Emotional Resilience Among Students During Collaborative Physical Activities: A Narrative Review

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ABSTRACT

Collaborative physical activities require students to coordinate movement, negotiate decisions, respond to setbacks, and contribute to shared outcomes. This narrative review examines how existing literature explains emotional resilience in these settings across educational levels. Purposive identification of relevant publications and targeted web searches were followed by checks of publisher pages, bibliographic records, and institutional repositories. Twenty-two publications inform the review, including twelve principal empirical studies. Evidence was compared by setting, design, construct, findings, and limitations, then interpreted through resilience, stress appraisal and coping, and individual and shared regulation perspectives. Three empirical studies remained abstract-based; accessible full-text sections informed the remaining comparisons. The literature suggests that emotional demands arise through both task requirements and peer relationships, while regulatory responses may be individual, assisted by others, or collectively negotiated. Findings from physical education interventions and dance research are encouraging but vary with instructional design, measurement, and study duration. Studies outside physical activity clarify possible collaborative processes, although their transfer remains interpretive. A proposed conceptual framework distinguishes task progress, emotional adaptation, and inclusive participation as separate outcomes to examine. Emotional adaptation includes recovery following disruption or maintained functioning under meaningful difficulty; task completion and participation are not treated as equivalent measures of resilience. Instructional implications concern manageable challenges, supported participation, constructive feedback, and access to assistance. Future research should connect identifiable difficulties with students' appraisals, responses, and subsequent functioning over time. The review offers a provisional account of how personal responses and collaborative conditions can be studied together without assuming that cooperation or successful performance necessarily demonstrates resilience.

Keywords: emotional resilience; collaborative physical activities; physical education; emotion regulation; shared regulation

INTRODUCTION

Collaborative physical activities place students in situations where individual contributions matter to a shared movement outcome. Cooperative games, group dance routines, team challenges, and group fitness demonstrations involve coordination, negotiation, and responses to mistakes. In this review, collaboration refers to shared goals and interdependent contributions rather than simply exercising beside other people. Physical education provides a relevant setting because difficulties can become visible to peers and teachers as they occur. Research on modified Sport Education has examined how teaching strategies address students' responses to failure, establishing the relevance of pedagogy to emotional learning in movement settings (Ang & Penney, 2013).

Emotional resilience offers a way to examine adaptation when such experiences become meaningfully challenging. However, the presence of disappointment, nervousness, or frustration does not by itself establish adversity or resilience. The review therefore treats emotional resilience as a question requiring evidence about the difficulty encountered and the functioning maintained or recovered. This distinction matters when interpreting participation: a learner can continue a task while remaining distressed, and a temporary pause

need not indicate unsuccessful adaptation. Resilience scholarship provides the basis for keeping the nature of the challenge and the criteria for adaptation explicit (Luthar et al., 2000).

Evidence on physical activity and psychological resilience provides a broad starting point, but it does not resolve the specific contribution of collaboration. Qiu et al. (2025) synthesized a positive association between these constructs; their evidence comprised 20 cross-sectional studies and one longitudinal study, with cross-sectional data used across the included reports. The findings justify further inquiry while leaving direction and mechanisms uncertain. Collaborative participation also cannot be inferred from an overall physical activity measure. A review of emotional resilience during shared movement tasks must therefore examine the setting and the outcome represented by each source rather than relying on the general association alone.

Research on social and emotional learning in physical education introduces a related problem of conceptual coverage. A scoping review of cooperative learning, teaching personal and social responsibility, and outdoor or adventure education found evidence for particular skills and outcomes, while questioning whether comprehensive social and emotional learning had been demonstrated. The implication for the present review is that empathy, motivation, regulation, and resilience should retain their distinct meanings. Evidence about one may explain a resource relevant to another without directly measuring it (Dyson et al., 2021).

Recent studies of cooperative physical education and dance learning address psychological resilience more directly. Their inclusion means that the research gap concerns the interpretation and specificity of evidence, rather than a complete absence of research. Questions remain about how broad resilience scores correspond to emotional adaptation during particular collaborative difficulties and how instructional and peer conditions contribute to these experiences. Longitudinal intervention findings and cross-sectional associations offer different kinds of information and require different qualifications (Xu & Liu, 2026; Zheng et al., 2026).

This review examines students' emotional resilience during collaborative physical activities across educational levels and participation roles. It addresses three questions:

- How can emotional resilience be distinguished from related emotional processes in collaborative physical activities?
- What does the literature indicate about emotional demands, regulatory responses, and conditions supporting students' adaptation?
- What implications follow for teaching and future research?

The contribution is a conceptual interpretation connecting difficulties, appraisals, regulatory responses, and collaborative conditions. It also proposes distinguishing task progress, emotional adaptation, and inclusive participation when evaluating what follows a challenging experience. These distinctions are intended to guide inquiry and instructional reflection, not to establish a validated resilience scale.

METHODOLOGY

Review approach and scope

The review uses a targeted narrative approach to integrate theoretical, review-based, and empirical literature. This approach suits the questions because the relevant publications use different definitions, settings, methods, and outcomes. The purpose is to explain their relationships and limits rather than estimate a single intervention effect. Narrative-review guidance supports such interpretive work when its scope, selection decisions, and analytic approach are made explicit (Sukhera, 2022).

The substantive focus is movement-based educational activity involving interaction or shared participation. Physical education, dance, and peer-led physical activity studies supply contextual evidence. Selected studies of collaboration in other subjects supply process evidence about emotional challenges and regulation, with their application to physical activities identified as indirect. Foundational works are included to clarify constructs; methodological publications support the review approach. Studies are not treated as interchangeable merely because they use an emotional or resilience-related term.

Literature identification and selection

Targeted searches and source verification were conducted on 13 November 2026. Discovery used the ChatGPT web-search function to locate publicly indexed scholarly records, followed by examination of publisher websites, PubMed and ERIC records, and institutional repositories. Topic queries included combinations of "emotional resilience," "physical education," and "cooperative learning"; "psychological resilience," "dance learning," and "students"; and "collaborative learning," "emotion regulation," and "physical education." Exact titles, author names, and digital object identifiers were then used to locate authoritative records and accessible versions. Appendix A records representative queries and the purpose of each search route.

Selection was purposive. Publications were retained when they contributed to at least one of three needs: defining resilience and related constructs; explaining emotional interaction or regulation during student collaboration; or examining emotional, resilience-related, or participation outcomes in movement-based education. The empirical set includes qualitative, observational, survey, and intervention studies. Material concerning physical activity without an emotional or resilience-related contribution was outside the central empirical comparison. Studies outside movement settings were retained only when they clarified collaborative processes needed for interpretation. Unverifiable summaries and promotional material were not used as evidence.

There was no fixed lower publication-year boundary, allowing foundational theory to inform recent empirical research; sources had to be available by the search date. The consulted material was in English. Twelve principal empirical studies were selected to provide contrasting settings, designs, constructs, and findings. Ten additional publications supply conceptual, review-based, or methodological support, producing 22 references overall. This set is adequate for the bounded comparisons developed here, but its size does not establish exhaustive coverage or thematic saturation. No complete screening inventory is claimed.

Source consultation and comparison

Publication details and claims were checked against publisher records, bibliographic abstracts, and accessible full-text sections. Where available, methods, results, and limitations were consulted to distinguish reported findings from the original authors' interpretations. Three principal empirical sources remained limited to verified abstracts: Ang and Penney (2013), Dyson et al. (2024), and Järvenoja and Järvelä (2009). Access to Lockyer et al. (2026) was partial. Relevant full-text sections informed the other eight studies. These differences are recorded in Table 1 and constrain the detail of the associated claims.

The comparison recorded educational setting and sample, design and measures, principal findings, interpretive limitations, and access status. Sources were first distinguished by context and by whether they examined resilience, emotional regulation, other emotional capacities, or related educational outcomes. Initial organizing categories followed the review questions: demands, responses, and supportive conditions. Comparison within and across these categories then informed the thematic account and the proposed outcome distinctions. Contrasting and non-significant results were retained; differences were examined in relation to measures, design, duration, and population rather than resolved by counting positive studies.

Interpretive position and quality considerations

The analysis takes a physical education pedagogical perspective, emphasizing what students encounter and how tasks and relationships are organized. This perspective makes supportive teaching and participation particularly salient and may shape which connections receive attention. To keep that influence visible, the text separates reported findings, theoretical interpretations, and illustrative applications. Evidence from non-movement settings is not presented as a direct test of physical activity processes. The proposed framework represents an interpretive product of these comparisons rather than an independently validated model.

Critical comparison addressed design limitations, construct alignment, and the directness of evidence. No formal study-level risk-of-bias scoring, independent duplicate screening, or pooled effect estimation was

undertaken. SANRA informed attention to the review's importance, aims, search description, referencing, reasoning, and presentation of findings. It was used as a general quality aid rather than an education-specific reporting standard or a substitute for examining the primary studies (Baethge et al., 2019).

CONCEPTUAL FOUNDATIONS

Emotional resilience and related processes

Emotional resilience is used here as a working interpretation of maintaining or regaining adaptive emotional functioning under meaningful difficulty. The significance of the challenge must be established in context; ordinary task discomfort cannot automatically be equated with the substantial adversity discussed in foundational resilience research. A useful account should specify the difficulty, the affected domain of functioning, and the period over which adaptation is judged. A single positive feeling or completed task is insufficient evidence of this process (Luthar et al., 2000).

Emotion regulation concerns attempts to influence emotional experience or expression. It helps describe what a student does when upset, anxious, or discouraged, but the strategy and its eventual consequences remain separate questions. Reappraising a mistake, changing a situation, or managing an expression may have different implications in different circumstances. Accordingly, the review treats regulation as a possible contributor to adaptation rather than an interchangeable label for resilience (Gross, 2015).

Coping directs attention to responses to demands appraised as taxing available resources. The transactional perspective is useful because the same activity may be appraised differently by different students. Perceived competence, preparation time, uncertainty, and available assistance can influence what the situation means to a participant. Applying this perspective to movement tasks suggests examining both the demand and the resources the learner believes are available; it does not establish a specific causal pathway in every activity (Lazarus & Folkman, 1984).

Emotional intelligence and social and emotional learning concern capacities and educational outcomes such as recognizing emotions, relating to others, and managing responses. These can be relevant resources for coping with difficulty, but improvement in a capacity does not establish recovery from a particular challenge. The review therefore preserves the constructs used by the original studies. This is particularly necessary where broad claims about emotional development exceed the specific skills assessed (Dyson et al., 2021).

Relationships and shared regulation

Resilience can be understood in relation to ordinary adaptive systems, including dependable relationships and supportive environments. This perspective expands attention beyond an individual's apparent toughness or persistence. In the present review, it supports considering whether teaching arrangements and peer relationships make assistance available when difficulties occur. The application to collaborative physical activities is an interpretive extension of the developmental perspective rather than a tested intervention derived from it (Masten, 2001). Regulation during collaboration may involve a learner acting independently, another person temporarily supporting regulation, or group members negotiating regulation together. These distinctions help identify who recognizes a problem and who shapes the response. Peer reassurance alone should not automatically be classified as socially shared regulation; a collective process requires attention to how concerns and adjustments become jointly organized. The distinction provides a conceptual lens for movement tasks, while its origins in computer-supported collaborative learning should remain visible (Järvelä & Hadwin, 2013).

RESULTS

Overview of the empirical evidence

The twelve empirical studies span primary, secondary, and higher education. Eight concern physical education, dance, or peer-led movement, while four examine collaboration in other educational settings. Their

contributions differ: some examine experiences and interaction, others evaluate emotional capacities or educational outcomes, and two recent studies assess psychological resilience quantitatively. Table 1 preserves these distinctions and shows the material available for interpretation. Reviews are used for context rather than counted as additional independent empirical samples.

Table 1 Principal empirical studies and their contribution to the review

Study and setting	Design and measures	Main finding	Interpretive limit	Access
Ang and Penney (2013) Primary PE; Singapore	School-based inquiry using questionnaires, focus groups, and observations; modified Sport Education.	Examines teaching responses to failure and confidence-building in relation to emotional resilience.	Abstract does not permit detailed appraisal of measures or strength of findings.	A
Dyson et al. (2024) 42 high school students	Qualitative case study; group and individual interviews about social-emotional learning.	Emotional expression, care and support, and differing engagement were identified.	Experience-based findings; sustained adaptation after difficulty was not established.	A
Huang et al. (2024) 38 university students; English projects	Repeated adapted AIRE questionnaires; interviews and group chat records; 13-week course.	Challenges and individual, co-regulatory, and shared responses varied across groups.	Indirect context; accounts of regulation are not evidence of lasting resilience.	F
Järvenoja and Järvelä (2009) 63 teacher education students	AIRE self-reports following three collaborative tasks.	Students reported social challenges and shared regulation alongside self-regulation.	Self-reported strategies; non-movement setting; limited access.	A
Lockyer et al. (2026) 38 peer leaders aged 9–13	Online questionnaire with quantitative and open-ended items after programme participation.	Positive experiences coexisted with anxiety; practice, teacher input, and resources mattered.	Leader perspectives only; no demonstrated trajectory of emotional recovery.	P
Murillo-Moraño et al. (2026) 330 pupils aged 11–16	Three-group quasi-experiment; six sessions; SEC-Q and PE motivation questionnaire.	Motivation improved with cooperative learning. PREBULLPE competency gains were within-group; between-group competency differences were not significant.	Conditions linked to existing classes and schools; competencies differ from resilience.	F
Rivera-Pérez et al. (2021) 40 primary pupils	One-group pretest–posttest; 16 lessons over eight weeks; PE emotional-intelligence and goal measures.	Emotional control/regulation, empathy, and self-approach goals improved.	No control group; emotional-capacity change is not direct evidence of resilience.	F
Tan and Jung (2024) 33 university students	Mixed methods; Emotional Presence Scale, reflections, and interviews; three-week microteaching task.	Overall emotional presence increased; emotional regulation change was not significant ($p = .616$).	Small, non-movement sample; component outcomes differ from the overall score.	F

Törmänen et al. (2025) 95 secondary students in 31 science groups	Video and electrodermal data; temporal and sequence analyses of events and regulation.	Task, social, and external events were associated with differing emotional responses and strategies.	Appraisals and strategy effectiveness were not fully captured; transfer to PE is untested.	F
Wade et al. (2026) 1,898 pupils in 20 schools	Cluster randomized trial; teacher-rated leadership, well-being, observed on-task behaviour, and peer physical outcomes.	Several leader and peer outcomes improved; leader well-being effect was small (d = 0.07).	Resilience was not measured; short follow-up and potential rating expectancy effects.	F
Xu and Liu (2026) 2,077 university dance learners	Cross-sectional self-report; resilience, social-emotional competence, climate, and dance-participation measures.	Reported relationships involved resilience and supportive climate.	No temporal causal inference; broad dance indicators do not isolate collaboration.	F
Zheng et al. (2026) 160 students in four university PE classes	Twelve-month class-assigned intervention; adapted resilience and intrinsic-motivation scales.	Psychological resilience scores improved under cooperative PE.	Few clusters, adapted measures, and uncontrolled factors; no episode-specific recovery measure.	F

Note. A = verified abstract only; P = abstract and partially accessible full-text material; F = relevant full-text sections consulted. F does not indicate a formal risk-of-bias appraisal. Sample sizes are study-specific and are not combined. AIRE = Adaptive Instrument for the Regulation of Emotions; SEC-Q = Social and Emotional Competencies Questionnaire.

Emotional demands arise through tasks and relationships

Across the collaborative-learning studies, emotional demands are situated in interactions rather than attributed solely to individual weakness. Repeated accounts from academic English projects connect challenges with teamwork, working practices, and communication. Observational science-task research adds a temporal perspective by relating emotional responses to task, social, and external events. These sources converge on the value of identifying specific episodes, although one relies substantially on participants' accounts and the other captures visible and physiological components. Together, they justify examining what happened, how participants understood it, and what response followed; they do not establish that the same events or mechanisms operate in movement settings (Huang et al., 2024; Törmänen et al., 2025).

Physical activity evidence brings responsibility and public participation into this account. In a survey of 38 peer leaders aged 9–13, students described positive experiences alongside anxiety, with practice time, teacher input, and provider resources relevant to implementation. The findings suggest that responsibility can offer opportunities while also generating demands. However, leaders' perspectives cannot represent the experience of every participant, and the study does not demonstrate sustained resilience development. For this review, its contribution is to make participation role and access to assistance part of the analysis of challenge (Lockyer et al., 2026).

An implication of comparing these settings is that "a difficult group task" is too broad a unit of explanation. Movement execution, an interpersonal disagreement, and responsibility for guiding peers can require different forms of assistance. A teacher may need to clarify the task, support negotiation, or adjust the distribution of

responsibility. These are proposed applications of the comparison, not additional empirical findings. Their relevance must be checked against students' accounts and the demands of the particular activity.

Regulation involves individual and collective responses

Evidence from teacher education and project-based collaboration indicates that students report regulating emotions both individually and with others. These studies complement the theoretical distinction between personal regulation, temporary assistance, and shared regulation. They also show why individual questionnaires alone may provide an incomplete account of collaborative processes: the group can influence which response becomes possible. Nevertheless, reported strategy use establishes an attempt to regulate, not necessarily the effectiveness or durability of the response. The central question is how the response functions within the interaction (Järvenoja & Järvelä, 2009; Huang et al., 2024).

Methods also shape what is visible. Interaction-based analysis can identify responses near a difficult event, while questionnaires summarize participants' perceptions across a task or period. These approaches provide complementary information rather than alternative measures of the same outcome. The review of social-emotional interaction by Huang and Lajoie (2023) supports attention to this measurement problem. The science-task study further illustrates its limits: observable expressions and physiological activation did not capture students' own appraisals, and the analysis did not establish why particular strategies were more effective than others (Törmänen et al., 2025).

Tan and Jung (2024) provide a useful example of outcome specificity. In a three-week collaborative microteaching activity, overall emotional presence increased, but the emotional regulation subscale did not change significantly ($p = .616$). Thus, an overall positive result can coexist with limited evidence of change in a component. The finding cautions against interpreting increased emotional involvement as improvement in every emotional capacity. It also strengthens the rationale for separating what students attempt, what a measure captures, and whether functioning is subsequently maintained or recovered.

Emotional learning depends on instructional arrangements and measures

Physical education intervention studies show why the content and measurement of emotional learning require close comparison. Rivera-Pérez et al. (2021) reported improved emotional control and regulation and empathy after an eight-week programme involving 16 lessons with 40 primary pupils. Murillo-Moraño et al. (2026), studying 330 pupils across three groups, found motivational benefits from a six-session cooperative programme without significant improvement in social-emotional competencies. PREBULLPE showed within-group competency gains, but between-group differences on those competencies were not significant. These patterns concern different constructs and comparisons; they do not establish that cooperative learning is uniformly effective or ineffective for emotional development.

Several features could help explain the differing patterns, but none can be isolated by comparing these studies alone. The programmes differed in duration, participants, instruments, and instructional organization. The earlier study used a one-group pretest–posttest design; the later study included comparison groups but assigned conditions through existing classes and schools. Within-group improvement therefore should not be given the same evidential meaning as a difference attributable to an intervention. This comparison suggests that future work should specify both the intended emotional outcome and the teaching arrangements expected to support it (Murillo-Moraño et al., 2026; Rivera-Pérez et al., 2021).

Student accounts complement intervention findings by showing how learning environments are experienced. A high school case study identified opportunities for emotional expression and care alongside differing engagement. Earlier work in primary Sport Education examined pedagogical support around failure. Their shared contribution is to locate emotional learning in teaching and interaction, although abstract-only access restricts detailed appraisal of both reports here. These sources support asking whether students experience support as available and useful rather than assuming that a cooperative lesson format guarantees it (Ang & Penney, 2013; Dyson et al., 2024).

Resilience findings and related outcomes require different interpretations

Zheng et al. (2026) reported improvements in psychological resilience during a twelve-month cooperative physical education intervention with 160 university students in four classes. The study is directly relevant to resilience in a collaborative movement setting, but its adapted measures and acknowledged uncontrolled influences constrain attribution. Although the authors report using cluster-robust standard errors, the intervention involved only four class clusters at one university. The findings support further investigation of instructional organization and measured resilience across time, without establishing recovery during particular episodes of difficulty.

Xu and Liu (2026) examined 2,077 university students with dance-learning experience and reported associations involving psychological resilience, social-emotional competence, and supportive climate. Their cross-sectional design cannot establish the temporal sequence implied by a mediation model. Dance learning was also represented through broad participation indicators rather than observed collaborative episodes. Considered alongside the intervention study, the evidence supports closer investigation of learning conditions, but the two designs answer different questions: one tracks change under an instructional programme, while the other describes relationships among contemporaneous reports.

Related educational outcomes remain valuable when accurately named. In the Learning to Lead cluster randomized trial involving 1,898 students across 20 schools, teacher-rated leadership, leader well-being, and classroom time on task improved. The reported well-being effect was small ($d = 0.07$), illustrating why statistical significance and practical magnitude should be distinguished. Resilience was not an outcome. This study strengthens the evidence for specific benefits of supported peer-led movement while leaving emotional adaptation following difficulty untested (Wade et al., 2026).

DISCUSSION

Connecting difficulty with adaptation

The review's first question concerns the contribution of emotional resilience to the analysis of collaborative participation. Regulation describes a response, coping concerns efforts to manage appraised demands, and emotional capacities can provide resources. Resilience concerns adaptation under difficulty, requiring a clearer account of the challenge and subsequent functioning. The distinction makes it possible to recognize helpful emotional skills without assuming that their presence establishes a resilient trajectory. It also prevents brief negative emotions from being automatically treated as evidence of unsuccessful adaptation (Gross, 2015; Lazarus & Folkman, 1984; Luthar et al., 2000).

The second question concerns the relationship among demands, responses, and supportive conditions. The comparison suggests an explanation that requires both personal and relational attention: a learner interprets a difficulty within an activity whose organization affects available responses. Peer assistance can help regulate an emotion, while changes to instructions or responsibilities may alter the source of the difficulty. These processes should be examined together rather than assuming that all improvement depends on the learner managing emotion more effectively. This interpretation draws on adaptive-system and collaborative-regulation perspectives, with its application to physical activities remaining provisional (Järvelä & Hadwin, 2013; Masten, 2001).

Public visibility and emotional responses during movement

Transferring findings from academic collaboration to physical activities requires attention to how performance becomes visible. Public evaluation is not exclusive to movement: the English projects examined by Huang et al. (2024) included presentations evaluated by teachers and peers. In games or dance, however, a missed catch or disrupted sequence may expose a difficulty at the moment it interrupts a shared action. Through the appraisal perspective, the learner may interpret the event as both a movement problem and a threat to perceived competence or acceptance (Lazarus & Folkman, 1984). The proposed distinction concerns the immediacy and

bodily visibility of the difficulty, rather than an assumption that physical tasks are invariably more emotionally demanding.

Public visibility may also shape how emotional responses circulate among peers. Törmänen et al. (2025) identified reciprocal positive reactions and responses to task and social events in collaborative science learning. Applied cautiously to movement, this suggests examining whether visible frustration, reassurance, or laughter changes how other members interpret a mistake. Emotional contagion refers here to the spread of emotional responses through interaction; it should be distinguished from several learners independently reacting to the same setback. Neither synchronized movement nor similar outward expressions establish emotional contagion. Whether physical visibility strengthens this process remains a proposition requiring direct comparison across activities and evidence of the sequence of peer responses.

The same visibility could make assistance timely or make it feel exposing. For example, a peer might offer a discreet movement cue, whereas repeated public correction might be appraised as criticism. These are possible applications of appraisal and regulation theory, not effects established by the reviewed studies (Järvelä & Hadwin, 2013; Lazarus & Folkman, 1984). Peer-assisted regulation would involve helping a learner manage the difficulty; shared regulation would additionally require members to negotiate an adjustment together, such as changing the pace or passing distance. Thus, support should be examined through both its practical content and the recipient's interpretation, rather than inferred from the presence of encouragement alone.

Interpreting evidence across study designs

The synthesis connects studies by the questions they can answer, rather than treating their findings as equivalent demonstrations of resilience. Qualitative accounts, such as the reported themes of care, emotional expression, and differing engagement in Dyson et al. (2024), illuminate how participation is experienced. They do not estimate an intervention effect. The cluster-randomized trial by Wade et al. (2026) provides stronger grounds for attributing differences in its measured outcomes to the program, subject to its design limitations. However, randomization cannot establish an effect on emotional resilience when resilience was not measured. Evidence strength therefore depends on both study design and relevance to the particular claim.

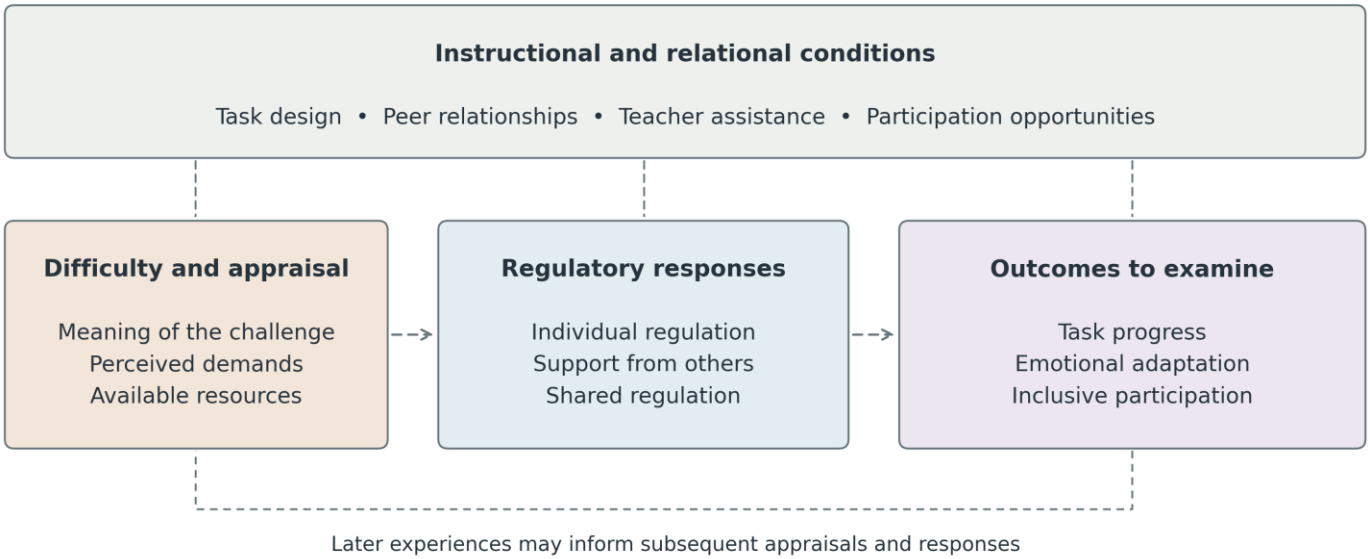
The comparison proceeds from each study's context, construct, and design to its findings and interpretive limits, as summarized in Table 1. Accounts of support can inform possible explanations for intervention outcomes, but cannot establish the mechanism producing those outcomes. Likewise, an association between a supportive climate and resilience in a cross-sectional dance study does not establish that support preceded adaptation (Xu & Liu, 2026). Convergence across designs therefore supports a reasoned interpretation of relevant conditions, rather than a pooled causal conclusion. Divergent or non-significant findings remain informative because they identify where constructs, instructional arrangements, or observed outcomes differ.

Restricted access also limits the theoretical conclusions that can be drawn. Abstracts may identify support or regulation without revealing whether assistance was invited, how disagreement unfolded, or whether apparent improvement persisted. These gaps prevent the review from specifying when peer assistance becomes effective or when it might constrain participation. The framework therefore treats support as a condition to investigate, rather than an established protective mechanism in every group. Further conceptual explanation clarifies these uncertainties but cannot substitute for examination of the unavailable methods, contextual detail, and contrary cases.

A proposed conceptual framework

Figure 1 organizes the review's interpretation into questions about difficulty and appraisal, regulatory responses, and subsequent outcomes, within instructional and relational conditions. The ordering expresses a proposed analytic sequence; it does not demonstrate causation or imply that experiences unfold neatly in one direction. Subsequent outcomes may change how a later challenge is interpreted. The framework is intended to guide observations, interviews, and the selection of measures in future research.

Figure 1 Proposed conceptual framework for examining emotional adaptation during collaborative physical



Note. Dashed links identify proposed relationships and an analytic sequence, not established causal effects. Emotional adaptation includes recovery or maintained functioning under meaningful difficulty. The framework is derived from the review's interpretation of resilience, appraisal, and collaborative-regulation perspectives (Järvelä & Hadwin, 2013; Lazarus & Folkman, 1984; Luthar et al., 2000; Masten, 2001).

The framework distinguishes three outcome domains. Task progress concerns whether the activity advances or reaches its practical objective. Emotional adaptation concerns recovery after disruption or maintained functioning under meaningful difficulty. Inclusive participation concerns whether students retain their voice, have access to assistance, and have meaningful opportunities to contribute. Only the emotional-adaptation domain directly addresses the review's working interpretation of emotional resilience; the other domains help establish the educational and social context of that interpretation. They should not be added together as a resilience score.

The domains are derived from different strands of the literature. Research on collaborative regulation informs attention to task-related responses; resilience scholarship supplies the requirement to examine functioning under difficulty; and studies of support and varying engagement in physical education motivate attention to participation. These sources do not jointly validate a three-factor model. The review proposes the distinction because a single indicator, such as completion or persistence, cannot represent all three concerns (Dyson et al., 2024; Järvelä & Hadwin, 2013; Luthar et al., 2000). For example, a dance group might complete a routine while one member remains excluded from decisions. Another group might establish a more supportive working relationship while still needing assistance with a movement sequence. These hypothetical cases illustrate why a group performance result cannot substitute for each member's emotional experience. Similarly, maintained functioning need not require an absence of anxiety, and seeking assistance need not indicate failure. Researchers should specify whose adaptation is being considered and how change or maintenance is established.

The framework generates propositions for investigation rather than predictions already confirmed by the literature. First, the relationship between a difficulty and subsequent functioning may depend on students' appraisals and available support. Second, shared regulation may involve changes in the task or in the distribution of responsibility, as well as changes in emotion. Third, task progress, emotional adaptation, and inclusive participation may follow different trajectories within the same group. Testing these propositions requires measures and observations appropriate to each domain, with attention to both individual and group levels. Public visibility can be examined within these propositions as a possible condition shaping appraisal and peer response, without treating it as a moderator already demonstrated by the evidence.

Applying the outcome distinctions in cooperative games

The following hypothetical classroom examples illustrate the framework's use; they are not findings from the reviewed studies. In a cooperative passing game, a group aims to complete a sequence in which every member receives the ball. After repeated missed catches, one learner becomes hesitant and reports embarrassment. The teacher could pause briefly, ask privately what made the situation difficult, and help the group agree on a shorter passing distance and a supportive cue. More completed passes would indicate task progress. The learner's account of feeling able to manage another attempt, considered alongside responses to subsequent mistakes, could inform an interpretation of emotional adaptation. Receiving the ball and contributing to the adjustment would provide separate evidence of inclusive participation.

A contrasting example concerns a cooperative movement challenge in which students transport a ball along a shared route. If classmates take over a discouraged learner's contribution, the group may finish faster while that learner remains distressed and excluded. Completion would demonstrate task progress without establishing emotional adaptation or inclusion. The teacher could restore a meaningful role chosen with the learner and help members agree on how to respond to errors. Conversely, a learner might request support and resume a manageable contribution while the group still struggles to complete the route. This warrants attention to a possible adaptive response, even though the practical objective remains unmet.

In both examples, a brief record could capture the difficulty, the learner's appraisal, the assistance offered, the response on another attempt, and subsequent functioning. Observation should be paired with a voluntary, private account because outward calm or continued activity may conceal distress. A later check can establish whether the response was sustained. These are proposed instructional observations, not validated scoring criteria. Consistent with the review's conceptual boundary, ordinary frustration should not automatically be labelled adversity, and a single successful retry should not be presented as evidence of enduring resilience (Luthar et al., 2000).

IMPLICATIONS FOR TEACHING AND RESEARCH

Organizing support during collaborative activities

The review suggests that teachers should make the practical and interpersonal demands of collaboration visible. Clear expectations, achievable progression, role preparation, and opportunities to request assistance are plausible ways to support participation. These proposals follow from the interpretation of evidence regarding instructional conditions; they should not be described as a proven emotional resilience intervention. Teachers can examine whether students understand the shared task and whether responsibilities remain workable as difficulties emerge (Ang & Penney, 2013; Lockyer et al., 2026).

Assistance should respond to the difficulty identified. Frustration with an unclear movement sequence may call for a demonstration or additional practice; tension around participation may call for facilitated negotiation. Asking students simply to remain positive could leave these practical problems unresolved. Brief reflection can help establish what happened, which response was attempted, and whether it helped. The purpose is to connect emotional experience with action and context, while allowing students to discuss concerns without compulsory public disclosure (Huang et al., 2024; Masten, 2001). Teachers can also distinguish instructional success from evidence of emotional adaptation. Completed group work, increased motivation, and improved emotional skills are worthwhile outcomes, but each answers a different question. Evaluating them separately can reveal when an activity is progressing while some students require further support. This approach follows the review's comparison of differing outcome patterns rather than assuming that one favourable indicator represents every intended benefit (Murillo-Moraño et al., 2026; Tan & Jung, 2024).

Studying adaptation over time

Future research should connect an identifiable difficulty with appraisal, response, and later functioning. Repeated observations, brief event-linked reflections, interviews, and suitable measures can offer complementary views. A broad resilience questionnaire may describe perceived capacities, while process data

can show what occurred during interaction. Combining these sources requires explicit attention to the period observed and the construct assessed, rather than assuming that all indicators capture the same phenomenon (Huang & Lajoie, 2023; Törmänen et al., 2025).

Comparisons should address educational level, activity type, and participation role. Cooperative games, dance practice, and peer-led fitness tasks may differ in movement demands and opportunities for assistance. Intervention studies should account for class or group assignment, implementation, and the distinction between individual and collective outcomes. Findings should include null results and effect magnitudes where meaningful, with follow-up sufficient to examine whether any benefits continue. The proposed framework can guide these choices, but its domains and relationships require empirical examination before being treated as an assessment model (Wade et al., 2026; Zheng et al., 2026).

LIMITATIONS

Purposive selection and web-based discovery limit coverage. Public discoverability, English-language access, and the choice of conceptual perspectives influenced the evidence considered. The search does not constitute an exhaustive database review, and no complete screening counts or saturation claim are presented. Three principal empirical studies remained abstract-based and one was only partly accessible, restricting examination of methods and contradictory detail. These constraints are consequential even when openly reported. The evidence also varies in age group, activity, design, measure, and duration.

Findings from collaboration outside physical activity clarify possible processes without directly establishing them in movement contexts. Psychological resilience scales and emotional-capacity measures do not necessarily capture adaptation following a specified difficulty. There was no formal study-level risk-of-bias assessment, and findings were not pooled. The conceptual framework is therefore a provisional interpretation whose scope and relationships require further testing.

CONCLUSION

Emotional resilience during collaborative physical activities is most clearly examined through functioning maintained or recovered under meaningful difficulty. It is related to regulation, coping, and emotional capacities, but these processes and resources do not independently establish resilience. The reviewed literature suggests that demands arise through both tasks and relationships and that responses can involve individual action, assistance from others, and shared regulation.

Physical education and dance studies provide relevant evidence, although their differing constructs and designs limit claims about emotional adaptation during specific collaborative episodes.

The review proposes examining task progress, emotional adaptation, and inclusive participation separately within instructional and relational conditions. This distinction offers a basis for evaluating what improved, for whom, and over what period. Teaching implications concern making challenges manageable and support accessible, while research priorities concern linking identifiable difficulties with subsequent responses and functioning. The proposed framework provides a direction for this work rather than a validated explanation of how collaboration produces resilience.

DECLARATIONS

Ethics and consent. This article reviews published literature and reports no new participant data. Questionnaire findings, interview responses, and participant-level materials from the associated empirical study are not analyzed.

Data availability. The publications informing the review are identified in the reference list. Principal empirical sources and their access status are summarized in Table 1. Representative searches are recorded in Appendix A. No new primary dataset was generated.

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Conflicts of interest. The authors declare no conflicts of interest.

Use of generative artificial intelligence. ChatGPT (OpenAI), including its web-search function, assisted with literature discovery, source checking, preliminary organization and synthesis, development of the proposed conceptual framework, and language editing. Grammarly was used for grammar checking. The authors remain responsible for verifying all sources and ensuring the accuracy and integrity of the final manuscript.

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APPENDIX A

Search and source consultation record

Searches and verification were undertaken on 13 November 2026. The following examples document queries actually used during source identification and checking; they are not a complete screening inventory.

"emotional resilience" "physical education" "cooperative learning"

"psychological resilience" "dance learning" students

"collaborative learning" "emotion regulation" "physical education"

Exact publication titles, author names, and DOI strings, including "Emotional dynamics and regulation in collaborative learning" and "Different Effects" "PREBULLPE" "70136".

The discovery route was AI-assisted web searching. Verification routes included original publisher pages, PubMed and ERIC records, and author or institutional repositories. Repository copies enabled consultation beyond abstracts for the studies by Törmänen et al. (2025) and Wade et al. (2026). Table 1 records the access level used for each principal empirical source. The strategy supports the selected conceptual comparisons and does not establish retrieval of every eligible publication.