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THE BENEFITS OF **DANCE EDUCATION** IN SCHOOLS

A RAPID EVIDENCE REVIEW

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ABOUT THIS REPORT

What is a Rapid Evidence Review?

The RER is a survey of published scholarly literature. It is one form of systematic review. The RER is guided by key questions which guide selection and elimination of items. The RER includes all research designs and does not exclude any studies on the basis of their research methodology.

The RER is designed to quickly produce an overview of a field of inquiry, as its name suggests. However, the RER may miss some literature due to time constraints and its focus on specific areas, and it does not subject all of the research papers to detailed scrutiny. While some RERs do create a hierarchy of research types, this RER follows the convention which holds that:

1. A "mosaic" of different types of research about the same topic may constitute evidence that is worthy of consideration, and
2. Different types of research may be suited to different uses. For instance, large-scale longitudinal studies are helpful for understanding trends over time, and small-scale classroom studies may be highly generative for teachers who are thinking about their own pedagogical purposes and practices.

Why a Rapid Evidence Review on Dance Education's Benefits?

In the UK, dance education is understood to support creativity, self-expression, and physical development. In England, dance is integrated into the National Curriculum for Physical Education (PE), focusing on performance, advanced techniques, and teamwork. Scotland includes dance within the Curriculum for Excellence under expressive arts, but its provision is more flexible and less standardised. Wales follows a similarly flexible approach in its Curriculum for Wales, allowing schools to integrate dance within expressive arts based on local priorities. Northern Ireland encourages dance within its arts framework, but as in Scotland and Wales, it is not a mandatory subject. While all curricula promote dance as part of the broader arts and physical education, the extent of its integration and emphasis varies across the regions (Maisuria, 2024).

In England, dance is often taught alongside other physical activities, yet it frequently lacks the dedicated focus and time necessary to fully engage students. As a result, students miss out on the full range of physical, cognitive, and social benefits that dance can provide. Alarmingly, data from the UK-based Youth Sport Trust shows a 30% decrease in dance participation within primary schools over the past decade, especially in Physical Education (PE) contexts (Youth Sport Trust, 2023). This report highlighted a broader reduction in PE hours, with many schools cutting back on subjects like art and PE due to mounting pressures, including the focus on standardised testing and core academic subjects. Despite its inclusion in the National Curriculum through PE, dance education has seen a steep decline at secondary level, with GCSE dance entries dropping by 41% and A-Level Dance by 51% between 2010 and 2019. One Dance UK has attributed this drop largely to the impact of the English Baccalaureate (EBacc) performance measure, which excluded dance and other creative disciplines, effectively limiting students' access to these vital areas of study (One Dance UK, 2019).

A subsequent survey by One Dance UK (One Dance UK, 2022) also found that only around 20% of primary schools in England allocate specific time for dance education. Additionally, many teachers feel underprepared to teach dance, which limits its effective integration into the school curriculum. Ofsted's 2023 Annual Report (Ofsted, 2023) reflects these findings, highlighting significant variability in dance instruction quality across schools, with many programmes struggling to meaningfully engage students despite dance's formal inclusion in the curriculum. At the secondary level, dance holds a strong appeal for students, especially among girls. A national survey conducted by the National Dance Teachers Association (Evidence on Physical Education and Sport in Schools, 2013) revealed that over 50% of secondary school girls aged 11–18 years in England ranked dance as their top choice for physical education (PE). Despite this interest, dance is not universally available in secondary schools and remains an optional subject, underscoring a disconnect between student preferences and school offerings in the PE curriculum.

In addition to the challenges posed by limited integration of dance within the curriculum, a significant yet often overlooked aspect of dance education in physical education (PE) is its creative dimension. Unlike the structured physical movement focus in traditional PE, dance education encourages creative, emotional, and social growth through expressive movement (Dullea, 2022). According to guidelines from Arts Council England and other educational bodies, dance is seen as a multifaceted art form that goes beyond physical activity to nurture creativity and self-expression (Arts Council England, UK Department for Education, 2021). A systematic review by Chappell et al. (2009) also highlighted dance's positive impact on well-being, emphasising the often-overlooked aesthetic and artistic dimensions, which are important for personal expression and emotional literacy. These creative opportunities within dance provide unique benefits rarely available in traditional PE, offering a space for students to cultivate personal expression and emotional literacy, skills essential for their overall wellbeing.

While many studies have demonstrated the positive benefits of dance education for children, no review has yet attempted to consolidate all these benefits (dos Santos et al., 2021; Tao et al., 2022). Given the growing marginalisation of dance in schools across the UK and the clear decline in its inclusion in education, urgent action is needed. This has led to the commissioning of a Rapid Evidence Review to assess the wide-ranging benefits of dance for children aged 3-18 in school settings. The review focuses on dance's positive impacts in curricular, extracurricular, and community contexts, aiming to highlight the crucial role dance plays in students' physical, emotional, and social development. The findings aim to strengthen the case for re-establishing and expanding dance education opportunities for young people.

How the Rapid Evidence Review was Conducted

Published scholarly papers were included that addressed the benefits of dance education and that were published between January 2004 and October 2024.

In order to select papers, the researchers engaged in a systematic search in the following databases: International Bibliography of Theatre & Dance, ProQuest, APA PsychInfo, Education Source and Medline.

Google Scholar and journal publishers' websites were used to search for the following terms in various combinations: dance, school, curricular, extra-curricular, students, pupils, young people, physical education, community dance, sport, movement, exercise, learning, wellbeing, benefits, value. Search terms were adapted to individual databases and librarian support obtained. Indexing and free-text terms were used in combination. The search terms covered the concepts "dance" AND "school" AND "benefits". The complete search string can be found in Appendix 1.

In addition, to capture all relevant work across this large variety of fields and because many artists do not publish their research in academic journals, grey literature was searched manually through Scopus, Google Scholar, the Google search engine and Academia.edu. Searching for grey literature was similarly structured around the concepts of dance AND school OR curricular OR extra-curricular OR afternoon school club AND children OR young people AND benefits OR value OR learning. Known arts organisations were also searched for specifically, and relevant links followed up on (for example from blog entries or news articles to artists' primary websites). Further, a librarian of the Jerwood Library of the Performing Arts in London helped identify relevant arts-related resources from their collection. Finally, reference lists of included articles were searched. Lastly, important dance-related organisations and institutions such as One Dance UK, Trinity Laban, the Place and the Society for Dance Research were contacted to provide any relevant evidence including unpublished reports or evaluations.

Before screening, all resulting references from the database search were imported into EndNote and duplicates removed.

One reviewer (GG) screened the remaining articles using the Covidence platform for systematic reviews. In a first step, titles and abstracts were screened against the inclusion and exclusion criteria. Next, the remaining articles were accessed in full and again screened by one reviewer (GG).

When locating a paper that seemed relevant, it was scanned asking:

1. Does this paper address the benefits of dance in schools?
2. What are the benefits said to be?
3. What type of research is this?
4. What evidence is produced, and how?

The inclusion criteria for the review encompassed research literature published between 2004 and 2024, drawn from international sources. The research participants had to be aged between 3 and 18 years. Educational practices considered in this review needed to be either curricular or extracurricular, provided they had a connection to formal education. Additionally, literature related to teacher education was acceptable as long as it pertained to the benefits experienced by children. Theoretical or philosophical literature were also included where they synthesised previous applied research. However, any teacher education literature that focused solely on benefits for teachers or addressed teacher education exclusively was

excluded from the review, and PhD studies were also excluded from this review due to length and time constraints.

After identifying studies via other methods discussed above, all additional records consisting of academic dissertations and published academic articles were recorded. Remaining records were assessed for eligibility and were included in the review. By appraising each study against the same criteria and recording the results, the basis for the review's conclusions were made transparent.

Data Collection

A data extraction form was developed to capture information relevant for the review's research questions. A draft extraction form was piloted on three papers by one researcher (GG), checked by a second reviewer (LM) and refined accordingly. Data extraction was undertaken by one reviewer (GG) using a standardised form covering aims, study details, study design, data collection, setting, study population and country of study.

To ensure accuracy and consistency, the extraction process was independently cross-checked by the same researcher (GG). Given the volume of included studies, an AI-assisted tool, Google NotebookLM (Google NotebookLM | Note Taking & Research Assistant Powered by AI, n.d.), was used to support this process. All articles were first manually analysed and coded prior to being uploaded into the tool. The outputs generated by the AI were then compared against the researcher's original coding. This comparison indicated that the AI occasionally missed important codes and contextual information, highlighting that it would not have been sufficient as a standalone method of analysis. However, Google NotebookLM proved useful as a supplementary tool, particularly for efficiently locating information across studies through its search functionality and for generating concise summaries of articles during later stages of the review.

The following information was extracted from the included articles:

- First author
- Year of publication
- Research aim
- Study design
- Study population
- Setting
- Country
- Benefits of learning
- How are these produced
- Barriers of learning
- Recommendations

Data Analysis

To conduct the qualitative thematic analysis (Braun & Clarke, 2006) the researcher (GG) followed the standard process. The article's content was analysed and framed by the review's research question. Analytic stages included familiarisation, coding, developing categories, then themes and reframing themes. Data was extracted for coding by close reading of all included papers. Midway through this process, codes were refined, developing groupings of subthemes and themes. This involved merging similar codes, and justifying whether unique codes should be included, renamed, subsumed or discarded. Towards the end of the analysis, subthemes and main themes were shared with one other researcher (LM) to further refine them. This

process resulted in four main themes, each comprising a different number of subthemes as discussed below. The standard protocol, which allows individual titles to belong to multiple analytic categories, was employed.

This Report

As is usual in RERs, we have not provided a complete list of texts collected and analysed. We have instead used indicative references to support the report of our analysis. Not every paper in the RER corpus will be listed somewhere in the report.

The report has six sections:

1. The corpus
2. What is dance education?
3. The context for teaching dance education
4. The benefits of dance education
    a. Health and wellbeing
    b. Cognitive and academic development
    c. Being and becoming
    d. Diversity and access
5. Implications and conclusion
6. Appendix

Results

We identified 1483 records from our database search after excluding duplicates. After screening the papers for title and abstract, 151 papers were accessed in full and again screened. 22 papers met the review inclusion criteria. We identified a further 67 records by searching via other methods mentioned above. After screening the records against inclusion and exclusion criteria, 48 of those records met the inclusion criteria. Please see Figure 1, displaying the Prisma Flow Diagram for the search. In total, 70 publications were included in the review.

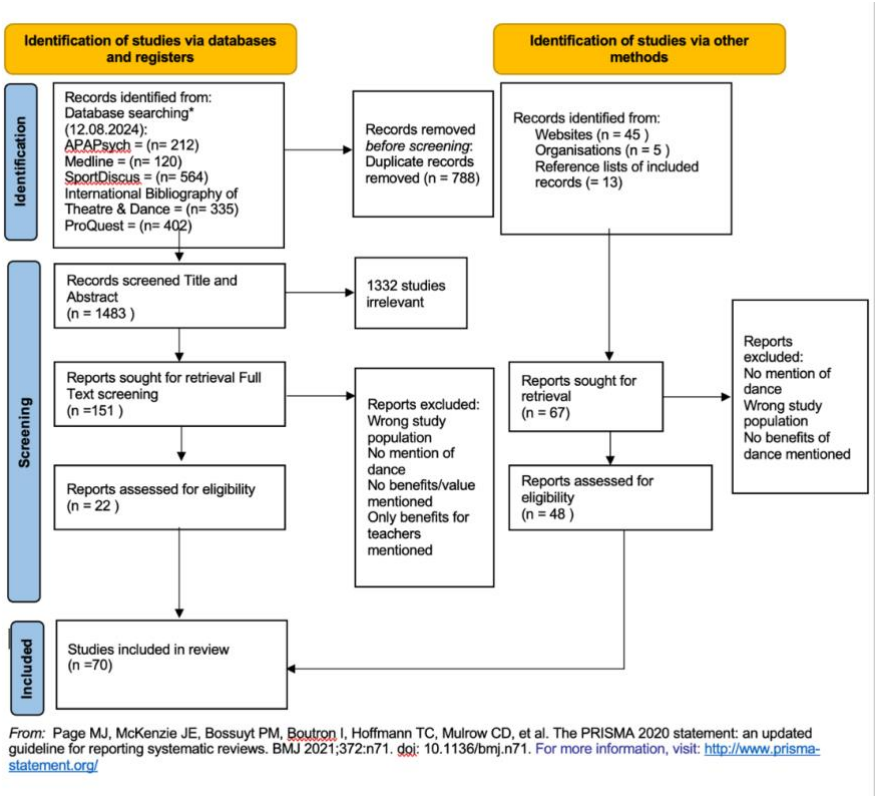

Figure 1 Prisma Flow Diagram

THE CORPUS

The initial categorisation of the corpus provides valuable insights. In this section, we report on the time range of the research, the countries of origin, the focus of the studies, the types of research conducted, study population and study location.

Time Range

The RER encompasses studies from 2004 to 2024, with 2005 being the only year without representation. This two-decade span highlights a growing interest in the multi-dimensional benefits of dance education for children, particularly over the past ten years. The peak of research publications occurred in 2021 (9 studies), with other notable outputs in 2015, 2018, and 2020. In the UK, most included studies were published between 2020 and 2022. This trend reflects an increased recognition of dance's role in supporting child development across physical, creative, and social-emotional domains. In the period from 2020 to 2024, research began to emphasise dance education's contributions to mental health, emotional wellbeing, and academic progress. The surge in studies around 2020 and 2021 may correlate with the COVID-19 pandemic, which brought greater attention to mental health and the need for alternative, flexible approaches to education. Research from this period often explored themes like resilience, stress relief, and social connection, underscoring dance education's therapeutic potential during times of heightened stress and isolation for children.

Country of Origin

The corpus of studies in the review was dominated by papers from a small number of countries, with the United States and the United Kingdom being the most represented (Table 1). This distribution was not unexpected, given that the review focused exclusively on publications in English and German. It is acknowledged that relevant studies published in other languages were not included, as access to journals in those languages was limited. Consequently, the findings may not fully represent the global landscape of dance education research.

Country	Number of Papers (70 in total)
USA	21
United Kingdom	19
Australia	5
Canada	2
Greece	4
Brazil	2
New Zealand	1
Germany	1
Estonia	1
Switzerland	1
India	2
Romania	3
Ireland	1
China	2
Singapore	1
Africa	1
Spain	1

Table 1 Country of Origin

The predominance of studies from the United States and the United Kingdom in this review raises an important issue regarding the global representation of dance education research. This focus on English-language publications may overlook valuable perspectives from other regions. To address this imbalance, journal editors should consider actively seeking submissions from a wider range of countries, helping to ensure a more inclusive and diverse body of research that reflects global perspectives on dance education.

Focus of the Research

While the primary focus of this rapid evidence review was on the benefits of dance education for children aged 3 to 18, some included papers explored additional aspects (as seen in Table 2). Although all 70 studies mentioned the benefits of dance

for children, only 44 of them primarily focused on this topic. Other studies examined the impact of dance education on children with special needs, and some investigated the feasibility of incorporating dance therapy into school settings. In the UK 10 out of 19 studies directly focused on the benefits of dance education for children, whilst four studies focused specifically on dance therapy. Despite these varied areas of focus, all studies directly highlighted the positive outcomes of dance education for children in their findings. Although most papers addressed multiple themes listed in the table below, only the primary focus of each study is displayed here.

Primary Focus	**UK (out of 19)**	**Overall (out of 70)**
Benefits of dance education for children	**10**	**44**
Advice/ suggestions for dance educators	**1**	**6**
Impact of dance education on children with special needs	**1**	**2**
The feasibility of dance therapy as part of school setting	**4**	**7**
Context/current situation of dance education	**1**	**8**
Challenges faced by school in their provision of dance education	**1**	**5**

Table 2 Primary Focus of Included Studies

Study Population

A variety of studies have examined the impact of dance on children from preschool and kindergarten populations, typically aged 3 to 5 years. This group included participants from Head Start programmes, public preschools, and early learning centres, with sample sizes varying significantly. For instance, one study included 246 children from a large Head Start programme in the United States (Lobo & Winsler, 2006) whilst another study included 89 children attending kindergarten or preschool in the USA (Winsler et al., 2011).

Most studies concentrated on primary school children, generally within the 5 to 11 age range. This population often included children facing emotional and behavioural difficulties and those with neurodevelopmental disorders (NDD). Sample sizes in this category ranged from small classroom interventions involving approximately 16 to 32 children (Moula et al., 2022) to larger-scale studies with 187 (Sharma et al., 2023) or 101 (Sharma et al., 2020) participants drawn from multiple schools. In the UK context, this age group aligned with children in Year 1 to Year 6.

In addition to primary school children, several studies targeted middle school (USA) or secondary school populations (UK), specifically students aged 11 to 14 years. In the US, this generally corresponds to grades 6 to 8, while in the UK, it corresponds to Year 7 to Year 9. Sample sizes varied from smaller groups of 24 to 30 students (Buck-Pavlick, 2024) to larger studies that encompassed 630 participants across several schools in India (Singh & Devi, 2021).

Older adolescents, including senior high school students (USA), secondary school students or college students (UK) and specifically adolescent girls aged 15 to 18, were also included in various research contexts such as after-school programmes, dance-based physical education lessons, and programmes aimed specifically at female students. In the US, this typically corresponds to grades 9 to 12, whereas in the UK, it relates to Year 10 to Year 13. The sample sizes for this demographic included as many

as 508 girls in Year 7 in the UK (Jago et al., 2015) and smaller cohorts of around 30 young women in both contexts (Katz, 2008). Furthermore, some studies focused on specific populations, such as children with neurodevelopmental disorders (NDD) (Anderson et al., 2024), those on the autism spectrum (Stamou et al., 2019), and children with profound and multiple learning difficulties (PMLD) (Lamond, 2010). The sample sizes for these studies ranged from 10 to 43 participants, depending on the specific research focus.

Study Location

The study locations in the review represent a diverse range of educational settings, including primary schools, secondary schools, early childhood centres, and community programmes across different countries.

Study location	Type of programme/School	Target Population
Urban Public Schools (USA, UK, New Zealand, Singapore)	Curriculum-integrated dance or physical education programmes	General student populations, ages 3-18
Disadvantaged or Low-Income Schools (USA, Ireland, Brazil, India)	Dance-based interventions for at-risk or disadvantaged children	Children with emotional/ behavioural challenges, ages 5-16
Primary Schools (England, Switzerland, Brazil, Ghana, India)	Dance integrated into physical education or special interventions	General student populations, ages 5-12
Secondary Schools or middle and high schools (UK, Ghana, USA, Greece, China, Romania, Germany)	Dance or physical education programmes in high schools/ secondary schools	Adolescents, including girls and at-risk youth, ages 11-18
Kindergarten or pre-school settings (USA, UK, Greece)	Dance programmes like the Headstart programme (US) or public pre-school settings	Preschool children, ages 3-5
Special Needs Programmes (USA, UK, India)	Dance or therapeutic programmes for children with neurodevelopmental or psychological challenges	Children with special needs, ages 3-17
Community-Based Programmes (USA, UK)	Extracurricular or after-school dance clubs	School children aged 4-18 years

These findings on study locations highlight the diversity in settings where dance education has been explored, and they offer insights into how these programmes are applied in different contexts.

Research Designs

The overall corpus of research papers included a high proportion of case studies and qualitative methods, such as interviews, observations, surveys, and practice-based approaches (see Table 3). This trend aligns well with the goals of dance research, as qualitative methods capture the subjective and personal impact of dance on participants.

Abbreviation	Type	Number out of 70	Percentage of sample to nearest 1%
RCT	Randomised controlled trial	10	14%
CS, CR	Case study/report	21	30%
MM	Mixed Methods	5	7%
LW	Literature review	2	3%
QE	Experimental/ Quasi experimental study	9	13%
ID	Intervention design	9	13%
ER	Evaluation report	1	1%
S	Telephone survey	1	1%
LS	Prospective Longitudinal Study	3	4%
PS	Pilot study	2	3%
MM	Multi-modal	1	1%
CT	Controlled Trial	1	1%
IS	Interview study	1	1%
SR	Systematic Review	2	3%
CO	Cross-over study	1	1%
QMS	Qualitative mixed-methods study	1	1%

Table 3 Research Designs

Notably, there is also a significant presence of randomised controlled trials (RCTs) in the research corpus (14%), with ten studies applying this design often considered the gold standard for intervention evaluation. These RCTs primarily focused on assessing the health and wellbeing benefits of dance for children or evaluating the feasibility of dance therapy for children with special needs. This focus aligns with the practical advantages of measuring more tangible outcomes, like physical health, which are more easily quantified than subtler effects, such as, for example, creativity. Researchers also highlighted the challenge of capturing emotional and social processes with broad methods, like self-assessment questionnaires, which may miss nuanced changes (Studer-Luethi & Züger, 2012). This remains a limitation of quantitative methods. While some RCTs included qualitative insights, such as teacher observations, it was often unclear if observed changes were directly attributable to the dance intervention or to other variables. Additionally, participant attrition was commonly noted as a limitation, with researchers calling for larger sample sizes and diverse participant groups in future studies to strengthen the generalisability of results (Edwards et al., 2016; Stamou et al., 2019).

Designing effective control groups for dance interventions poses additional challenges. While some studies, such as those by dos Anjos & Ferraro (2018) and Jago et al. (2015), implemented control groups that maintained similar physical activity levels through alternative activities, the difficulty of isolating the unique elements of dance, such as rhythm, expressiveness, and social interaction, remained a problem. This complicates the attribution of observed benefits solely to the dance interventions. Moreover, the included studies focused on various age groups, populations (e.g., children with neurodevelopmental disorders), and dance genres (e.g., creative dance, choreographed dance, and educational dance). These variations hinder direct comparisons of findings across studies and underscore the necessity of considering contextual factors when interpreting results.

Despite the promising developments in the field, there is a notable lack of comprehensive evaluations of appropriate methodologies for investigating the creative, artistic, and aesthetic contributions of dance to health and wellbeing, as reflected in the studies reviewed. Further, many qualitative studies involved relatively small participant groups, which may limit the generalisability of their findings. For instance, some case studies included only a handful of students, making it challenging to draw broader conclusions about the impact of dance education.

Notably, within the reviewed corpus, the UK contributed three randomised controlled trials (RCTs) (16%), two quasi-experimental studies (11%), and three case studies (16%). There were also a single literature review (5%), evaluation report (5%), and mixed-methods study (5%), with one longitudinal study identified (5%) (see Table 4). It may be that the limited diversity in research designs reflects either a preference for certain methodologies within the dance education research community or constraints related to funding, expertise, or access to large-scale studies. Regardless of the reasons, the predominance of specific types of research calls for further examination and discussion.

Type of Research overall	Number of UK titles out of 19	Percentage of sample to nearest 1%
RCT	3	16%
Literature review	1	5%
Quasi experimental	2	11%
Case study	3	16%
Intervention design	3	16%
Evaluation report	1	5%
Mixed-Methods	1	5%
Longitudinal	1	5%
Cross-over	1	5%
Pilot study	1	5%
Experimental study	1	5%
Qualitative mixed-methods study	1	5%

Table 3 Study Design UK Specific

It is also worth mentioning that, with the exception of one report, all the studies included in this review were peer-reviewed and published in academic journals. This enhanced the credibility of the findings presented and underscored the importance of rigorous research practices in the field.

THE CONTEXT FOR TEACHING DANCE EDUCATION

Integration of Dance Education into Schools

Dance education is a diverse discipline that incorporates a wide range of approaches and goals, reflecting the global diversity of dance genres. The studies featured in this RER highlighted the broad spectrum of dance styles included in education, from contemporary dance and creative movement to cultural forms such as Hip Hop, Latin dance, and various folk traditions. These genres span across regions and include everything from ballroom and ballet to jazz, flamenco, African dance, and street dance, illustrating the worldwide variety and cultural significance of dance. This global diversity emphasises not only the stylistic differences but also the role of dance in expressing cultural identity, fostering creativity, and supporting personal development across different societies and educational settings.

The Rapid Evidence Review also identified several approaches for integrating dance education into school settings. The first approach is curriculum-integrated dance, where dance is embedded within a specific subject to enhance the understanding of its core concepts. Schools that adopt this approach often benefit from a collaborative teaching model, where dance educators work closely with classroom teachers to ensure that dance activities align with broader curriculum goals (Leonard & McShane-Hellenbrand, 2012; Makopoulou et al., 2021; Sharma et al., 2020). This integration has been shown to enhance students' understanding of various academic concepts through movement. However, the success of this approach often depends on the quality of collaboration and the commitment from all educators involved to prioritise dance within the educational framework. For example, a curriculum-integrated dance programme in New Zealand primary schools explored dance as a way to explore topics related to science, mathematics, English, and Māori culture (Sharma et al., 2020). The New Zealand ministry of education has released resources to aid the integration of dance into the curriculum, however since the publication of the study in 2020, there are ongoing discussions about the need for generalist teachers to implement dance into their teaching practice in New Zealand primary schools (Sharma et al., 2020).

The second approach are cross-curricular programmes as a way for integrating dance into the curriculum. These initiatives often focus on connecting dance to various subjects, enhancing students' cultural and historical understanding while simultaneously developing their dance skills. For instance, traditional folk dance programmes in Greece have been utilised to teach children about their cultural heritage, showcasing how dance can enrich education across disciplines (Stivaktaki et al., 2010). A three-week dance residency programme at a K–5 school in the USA involved a visiting dance artist working with each grade level to create dances directly related to science, social studies, health, and dance content standards. This programme focused on exploring multiple literacies, engaging in critical-analytic thinking, and creating aesthetic and artistic solutions to problems using dance as the primary mode of expression, inquiry, and performance (Leonard, 2022).

Another approach is interdisciplinary arts integration, which connects dance with other art forms such as music, drama, and visual arts. This approach is supposed to foster a holistic learning experience, allowing students to explore artistic concepts

more deeply. Schools that embrace this model often encouraged educators to develop projects that integrate dance with other artistic disciplines. However, challenges can arise when teachers are not adequately prepared to work across these disciplines, which may limit the potential benefits of interdisciplinary collaboration. For example, in Ghana, music and dance are taught together in secondary schools, reflecting the interconnectedness of the performing arts in Africa (Petrie, 2020).

Extracurricular dance programmes offer students the chance to pursue dance beyond the standard curriculum, providing pathways for those with a passion for the art form. These programmes provide a dedicated space for children to explore dance in a non-academic setting or within the school premises. Often, these classes are led by external companies or dance teachers (Edwards et al., 2016; Hogg et al., 2012). For instance, the Centre for Advanced Training (CAT) programme provides specialised dance training across the UK for talented young dancers aged 11-18, focusing on high-quality instruction in diverse dance styles. By offering rigorous training, CAT prepares students for potential careers in dance (Redding et al., 2011).

Lastly, collaborations between dance organisations and schools can bridge the gap between professional dance practices and classroom learning. Partnerships with local dance companies can introduce students to various dance styles and foster their appreciation for the art form (Dullea, 2022; Lamond, 2010). For instance, Dulleas's (2022) study highlighted the Ballet Ireland primary school programme as a successful example of an arts-school partnership. This programme, operating in several Dublin primary schools, provided in-school dance education for children aged 6-8. This approach not only introduced students to dance techniques but also fostered a broader appreciation for the artistic and cultural value of dance. Further the researchers emphasised that such partnerships can address the lack of confidence many generalist teachers feel regarding dance pedagogy. By collaborating with dance experts from professional organisations, teachers can gain valuable insights and support in incorporating dance into their classrooms.

Policy Contexts and Their Effects

The studies reviewed highlighted historical changes that have contributed to the marginalisation of dance education within formal schooling systems. The increasing emphasis on core academic subjects, particularly following the introduction of various national education policies, has coincided with a decline in dance education opportunities. For example, the No Child Left Behind (NCLB) initiative in the USA (Leonard & McShane-Hellenbrand, 2012) and the prioritisation of literacy and numeracy in the Irish curriculum (Dullea, 2022) have resulted in competition for instructional time, often at the expense of arts subjects like dance.

In the UK, changes to the National Curriculum have had significant consequences for dance education. While the curriculum reforms of the late 1980s aimed to expand educational opportunities (Leonard, 2022), the Conservative Coalition's 2014 reforms shifted focus towards core subjects such as English, mathematics, and science, marginalising arts disciplines like dance (Winsler et al., 2019). This narrowing of focus was compounded by austerity measures following the 2008 financial crisis, leading to substantial budget cuts in schools and reducing the resources available for dance education (Dullea, 2022). Many schools now rely on external funding from organisations such as Arts Council England to maintain their dance programmes. However, obtaining these grants is highly competitive, and many schools are unable to secure them. Even when successful, the grants are often short-term and limited to specific projects. Once the funding ends, dance programmes frequently come to an abrupt halt, preventing schools from incorporating dance as a stable and integral part of the curriculum (Lamond, 2010). The lack of long-term financial support undermines

efforts to provide consistent dance education, making it challenging for schools to sustain comprehensive arts offerings.

In Ireland, studies have underscored the issue of curriculum overload in primary schools, following the expansion of the national curriculum in 1999. The heightened focus on literacy and numeracy creates a competitive landscape for teaching time, often relegating arts-based subjects, including dance, to the margins of educational priorities (Dullea, 2022). For example while the Ballet Ireland programme, discussed in one of the included studies, was successful, the lack of government funding threatened its continuation. Similarly, in New Zealand, funding shortages and demanding teacher workloads limit the integration of dance into primary education, with dance often relegated to external specialists teaching a small number of interested students rather than being part of a comprehensive curriculum accessible to all (Sharma et al., 2020).

In the United States, the decline in dance education can be largely attributed to policy shifts that prioritise core academic subjects over the arts. This emphasis has led to a sharp reduction in the number of public elementary and middle schools offering dance programmes. A 2002 report found that 80% of these schools did not include dance in their curricula (Leonard & McShane-Hellenbrand, 2012). Furthermore, data from 1999 to 2009 showed that the percentage of secondary schools offering dance instruction dropped from 14% to 12%, highlighting a concerning decrease in access to formal dance education (Winsler et al., 2019). Even among the 20% of public elementary and middle schools that do offer dance, only 7.6% of programmes were taught by qualified dance educators as of 2012, a figure that is likely even lower today. Many of these programmes are temporary, often relying on brief artist-in-residence sessions. Similarly to the UK, a significant challenge is the heavy dependence on external funding, such as grants and private donations, to sustain dance programmes. This reliance creates instability, as programmes are often discontinued when funding runs out (Katz, 2008; Leonard & McShane-Hellenbrand, 2012). The National Endowment for the Arts (NEA) is one critical source of funding for dance education, but its grants are limited in both scope and duration, leaving schools, particularly those in low-income areas, vulnerable to losing their dance programmes once the funding ends (Leonard & McShane-Hellenbrand, 2012).

In various countries mentioned in the articles, dance education is often situated within the physical education (PE) curriculum. While this integration ensures that dance is taught in schools, it tends to prioritise the physical and technical aspects of dance, overshadowing its expressive and creative dimensions (Leonard, 2022; Stivaktaki et al., 2010). This perception can lead to dance being regarded as less academically rigorous compared to core subjects, limiting its recognition as a legitimate area of study as Dullea (2022) further highlighted:

> Dance is often included in national curricula for its quantifiable benefits in health and well-being rather than for its intrinsic aesthetic significance; its role in aesthetic education of youth being problematized in many generalist curricula across the world by its frequent inclusion as a sub- topic in Physical Education, rather than in its expected place within the arts curriculum. Since the early twentieth century, confining dance to PE has acted as a means of compartmentalizing the movement education aspect of dance from the aesthetic, rendering dance ostensibly more easily teachable by non-specialists, and 'rationalising' dance for the assessable state curriculum. (p.1)

There is a growing movement advocating for the repositioning of dance within the arts education curriculum, which would allow for a more holistic understanding of dance as a vital form of artistic expression (Dullea, 2022; Leong & Hunt, 2004).

This positioning within the curriculum often pushes more comprehensive dance engagement into extracurricular spaces, where programmes offer valuable access but can also unintentionally reinforce inequities. These programmes, often available through school clubs or private studios, typically charge fees that may limit participation for some students (dos Anjos & Ferraro, 2018; Olga et al., 2018; Redding et al., 2011). While these programmes can provide additional opportunities for interested students, they do not address the broader, systemic barriers to equitable access in dance education. For instance, specialised dance training programmes like CAT (Centre for Advanced Training) aim to support talented young dancers but still face accessibility challenges. Despite a means-tested fee structure to increase inclusivity, costs associated with training fees, transportation, and auditions can still pose barriers, particularly for students from lower-income families. Interviews with urban dance students also highlight how socioeconomic factors, including travel expenses, attire requirements, and other related costs, can impact participation (Redding et al., 2011). Furthermore, many schools lack access to information about these specialised programmes, leaving potential young dancers unaware of the opportunities available.

Additionally, the lack of clarity regarding the time allocated for dance within school curricula contributes to its marginalised status. For instance, in England's primary and secondary school curriculums, specific time for PE activities is not clearly defined, leading to inconsistencies in the delivery of dance education (Payne & Costas, 2021). The current emphasis on core subjects in later educational stages further diminishes the perceived importance of dance, undermining its potential benefits for student development.

Lastly, most of the sources emphasised that generalist teachers, particularly in primary schools, often lack confidence and expertise in teaching dance. This lack of confidence can stem from insufficient training and limited exposure to dance education during their own education. PE teachers assigned to teach dance may therefore not have the necessary skills and training to deliver comprehensive dance instruction (Dullea, 2022; Leonard & McShane-Hellenbrand, 2012; Payne & Costas, 2021; Sharma et al., 2020). For example, one study examining primary pre-service teachers across five countries, including the UK, found that these teachers often feel ill-equipped to teach dance due to their limited training (Dullea, 2022). This lack of specialised training leaves many teachers feeling unprepared to deliver comprehensive dance instruction. Some studies also suggested that teachers' lack of confidence in teaching dance often stems from their own limited experiences with dance during their education. In Singapore, for instance, the emphasis on linguistic and logical-mathematical intelligence in schools often marginalises dance and other activities requiring kinaesthetic intelligence (Leong & Hunt, 2004). This limited exposure can make teachers apprehensive about teaching a subject they are not personally familiar with.

Overall, the evidence presented in the included studies indicated that dance education is facing a critical juncture internationally. As policy frameworks continue to evolve, the need for advocacy and reform remains urgent to ensure that dance is recognised not just as a physical activity but as a valuable component of a well-rounded education.

BENEFITS OF DANCE EDUCATION

The RER encompasses a variety of focal points, design methods, and contexts. Here, we focused specifically on dance education, rather than on arts education more broadly, to gain a better understanding of trends and practices unique to this field. The largest body of research we reviewed emphasised the health and well-being benefits of dance for children, followed by its positive impacts on social skills, academic performance, and personal development.

Most of the studies highlighted the joy experienced by participants during dance activities, underscoring the enthusiasm and engagement that dance often inspires. Additionally, several studies pointed to dance education's role in reducing social barriers, showing how it fostered inclusivity by helping children with special needs feel more integrated among their peers. Many researchers emphasised the distinctiveness of dance as a non-verbal form of communication, supporting more inclusive approaches to teaching, especially for kinaesthetic learners who benefit from movement-based methods. Furthermore, dance was frequently cited for its potential to promote cross-disciplinary learning, as it allows students to explore themes across various subjects through movement, vocabulary, and choreography. Lastly, a commonly recognised benefit was the positive impact of dance on students' confidence and self-esteem, which extended beyond dance itself to other subjects, including sports and physical education.

Despite numerous claims regarding the benefits of dance programmes for children, empirical evidence supporting these assertions is limited, particularly for nuanced benefits like social, personal, inclusive, cultural, and creative aspects. Research on the impact of creative dance on children's development is scarce and often relies on anecdotal evidence, with findings predominantly appearing in practitioner-oriented or popular literature rather than peer-reviewed journals. Many studies using quasi-experimental designs lack control groups or are affected by self-selection bias, as children are seldom randomly assigned to different groups. Moreover, evaluations of performance are frequently conducted by dance instructors who are aware of the participants' group assignments, which can introduce bias. While existing literature offers some valuable insights, there is a critical need for more rigorous empirical studies to establish the educational value of dance more firmly.

The following section presents 9 sub themes that summarise the benefits evidenced in the research. The subthemes are organised into 4 larger sections: health and wellbeing, cognitive and academic development, being and becoming and Diversity and Access (see Table 5). For each of the benefits, the amount of studies contributing to the theme will be discussed and types of research undertaken will be presented. Further, any debates among researchers relating to the theme will be noted.

Every study included in this review will either be directly discussed or referenced. Given that many studies address multiple themes, they will be cited across various subthemes where applicable. Not all studies contributing to a subtheme will be referenced due to the large volume of research. Instead, the studies most relevant to each subtheme, determined by the number of codes applied, will be explored in depth, including details of their study design and potential barriers. Additionally, studies that offer unique insights will be highlighted. Any particular national differences will be noted where they seem significant.

Our analysis produced a beginning list of the range of learning outcomes that have been evidenced in research. The vast majority of these benefits would be recognised by dance professionals as being intrinsic to the subject.

Main Theme	Subtheme	Codes
Health and Wellbeing	Cardiovascular Health & Weight Control	BMI, weight control, aerobic capacity, endurance, body fat reduction, obesity
	Motor Skills	Balance, strength, proprioception, synchronization, coordination, flexibility, rhythm
	Enhanced Body Awareness & Mind-Body Connection	Control of body, proprioception for other classes, physical growth
	Mental Health and Emotional Wellbeing	Better body image, confidence, participation, quality of sleep
Cognition	Cognitive Skills	Cognitive skills, creative thinking, problem-solving, focus, school readiness, time management, organisation, non-verbal, communication, working memory, spatial awareness
	Academic Development	Reading comprehension, literacy, language/vocabulary, multimodal learning, note-taking, research skills, embodied knowledge, cross-curricular learning, kinaesthetic learning
Being and Becoming	Personal Growth	Creativity, Self-expression, Personal growth, Imagination, Self-identity, Self-development, Sense of self, motivation leadership skills, career skills
	Social Skills	concentration, test-taking, organisation, behavioural, Communication, risk-taking, empathy, collaboration, team work, community, confidence, joy, excitement, trust, social competence, bonding, parent-toddler relationship, secure attachment
Diversity and Access	Inclusivity	skills for inclusion, reducing social gaps, skills for children with special needs, inclusion for children from different backgrounds, personal identity, shared identity
	Access	Participation access, access for all genders
	Cultural Awareness and Identity	cultural values, connection to their culture, cultural transmission, cultural maintenance

Table 4 Main review themes

The research on dance education underscored its wide-ranging benefits, with strong findings across both UK and international studies. Please see table 6 for an overview of benefits discussed. Social skills consistently showed as the most frequently cited benefit, reflecting dance's inherent collaborative and communicative nature (48 out of

70 studies). UK data aligns with this trend, with 13 out of 19 studies emphasising social skill development, which aligns well with national educational priorities focused on fostering teamwork, empathy, and interpersonal growth in students.

Type of Benefit	UK (out of 19)	Overall out of 70
Physical fitness and endurance	7	15
Motor Skills and physical activity	5	32
Enhanced Body Awareness & Mind-Body Connection	4	9
Mental health and emotional wellbeing	12	40
Cognitive Skills	5	15
Academic Development	9	22
Personal Growth	5	14
Social Skills	13	48
Inclusivity	4	8
Access	3	8
Cultural Awareness	0	8

Table 5 Type of Benefit – Note that, because some papers address more than one area, the numbers in the tables in this section do not correspond exactly to the numbers reported in Table 1.

Mental health and emotional well-being also rank highly in both UK and global research, signalling an increasing focus on student mental health in schools. Dance's unique capacity to provide emotional outlets and build resilience is particularly valued in UK education, where 11 studies specifically highlight these benefits, underscoring its relevance to the mental and emotional needs of young people. Cognitive and academic benefits, while traditionally less associated with dance, are highlighted in 40 international studies and acknowledged in UK research as well. With 5 and 9 UK studies citing cognitive and academic improvements, respectively, the data shows that dance can enhance memory, concentration, and problem-solving, skills that transfer to other subjects. There remains, however, an opportunity to expand this focus further in the UK to more comprehensively support dance's role in academic development.

In this review, four studies from the UK (out of 19) and eight studies overall, highlighted inclusivity as a benefit of dance education for children, suggesting a regional recognition of dance as a valuable tool for supporting inclusive learning environments. These studies show that dance can accommodate diverse learning styles and needs, providing an engaging platform for students who may struggle in traditional classroom settings. However, despite the growing body of research demonstrating these benefits, dance education remains marginalised within the UK school curriculum. While evidence supports its role in promoting inclusivity and supporting broader educational and personal development, dance is often sidelined, limiting students' access to its potential benefits.

Despite these strengths, gaps remain, particularly regarding cultural representation and specific dance forms. Few UK or international studies focus on how dance education can reflect diverse cultural backgrounds, even though this could enrich

students' cultural understanding and engagement. Expanding research in this area would ensure that dance programmes are inclusive not only in terms of learning needs but also in cultural representation, making them relevant to the UK's diverse student population., and a persuasive letter, in which they, as either character, argue why they should be allowed to marry a Montague or Capulet. To analyse these written outputs, we adopted measures used in the Randomised Controlled Trial which showed similar increases in range and sophistication with regards to vocabulary and grammar.

Health and Wellbeing

There is no universally agreed definition of health and wellbeing within the context of dance education. However the term "health and well-being" found in the included papers of our review is mostly delimited through a Western lens and culture of health which, alongside Western understandings of relationality and quality of life, includes a biomedical approach alongside psychological elements. Some researchers emphasised the physical dimension of health, particularly in relation to improving physical fitness through dance activities. However, health and wellbeing are also understood more holistically, encompassing not only physical but also psychological, mental and emotional aspects. Dance is seen as contributing to these interconnected dimensions, fostering mental health alongside physical well-being (Connolly et al., 2011).

Researchers continue to debate how to objectively evaluate the psychological benefits of dance, primarily due to the subjective nature of mental health outcomes. Although the body of research on dance's potential impact on well-being is growing, more studies are needed to achieve a thorough understanding. As noted by Connolly et al. (2011), while the positive effects of various physical activities on health are well established, dance remains relatively underexplored. Additionally, the phrase "health and well-being" in the context of dance education lacks a universal definition, complicating comparisons across studies. There is also a significant gap in research focused on how dance influences health and well-being through key themes such as identity, belonging, self-worth, creativity, embodiment, affective response, and aesthetics (Connolly et al., 2011). These complex themes pose measurement challenges but also present valuable avenues for investigation. Lastly, researchers emphasised that policymakers should consider incorporating dance programmes into schools as a means to promote physical health and engagement, particularly for girls, who often disengage from other forms of exercise during this developmental stage (Tao et al., 2022; Quin et al., 2007).

Our review noted a high number of papers investigating or focussing on the health and wellbeing benefits of dance for children. These benefits were further divided into subthemes: mental health and wellbeing (40), motor skills and physical activity (32), physical fitness and endurance (15), enhanced body awareness and mind-body connection (9).

A systematic review on dance interventions for children aged 3 to 14, covering 15 studies, found numerous health benefits, including increased physical activity, improved cardiovascular health, better body composition, enhanced physical fitness, and positive impacts on mental and social health. However, due to variability in the types of health outcomes studied, the review was largely focused on physical health (Elena Atencia-Rodriguez et al., 2024)

Mental Health and Emotional Wellbeing

While 40 studies highlighted the potential mental health benefits of dance, there are fewer randomized controlled trials (RCTs) specifically designed to assess these outcomes compared to physical health and motor skills. Mental health and emotional well-being are complex and subjective, making objective measurement difficult. As a result, many studies relied on self-reported questionnaires, interviews, or observations.

Dance's impact on *emotional well-being* was widely acknowledged in many included studies. Multiple sources indicated that dance not only provided an outlet for stress relief but also helped improve overall mood and mental health in children (Redding et al., 2011; Sharma et al., 2020; van der Graaf et al., 2024). Moreover, participation in dance increased emotional awareness and regulation (Anderson et al., 2024; Lobo & Winsler, 2006; Rajan & Aker, 2024; Stivaktaki et al., 2010 (Parsons & Dubrow-Marshall, 2018). One quasi-experimental study examined the effects of a combined creative dance and BrainDance programme on the health-related quality of life (HRQoL) of primary school students (Theocharidou et al., 2018). Their results showed notable improvements in children's perceptions of their general mood, reductions in stress and depressive moods, demonstrating dance's role in relieving tension and enhancing emotional awareness. Further, an experiment focused on African-American girls aged 8–10 and their guardians who participated in a two-year dance intervention showed significant health benefits. Among the girls in the dance group, fasting total cholesterol levels, low-density lipoprotein cholesterol, and depressive symptoms decreased significantly (Robinson et al., 2010). Similarly one case study investigating the educational outcomes of music and dance education in Ghanaian senior high schools, drawing insights from focus groups with students and interviews with educators, reported that students found dance classes to be a refreshing change of pace from their demanding schedules, offering a safe space to unwind, relax, and be happy (Petrie, 2020). Teachers and students alike recognised these positive mental health effects, with some noting that participation in dance reduced stress and fostered mental and emotional health. Similarly, in a case study including interviews and focus groups, exploring the perspectives of young women who had been participating in dance since preschool, one participant a 15-year-old girl explained, “I feel like more than anything dance has…taught me that I can control my body… and I sort of have some control over how I feel because…dancing makes me feel so much better. It’s a way of channelling my emotions and understanding them” (Katz, 2008).

Several studies also suggested that dance can significantly boost children's *self-confidence and self-esteem*, offering both physical and emotional benefits (Becker et al., 2018; Connolly et al., 2011; Gardner & Millard, 2021, 2021; Katz, 2008; Pereira & Marques-Pinto, 2017; Redding et al., 2011(Bunce et al., 2014; Elena Atencia-Rodriguez et al., 2024). For example, one randomised controlled trial (Lobo & Winsler, 2006) noted that the children in the dance group seemed to develop increased self-confidence in expressing themselves through movement. Young women participating in this dance programme reported gaining a sense of control over their bodies and minds, which in turn led to increased confidence. They expressed feeling more secure and patient with themselves, emphasising how dance helped them navigate emotions and stress more effectively. Further, one case study (Katz, 2008) observed that 30 young women in a 12-week creative dance programme experienced improvements in intrinsic motivation and reported that dance gave them a greater sense of control over their bodies and minds. This is supported by another quasi-experimental study as their findings indicated that participation in a creative dance class led to an increase in intrinsic motivation in children (Trinity Laban Conservatoire, 2015). By fostering a positive and supportive environment, these programmes nurtured children's self-belief and desire to learn, contributing to emotional growth.

Emotional benefits were also documented for students with emotional and behavioural difficulties. One intervention study investigated the effectiveness of dance movement therapy (DMP) in primary schools, and results showed significant improvements in children's overall functioning, well-being, sleep duration, and reductions in emotional and behavioural difficulties, as observed by teachers (Moula, 2021). Similarly, another case study aimed to introduce therapeutic dance and movement sessions for students with emotional and behavioural difficulties, revealing that these sessions were overwhelmingly embraced by both students and staff. Participants recognised their benefits in building confidence, fostering trust, and providing a format that enhanced self-esteem (Goodgame, 2007).

A key outcome identified in four studies is the improvement in children's *body self-concept* through dance programmes. Participants consistently reported increased self-acceptance, comfort with their bodies, and enhanced perceptions of their physical selves. For example, an intervention study (Studer-Luethi & Züger 2012) examined the effects of a four-week dance programme on children's development, including body self-concept. The results demonstrated significant improvements in overall body concept scores, particularly in self-acceptance. Children in the intervention group showed a greater increase in Self-Acceptance subscale scores compared to the control group. Similarly a UK based cross-over design study with 50 schoolgirls aged 13-14years found that six weeks of aerobic dance significantly reduced body image dissatisfaction in several areas, including feelings of attractiveness, feeling fat, salience (awareness of body shape and weight), and strength and fitness (Connolly et al., 2011). Further, parents of visually impaired children observed an increase in comfort within their children's bodies following participation in dance (Seham & Yeo, 2015). These improvements, encompassing both physical and emotional aspects, led to a more positive body image and heightened self-confidence among the participants.

Motor Skills and Physical Activity

Specifically *improved motor skills*, referred to as the ability to perform movements and tasks that involve the use of muscles, was the most frequently mentioned physical benefit alongside improved physical activity with 16 studies each (Becker et al., 2018; Burgess et al., 2006; Lamond, 2010; Makopoulou et al., 2021; Rudd et al., 2021; Singh & Devi, 2021; Stamou et al., 2019; Tunçgenç & Cohen, 2016). 5 out of 19 studies from the UK mentioned these benefits (Connolly et al., 2011; Payne & Costas, 2021). Studies demonstrated that dance has the potential to enhance both fine and gross motor skills in children, specifically they noted improvements in balance, muscle strength, synchronisation, proprioception, coordination, and rhythm. These improvements were particularly notable in areas such as sensorimotor synchronization, coordination, and movement adaptability. Dance programmes, whether structured or creative, appeared to promote these physical abilities, although the outcomes varied based on the duration of the intervention and the specific type of dance used.

For instance, a randomised controlled trial examined the impact of an eight-week dance programme on preschool children (Chatzihidiroglou et al. 2018). Those in the dance group showed marked improvements in their ability to synchronise movements with an external rhythm and demonstrated enhanced balance compared to a control group engaged in free-play activities, though the small sample size limits the generalizability of these findings. Similarly, a UK longitudinal study with almost 800 young dancers in the extracurricular CAT programme revealed improvements in physical attributes, including significant gains in upper body strength, flexibility, balance, and hip turnout (Redding et al., 2011). The inclusion of dancers from multiple

CAT centres across England added representativeness, enhancing the findings' generalisability. In addition, Theocharidou et al. (2018) conducted an eight-week quasi-experimental study integrating Creative Dance and BrainDance into a primary school PE programme. Improvements were noted in students' balance, control, coordination, and kinaesthetic awareness, though overall physical activity levels remained stable. The researchers suggested that a longer intervention might lead to further benefits across multiple health-related quality of life (HRQoL) dimensions.

Further, an eight-week aerobic dance intervention in a randomised controlled trial (Jouira et al. 2024) led to significant improvements in *postural balance*, particularly under conditions that challenged the vestibular and proprioceptive systems. However, the study did not measure vestibular function directly, highlighting the need for further research to confirm specific adaptations in this area. A RCT study about a seven-month educational dance programme on children aged five to six years, further revealed a significant improvement in the motor development of the intervention group compared to the control group, with the experimental group displaying motor skills that were, on average, nine months ahead of their peers (dos Anjos & Ferraro, 2018).

In the context of children with neurodevelopmental disabilities, Anderson's (2004) RCT explored the impact of a digital dance intervention on motor skills. The study found significant improvements in movement adaptability after only 10 hours of low-intensity participation, suggesting that even brief dance interventions can enhance motor skills in this population. On the other hand, a study by James Rudd (2021) on an eight-week dance programme in a primary school found that the physical benefits, particularly motor competence, were lower than expected. The researchers attributed this to limited movement practice and the nature of the creative curriculum, recommending that future interventions allow for more free movement, reduced instruction, and age-appropriate motor competence assessments to maximize physical benefits.

15 studies highlighted the benefits of *increased physical activity* through participation in dance programmes or interventions. These sources emphasised the value of culturally tailored and age-appropriate methods for promoting physical activity, such as dance interventions, which can be both engaging and enjoyable for children (Huang et al., 2012; Jouira et al., 2024; Parsons & Dubrow-Marshall, 2018; van der Graaf et al., 2024). However, more research, particularly high-quality randomised controlled trials are needed to confirm these findings and better understand the long-term effects of different physical activities on health outcomes. For instance, an RCT investigating an after-school dance programme for Year 7 girls found no evidence that the programme increased their physical activity (Jago et al., 2015). The study also highlighted the challenges of maintaining attendance in school-based physical activity programmes. On the other hand, a systematic literature review of 17 studies on the physiological and psychological benefits of dance for children concluded that dance is a viable and enjoyable alternative to traditional physical activities, helping to boost overall physical activity and fitness levels (Tao et al., 2022).

Physical Fitness and Endurance

Dance has been widely recognised for its role in promoting cardiovascular health and supporting weight control in children, as evidenced by 13 sources from various study designs. 5 out of 19 studies from the UK mentioned these benefits (Burgess et al., 2006; Connolly et al., 2011; Leonard & McShane-Hellenbrand, 2012). These studies highlighted how dance can enhance endurance, improve aerobic capacity, and assist in maintaining a healthy weight by reducing body fat. Additionally, 6 studies, using a range of methodologies, specifically link dance participation to a reduction in risk factors for chronic diseases such as heart disease, diabetes, and obesity. The importance of establishing healthy habits early through engaging activities like dance was consistently emphasised, with long-term benefits for children's overall health.

Several studies, using different research designs, underscore the positive impact of dance on *cardiovascular health* (Anjana et al., 2021; Hogg et al., 2012; Mavridis, 2004; Robinson et al., 2008). For example, a 16-week intervention study (Hogg et al., 2012) used a combination of an after-school dance programme and lifestyle education to examine cardiovascular health improvements in overweight and obese children. This study reported significant reductions in total cholesterol, LDL cholesterol, and non-HDL cholesterol. The findings suggest that moderate to vigorous physical activity, such as freestyle dance, paired with lifestyle changes, can produce positive cardiovascular outcomes. Another intervention study from India used a pre- and post-test design involving 23 participants who were taught a specific 10-minute dance routine with high- and low-intensity steps (Anjana et al., 2021). All participants reached 80% of their maximum heart rate and maintained this level throughout the routine. Statistically significant increases in heart rate (bpm) and VO2 (L/min) were observed after the intervention, indicating improved cardiorespiratory fitness. However, the small sample size limited the generalisability of these findings, and further research is required to assess long-term effects.

When examining the potential for dance to *manage weight*, the findings across various studies are mixed. A descriptive prospective study implemented a ballroom dance programme in elementary schools and found an improvement in BMI percentile, although the result was not statistically significant (P=0.051) (Huang et al., 2012). Similarly, a 16-week intervention study, which combined after-school dance with lifestyle education, observed a significant decrease in BMI percentile and body fat among overweight and obese children, suggesting that the effectiveness of dance interventions for weight management may depend on programme design, duration, and the characteristics of participants (Hogg et al., 2012). In contrast, a randomised controlled trial examined a culturally tailored dance and screen time reduction intervention, finding no significant difference in BMI change when compared to a health education programme. Nevertheless, participants in the dance and screen time reduction group experienced statistically significant reductions in fasting total cholesterol and LDL cholesterol compared to the health education group. These reductions, approximately 3.5 mg/dL and 3.0 mg/dL per year respectively, suggest a lower risk of future cardiovascular disease (Robinson et al., 2008).

In addition to benefits for weight management and cardiovascular health, several studies have demonstrated that dance also *enhances endurance and aerobic capacity* (Connolly et al., 2011; Olvera et al., 2013; Quin et al., 2007; Mavridis, 2004). For example, a UK-based intervention study involved adolescent girls in a six-week programme with five to twelve hours of high-energy contemporary dance classes (Connolly et al., 2011). The programme emphasised dynamic movement sequences and strength-building exercises, leading to a statistically significant increase in aerobic capacity among the participants. Similarly, an intervention study (Olvera et al. 2013) observed improvements in aerobic endurance through a summer intervention that included various dance styles, such as Rumba/Zumba, Hip-hop, cheerleading,

and modern dance, integrated into a broader exercise programme. Following the programme, participants completed a one-mile run/walk in significantly less time, indicating enhanced aerobic endurance. Although the intervention included additional activities besides dance, the observed endurance gains suggest a valuable role for dance within a mixed exercise regimen. Further underscoring dance's aerobic benefits, a UK experimental study (Quin et al. 2007) found that a 10-week creative dance programme led to a remarkable 44% increase in aerobic fitness among female participants, a statistically significant improvement.

Enhanced Body Awareness and Mind-Body Connection

Dance programmes, particularly those integrated into educational settings, have demonstrated a wide array of positive outcomes concerning children's body awareness, spatial understanding, and the mind-body connection, as highlighted by 9 studies (4 from the UK) in this review (Falkembach & Icle, 2020; Olga et al., 2018; Payne & Costas, 2021). These studies utilised various methodologies, ranging from quasi-experimental designs to qualitative case studies, providing diverse perspectives on how dance interventions enhance bodily awareness and foster a stronger connection between physical movement and mental processes.

Qualitative research, in particular, has offered valuable insights into how children's body awareness develops through dance. These studies often employed methods such as participant observation, interviews, and creative outputs like drawings and reflective writing (Becker et al., 2018; Katz, 2008; Leonard & McShane-Hellenbrand, 2012). Such methodologies effectively captured the evolution of students' understanding of their bodies and their relationship to space over time. Notably, Becker's (2018) study differentiated itself from typical dance programmes, which are often offered as electives or extracurricular activities, by integrating dance into the regular school curriculum, requiring participation from all students in the involved classes. This case study included interviews with 79 students, 8 classroom teachers, and 9 dance instructors and identified body awareness as one of the four most frequently cited benefits of the dance project. These findings are confirmed by another case study as student interviews revealed that many participants felt an increased comfort with their own movements, expressing greater confidence in performing in front of peers. This suggests that the opportunity to explore movement freely within a structured yet creative environment allowed students to feel more attuned to their bodies (Leonard & McShane-Hellenbrand, 2012).

Similarly, an ethnographic case study by Falkembach and Icle (2020) found that somatic dance practices could enhance body awareness and attentiveness among children, even within a formal school environment. The study illustrated how innovative teaching methods, incorporating somatic practices, helped students establish a more mindful connection to their bodies. These findings suggest that dance can promote not only physical coordination but also mindfulness and self-awareness in young learners. However, it is important to note that this evidence is primarily based on teacher observations and interviews, emphasising the need for further research to validate these insights more robustly.

Cognition

Among the 66 papers reviewed, 37 highlighted cognition and academic development as benefits of dance education for children (Buck-Pavlick, 2024; Cook, 2005; Deans, 2016; dos Anjos & Ferraro, 2018; Huang et al., 2012; Jackson, 2021; Singh & Devi, 2021). 14 out of 19 studies from the UK contributed to this theme (Connolly et al., 2011; LaMotte, 2018; Payne & Costas, 2021; Quin et al., 2007). Cognitive skills cover a broad array of mental abilities that help individuals process information, solve problems, and effectively apply learned knowledge. In this review, the papers discuss various cognitive and academic benefits associated with dance education, which is believed to stimulate both individual and group-based cognitive processes, positioning it as a distinctive tool for cognitive development.

Researchers have engaged in discussions about the cognitive and academic benefits of dance education, particularly regarding the intricate relationship between the type and intensity of dance and its cognitive outcomes. While some studies have emphasised transferable skills gained through dance, others have cautioned against viewing dance solely as a means to improve academic performance, highlighting its inherent aesthetic and expressive qualities (Dullea, 2022; Katz, 2008; Makopoulou et al., 2021). Conversely, there is a recognised need for supportive data in dance education to validate what educators observe and believe about student learning, as well as to challenge misconceptions that dance is not a vital component of a comprehensive education (Leonard & McShane-Hellenbrand, 2012). Compounding these discussions are methodological challenges, as many studies depend on anecdotal evidence, lack robust research designs such as randomised controlled trials, and face issues like self-selection bias.

Despite many claims about the benefits of dance programmes for children, empirical evidence to support these claims is scarce. Research on creative dance's effects on children's development has been minimal. Studies with quasi-experimental designs often lack control groups or suffer from self-selection bias, as children are rarely randomly assigned to groups. Additionally, performance evaluations are often conducted by dance teachers aware of the experimental conditions, introducing potential bias. Although current literature has provided some insights, there is a pressing need for rigorous empirical studies to solidify the educational value of the arts.

Cognitive Skills

15 (5 from UK) studies provided evidence of the *cognitive benefits* of dance for children (Buck-Pavlick, 2024; Edwards et al., 2016; Giguere, 2011; Leong & Hunt, 2004; Parsons & Dubrow-Marshall, 2018; Rudd et al., 2021; Stivaktaki et al., 2010; Studer-Luethi & Züger, 2012). For example, a randomised controlled trial design, offered strong evidence of the positive effects of an 8-week dance intervention on inhibitory control and working memory in children aged 6-7 years (Rudd et al., 2021). Both choreographed and creative dance groups showed significant improvements in inhibitory control compared to a control group. The choreographed group also demonstrated enhanced working memory, surpassing typical developmental expectations for their age. The researchers hypothesised that these cognitive improvements were linked to the mental demands of learning and performing complex dance sequences. Another study (Studer-Luethi 2013) employed a quasi-experimental design to investigate the potential cognitive benefits of dance, particularly focusing on spatial awareness. While the study suggested some benefits in this area, the findings were preliminary, and further research is needed to confirm these results and explore additional cognitive domains. Giguere (2007) provided

additional insight by focusing on the cognitive benefits of collaborative dance-making, which adds a social dimension to the primarily individual-focused findings of previous studies. The qualitative case study, using interviews and observations, explored how group dance fostered collective cognitive strategies. Through activities such as imitation, group discussion, and negotiating perspectives, children develop problem-solving and creative thinking skills while benefiting from the cognitive engagement that arises from working collaboratively. This study highlighted how group dance can enhance cognitive development through cooperation and shared creative processes, offering a more socially focused perspective on the cognitive benefits of dance.

Creative thinking and problem solving skills as a result of dance education for children were specifically mentioned in 14 studies. Leong Lai Keun (2006), in an observational study, examined the effects of a creative dance unit on problem-solving skills among seven-year-olds in Singapore. The study found that over five sessions, children demonstrated increased creative thinking through varied solutions to movement problems. A quasi-experimental design study (Minton, 2003), compared high school students taking dance classes to those who were not. While overall creative thinking scores did not differ significantly, dancers scored higher on measures of originality and abstractness, suggesting that dance enhances specific aspects of creative cognition. A quasi-experimental design study, which compared the creative thinking abilities of high school dance and non-dance students, found a significant difference in abstractness of titles scores between the two groups. This means that dance students showed a greater ability to capture the essence or general feeling of their drawings in a title, going beyond simply naming the objects depicted and therefore showed better abstract thinking skills. Further, a case study with middle school students demonstrated how dance activities encouraged children to think about their thinking processes, reflect on their choices, and develop strategic skills for planning, monitoring, and evaluating their work (Buck-Pavlick, 2024).

Nine studies demonstrated convincingly that dance education promoted *joy in learning* and *a sense of agency* in children by fostering motivation and ownership. Qualitative data from a randomised controlled trial involving 18 secondary schools in the UK supported this, with participants consistently reporting high levels of enjoyment throughout the project, despite fluctuating attendance and no significant impact on overall physical activity levels (Edwards et al., 2016). Other studies indicated that participation in dance programmes fostered intrinsic motivation, with children reporting greater enjoyment and satisfaction when engaged in supportive learning environments led by enthusiastic instructors (Stivaktaki et al., 2011). This intrinsic motivation often translated into increased engagement in academic pursuits. Additionally, studies emphasised the importance of ownership in the learning process, revealing that children who feel a sense of control over their dance experiences demonstrated higher levels of motivation and investment in their education (Connolly et al., 2011; Keun & Hunt, 2006; Sharma et al., 2023; Stivaktaki et al., 2010). For example, a mixed-methods case study, illustrated how a co-creative dance curriculum enhanced children's agency, ownership, and decision-making. Through guided improvisation, performance opportunities, and a responsive learning environment, the project fostered high levels of engagement and creativity, empowering children to actively shape their learning journey (K. Bond & Deans, 2012). Similarly, in a case study exploring the introduction of Dance Movement Psychotherapy (DMP) in a UK secondary school, the findings revealed that DMP expanded students' physical and psychological awareness, empowering them through increased agency and participation in learning (Parsons & Dubrow-Marshall, 2018).

One intervention study explored how a dance programme affects the cognitive abilities of typically developing children, specifically focusing on their *spatial*

reasoning skills by evaluating their capacity to determine the number of surfaces on three-dimensional objects. The findings indicated a significant improvement in spatial reasoning among the intervention group compared to the control group. This suggests that dance interventions could enhance spatial awareness in children, potentially boosting their performance in tasks that demand visual and spatial intelligence (Studer-Luethi & Züger, 2012).

Furthermore, three studies have indicated that dance can improve *concentration or focus*. A mixed-methods study, noted that participation in dance requires learning complex sequences of movements, which demands sustained attention and focus (Lobo & Winsler, 2006). A qualitative interview study with students and teachers and found significant improvements in student attentiveness during and after a school-based dance programme (Becker et al., 2018). Students reported feeling more focused not only during dance classes but also in their general academic activities, suggesting that the concentration skills developed in dance have broader applications.

Academic Development

22 studies (9 from the UK) mentioned academic benefits of dance education for children. More specifically, 6 studies underscored the diverse benefits of incorporating dance into educational settings, particularly in enhancing children's *reading comprehension* and *language acquisition*. For instance, Kyriaki Makopoulou's research on a Dance-Based Physical Education (DBPE) intervention demonstrated significant improvements in reading comprehension among Year 4 pupils compared to a control group. This quasi-experimental study involved the intervention group participating in eight DBPE lessons that used age-appropriate texts as inspiration for dance composition. Notably, this integration of dance not only enhanced vocabulary and text interpretation skills but also fostered greater creativity in students' engagement with reading. Similarly, an observational study (Leong & Hunt, 2004) explored a creative dance project titled "Dancing the Coral Reef" with Singaporean primary school children. The study found that participants exhibited improved language skills, as evidenced by their artwork and writing. Specifically, children began incorporating terms like "jellyfish" and "clam," which were reinforced during dance sessions, demonstrating a link between dance experiences and language development. A mixed-methods study investigated the effects of a curriculum-integrated dance programme on literacy and numeracy outcomes for New Zealand primary school children. While the programme did not result in statistically significant overall improvements in reading or math scores, it showed positive interaction effects for specific groups, particularly children of Asian descent and those with special needs, in reading. Additionally, qualitative data revealed that children felt the dance programme deepened their understanding of various subjects through embodied learning, helping them connect classroom concepts to physical movement (Sharma et al., 2023). For children learning English as a second language, the dance programme provided a valuable non-verbal means of communication and comprehension, facilitating their engagement with the curriculum.

Moreover, a handful of studies mentioned the benefits of *cross-curricular learning* (McPherson, 2014). A mixed-methods design study (LaMotte, 2018) illustrated the benefits of learning through an integrated curriculum that combined dance with transportation themes. This approach allowed students to explore concepts such as modes of transportation and environmental changes through movement, leading to significantly higher scores on transportation post-tests compared to those who received traditional instruction. Further reinforcing the value of cross-curricular learning, (Sharma et al., 2023) advocated for its incorporation into the New Zealand

primary school curriculum, emphasising its capacity to enhance learning across various subjects. Their mixed-methods study showed that dance engaged multiple learning styles and promoted a deeper understanding through embodied cognition and creative movement, effectively catering to diverse learning preferences and improving memory retention. A case study of a cross-curricular project called "Choreographing Global Flyways," which integrated dance with science further demonstrated the benefits of cross-curricular learning (Fattal & Needle, 2024). Middle school students learned about bird migration patterns and then choreographed dances to express their understanding of scientific concepts. This project not only enhanced students' understanding of both dance and science but also developed their creative problem-solving skills and their ability to communicate complex ideas through movement.

8 studies suggested that *kinaesthetic learning* through dance can significantly benefit a wide range of learners, particularly those who struggle with conventional academic approaches as it caters to diverse learning preferences and intelligences (Cook, 2005; J. Hanna, 2008; Katz, 2008; Leong & Hunt, 2004; Sharma et al., 2023; Studer-Luethi & Züger, 2012). Students who are kinaesthetically inclined often thrive in dance environments that allow for movement and physical exploration, highlighting dance's potential to create a more inclusive and effective learning atmosphere (K. Bond & Deans, 2012; Payne & Costas, 2021).

Similarly, several studies highlighted the benefits of *embodied cognition* in dance education (Fattal & Needle, 2024; Katz, 2008; Sharma et al., 2023). For instance, Katz (2008), in a case study on an after school dance programme, emphasised how dance fostered embodied cognition and multimodal learning, offering a distinctive educational experience that goes beyond traditional, mind-centred approaches. Fattal and Needle (2024) explored this further in their "Choreographing Global Flyways" project, where students used dance to "rethink animal postures and locomotion," developing a deeper, embodied understanding of scientific concepts. A mixed-methods study reinforced these findings, showing how a dance-integrated curriculum for teaching transportation concepts promoted deeper learning through the embodiment of knowledge (LaMotte, 2018).

An intervention study from Romania, further explored the broader educational benefits of dancesport for institutionalised children aged 11–12. This research assessed changes in learning strategies before and after a six-month programme, revealing improvements not typically emphasised in other studies (Tomescu et al., 2023). The dance programme enhanced students' ability to distinguish between important and irrelevant information, leading to more *organised note-taking*. Participants also exhibited improved *research skills, effectively accessing, recording, and presenting relevant information*. Additionally, students demonstrated significant progress in *test-taking strategies*, suggesting that the programme substantially increased their preparedness for assessments.

For young people identified as at risk of not succeeding in their transition from primary to secondary school, a 12-week creative dance programme, had a positive impact of dance on intrinsic motivation and the development of essential life skills. The study emphasised the importance of a "task-involving environment" where participants feel acknowledged for their efforts and accomplishments. This type of environment, fostered in the dance class, encouraged autonomy, relatedness, and competence, which are essential for psychological growth and well-being (Trinity Laban Conservatoire, 2015)

Being and Becoming

The studies reviewed consistently emphasised that dance education fosters holistic development in children, supporting not only physical movement but also social and personal growth, as well as social inclusion. Of the 70 studies explored, 48 underscored the broad developmental benefits of dance, particularly its positive impact on social skills. These benefits extend beyond physical activity to include critical aspects of personal growth, self-identity, and social integration. Together, these findings position dance as a multifaceted educational tool that promotes transformative outcomes for children. The subthemes were organised to reflect common themes across the literature, ranging from personal benefits to the development of social skills.

Debates amongst researchers highlighted the tension between technical skill development and the holistic benefits of dance, particularly in fostering social engagement and emotional growth. Researchers argued that a strong focus on technical aspects may obscure the valuable social and personal dimensions of dance (Goodgame, 2007; Studer-Luethi & Züger, 2012), while discussions also explored which dance styles, contemporary versus traditional, best support holistic development (Stivaktaki et al., 2010). Researchers underscored the need for innovative methodologies, including mixed-method approaches and phenomenological frameworks, to assess both the processes and outcomes of dance interventions, as well as the importance of valuing the experiential aspects of dance alongside measurable results.

Social Skills

The most frequently noted benefit of dance in this RER is its ability to enhance a wide range of social skills in children. A total of 48 studies discussed at least one social benefit of dance, with many highlighting multiple areas of improvement (Cameron Frichtel, 2017; Jackson, 2021; Lobo & Winsler, 2006; Muscat, 2023; Seham & Yeo, 2015; Sharma et al., 2020; Tunçgenç & Cohen, 2016; Winsler et al., 2011, 2019). In the UK 13 out of 19 studies contributed to these benefits (Lamond, 2010; Moula, 2021; Payne & Costas, 2021; Quin et al., 2007; Redding et al., 2011; Stamou et al., 2019). These areas include increased confidence, empathy, trust, collaborative skills, team-building abilities, behavioural improvements, and a stronger sense of community and collective identity. While several sources emphasised the positive effects of dance on children's social-emotional development, it is important to note that these discussions are primarily based on observations and anecdotal evidence rather than controlled studies. Despite the reliance on qualitative methods such as first-person accounts, interviews, and observations, the consistent recognition of these benefits across numerous studies underscores the significance of the social-emotional skills gained through dance education.

The *collaborative nature* of dance activities was highlighted in 32 studies, emphasising their role in fostering teamwork, communication, and social interaction among peers. These elements are crucial for helping children develop stronger social skills. For example, a case study focusing on student experiences in a school-based dance outreach programme at an urban elementary school illustrated how collaboration occurs among students themselves. In this programme, students actively engage in choreographing dances alongside their peers, which not only fosters cooperation but also promotes shared creativity and collective problem-solving. Here, teachers were seen as "helpers," guiding students throughout the creative process while allowing them to take the lead. This collaborative dynamic enhances artistic expression and reinforces the importance of teamwork in learning

(Cameron Frichtel, 2017). Similarly, a separate case study from Australia explored the experiences of high school teachers delivering the dance curriculum. This study described the dance studio as "a little oasis," providing a safe and supportive environment that allowed students to connect with one another and explore their emotions through movement. Within this setting, collaboration flourished, creating a community atmosphere where students felt comfortable expressing themselves freely. As a result, they developed stronger social connections and benefitted from the collective emotional support of their peers (Seham & Yeo, 2015).

In 27 studies, significant improvements in social competence and behaviour were identified as key benefits of dance education, with many highlighting increased confidence (Seham & Yeo, 2015; Place Partner Schools), enhanced self-esteem (Muscat, 2023), and stronger social bonds (Cameron Frichtel, 2017). For example, a randomised controlled trial by Lobo & Winsler (2006) found that low-income preschoolers who participated in an eight-week creative dance programme showed notably greater improvements in social competence compared to a control group. Over time, these children became more expressive both physically and verbally, grew more comfortable interacting with peers, and were more willing to take creative risks—improvements that parents and teachers also observed in reduced anxiety and aggression. Supporting these findings, a qualitative mixed-methods study in primary schools found that teachers observed improved classroom engagement and fewer disruptive behaviours following dance sessions. This suggests that positive experiences in the dance programme had a direct impact on students' behaviour and focus in class (van der Graaf et al., 2024). Similarly, a prospective longitudinal study by Winsler et al. (2011) found that children enrolled in music and movement classes (Kindermusik) developed better self-regulation skills, including increased inhibitory control and use of self-regulatory private speech, compared to their peers.

Further supporting the social benefits of dance, one quasi-experimental study found that engaging in synchronous movement with an out-group significantly increased *bonding* and *reduced bias* towards that group in children. This was measured through questionnaires and behavioural games. Moving together in time created a shared sense of identity and purpose, leading to feelings of unity and cohesion. These findings have important implications for understanding the development of intergroup relationships and the potential of interventions using synchronous movement to promote positive social change (Tunçgenç & Cohen, 2016).

Lastly, one study highlighted dance as a means to enhance parent-toddler relationships. Parent-toddler movement classes created a structured setting for caregivers and toddlers to connect through movement, promoting *secure attachment and emotional bonding*. This was achieved through activities that encouraged physical interaction, non-verbal communication, and emotional attunement between parent and child (Muscat, 2023).

Personal Growth

Our review highlights a strong connection between dance and the development of personal growth, self-identity, well-being, creativity, and related aspects. Within the broader theme of personal growth, we grouped concepts that emphasised the individual rather than the collective, including self-expression, career development, self-identity, motivation, creativity, imagination, and self-development. This theme was found across 14 papers in our analysis with 6 studies being from the UK (Becker et al., 2018; Dullea, 2022; Jackson, n.d.; Katz, 2008; McPherson, 2014; Minton, 2003; Rajan & Aker, 2024; Redding et al., 2011; Sharma et al., 2020; Stivaktaki et al., 2010). Most of the findings are based on qualitative research and personal experiences. While valuable, these findings would be strengthened by further quantitative research

to measure the specific effects of dance education on self-concept and related outcomes.

Most of the sources present *creativity and imagination* as key benefits of dance education, emphasising the role of dance in nurturing divergent thinking and fostering a creative mindset that can be applied in various contexts (McPherson, 2014; Minton, 2003; Redding et al., 2011; Sharma et al., 2020; Stivaktaki et al., 2010; Theocharidou et al., 2018). Many sources highlight the anecdotal experiences and perceptions of students and educators who see dance as a catalyst for creative thinking. For example, sources mention observations of improved imagination, concentration, problem-solving abilities, and contextual thinking in students engaged in dance (Becker et al., 2018; Dullea, 2022). A longitudinal study involving 800 CAT dancers found that participants exhibited high levels of self-perceived creativity, particularly when encouraged to explore from their individual starting points and when they felt safe and supported within their learning environment (Redding et al., 2011). A limited number of quantitative studies have investigated the relationship between dance and creativity. Some of these studies show promising results, with dance interventions leading to improvements in specific aspects of creativity, such as fluency, flexibility, originality, and elaboration (Makopoulou et al., 2021; Minton, 2003). However, some studies reveal no significant impact of dance on creativity, or the effects are inconsistent across different studies (Makopoulou et al., 2021).

Dance is presented as a medium for *self-expression*, allowing individuals to communicate thoughts, emotions, and experiences non-verbally. One mixed-methods study provides a specific example of how dance education can benefit self-expression in young children. In this study, a child chose to embody a coyote howling at the moon during a movement improvisation activity. Here dance allowed the child to express themselves non-verbally and their embodiment of a coyote suggests a deeper understanding of the animal's characteristics and behaviour (Deans, 2016). Similarly, a phenomenological study involving over 700 young people also noted that many participants described feelings of heightened self-awareness and the ability to transcend limitations and boundaries, with several noting that they felt truly alive or authentic only while dancing. Simultaneously, there were accounts of self-forgetfulness, where individuals became someone or something else during their dance experiences (Bond & Stinson, 2007).

As demonstrated in various studies of this RER, dance provided a space for individuals to explore and embody different aspects of themselves, contributing to a *deeper understanding of their identity* (Katz, 2008). A quasi-experimental study found that dance helped preschoolers develop a stronger sense of self-identity. This was reflected in the significant increase in scores on the "Identity of Self in Relation to Others" measure of the Desired Results Developmental Profile (DRDP) for those who participated in the dance programme compared to those who did not. Parents also reported a noticeable increase in their children's self-expression after participating in the programme (Rajan & Aker, 2024). Supporting this, one interpretive study including 600 young people aged 3 to 18 and various qualitative data collection methods, mentioned similar developmental benefits of dance for school-aged children, including increased self-confidence, initiative, drive, perseverance, character development, a sense of self, and purpose (M. E. Jackson, n.d.).

Several sources also highlighted dance as a powerful tool for *self-development*, fostering confidence, motivation, and a stronger sense of identity (Cameron Frichtel, 2017; Seham & Yeo, 2015 (Redding et al., 2011). A survey study focusing on dance access for blind children further supports this, showing positive effects on personal growth. Parents of blind children enrolled in a dance programme reported significant improvements in their children's confidence, motivation, and ability to express themselves (Seham & Yeo, 2015). Similarly in a case study, a teacher observed that

dance, specifically through flashmob participation, provided a platform for students to step outside their comfort zones and experience success, ultimately boosting their self-esteem (Gertler, 2013).

20 of the included studies also provided consistent evidence that dance education generated *joy and excitement* for students (Bond & Stinson, 2007; Yujuan, 2021). This positive effect is highlighted as a key outcome of dance programmes and is seen as intrinsically linked to the unique learning experiences offered by dance. Students across different age groups frequently expressed feelings of joy and excitement when participating in dance. In an interview study focusing on school-aged dancers, participants consistently used words like "fun, " "happy," "excited," "free of worry," "outgoing," "energetic," "pumped up," "in the zone," "focused," and "calming" when describing their dance experiences (M. E. Jackson, n.d.). Similarly, one mixed-methods study with 187 school-children (Sharma et al., 2020) noted the high levels of engagement and enthusiasm observed in children participating in dance programmes.

Dance education provides essential support for children's future careers, both within and beyond the dance field (Hanna, 2008; Jackson, 2021). Through dance, students develop essential transferable skills like discipline, teamwork, problem-solving, and creativity, which are valuable in many fields (Hanna, 2008; Jackson, 2021). While advanced programmes like the *CAT research project* (Redding et al., 2011) are tailored to guide young dancers toward professional dance careers, other research emphasised the broader career versatility that dance education fosters. One interview study (Jackson, 2021) with school-aged children and their parents, for instance, revealed that parents see dance as a foundation for developing discipline, teamwork, and creative problem-solving skills that apply to many career paths. Likewise, a literature review noted that even if students do not pursue dance, they often leverage the skills learned into careers in teaching, choreography, arts administration, therapy, and beyond (Hanna, 2008). This illustrates dance's impact on fostering both specialised and broadly applicable skills, supporting diverse career trajectories. Another ethnographic case study on Ghanaian high schools using a mixed-methods approach noted how music and dance education improved students' employability by developing skills relevant to both arts and non-arts sectors (Petrie, 2020).

Lastly, one quasi-experimental study (V. Hanna et al., 2020) explored the effects of dance therapy on motivational persistence in high school students aged 14-18. The research, conducted over six months, involved an intervention programme incorporating gymnastic movements and dance steps set to classical music. The findings revealed statistically significant improvements in the experimental group's motivational persistence, suggesting that dance therapy can positively impact students' drive and commitment to achieving their objectives.

Inclusivity and Access

A total of 16 studies in this RER addressed the theme of Inclusivity and Access, with 7 originating in the UK. These studies collectively emphasized how dance promotes inclusivity by enhancing social skills, reducing biases, and fostering supportive environments for diverse groups, including children with special needs, individuals from marginalized communities, and those with language barriers. Although the studies did not directly indicate that cultural and inclusive access to dance is less researched, the emphasis on other benefits and calls for more diverse research suggest these areas may be underexplored. Furthermore, while valuable examples of inclusivity were provided, creating welcoming and equitable dance spaces is an ongoing effort that demands regular reflection and adaptation. This is particularly crucial as researchers have found that culturally tailored interventions are often most effective for children from racial and ethnic minority backgrounds (Hogg et al., 2012).

With autism diagnoses rising among pupils in England, the debate over the most suitable educational settings for autistic students is ongoing. Many support mainstream education for its potential to foster social inclusion, with researchers suggesting that music and dance might further enhance integration (Parsons & Dubrow-Marshall, 2018).

As awareness grows around the inclusive benefits of dance, there is a push for more research on its impact across cultures and contexts (Katz, 2008; Moula et al., 2022). Researchers agreed that it is vital to study how culturally adapted dance programmes can promote inclusivity and accessibility in education for diverse communities. Authors also call for research in a wider range of settings to better understand these impacts (Edwards et al., 2016; Jackson, 2022; Makopoulou et al., 2021).

Inclusivity

The included studies have consistently demonstrated the ability of dance to foster inclusivity, creating environments where children of all backgrounds and abilities can thrive. In this review eight studies noted benefits for inclusion. Notably, four of the eight studies originated from the UK, highlighting a significant regional focus on the impact of dance in diverse settings. However, barriers to inclusive dance education still exist. For example, Seham (2015) emphasised the need to address societal and institutional challenges that limit access for children with visual impairments. The study called for greater awareness, specialised educator training, and inclusive practices to make dance education more inclusive and accessible for all children.

Dance offered an inclusive platform for children with special needs or learning difficulties, particularly those facing language barriers. In a randomized controlled trial by Lobo & Winsler (2006), 40 immigrant preschoolers were assigned to either a dance programme or an attention-control group. The study found that dance provided an accessible, non-verbal method of communication, allowing children who struggled with language to express their emotions and ideas through movement. This inclusivity fostered a sense of belonging and engagement, as participation in the dance programme significantly boosted the children's confidence and reduced behavioural issues.

Moreover, dance has shown significant potential in promoting the inclusion of autistic children. A study by Stamou et al. (2019) investigated the effects of music and dance activities on children aged 5–8 with autism, finding that these children exhibited levels of physical proximity to their peers comparable to those of typically developing children. This suggests that dance can effectively bridge the physical and social distances that often separate autistic children from their peers, fostering greater inclusion and social interaction. A case study emphasised the importance of inclusive

dance methodologies that specifically address the learning needs of students with vision loss. The study discussed successful integration of blind students into dance education through adapted techniques such as using touch to guide students through movements. This approach illustrated that dance education can be tailored to accommodate physical impairments, allowing full participation and enjoyment of dance's benefits.

Additionally, a case study by Goodgame (2007) focused on therapeutic dance and movement sessions with young people in Estonia facing challenges with expression and communication. This research highlighted how dance transcends language barriers, providing a unique means of expression that enables participants to engage and connect with others in ways that verbal communication cannot. The authors emphasized that, rather than being a hindrance, the language barrier served as motivation for exploring emotions and experiences beyond words. In another case study, a project utilised a structured writing template to help middle school dance students articulate their artistic choices. This template proved beneficial for students across a wide range of reading, writing, and English language proficiency, ensuring they could effectively express their understanding and engage in the critical analysis of their work (Buck-Pavlick, 2024). This highlights the broader scope of inclusivity in dance, extending beyond physical participation to encompass cognitive and communicative dimensions.

Furthermore, a qualitative interview study explored the experiences of school-aged dancers and their parents, revealing the critical role of peer relationships and mentorship within dance programmes. Participants reported forming strong bonds with their peers and viewed older dancers as positive role models, fostering a profound sense of belonging and inclusion (Jackson, n.d.). This sense of community is echoed in Cameron Frichtel's (2017) examination of leadership dynamics in dance settings. His observational and participatory study revealed that leadership is fluid and shared among students, with participants taking turns leading and following. This collaborative approach not only promotes a deeper understanding of leadership but also empowers every participant to contribute, enhancing the overall inclusivity of the programme.

Dance can also reduce social gaps by breaking down barriers between different social and cultural groups. Tunçgenç's experimental study on synchronised movement demonstrated that performing in unison with others reduced minimal group bias, leading to stronger bonds among diverse participants (Tunçgenç & Cohen, 2016). Similarly, Jackson's findings (M. E. Jackson, n.d.) emphasised that dance encourages cooperation and interaction among peers, effectively bridging social divides and creating opportunities for marginalised individuals to participate fully.

Lastly, a handful of studies highlighted dance as a medium for exploring both *personal and shared identity*. Dance allowed individuals to express emotions, thoughts, and experiences, creating a deep connection with their personal identity (Fattal & Needle, 2024; Hanna, 2008). This embodiment enabled participants to explore different aspects of their identity, experimenting with various forms of self-presentation (Cameron Frichtel, 2017). Dance also encouraged people to connect with their "authentic selves," fostering a sense of agency in how they move and express themselves creatively. Moreover, group dance experiences often cultivated a collective identity and shared purpose, particularly when exploring social themes or issues (Buck-Pavlick, 2024). Studies also showed that dance enabled children to engage with their surroundings and with others, fostering awareness of their own bodies and of others' feelings (Payne & Costas, 2021).

Cultural Awareness

Dance serves as a valuable medium for cultural exchange, offering participants a rich exposure to diverse dance styles, traditions, and perspectives worldwide. Despite its importance, cultural benefits are rarely highlighted in dance education research, with only eight studies in this review specifically addressing how dance fosters cultural competence by introducing students to various global dance practices. Notably, no UK study in the review directly measures cultural benefits, indicating a gap in the emphasis on cultural diversity within UK-based dance education research. This underrepresentation suggests an opportunity for UK programmes to expand their focus on cultural engagement, better supporting the diversity present in contemporary educational settings. Nevertheless a few international studies noted the cultural benefits of dance and these will be discussed below.

Through dance, individuals can explore and celebrate their ethnic, national, and other group identities, promoting self-esteem and cultural pride (Hanna, 2008). An ethnographic case study (Petrie, 2020) highlighted how music and dance education in Ghanaian schools imparted significant cultural values to students, particularly as traditional avenues for learning these art forms are declining. Dance classes provided students with a connection to their culture and empowered them to pass it on to future generations. An experimental study (Stivaktaki et al., 2010) specifically mentioned the role of Greek traditional dances in facilitating cultural transmission through movement and feeling, encouraging active participation in the cultural process. This aligns with a descriptive research study from India (Singh & Devi, 2021) where learning Bharatanatyam, a classical Indian dance form, is viewed as crucial for cultural maintenance and preservation amongst Asian Indian students. Lastly, a qualitative survey assessed the effectiveness of a five-week hip-hop dance intervention with 73 Mexican-American adolescents (ages 11-16) from a low-income charter middle school. The study underscored the importance of culturally relevant programmes, showing that the use of Hip-Hop, a style popular with the target group, led to high participation rates and notable improvements in self-efficacy and perceptions of neighbourhood barriers to physical activity (Romero, 2012).

Access

Dance has also been shown to significantly *improve access to participation* by breaking down barriers related to culture, language, and gender, with eight studies contributing to this subtheme and three studies from the UK. One intervention study with female students emphasised how positive reinforcement and peer critique in dance classes created a supportive environment where students received constructive feedback. This approach reduced the fear of judgment, making dance more accessible to students from all backgrounds (Connolly et al., 2011). Further, a quasi-experimental, longitudinal study with at-risk preschoolers also highlighted how dance can provide access to extracurricular activities for children who might not otherwise have the opportunity, offering them an inclusive platform for growth and expression (Rajan & Aker, 2024). Additionally, an evaluation report from the Place Partner Schools demonstrated how access to dance can shift attitudes, particularly among boys [citation]. Exposure to male performers in dance productions helped challenge gender stereotypes, leading to greater acceptance of dance as an activity for all. This underscores how dance programmes can open doors for individuals who may have previously felt excluded due to cultural, linguistic, or gender norms.

25 of the included studies also noted an increase in participation from students throughout the dance interventions or programmes and taking part in these activities boosted students *confidence in their physical abilities*. In a study from the USA (Andrea J. Romero, 2011) the implementation of a HipHop intervention in a middle school resulted in boys reporting a significant decrease in the perception of

neighbourhood barriers related to physical activity, highlighting an important shift in their outlook on resources available for exercise. Another UK based intervention study noted how their dance intervention successfully engaged adolescent girls that generally have lower participation in physical activities, thereby promoting a positive attitude towards physical exercise (Connolly et al., 2011).

Dance has also been instrumental in enabling non-verbal expression and communication for children with profound and multiple learning difficulties (PMLD). A case study on a Lancaster school programme for children with PMLD showed how dance provided a vital means of expression for students who struggle with verbal communication, empowering them to convey thoughts, feelings, and ideas through movement and fostering agency and inclusion (Lamond, 2010).

Implications and Conclusion

The concluding section of this review outlines its contributions to the understanding of dance education's broad impacts and synthesises key recommendations for educators, policymakers, and researchers. Recognising barriers like policy limitations, funding issues, and methodological challenges, the review organises the benefits of dance education for children ages 3-18 into four central themes. Across 70 studies, these benefits are categorised into: Health and Well-being, Cognitive and Academic Development, Being and Becoming, and Access and Inclusion. Previous reviews have largely focused on specific aspects of dance education, such as its health and well-being benefits in school children (Elena Atencia-Rodriguez et al., 2024), the impact of sports and dance on subjective well-being for young people (Mansfield et al., 2018), or the creative and aesthetic contributions of dance across the life course (Chappell et al., n.d.). However, this review is the first to compile all of these benefits in one comprehensive analysis. By consolidating findings from a wide range of studies, it provides a thorough view of the advantages of dance education, offering a resource that can guide future policy and research. Policymakers are encouraged to recognise the wide-ranging benefits of dance, which go beyond physical health to include cognitive and social advantages, distinguishing it from other physical education subjects.

While dance evidently deserves a more prominent place in the school curriculum, achieving this requires not only advocacy but also a shift in research methodologies and focus. The review highlights the pressing need for more empirical research in dance education, particularly studies that can provide robust evidence to inform policymakers. Future research should explore a variety of aspects of dance education, such as its impact on student learning, effective teaching strategies, and assessment methods. For instance, scholars have called for more studies on the relationship between dance and creative thinking (Minton, 2003), as well as the effects of dance on cognitive development and academic achievement (Makopoulou et al., 2021). There is also a need for research into cross-curricular programmes (Stivaktaki et al., 2010) and the impact of dance across different age groups (Dancing Effects on Preschoolers' Sensorimotor Synchronization, Balance and Movement Reaction Time - ArtsEdSearch, 2019; Jackson, 2021). The current lack of comprehensive research in these areas is a significant barrier to dance's wider acceptance and integration into school curricula. To address this gap, future research must expand its focus beyond the well-established health and well-being benefits of dance, examining its broader impacts on cognitive, academic, personal, and creative development. New methodologies are needed to investigate these dimensions more thoroughly, with a particular emphasis on mixed-methods designs. Such approaches would provide a more complex understanding of concepts like well-being, supported by qualitative data collection. This is aligned with previous research advocating for

more creative approaches to data collection, such as the use of film and arts-based methods, and the involvement of dance artists, practitioners, and participants as co-designers or contributors in the research process (Chappell et al., 2021). These innovative methodologies, when combined with traditional quantitative and qualitative methods, can enrich our understanding of the impact of dance education.

Apart from highlighting the need for more diverse research methodologies, most of the included studies emphasised the need to enhance the quality and accessibility of dance education. While many schools face a shortage of qualified dance instructors, effective teaching does not always require educators to be professionally trained dancers. Teachers often feel unprepared due to limited training and support but show significant improvement with proper guidance and resources. The review calls for increased professional development, partnerships with professional dancers, and additional funding to support high-quality, inclusive programmes. For example, the Ballet Ireland primary school programme, which integrated professional dancers into teaching and teacher training, improved both teaching quality and student engagement (Dullea, 2022).

Additionally, the review highlighted a gap in culturally tailored dance programmes in the UK, stressing that true accessibility in dance education requires representation of the communities it serves. As One Dance UK notes, “Dance will only be truly accessible when it fully represents the communities in which it takes place.” Resources from One Dance UK and Arts Council England support the development of culturally responsive programmes to enhance inclusivity (Equality Action Plan Guidance, n.d.; UK, n.d.). Without these programmes, student engagement can suffer, as young people often connect more deeply with material that reflects their cultural backgrounds. Programmes like the Bristol Girls Dance Project demonstrate the impact of offering diverse dance styles, music, and pacing to better align with students' cultural preferences (Edwards et al., 2016). Similarly, culturally integrated dance and music programmes in Ghana have empowered students to explore their heritage, using dance as a tool for learning societal values and history (Petrie, 2020). Expanding such programmes in the UK could foster a more inclusive environment, giving students from different backgrounds a greater sense of representation and belonging.

Despite its fundamental role in dance through peer collaboration and teacher guidance, touch remains underexplored in studies on dance education’s benefits for children's health and well-being. Most research on dance education for children focuses on physical, cognitive, and social aspects, neglecting touch’s potential contributions to mental and emotional health. However, some studies not included in this review have highlighted dance education’s role in artistic and aesthetic benefits, emphasising that touch is essential for building social bonds and trust, which are crucial for resilience and emotional healing (Chappell et al., n.d.). Research on affective touch, such as McGlone et al.'s (2014) work on C-tactile (CT) afferents, suggests that gentle, slow touch plays a role in stress regulation and resilience. McGlone's animal studies show that CT-touch interactions can reduce stress and enhance resilience, leading to plans to test these findings in schools. They aim to observe the impact of CT-focused peer touch among children, potentially validating the benefits seen in animal models (Walker et al., 2020; Cross-Party Group on a Fit and Healthy Childhood, 2022). If successful, this work could underscore gentle touch as a foundation for emotional resilience in educational settings. Dance education could be an ideal context for introducing safe, consent-based touch, such as incorporating CT-touch in warm-ups and teaching students positive touch practices. This approach could support emotional and social development and help prevent stress. However, integrating touch in schools is challenging due to "no-touch" policies and concerns over negative experiences. Emphasising consent-based, positive touch

could shift perceptions, allowing dance education to safely incorporate touch and address growing touch-deprivation caused by continued digitalisation and other factors, such as increasing screen time and reduced physical interactions.

Another essential aspect of dance education that warrants greater emphasis is the joy and fun that children experience, an element often mentioned briefly in research but rarely given focus. Fun not only motivates students but also supports their academic, emotional, and social development. Enjoyment serves as a powerful driver of intrinsic motivation, encouraging deeper engagement and long-term retention of knowledge (Ryan & Deci, 2000). Positive learning experiences also boost memory and foster a lifelong positive attitude toward learning (Fredrickson, 2001). For example, a National Dance Teachers Association survey (2004) found that over 50% of high school girls in England chose dance as their preferred physical education activity, highlighting how programmes that prioritize joy can increase participation and support wider developmental benefits. Given the joy children often experience through dance education and its associated benefits, studies should place greater emphasis on this aspect, and policymakers should recognise its value.

As the UK embarks on a new era following recent government changes, the cultural sector finds itself at a pivotal moment. With a renewed commitment to supporting the arts and moving away from divisive cultural debates (Hicks, 2020), this moment offers a unique opportunity to advocate for the role of dance in education. As Darren Henley, Chief Executive of Arts Council England, has emphasised, this is a critical time to ensure the value of dance is fully recognised in policy and funding decisions (Henley, 2024). Through continued collaboration, research, and advocacy, the future of dance education can enrich the lives of students across the UK, transforming not just their academic achievement but also their emotional well-being, creativity, and social connections. This review provides a hopeful outlook, offering a comprehensive contribution to the growing body of knowledge about the wide-ranging benefits of dance education, and advocating for a future in which dance is recognised as a vital, integral part of every child's educational journey.

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Appendix

Search String for Databases

[dance AND education AND (curriculum OR extra-curricular OR school) AND (children OR student OR pupil OR young people OR young adult) AND (movement OR physical education OR exercise OR community dance OR sport OR art) AND (value OR benefit OR impact)]

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