, behavioural, emotional, and attendance outcomes (Bonell et al., 2020; Cook et al., 2000; Moore, 2025; Wang et al., 2020). Meta-analyses also show that school climate interventions can produce meaningful improvements in outcomes indirectly related to teaching and learning. For example, Charlton et al. (2021) found that SC programmes significantly enhance student and teacher perceptions of climate, which underpin engagement and teaching quality. Similarly, Allen et al. (2022) and Davies et al. (2025) report that interventions fostering belonging and connectedness – often considered core dimensions of climate – are effective in strengthening student engagement and participation.

It is not always clear whether SC/CC interventions described in the literature are holistic, system-wide approaches explicitly designed to transform SC/CC, or more narrowly focused programmes that happen to influence climate-related outcomes as a secondary effect. This ambiguity is noted in reviews that group diverse interventions under the SC umbrella, even when their primary mechanisms target specific behaviours or psychosocial skills rather than the broader relational and cultural environment (Moore, 2025). As an example, climate interventions can improve belonging as an outcome, but interventions focused on emotions designed to increase belonging have been shown to improve school climate outcomes (Davies et al., 2025).

Further challenges for SC/CC interventions are ensuring that they are feasible, sustainable and equitable. This demonstrates the importance of implementation and the need to consider how SC and CC vary across contexts. Implementation of SC/CC interventions often face significant barriers, including limited teacher capacity, buy-in, acceptability and high workloads, which hinder the integration of new responsibilities (Brown, 2019). Additionally, sustainability and scalability post-trial remain problematic, with many interventions failing to maintain fidelity or impact beyond the research context. Sustaining climate interventions post-trial is challenging. Many effective models rely on external facilitation and additional capacity, and few are fully sustained at scale; where sustained, elements rather than complete programmes tend to persist (Herlitz et al., 2020; March et al., 2022; Moore, 2025).

Equity considerations also matter. Benefits of SC/CC interventions are not always felt equally across subgroups, with some trials reporting larger gains for boys and mixed patterns by deprivation (Bonell et al., 2018; Blair et al., 2024). Reviews highlight the protective role of positive climate for LGBTQ+ youth and the need to elevate underserved voices in design and evaluation (Ancheta et al., 2021). Other key equity challenges are variations across schools, with inconsistent implementation quality, structural mismatches between school environments and pupil needs, and the requirement for context-specific changes and external support, which can be barriers to sustainability (Moore, 2025; Renick et al., 2025).

Overall, the literature is rich but fragmented: there is no universal definition of SC or CC, measurement remains heterogeneous, and intervention studies vary widely in content, delivery, and context (Baumsteiger et al., 2023; Grazia & Molinari, 2021; Moore, 2025). This lack of consistency makes it hard to compare studies and draw strong conclusions. There is an urgent need to establish clearer, research-informed definitions of SC and CC due to persistent ambiguity and overlap in the literature. Without consensus, nearly any school change could be interpreted as a climate shift.

Clarifying these constructs would:

- **Synthesise similarities and differences** – for example, strength of evidence for the commonly referenced domains of relationships, environment, teaching and learning, and safety – while interrogating how CC relates to SC (e.g., as a nested microsystem) and where the two should be considered distinct.
- Provide schools with **clearer definitions and frameworks** for what constitutes a positive climate and how it can be effectively measured and achieved.
- **Advance measurement** by appraising the strength and range of measures, and by reducing duplication across domains and indicators.
- **Enhance research rigour** by aligning operational definitions with theory.
- **Support targeted intervention design** by identifying which SC and CC intervention components most predictably influence pupil outcomes, for whom and in what circumstances.

Building on clearer conceptualisation, focused evidence synthesis is needed to understand how interventions that improve SC/CC affect pupil outcomes, particularly in terms of causality, equity, and developmental fit.

Key gaps include:

- **Causal mechanisms**: Most studies show correlations, but few unpack how climate improvements lead to better outcomes such as academic achievement, engagement, wellbeing, or improved behaviour.
- **Equity**: Limited evidence reports how interventions affect different pupil groups, especially those from socio-economically disadvantaged contexts.
- **Developmental needs**: Climate interventions often overlook age-specific requirements, despite evidence that stage-environment fit is crucial for mental health and academic success (Renick et al., 2025).
- **Implementation quality, sustainability and scalability**: Capacity, buy-in, and workload barriers hinder integration; post-trial fidelity and impact frequently fade, and few models sustain at scale without external support.

Addressing these gaps through rigorous systematic review methods will strengthen the evidence base, will generate actionable, evidence-informed recommendations for schools, and can guide the design of more effective, inclusive, and developmentally appropriate SC/CC interventions. Our synthesis will explicitly connect findings to whole school frameworks and everyday practice – such as restorative approaches, classroom management, and pupil voice – to support policy and implementation in real-world 3-18 educational settings.

Our scoping work indicated that the SC/CC field has been well researched, with a large body of research attending to conceptualisation and measurement of SC/CC. In contrast, fewer studies examine the causal impact of climate interventions. Given the scale of available literature, focusing on existing reviews to conceptualise SC/CC allows us to prioritise higher-quality and more established conceptual insights while managing the breadth of material. Accordingly, we will use review literature as the primary source for identifying definitions of SC/CC and for mapping key factors and outcomes. We will supplement this with primary research and discussion papers that put forward original theories, models, frameworks or measures to ensure that original conceptual contributions are not missed.

We will conduct two systematic reviews using complementary designs to address our objectives. Review 1 , the concept review, will adopt a theory-based systematic review approach, drawing on guidance from White (2018). This design goes beyond asking whether interventions work by examining how and why they may work (investigated further in Review 2). It uses a logic model to map hypothesised causal pathways from contextual factors through components of SC and CC to outcomes. This conceptual clarity is essential for building a coherent framework that underpins subsequent evidence synthesis. Review 2 (the impact review) will be a pragmatic systematic review, informed by Pierce et al. (2025), to evaluate causal explanations of SC/CC intervention effects. This approach allows for mixed-methods integration and iterative searching to capture emerging lines of enquiry. To strengthen relevance and usability, we will seek input from an advisory group comprising school climate researchers, evidence synthesis specialists, education leaders, and young people. Their feedback will help refine our logic model and ensure that emerging insights align with authentic educational contexts.

This two-stage design is optimal because it aligns with our dual objectives: clarifying conceptual boundaries and synthesising intervention evidence. A theory-based review ensures that definitions, domains, and dimensions of SC/ CC are rigorously examined, providing the foundation for a logic model that explains mechanisms of change. The pragmatic review then builds on this model to locate, appraise and synthesise evidence for these causal pathways – not only effectiveness but also contextual moderators, implementation factors, and equity considerations. Together, these methods enable a broader scope of inquiry than traditional reviews, ensuring findings are both theoretically robust and provide insights that inform policy and guide implementation in schools.

Objectives

This section outlines the review aims, objectives and research questions. We include all objectives across both reviews here, even though this version of the protocol focuses only on methods for Review 1.

We will conduct two international systematic reviews exploring SC and CC, aiming for both conceptual clarity and evidence-based action. We will increase the efficiency and impact of these reviews by using multiple synthesis methods.

We therefore **aim** to advance understanding of SC and CC by

(1) developing a clear, research-informed conceptual framework to address definitional ambiguity, and
(2) identifying effective, evidence-based approaches that improve pupil outcomes, while exploring any differential effects by subgroups.

The overarching goal is to support practice and policy by generating practical, actionable recommendations for educators in England, grounded in robust evidence. This work recognises that SC and CC may both relate to aspects of school leadership and teaching quality, meaning findings should speak to different school staff.

The **objectives** are therefore:

Conceptual Clarity: To critically review and synthesise existing definitions of SC and CC, identifying key domains and dimensions to develop a coherent conceptual framework.

Framework Development: To construct a research-informed logic model of SC and CC that supports consistent measurement and theoretical alignment across studies.

Evidence Synthesis: To systematically examine the impact of SC and CC interventions on pupil outcomes, including academic achievement, and non-cognitive outcomes such as wellbeing and belonging.

Mechanisms of Change: To explore the causal pathways and mechanisms through which climate interventions influence pupil outcomes, including mediating and moderating factors.

Equity and Inclusion: To assess how climate interventions affect different pupil groups, with particular attention to equity, inclusion, and the reduction of disparities.

Actionable Findings: To generate evidence-informed, context-sensitive insights for school leaders and teachers that are feasible to implement and sustain in real-world settings.

Review questions that relate to each systematic review are as follows:

<u>1. Concept Review:</u>

RQ1: How are school climate and classroom climate defined in the literature, how are they related yet distinct from similar constructs, and what conceptual framework can clarify their key domains, dimensions, and interrelationship?

RQ2: What organisational, relational, and contextual factors shape effective school and classroom climates, and how do these factors – and their outcomes – differ across schools and classrooms serving diverse pupil groups?

<u>2. Impact Review:</u>

RQ3: How are the key components of a positive school or classroom climate reflected through intervention strategies in educational research?

RQ4: What combinations of school climate and classroom climate intervention components and contextual factors are causally linked to improvements in key outcomes, like attainment or engagement?

RQ5: How do the effectiveness and implementation of school and classroom climate interventions vary across different school phases, settings, and populations – particularly in relation to age, socio-economic disadvantage, SEND, Children in Care and other forms of inequality?

RQ6: How does the research literature help to answer key questions, such as:

- Which school and classroom climate interventions have demonstrated effectiveness in improving pupil outcomes, including cognitive (e.g., attainment) and non-cognitive (e.g., wellbeing, engagement, behaviour) domains?
- What is the relationship between pupil and teacher self-efficacy and pupil outcomes, and how can improvements in pupil self-efficacy contribute to enhanced academic and socioemotional development?
- In what ways do teacher actions—particularly responsiveness to pupil needs—support high-quality teaching and learning, and how can these practices be leveraged to strengthen pupil self-efficacy and outcomes?
- What conditions and strategies support the successful implementation and long-term sustainability of school and classroom climate interventions in diverse educational settings?

This protocol next moves onto specifying the methodology for Review 1 – the concept review – and also indicates how Review 1 will inform Review 2 – the impact review. A further version of the protocol to be published in mid-2026 will update this to confirm the methods used in Review 1 and then specify methods to be used for Review 2.

Methodology

We will undertake two systematic reviews of SC and CC. The first systematic review, which is outlined in this protocol, will focus on conceptualising SC and CC. The second systematic review examines how interventions aimed at improving SC/CC affect pupil outcomes. Our proposed systematic reviews will follow best practice conduct and reporting guidelines (Akers et al., 2009; Aloe et al., 2024; Page et al., 2021), including extensions relating to equity (Tong et al., 2012).

Methodologically, Review 1 is a theory-based systematic review and as such we will draw upon guidance from White (2018) on conducting this type of review. A theory-based systematic review is an approach that goes beyond asking "what works?" to explore how, why, for whom, and under what conditions interventions work. It is anchored in a logic model, which maps the hypothesised causal pathways linking intervention inputs to outputs, intermediate outcomes, and final impacts, while making explicit the assumptions and contextual factors that influence these links. Conceptual clarity is the foundation for a theory-based review because it ensures the logic model reflects the real intervention system rather than an abstract label. Therefore, a well-defined conceptualisation of the phenomenon, in this case SC and CC, is the essential, but often underplayed, starting point for a theory-based systematic review. Clear definition ensures that the logic model accurately captures the intended outcomes, mechanisms, and contextual factors, providing a coherent framework for selecting indicators and structuring the review.

Methodologically, theory-based reviews differ from traditional systematic reviews in several ways: they typically adopt a mixed-methods design, integrating quantitative evidence on effects with qualitative and process data to explain mechanisms, implementation fidelity, and contextual moderators. They often analyse outcomes at multiple points along the causal chain rather than focusing solely on end impacts to capture complexity and heterogeneity. This framework guides the formulation of review questions, the selection of outcomes, and the synthesis of evidence across the causal chain, and therefore will be employed as an analytical lens for examining the SC/CC intervention research literature in Review 2.

A theory-based systematic review will be conducted that locates and selects evidence that includes definitions, dimensions and domains of SC/CC from existing reviews, as well as theory, frameworks, models, and measures of SC/CC put forward in the wider literature. We will therefore search for two sets of studies. Firstly, we will search for reviews of SC/CC that may relate to interventions, measures or conceptualisation. We will extract and synthesise definitions and

conceptualisations of SC and CC from the reviews. Then we will search for theories, models, frameworks and measures (TMFMs) of SC/CC that are described or applied in research focused on education settings (3-18 years). For an example of a model of SC see Appendix 2. For an example of a measure of SC see Appendix 3. This will not be restricted to reviews of existing literature, as we will seek to locate the papers that put forward the TMFMs. Some of the reviews (first set of studies) may themselves establish TMFMs and therefore will be relevant here too. Likewise, papers that forward TMFMs are likely to provide definitions and conceptualisations of SC/CC. Extracting definitions and conceptualisations of SC/CC from this literature will allow us to synthesise a definitions of SC and CC that clarifies these concepts by critically evaluating existing definitions, identifying their essential components, and determining key domains and boundaries to establish a coherent framework applicable across educational phases. Further synthesis of TMFMs will allow us to map contextual factors, intervention components, and their links to short-, medium-, and long-term outcomes through a logic model.

Inclusion and exclusion criteria for the review

This section sets out the eligibility criteria that will guide the inclusion and exclusion of studies in Review 1. These criteria ensure that the evidence selected is relevant, rigorous, and aligned with the review objectives, while maintaining transparency about the rationale for any exclusions. Within these criteria, the term *study* refers to a range of publications, encompassing systematic reviews, as well as primary research and development and discussion papers related to TMFMs. Some typical criteria are not relevant to a theory-based systematic review (e.g. intervention, population). Review 2, which focuses on intervention research, will additionally specify the population/sample and intervention of interest.

Category	Criteria
Context/setting	*Include* studies primarily conducted in school settings. Evidence based on wider system-level stakeholders (e.g., local authorities, multi-academy trusts) that meets other criteria will be *included*. *Exclude* studies that are very different to the English education system: 1. **Pedagogical Approach** ○ Exclude studies from systems where rote learning and memorisation dominate classroom practice, leaving little scope for interaction or student voice. 2. **Teacher Authority and Role** ○ Exclude contexts where teacher authority is highly hierarchical and prescriptive, and teachers have minimal autonomy to shape CC. 3. **Resource Constraints** ○ Exclude studies from settings with severe resource limitations (e.g., very large class sizes, lack of basic materials) that fundamentally alter classroom dynamics. 4. **Cultural Norms** ○ Exclude systems where cultural expectations strongly discourage student participation, questioning, or collaborative learning. *Exclude* nursery childcare and Higher Education settings.
Study design	*Include* any study type (ranges from systematic review to discussion paper and practice guidelines). Include reviews that report how they searched for literature. Although most searches will be systematic and reproducible by different researchers, we will also include searches that might focus on index papers or snowball sampling, for instance when reviewers are starting from key authors' definitions. *Exclude* book reviews, conference abstracts. It is unlikely that editorials and opinion papers will provide a new TMFM, but we will include any that do.
Phenomena of interest	*Include* studies that focus on SC and CC. Our inclusive definition of the phenomena is the overall atmosphere of a school or classroom which may be shaped by safety, relationships, teaching and learning, and the institutional environment. SC/CC may not be the only focus of studies - the focus can be one or more SC/CC domains or SC/CC as an outcome.

	Focus means SC/CC is a prominent part of the study aim and/or findings. Most studies will use the term SC/CC or similar variants. Where this is not the case there must be conceptual overlap with included studies using the terms.
Outcomes	*Include* studies that provide at least one of: • review findings about SC/CC • theory, model or framework of SC/CC • measure of SC/CC. To be *included,* non-review studies will need to be the original report of that version of the theory, model, framework or measure. Therefore, *exclude* studies citing or using previously published TMFM, unless extending the TMFM, although these studies will be used to locate the original reports.
Language	*Include* English language studies only.
Date	*No date restrictions*
Publication status	*No publication type restrictions*

The review is interested in 3-18 year old school settings, so would include pre-school but not Higher Education or 0-2 years childcare. Synthesis must hold relevance to the English education system, so very different school contexts may be excluded. However, non-mainstream provision will be included as we are interested in how SC/CC varies across contexts and for different pupil groups. Our scoping search indicated that more research literature has attended to the conceptualisation of SC and CC, compared to the effectiveness of climate interventions (Review 2). To manage the amount of relevant literature and prioritise higher quality and authentic conceptualisation, we will focus on reviews for definitions of SC/CC and initial identification of factors and outcomes. As TMFMs will conceptualise and indicate dimensions of SC/CC, non-review studies will also be included, but we will locate original reports of TMFMs to include fuller description and justification and avoid duplication. We know from our scoping searches that most research refers to SC/CC directly, but some studies may use other related terms (see search strategy) or focus on domains of SC/CC or its measure only. Only English-language studies are included to ensure conceptual accuracy without depending on translations. As SC/CC has been considered in literature for 75+ years we would not wish to exclude any seminal conceptualisations or original ideas that inform more contemporary definitions and understandings. We will include grey literature, as TMFs may well be published outside of academic journals. Quality appraisal will shape interpretation and synthesis, ensuring evidence strength is considered throughout but not as a reason to exclude studies (see below).

Search strategy for identification of studies

We will search the following bibliographic databases: PsycINFO, Social Policy and Practice via Ovid; ERIC, British Education Index, Education Research Complete via EBSCOhost; Cochrane Database of Systematic Reviews; Campbell Systematic Reviews; Social Science Citation Index via Web of Science; Australian Education Index, ProQuest Dissertations & Theses Global, Education Database, Social Science Database via ProQuest, and Bibliomap.

We will use a search strategy that balances sensitivity with precision, designed by our experienced information specialist using a combination of relevant subject headings, when available, and free text terms. Sets of terms are included that relate to the following inclusion criteria:

- School climate terms (including culture, environment and belonging), e.g. school* climat*, school* culture*, school* belong*, school* environment*
- Classroom climate terms (including culture, environment and belonging) , e.g. class* climat*, class* culture*, class* belong*, class* environment*
- Review terms, e.g. review*, meta-analys?s, evidence synthesis
- Theory, model, framework, measure terms, e.g. assess* or concept* or framework* or instrument*

To be retrieved by the search, a term relating to either SC or CC needs to be used in title, abstract or subject heading, as well as a term relating to either reviews or TMFMs. Compared to the scoping search, we have removed terms related to "ethos" as this was not contributing results, inclusion as e.g. inclusive school climate will still be retrieved, but most research on inclusive practice was not relevant. We have decreased proximity of e.g. school and climate to include fuller terms like classroom behaviour climate. We have restricted use of the subject heading "school environment" so the search does not return all research located in school settings.

A search strategy as used for the database PsycINFO is in Appendix 1.

We will conduct searches for grey literature from web searches, repositories of grey literature (e.g. The WHO Institutional Repository for Information Sharing, CORE), and websites (e.g. The National School Climate Center; Restorative Justice Council). Where necessary we will use the terms “school climate” and “classroom climate” to narrow these searches.

We will use supplementary search methods to identify any studies not captured by our sensitive database searches. We will review the reference lists of existing systematic reviews, contact authors and experts, forward and backward citation search included studies and perform targeted searches using author names. We will hand-search journals that published included studies not indexed in databases searched.

Selection of studies

Search results will be deduplicated and uploaded to EPPI-Reviewer software. Reviewers will screen independently, assisted by EPPI-Reviewer’s priority screening functionality. Study selection will involve title and abstract screening and then full text screening in line with inclusion criteria as indicated above. This will be completed by two independent reviewers, with disagreements referred to a third reviewer. All reviewers will pilot a set of title and abstract and full text screening to align decisions and interpretation of inclusion criteria at the start of each screening stage. Inclusion criteria will be refined as necessary to ensure clarity and increase agreement. We will also use flow diagrams to aid screening decisions and bring consistency to the process followed. Results of the screening process will be documented using a PRISMA-style flow chart.

Data extraction and management

Data extraction will focus on details of both the included study and the conceptualisations of SC/CC described in them. Two reviewers will independently extract data for all included studies using standardised, piloted forms, with discrepancies resolved through discussion or consultation with a third reviewer. The piloting will involve 10 diverse studies. For all studies, we will extract information on study details, study design and methods, definition of SC/CC, TMFM, measurement details, factors relating to SC/CC, intervention details from reviews, outcomes as relevant. We will use EPPI-Reviewer for this data extraction.

Appraisal of included studies

We will assess and report study quality. Two reviewers will assess the quality of each study. We will use the JBI Critical Appraisal Checklist for Text and Opinion for a standardised and transparent appraisal of all studies that might introduce either theories, models, frameworks or measures of SC/CC (McArthur et al., 2025). This assumes a range of study designs including non-empirical studies and may be amended to a tool for primary research if there is not this range. To assess the quality of any included systematic reviews we will use "A Measurement Tool to Assess Systematic Reviews-2" (AMSTAR-2, Shea et al., 2017). AMSTAR-2 classifies the quality of systematic reviews into four different categories: high (none or one non-critical weakness), moderate (more than one non-critical weakness), low (one critical weakness with or without non-critical weaknesses), and very low (more than one critical weakness with or without non-critical weaknesses). The quality assessment of each study will be rated by one reviewer and checked by another.

Appraisal will be used to inform and guide the synthesis, not as a reason to exclude studies. The quality appraisal will be considered in the synthesis, as it will be important to maintain awareness of the quality of reviews and other studies, so as not to privilege common definitions or domains of SC/CC that are based on weaker studies.

In relation to assessing the quality and confidence in our review findings, there is a methodological gap for tools to assess the quality of logic models: no Grading of Recommendations Assessment, Development and Evaluation (GRADE) assessment equivalent exists to assess the quality and confidence of evidence on which the conceptualisation and logic model of SC/CC is based. This means it will be important to reflect on the following markers of quality in reporting:

- Updating the model based on evidence
- Transparency about iterations and assumptions

- Stakeholder feedback and revision
- Useability
- Methodological soundness
- Relevance and rigour of evidence on which conceptualisation is based
- Coherence.

As outlined in the data synthesis section, the logic model will guide Review 2 and be updated based on intervention evidence. This means the Review 1 logic model is not a finished article and the quality markers will be even more critical in Review 2.

Data synthesis

Two synthesis methods will be used to analyse included studies to answer the review questions and help conceptualise SC/CC for Review 2 to build on.

Initial descriptive synthesis (text and tables to provide an initial descriptive summary and explanation of the characteristics of the included studies, Akers et al., 2009) will report the definitions given in included studies, TMFMs used in included studies with brief descriptions, including domains.

Synthesis 1: Systematic Review of Definitions. A systematic review of definitions is a structured process for identifying, collating, and critically analysing how key concepts have been defined in existing literature. Its purpose is to bring conceptual clarity and establish a shared understanding of terms that are inconsistently or ambiguously used. By systematically reviewing definitions, researchers can identify commonalities, divergences and gaps, and propose criteria or frameworks that support consensus-building.

Gillett-Swan et al. (2025) used this approach to address the lack of agreed definitions for subtypes of rights education for children. The authors' systematic review located peer-reviewed articles that defined or described concepts such as children's rights education and children's human rights education. They then analysed these definitions against criteria (Joseph's rules for defining terms: see below) to assess their sufficiency and consistency. This process enabled the authors to highlight definitional gaps and propose a mechanism for evaluating and creating definitions for ill-defined concepts. We will draw upon their methods to review definitions of SC/CC.

Philosopher HWB Joseph proposed six rules for constructing a sound definition that we believe are highly relevant to defining SC and CC clearly:

1. Capture the essence of what is being defined.
2. Provide distinguishing features so instances can be identified.
3. Be commensurate—apply to everything in the category and nothing outside it.
4. Avoid circularity (don't define a term by itself).
5. Use positive terms rather than negatives.
6. Avoid obscure or figurative language.

For example, a weak definition of classroom climate might say:
"Classroom climate is the culture, atmosphere and climate in the classroom."
This violates Rule 4 (circularity) and Rule 1 (doesn't capture essence).
Synthesising definitions from literature involves moving beyond listing them or indicating the most frequent definitions to identifying patterns, overlaps, distinctions and gaps. This is anticipated to include:

1. Grouping by Conceptual Focus
   Organise definitions according to whether they emphasise *content* (what school/classroom climate is), *process* (how it is enacted), or *purpose* (why it matters). This mirrors the "what, how, why" coding used in the Gillett-Swan et al. (2025) review.

2. Mapping Common Features and Divergences
   Create a matrix to compare definitions across dimensions such as scope (school vs classroom), framing (psychological, sociological, policy), and attributes (e.g., relationships, safety, teaching practices). This helps reveal which elements recur and which are contested. We will also explore whether one definition of each concept holds across different phases and fits the English education system.

3. Applying Definitional Criteria
   Assess each definition against agreed criteria (e.g., SC/CC focused adaptations of Joseph's rules) to determine whether it captures the essence of the concept, avoids circularity, and uses clear, positive language. This step highlights which definitions are robust and which are partial or descriptive.

4. Developing an Integrative Framework
   Use insights from the comparison to propose a conceptual framework or umbrella definition that accommodates essential features while distinguishing subtypes. For example, SC might be positioned as an overarching construct with CC as a nested component. This will move beyond definitions located in reviews, to consider existing models and frameworks. If the synthesis indicates that SC and CC cannot be meaningfully integrated into a single framework, we will produce separate outputs for each construct to preserve conceptual clarity.

5. Visual Representation
   Where possible to aid clarity, we will diagram relationships (e.g., umbrella structure) to show how different conceptualisations fit together. This may involve drawing upon or adapting existing models and frameworks located in included studies. For an example from Gillett-Swan et al.'s review, see Appendix 4.

The synthesis will therefore produce:

- A comprehensive map of existing definitions and their characteristics.
- An analysis of definitional gaps and inconsistencies.
- A proposed framework or set of criteria for defining SC and CC, supporting greater conceptual clarity and consistency

This synthesis helps answer Review Question 1 (How are school climate and classroom climate defined in the literature, how are they related yet distinct from similar constructs, and what conceptual framework can clarify their key domains, dimensions, and interrelationship?).

Synthesis 2: We will use Causal Chain Analysis (CCA), which has been well used in theory-based systematic reviews (Kneale et al., 2018; White, 2018). Causal chain analysis will guide the construction of a logic model in our theory-based review because it provides a structured way to hypothesise and depict the links between intervention components, contextual factors, and outcomes. We will map initial evidence along these causal chains to identify where effects occur, where assumptions hold, and where gaps exist in relation to SC/CC, ensuring that the resulting logic model is both evidence-informed and policy-relevant. This approach enhances transparency and helps explain how and under what conditions SC/CC interventions work. This will be further assessed in Review 2.

To construct a logic model using CCA principles, we will use the output of synthesis 1 to start with clear definitions of SC and CC. Then we will use our included literature to help conceptualise how SC/CC interventions are theorised to influence outcomes. Following guidance from White (2018) and Kneale et al. (2018), we will work backwards from distal outcomes to identify intermediate steps, outputs, and assumptions. We will map hypothesised causal pathways, articulate underlying assumptions, and consider contextual factors such as teacher practices, peer relationships, and school policies. The initial model will be grounded in the literature, drawing on TMFMs and review findings to ensure plausibility and relevance. If SC and CC cannot be combined into a single conceptual framework, we will develop separate logic models for each construct to maintain clarity and relevance. An example logic model constructed in this way from Kneale et al. (2018) can be seen in Appendix 5.

We will use included literature to populate the model with evidence-informed links. This process will allow us to identify gaps, potential moderators, and unintended effects, ensuring the model remains transparent and adaptable. We will document decisions and seek input from our advisory group to strengthen validity and usability for subsequent refinement and testing of the logic model in Review 2.

The steps for drafting the logic model following CCA will include:

1. Define the scope: Use the systematic review of definitions synthesis to clarify what is meant by "school climate" and "classroom climate" (e.g. dimensions, constructs).
2. Identify distal outcomes: Specify the ultimate goals (e.g., academic achievement, pupil wellbeing).
3. Work backwards: intermediate outcomes and outputs (e.g., engagement, teacher-student relationships).
4. Map intervention components: Use dimensions indicated in included studies.
5. Articulate assumptions: Note conditions required for links to hold (e.g., fidelity, cultural context).
6. Include contextual factors: Identify moderators (e.g., socioeconomic status, pupil phase).
7. Record supporting evidence: Extract findings from TMFMs and reviews to justify each link.
8. Represent complexity as relevant: Incorporate feedback loops, multiple pathways, and potential unintended effects.
9. Document gaps and uncertainties: Highlight areas where evidence is weak or absent based on reviews and TMFMs.
10. Iterate and validate: Revise the model as new insights emerge; consider advisory group review for relevance.

By synthesising evidence across studies, CCA will help us predict not just whether SC/CC interventions work, but how and why they work, for whom, and under what conditions. This can then be assessed in intervention literature in Review 2. This synthesis helps answer Review Question 2 (What organisational, relational, and contextual factors shape effective school and classroom climates, and how do these factors – and their outcomes – differ across schools and classrooms serving diverse pupil groups?).

Reporting

The evidence review final report will present methods and findings for both reviews in full. The final report will be structured in a similar way to this protocol with overall background and rationale and evidence review objectives. It will then present methods and finding for each review in turn. The final report will have a discussion and conclusion chapter which will bring together key messages from across the reviews that indicate overall judgements on the quality (or certainty) of the evidence base for a finding or recommendation.

Although there will not be an earlier, separate written report of Review 1, the key outputs from the synthesis outlined above will be shared with EEF and our advisory group for feedback. This will be important because the conceptualisation of SC/CC and the logic model will determine what is in scope for Review 2. It will also highlight where primary intervention research is required – either to test the causal links proposed in the logic model or to address gaps revealed in the review and conceptual literature.

Registration

Once finalised, this protocol will be published on the EEF website. We will maintain a record of any amendments to the protocol that are made and update this when we produce the protocol for Review 2. That protocol will therefore add to this one with such updates.

Timeline

A high-level timeline is included below with a more detailed timeline provided in Appendix 6.

Table 1: Timeline

Dates	Activity	Staff responsible / leading
December – January 2026	Publish Protocol	DM
December – January 2026	Run Search	AB/DM
January - February 2026	Study selection	DM and research team
February 2026	Data extraction and quality appraisal	DM and research team
March 2026	Descriptive synthesis	DM and research team
March 2026	Definitions synthesis	DM
March - May 2026	CCA logic modelling	DM
April – May 2026	Review 1 outputs	DM

Team

The Review 1 team and their roles are listed below. All members are from the University of Exeter.

Darren Moore – Project oversight, supervise researchers, methods design and analysis across reviews. Lead report writing with editing support from all
Eleni Dimitrellou – Systematic review methods, Quality assurance, Interpretation of findings, socioemotional learning and belonging expertise
Alison Bethel – Information Specialist. Search strategy design and execution, systematic review methods
Simon Benham-Clarke – Researcher: study selection, data extraction, quality appraisal, synthesis.
Katherine Gulliver – Researcher: study selection, data extraction, quality appraisal, synthesis.
To be Recruited – Researcher: study selection, data extraction, quality appraisal, synthesis.
Tom Ralph – disadvantaged pupils expertise, school engagement, knowledge translation, interpretation of findings
Neil Harrison – Trauma-Informed Expertise, interpretation of findings

We have established an advisory group to guide the design and interpretation of the review. This group brings together experts in SC research, evidence synthesis methods, and practical implementation in schools. It also includes education leaders and a youth advisory panel to ensure that findings are relevant, feasible, and informed by real-world perspectives. We will engage group members flexibly and therefore are unlikely to hold meetings of the whole, diverse group. We will share emerging insights with the advisory group throughout the project to help refine the logic model and identify the most promising approaches for improving SC and CC in the English educational context.

Conflicts of interest

The work described in this protocol is being undertaken by researchers at the University of Exeter and funded by the EEF. The views expressed are those of the authors and not necessarily those of the EEF. There are no conflicts of interest to report.

References

Akers, J., Aguiar-Ibáñez, R., & Baba-Akbari, A. (2009). *Systematic reviews: CRD's guidance for undertaking reviews in health care*. Centre for Reviews and Dissemination, University of York.

Aldridge, J., & Ala'I, K. (2013). Assessing students' views of school climate: Developing and validating the What's Happening In This School?(WHITS) questionnaire. *Improving schools*, *16*(1), 47-66.

Allen, K. A., Jamshidi, N., Berger, E., Reupert, A., Wurf, G., & May, F. (2022). Impact of school-based interventions for building school belonging in adolescence: A systematic review. *Educational Psychology Review*, *34*(1), 229-257. https://doi.org/10.1007/s10648-021-09621-w

Aloe, A. M., Dewidar, O., Hennessy, E. A., Pigott, T., Stewart, G., Welch, V., Wilson, D. B., & Campbell MECCIR Working Group. (2024). Campbell standards: Modernizing Campbell's methodologic expectations for Campbell Collaboration intervention reviews (MECCIR). *Campbell Systematic Reviews, 20*(4), e1445. https://doi.org/10.1002/cl2.1445

Ancheta, A. J., Bruzzese, J. M., & Hughes, T. L. (2021). The impact of positive school climate on suicidality and mental health among LGBTQ adolescents: A systematic review. *The Journal of School Nursing*, *37*(2), 75-86. DOI: 10.1177/1059840520970847

Anderson, H. H. (1939). The measurement of domination and of socially integrative behavior in teachers' contacts with children. *Child Development*, *10*, 73–89.

Baumsteiger, R., Hoffmann, J. D., Seibyl, J., Rose, B., & Brackett, M. A. (2023). A systematic review of secondary school climate assessments. *Educational Psychology Review*, *35*(2), 47. https://doi.org/10.1007/s10648-023-09748-y

Blair, S., Henderson, M., McConnachie, A., McIntosh, E., Smillie, S., Wetherall, K., . . . & Elliott, L. (2024). The social and emotional education and development intervention to address wellbeing in primary school age children: The SEED cluster RCT. *Public Health Research*, 12, 1–173

Bonell, C., Allen, E., Warren, E., McGowan, J., Bevilacqua, L., Jamal, F., . . . & Mathiot, A. (2018). Effects of the learning together intervention on bullying and aggression in English secondary schools (INCLUSIVE): A cluster randomised controlled trial. *The Lancet*, 392, 2452–2464

Bonell, C., Dodd, M., Allen, E., Bevilacqua, L., McGowan, J., Opondo, C., . . . & Viner, R. M. (2020). Broader impacts of an intervention to transform school environments on student behaviour and school functioning: Post hoc analyses from the INCLUSIVE cluster randomised controlled trial. *BMJ Open*, *10*, e031589.

Bradshaw, C. P., Cohen, J., Espelage, D. L., & Nation, M. (2021). Addressing school safety through comprehensive school climate approaches. *School psychology review*, *50*(2-3), 221-236.

Brown, C. S. (2019). The Importance, and the Challenges, to Ensuring an Inclusive School Climate. *Educational Psychologist*, 54(4), 322–330. DOI: 10.1080/00461520.2019.1655646

Charlton, C. T., Moulton, S., Sabey, C. V., & West, R. (2021). A systematic review of the effects of schoolwide intervention programs on student and teacher perceptions of school climate. *Journal of Positive Behavior Interventions*, *23*(3), 185-200. https://doi.org/10.1177/1098300720940168

Coe, R., Kime, S, & Singleton, D. (2022) *School Environment & Leadership: Evidence Review*. Evidence Based Education. https://evidencebased.education/school-environment-leadership/

Cook, T. D., Murphy, R. F., & Hunt, H. D. (2000). Comer's school development program in Chicago: a theory-based evaluation. *American Educational Research Journal*, *37*, 535–597.

Cross, D., Shaw, T., Epstein, M., Pearce, N., Barnes, A., Burns, S., . . . & Runions, K. (2018). Impact of the friendly schools whole-school intervention on transition to secondary school and adolescent bullying behaviour. *European Journal of Education*, *53*, e0001

Daily, S. M., Mann, M. J., Kristjansson, A. L., Smith, M. L., & Zullig, K. J. (2019). School climate and academic achievement in middle and high school students. *Journal of School Health*, *89*(3), 173–180.

Davies, C. A., Cordier, R., Graham, P., Littlefair, D., Speyer, R., & Melo, D. (2025). Interventions to Improve Connectedness, Belonging, and Engagement in Secondary Schools: A Systematic Review and Meta-Analysis. *Education Sciences*, *15*(5), 582. https://doi.org/10.3390/educsci15050582

Freiberg, H. J., & Stein, T. A. (1999). Measuring, improving and sustaining healthy learning environments. In H. J. Freiberg (Ed.), *School climate: Measuring, improving and sustaining healthy learning environments* (pp. 11–29). Falmer Press.

Gillett-Swan, J., Monta, C. C., & Shanks, R. (2025). A systematic review of definitions of rights education for children: Children's rights education (CRE), children's human rights education (CHRE), and other rights education subtypes. *Review of Education*, *13*(3), e70104.

Görel, G., Franzen, K., & Hellmich, F. (2024). Primary school teachers' perspectives on the quality of inclusive education. *Teachers and Teaching*, *30*(3), 327-340. https://doi.org/10.1080/13540602.2023.2252347

Grazia, V., & Molinari, L. (2021). School climate multidimensionality and measurement: A systematic literature review. *Research Papers in Education*, *36*(5), 561-587. https://doi.org/10.1080/02671522.2019.1697735

Herlitz, L., MacIntyre, H., Osborn, T., & Bonell, C. (2020). The sustainability of public health interventions in schools: A systematic review. *Implementation Science*, 15, 1–28

Kim, H. Y., Schwartz, K., Capella, E., & Seidman, E. (2014). Navigating middle grades: Role of social contexts in middle grade school climate. *American Journal of Community Psychology*, *54*, 28–45.

Kneale, D., Thomas, J., Bangpan, M., Waddington, H., & Gough, D. (2018). Causal chain analysis in systematic reviews of international development interventions.

March, A., Stapley, E., Hayes, D., Town, R., & Deighton, J. (2022). Barriers and facilitators to sustaining school-based mental health and wellbeing interventions: A systematic review. *International Journal of Environmental Research and Public Health*, 19, 3587

McArthur, A., Cooper, A., Edwards, D., Klugarova, J., Yan, H., Barber, B. V., ... & Jordan, Z. (2025). Textual evidence systematic reviews series paper 3: critical appraisal of evidence from narrative, opinion, and policy. *JBI Evidence Synthesis*, *23*(5), 833-839.

Moore, G. (2025). Annual research review: Improving school climate to improve child and adolescent mental health and reduce inequalities. *Journal of Child Psychology and Psychiatry*. Advance online publication. https://doi.org/10.1111/jcpp.70061

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., & Chou, R. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ, 372*, n71. https://doi.org/10.1136/bmj.n71

Perry. (1908). *The management of a city school*. The Macmillan Company.

Pianta, R. C., & Hamre, B. K. (2009). Conceptualization, measurement, and improvement of classroom processes: Standardized observation can leverage capacity. *Educational Researcher*, *38*, 109–119.

Pierce, M., Bai, Y., Taxiarchi, V., & Hugh-Jones, S. (2025). *Understanding drivers of recent trends in young people's mental health – Technical Report* (Technical Report). University of Manchester. https://youthfuturesfoundation.org/wp-content/uploads/2025/07/Technical-Report-Understanding-drivers-of-recent-trends-in-young-peoples-mental-health_University-of-Manchester_UCL_July-2025.pdf

Rees, R., Oliver, K., Woodman, J., & Thomas, J. (2011). The views of young children in the UK about obesity, body size, shape and weight: A systematic review. *BMC Public Health, 11*(1), 188. https://doi.org/10.1186/1471-2458-11-188

Renick, J., Reich, S. M., & Phan, H. K. (2025). Towards developmentally informed school climate research. *Contemporary School Psychology*. Advance online publication. https://doi.org/10.1007/s40688-025-00565-4

Rudasill, K. M., Snyder, K. E., Levinson, H., & L. Adelson, J. (2018). Systems view of school climate: A theoretical framework for research. *Educational psychology review*, *30*(1), 35-60. https://doi.org/10.1007/s10648-017-9401-y

Savolainen, P., Korhonen, E., Närhi, V., Kärkkäinen, S., & Savolainen, H. (2025). Factors affecting the behavioral climate in elementary school classrooms. *Scandinavian Journal of Educational Research*, 1-15. https://doi.org/10.1080/00313831.2025.2554728

Shea, B. J., Reeves, B. C., Wells, G., Thuku, M., Hamel, C., Moran, J., Moher, D., Tugwell, P., Welch, V., Kristjansson, E., & Henry, D. A. (2017). AMSTAR 2: A critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. *BMJ, 358*, j4008. https://doi.org/10.1136/bmj.j4008

Shinde, S., Weiss, H. A., Varghese, B., Khandeparkar, P., Pereira, B., Sharma, A., ... & Patel, V. (2018). Promoting school climate and health outcomes with the SEHER multi-component secondary school intervention in Bihar, India: a cluster-randomised controlled trial. *The Lancet*, *392*(10163), 2465-2477.

Tong, A., Flemming, K., McInnes, E., Oliver, S., & Craig, J. (2012). Enhancing transparency in reporting the synthesis of qualitative research: ENTREQ. *BMC Medical Research Methodology, 12*, 181. https://doi.org/10.1186/1471-2288-12-181

Wang, M.-T., & Degol, J. L. (2016). School climate: A review of the construct, measurement, and impact on student outcomes. *Educational Psychology Review*, *28*(2), 315–352.

Wang, M.-T., Degol, J. L., Amemiya, J., Parr, A., & Guo, J. (2020). Classroom climate and children's academic and psychological wellbeing: A systematic review and meta-analysis. *Developmental Review*, *57*, 100912.

White, H. (2018). Theory-based systematic reviews. *Journal of Development Effectiveness*, *10*(1), 17–38. https://doi.org/10.1080/19439342.2018.1439078

Withall, J. (1949). The development of a technique for the measurement of social-emotional climate in classrooms. *The Journal of Experimental Education*, *17*, 347–361.

Appendices

Appendix 1: Example Search Strategy (APA PsycINFO)

APA PsycInfo <1806 to January 2026 Week 2>

1 ((class* or kinderg* preschool* or pre school* or school*) adj3 (climate* or culture*)).ti,ab. 13124
2 ((class* or school*) adj2 (belong* or connect* or engage*)).ti,ab. 9095
3 (environment* adj2 (class* or school*)).ti,ab. 13671
4 (climate* or culture*).ti,ab. 227991
5 3 and 4 1837
6 exp School Environment/27135
7 1 or 2 or 5 or 6 43911
8 review*.ti. 207598
9 ("meta-analys?s" or metaanalys?s).tw. 61312
10 (data adj extraction).ab. 4338
11 (evidence adj2 map*).ti,ab. 386
12 ((collaborative or evidence or integrative or interpretive or meta or mapping or mixed method* or narrative* or qualitative* or quantitative or rapid or scoping or systematic* or systematized) adj2 review*).ab. 90159
13 ((evidence or integrative or interpretive or mixed method* or narrative* or qualitative* or quantitative or thematic) adj2 synthesis*).ti,ab. 8684
14 exp "literature review"/ 24026
15 8 or 9 or 10 or 11 or 12 or 13 or 14 293195
16 **7 and 15 1348**
17 ((climate* or culture*) adj3 (assess* or concept* or framework* or instrument* or measure* or model* or questionnaire* or survey* or theor* or tool*)).ti,ab.14755
18 (environment* adj2 (assess* or concept* or framework* or instrument* or measure* or model* or questionnaire* or survey* or theor* or tool*)).ti,ab. 11702
19 (assess* or concept* or framework* or instrument* or measure* or model* or questionnaire* or survey* or theor* or tool*).ti. 638270
20 (climate* or culture* or environment*).ti. 110068
21 19 and 20 11984
22 17 or 18 or 21 33771
23 **7 and 22 2687**
24 **16 or 23 3965**

School climate and classroom climate terms
Review terms
Theory, model, framework, measure terms

Appendix 2: Example Model of School Climate (Wang & Degol, 2016)

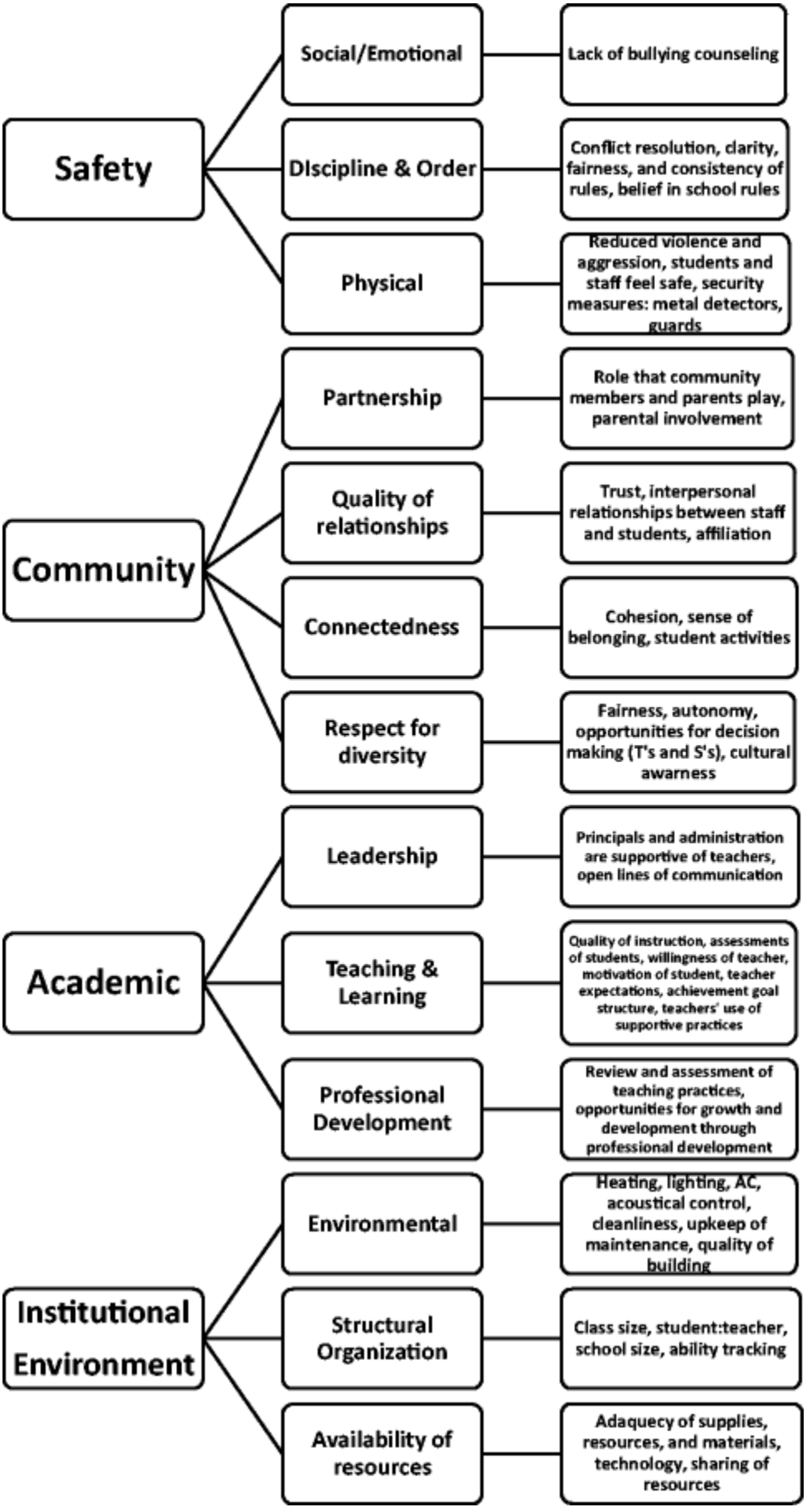


Figure 1. The conceptualization and categorization of school climate. From Wang & Dewol (2016).

Appendix 3: Example Measure of School Climate (WHITS; Aldridge & Ala'l, 2013)

What's Happening In this School? (WHITS) Questionnaire

1.	**Teacher Support**					
	At this school …	Almost never	Not often	Some times	Often	Almost always
1.	Teachers know my name.	1	2	3	4	5
2.	Teachers try to understand my problems.	1	2	3	4	5
3.	Teachers listen to me.	1	2	3	4	5
4.	Teachers take an interest in my background.	1	2	3	4	5
5.	Teachers treat me fairly.	1	2	3	4	5
6.	Teachers support me when I have problems.	1	2	3	4	5
7.	Teachers go out of their way to address my needs.	1	2	3	4	5
8.	Teachers are willing to listen to my problems.					
2.	**Peer connectedness**					
	At this school …	Almost never	Not often	Some times	Often	Almost always
10.	I get along with other students.	1	2	3	4	5
11.	I belong to a group of friends.	1	2	3	4	5
12.	I make friends with students from different backgrounds.	1	2	3	4	5
13.	I socialize with students from different cultures.	1	2	3	4	5
14.	Students talk to me.	1	2	3	4	5
15.	Students support me.	1	2	3	4	5
16.	Students help me.	1	2	3	4	5
17.	I feel accepted by other students.	1	2	3	4	5
3.	**School connectedness**					
	At this school …	Almost never	Not often	Some times	Often	Almost always
18.	I look forward to coming to school.	1	2	3	4	5
19.	I enjoy being at school.	1	2	3	4	5
20.	I feel accepted by adults.	1	2	3	4	5

21.	I feel included at school.	1	2	3	4	5
22.	I feel welcome.	1	2	3	4	5
23.	I am part of a community.	1	2	3	4	5
24.	I am respected.	1	2	3	4	5
25.	I am valued.	1	2	3	4	5

4. Affirming diversity

	At this school ...	Almost never	Not often	Some times	Often	Almost always
26.	My cultural background is valued.	1	2	3	4	5
27.	Days that are important to my culture are recognized.	1	2	3	4	5
28.	I am encouraged to understand the culture of others.	1	2	3	4	5
29.	My background is known by students and teachers.	1	2	3	4	5
30.	I am taught about the background of others.	1	2	3	4	5
31.	Religious days that are relevant to me are recognized as being important.	1	2	3	4	5
32.	My culture is understood.	1	2	3	4	5
33.	My cultural background is respected by students.	1	2	3	4	5

5. Rule clarity

	At this school ...	Almost never	Not often	Some times	Often	Almost always
34.	The rules at this school are clear to me.	1	2	3	4	5
35.	The school rules help me to feel safe.	1	2	3	4	5
36.	School rules protect me.	1	2	3	4	5
37.	The rules make it clear to me that certain behaviours are unacceptable.	1	2	3	4	5
38.	I understand why the school rules are in place.	1	2	3	4	5
39.	I know the school rules.	1	2	3	4	5
40.	I am required to follow the rules at this school.	1	2	3	4	5
41.	Teachers help me to follow the rules at this school.	1	2	3	4	5

6. Reporting and seeking help

	At this school ...	Almost never	Not often	Some times	Often	Almost always
42.	I can report bad behaviour to school officials.	1	2	3	4	5

43.	I am encouraged to report incidents.	1	2	3	4	5
44.	I am confident to talk to a teacher if I am bullied.	1	2	3	4	5
45.	I am encouraged to report bullying.	1	2	3	4	5
46.	I know how to report problems.	1	2	3	4	5
47.	I can report incidents without others finding out.	1	2	3	4	5
48.	It is okay to tell a teacher if I feel unsafe.	1	2	3	4	5
49.	I am able to seek counselling.	1	2	3	4	5

Table 1. What's Happening In this School? (WHITS) Questionnaire. From Aldridge & Ala'l (2013).

Appendix 4: Example of Synthesised Definition of Rights Education (Gillett-Swan et al., 2025)

A systematic review of definitions of rights education for children: Children's rights education (CRE), children's human rights education (CHRE), and other rights education subtypes

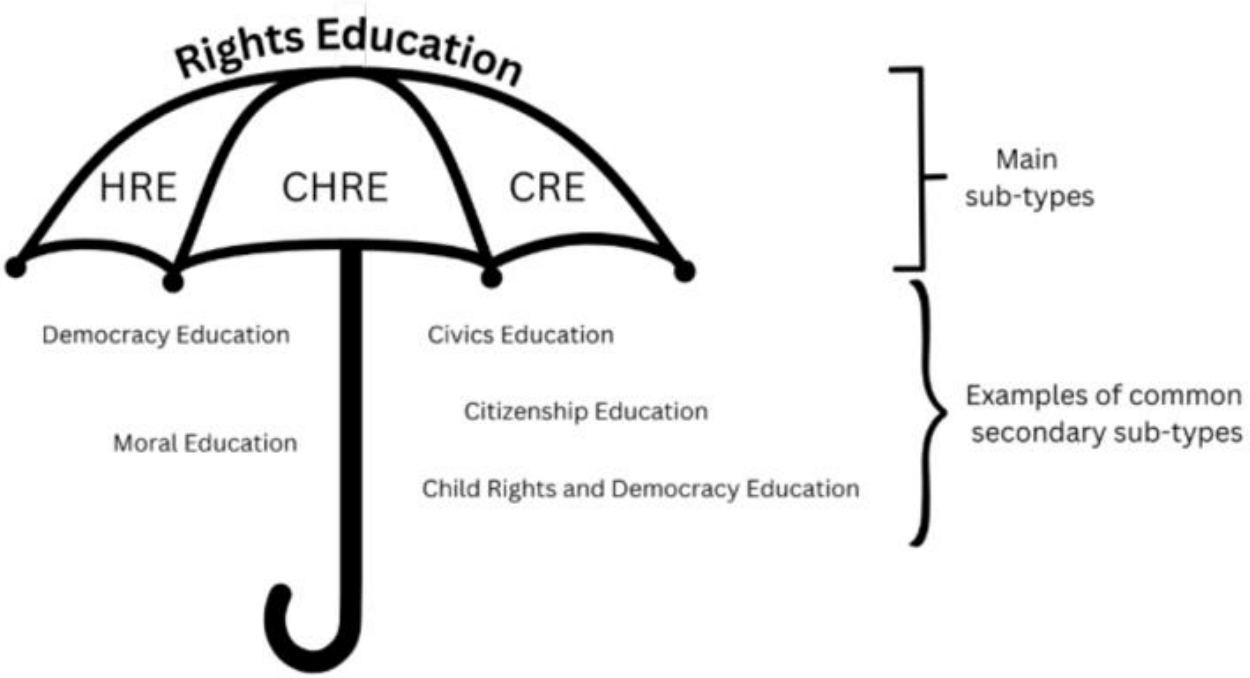


Figure 2. The umbrella of terms. From Gillett-Swan et al. (2025)

Appendix 5: Example Logic Model from a Review of School-Based Asthma Interventions (Kneale et al., 2018)

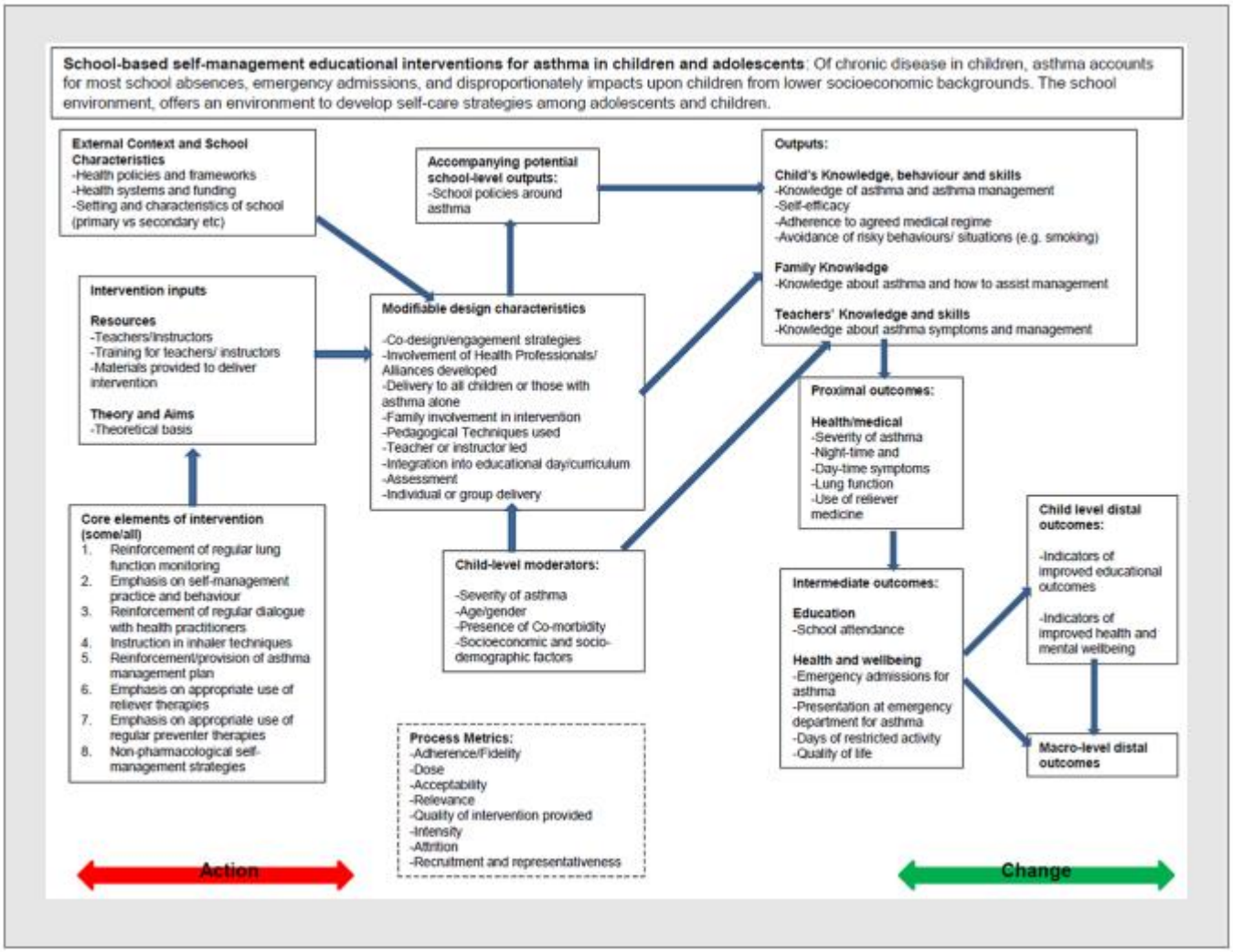
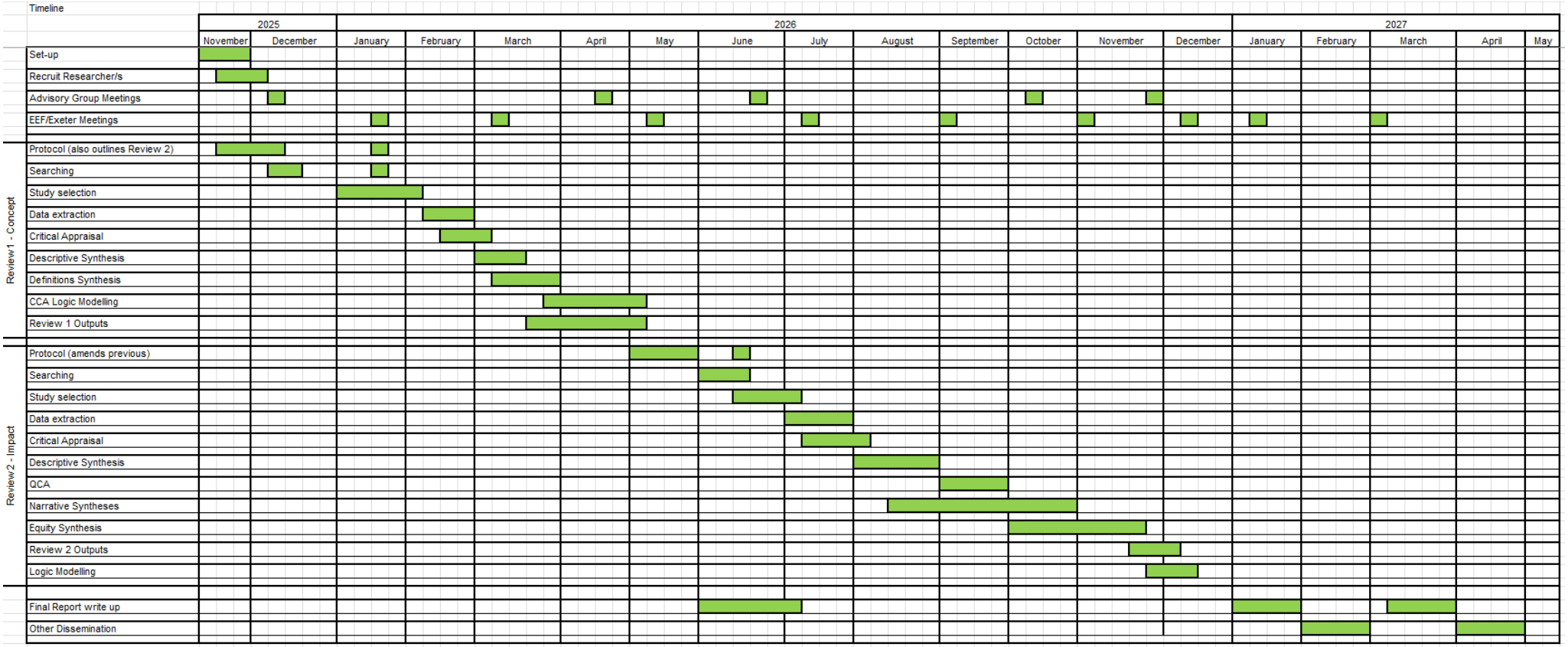


Figure 2. Logic Model for a Review of School Based Asthma Interventions. From Kneale et al. (2018).

Appendix 6: Detailed Review Timeline



This document is available for download at https://educationendowmentfoundation.org.uk

Education Endowment Foundation

The Education Endowment Foundation
5th Floor, Millbank Tower
21–24 Millbank
London
SW1P 4QP

https://educationendowmentfoundation.org.uk

@EducEndowFoundn

Facebook.com/EducEndowFoundn