

Dance Intervention Programs And Their Health Benefits In School Children: Systematic Review Programas De Intervención En Danza Y Sus Beneficios Para La Salud En Escolares: Revisión Sistemática

María Elena Atencia-Rodríguez, Laura García-Pérez, Esther Puga-González, Rosario Padial-Ruz
Universidad de Granada (España)

Abstract. Dance intervention programs have been shown to be effective in promoting the overall health of children and adolescents between the ages of 3 and 14. The objective of this systematic review has been to analyze this discipline and the benefits it brings to the health of those who practice it. PRISMA 2020 guidelines were followed. A comprehensive search was conducted in four electronic databases: Web of Science, Scopus, MEDLINE and Proquest. The search terms used were: "Dance" and "Intervention" and "Health" and "Children" and "Adolescents". In total, 15 studies were included in the systematic review. After analyzing the results, it was concluded that dance practice can lead to improvement in all areas, with the most studied being those related to physical health, in particular with the improvement in physical activity (PA) levels, body composition and cardiovascular health.

Keywords: Child. Adolescent. Dance. Systematic Review

Resumen. Los programas de intervención en danza han demostrado su eficacia en la promoción de la salud general de niños y adolescentes de entre 3 y 14 años. El objetivo de esta revisión sistemática fue analizar esta disciplina y los beneficios que aporta a la salud de quienes la practican. Se siguieron las directrices PRISMA 2020. Se realizó una búsqueda exhaustiva en cuatro bases de datos electrónicas: Web of Science, Scopus, MEDLINE y Proquest. Los términos de búsqueda utilizados fueron: "Dance" e "Intervention" y "Health" y "Children" y "Adolescents". En total, se incluyeron 15 estudios en la revisión sistemática. Tras analizar los resultados, se concluyó que la práctica de la danza puede producir mejoras en todas las áreas, siendo las más estudiadas las relacionadas con la salud física, concretamente la mejora de los niveles de actividad física (AF), la composición corporal y la salud cardiovascular.

Palabras clave: Niño. Adolescente. Danza. Revisión sistemática.

Fecha recepción: 21-02-24. Fecha de aceptación: 26-04-24

Laura García-Pérez
lgperez@ugr.es

Introduction

The World Health Organization (WHO) states that health is the "state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity" (WHO, 2022). According to this definition, three types of health are established that make up integral health: physical (well-being of the body and optimal functioning), mental (absence of mental disorders and emotional well-being) and social (adaptation skills, self-management and satisfactory relationships).

WHO (2019) highlights that PA plays a crucial role in promoting health and well-being. In particular, it contributes to the prevention of noncommunicable diseases, reduces symptoms of depression and anxiety, improves cognitive and academic performance and promotes the healthy development of young people and the increase of emotional competence. Considering these benefits, this work has sought to explicitly focus on dance and its impact on physical, mental and social health within the educational setting.

Vicente et al. (2010), define dance as: "the unity formed by two essential elements, the motor and the expressive, which interact with certain biological, psychological, social, cultural and aesthetic elements and are shaped through spatial, temporal and rhythmic elements" (p. 43). This can be classified according to numerous criteria: geographical origin, movement style, discipline, purpose, musical characteristics, historical period, among others. In this review, it is offered an own classification, based on its

popularity and presence in the current scientific landscape, specifically in the field of intervention programs that use dance and its relationship with health. The following categories can be distinguished:

- Classical dances: with an established technical and stylistic base, such as classical ballet and contemporary dance.
- Urban dances: forms of urban movement such as hip hop, breakdancing and locking.
- Contemporary dances: they explore expressive and unconventional movements, combining modern dance and ballet techniques.
- Ballroom dances: social dances in pairs such as tango, waltz and salsa.
- Latin American dances: rhythmic styles such as salsa, merengue and cumbia.
- Folkloric dances: traditional dances that reflect the cultural traditions of a community, such as Mexican or Irish folk dance.
- Sports dances: styles that have become sports disciplines, such as sports dance and acrobatic dance.
- In addition, two emerging categories stand out in the last decade:
 - Exergaming: dances practiced through video games or interactive platforms.
 - Dance therapy: use of dance and movement as therapy to improve holistic well-being in contexts such as mental health or physical rehabilitation.

The health benefits of dance have been supported by numerous scientific studies (Alpert, 2011; Garcia, 2000;

Laban, 1985; Ollora et al., 2023; Ossoona, 1984; Vicente et al., 2010). From the physical point of view, it is an integral exercise that contributes to motor development, healthy habits and coordination (Laban, 1985; Ossoona, 1984). It also improves the kinesthetic sense, increasing the perception of the body in motion (García, 2000). In relation to mental and affective health, improvements are observed in quality of life, body image, general well-being, reduction of depression and anxiety, and improvement of memory and attention (Alpert, 2011; Ollora et al., 2023; Padilla & Coterón, 2013). In the social sphere, it encourages socialization and interaction, by adopting movement patterns accepted by society and promoting communication and expression through body contact and group coordination (Vicente et al., 2010). In addition, dance is a means of personal expression that allows individuals to materialize ideas, feelings and experiences (Vicente et al., 2010).

Throughout history, dance has been recognized in various social and cultural fields, but its presence in education was gaining importance from the last century (Brozas et al., 2011). However, its inclusion in the educational curriculum has been limited (López et al., 2020), mainly due to ignorance of its benefits for the integral development of people, its consideration as an eminently female activity and the lack of teacher training in this field (Herrera, 2020). It has generally been included as part of content blocks within other areas, such as Artistic Expression and Physical Education in Primary, and Music and Physical Education in Secondary (Vicente et al., 2010). This situation is common in most European countries and other continents (Torre et al., 2007).

Beginning in the 1950s, both descriptive and experimental research began to emerge that measured the results of the health benefits of dance (Alpert, 2011). At present, scientific production in this field is scarce and diverse, focused on the thematic areas of health, education and combined with other disciplines and educational subjects. Although the number of publications has increased significantly since 2010, with the United States being the country with the highest productivity index, it remains low, especially in relation to the benefits that this discipline brings to health. Therefore, the objective of this work was to carry out a systematic review of PA promotion programs, which have used dance in the educational field, to achieve an improvement in health in students from 3 to 14 years old; covering the stage of kindergarten, primary and the first two years of secondary education, thus coinciding with the end of the stage of early adolescence (10-14 years). The review had a double intention: to identify PA programs focused on dance in the educational field and to publicize the characteristics and benefits of these in the integral health (physical, mental and social) of the students.

Methods

Search strategies: databases and inclusion criteria

The review was conducted with reference to the PRISMA guidelines set out in "The PRISMA 2020: an updated guideline for reporting systematic reviews" (Page et al., 2021). The search was conducted during the month of February 2024, in the following databases Web of Science, Scopus, MEDLINE and Proquest.

The common keywords that were used in the selected databases were "Dance" and "Intervention" and "Health" and "Children" and "Adolescents", using the boolean operators AND and OR.

First, the Web of Science search was performed in its main collection, and a total of 156 queries were obtained. Subsequently, the search was refined by document type, excluding proceeding papers or review articles, reducing the number of research papers to a total of 127 articles.

In the case of the Scopus database, the search terms were contemplated within the categorization of "Article Title, Abstract and Keywords". They were: "Dance" and "Intervention" and "Health" and "Children" and "Adolescents". A total of 75 consultations were obtained. In addition, we refined the search by document type, excluding reviews, and reducing the number of research papers to a total of 53 articles.

For the MEDLINE search, the following search engine terms were used within the "All fields" categorization: "Dance" and "Intervention" and "Health" and "Children" and "Adolescents". In this case, a total of 54 queries were obtained. Next, the search was also refined by document type, excluding proceeding papers or review articles, reducing the number of research papers to a total of 44 articles.

Finally, for the Proquest database, search terms were examined within the categorization of "Any field except full text - NOFT". They were: "Dance" and "Intervention" and "Health" and "Children" and "Adolescents". A total of 168 consultations were obtained. In this database, the document type was excluded in the search options that appeared on the right of the page since there was no option to exclude document types in the search engine. To establish the final sample that makes up the body of the study, the following inclusion criteria were defined: a) written in Spanish or English; (b) scientific articles; (c) inclusion of the words dance, intervention, health, children and adolescents in the title, keywords or abstract; (d) study populations aged 3 to 14 years; (e) populations without any specific needs; (f) actual implementation of a dance-based intervention programme; (g) that aims to examine some kind of benefit around integral health; (h) peer review; (i) quantitative results.

Study selection process

All search results were exported to the Mendeley library

and duplicates were removed. They were then exported to the Rayyan platform for individual evaluation of each reviewer.

Two independent review authors searched databases for articles, analysed titles and abstracts. Potentially relevant studies were selected for recovery in order to assess their suitability according to the criteria cited above. Finally, the reference lists of all selected articles were also analyzed. Disagreements were resolved through a consensus meeting, and discrepancies between the two were resolved by a third reviewer.

Extraction process and data lists

Categorization and analysis were performed using the ATLAS.ti software (version 9). One reviewer extracted the data and another checked the accuracy of the data. The following characteristics were extracted and recorded for each included study:

Table 1: (1) articles; (2) authors; (3) year; (4) country in which the study was conducted; (5) type of activity; (6) sample; (7) population and age; (8) duration of the intervention. Item (5), type of activity, refers to the type of dance practiced by the participants.

Table 1.

Main data collected in the selected studies.

| # | Authors | Year | Country | Type of dance | Sample | Age | Duration of intervention |
|----|---------------------|------|---------|--|---------------------|----------------|--------------------------|
| 1 | Anjana et al. | 2021 | India | Bollywood dance | 23 G | 10-17 | 3 weeks |
| 2 | Moula et al. | 2020 | UK | Dance therapy | 62 | 7-10 | 8 weeks (1h/week) |
| 3 | van den Berg et al. | 2019 | Holland | Exergaming | 521 | 8-9 | 9 weeks |
| 4 | Cruz et al. | 2016 | USA | - | 648 | 3-5 | 2 years |
| 5 | Pope et al. | 2015 | USA | Exergaming | 212 (104 B / 108 G) | 8-14 | 18 weeks (30 min/week) |
| 6 | Azevedo et al. | 2014 | UK | Exergaming | 497 | 11-12 | 12 months |
| 7 | Gao et al. | 2013 | USA | Exergaming | 268 | 10-12 | 2 years (90 min/week) |
| 8 | Quinn | 2013 | USA | Exergaming | 86 (54 B / 32 G) | 10-12 | 6 weeks |
| 9 | Hogg et al. | 2012 | USA | Cha-Cha; Hip Hop; Swing | 61 (22 B / 39 G) | 9-11 | 16 weeks (4h/week) |
| 10 | Maloney et al. | 2012 | USA | Exergaming | 65 | 9-17 | 12 weeks |
| 11 | Rosemary | 2012 | USA | Break Dance | 73 (32 B / 41 G) | 11-16 | 5 sem(100 min/week) |
| 12 | Connolly et al. | 2011 | UK | Contemporary dance | 55 G | 14 | 6 weeks |
| 13 | Olvera et al. | 2010 | USA | Ballet; Rumba fitness; Latin dance; Modern dance; Line dance | 31 G | M: 10.3 ± 1.2. | 3 weeks (5h/week) |
| 14 | Robinson et al. | 2010 | USA | Traditional African dance; Hip hop; Step | 61 G | 8-10 | 12 weeks (5h/week) |
| 15 | Flowers | 1995 | USA | Hip hop | 81 (54% G / 46% G) | M= 12.6 | 12 weeks (150 min/week) |

Note 1: Girls (G); Boys (B); Mean (M); Week (Without).

Table 2: (1) study design; (2) objective; (3) type of intervention program; (4) variables; (5) instruments; (6) health benefits of dance.

Table 2.

Main data collected in the studies analyzed.

| # | Objective | Design | Intervention | Variables | Instruments | Conclusion/Benefits |
|---|--|-------------------------|--|---|--|---|
| 1 | To assess the THANDAV protocol among Asian Indian girls aged 10 to 17 years. | Quasi-experimental (GE) | THANDAV intervention: 2 min. 80% of MHR + 30 sec. 40%-60% of MHR + 30 sec. 40%-60% of MHR X 4 repet. Total:10 min. | Heart rate, energy expenditure, BMI and blood pressure. | OMRON machine (Omron, Vietnam), a digital monitor (Philips, Efficia monitors, CM10) and indirect calorimetry, MetaMax (MetaMax 3X; Cortex). | The intervention appears to be a fun and sustainable way to increase PA, improve cardiorespiratory fitness, and prevent noncommunicable diseases in Asian Indian adolescent girls. |
| 2 | To investigate the efficacy of an art therapy intervention on a range of quantitative and qualitative health indicators. | Experimental (GE/GC) | Art therapies: art therapy, drama therapy, dance therapy and music therapy. | Health-related quality of life (HRQOL), well-being and functioning (CORS), emotional and behavioral difficulties (SDQ), and sleep duration. | Quality of Life scale for children (HRQOL) (EQ-5D-Y) (Wille et al., 2010); Child Outcome Rating Scale (CORS) (Low et al., 2012), Strengths and Difficulties Questionnaire (SDQ) (Goodman, 2001) and Fitbits. | Art therapies had significant effects on the quality of life, sleep, and emotional and behavioral difficulties of the participating children. In addition, those who participated in dance movement therapy experienced a greater change in CORS score. |
| 3 | To investigate the effects of a program of active breaks through "Just Dance", on cognitive performance. | Experimental (GE/GC) | "Just Dance": Dance Moves (10 min) | Selective attention, inhibition, retrieval of semantic memory, aerobic fitness and PA. | D2 test (Brickenkamp & Oosterveld, 2012), stroop Color-Word test, shuttle Run, fluency Task, ANT and GT3x ActiGraph accelerometers. | The intervention had no impact on the children's cognitive performance or aerobic fitness. If they contributed about 3 min more MVPA during school hours. |
| 4 | To increase PA among American | Experimental | 5-30 min: ball | PA | Questionnaire used in a | Obesity-prevention-based |

| | | | | | | |
|----|--|----------------------------|---|--|---|--|
| | Indian and Hispanic preschool children living in rural areas. | (GE/GC) | playing, dance, active games, jumping and walking | | previous study of American Indigenous and Hispanic fourth and fifth graders (Going et al., 2003). | intervention was shown to be effective in increasing PA levels, with dancing being the one that increased significantly compared to CG |
| 5 | To investigate the effects of an exergaming program on PA related factors based on the Transtheoretical Model and children's physical activity levels. | Experimental (GE/GC) | Dance Dance Revolution: 30 min/1 time per week | Phases of change, decisional balance, self-efficacy and PA. | Questionnaire in young adolescents and Modification of the PA Pros and Cons scale for young adolescents (Norman et al., 2005), Physical Activity Confidence Scale Adolescent; Physical Activity Measure (Prochaska et al, 2021). | The intervention was effective in improving self-efficacy, decisional balance and PA levels. |
| 6 | To examine the effect of providing dance mats in public secondary schools to children aged 11-13 years on PA for 12 months. | Quasi-experimental (GE/GC) | Exergames: dance mats. Freedom of use of mats at school during physical education class, recess and extracurricular activity. | PA, weight, height, body fat, self-efficacy, health-related quality of life, and aerobic fitness. | Accelerometers (Actigraph GT3X, DynaPort MiniMod, stadiometer (Leicester Height Measure, Child Growth Foundation, London, United Kingdom), Children's Physical Activity Self-Efficacy Survey (García et al., 1998), Bleep test CD (How2become Ltd Kent, UK); Kidscreen-27(KIDSCREEN Group Europe, 2006) | The intervention proved to be particularly effective in controlling and reducing body weight and providing greater benefit than the traditional method. |
| 7 | To examine the impact of Dance Dance Revolution (DDR)-based exercise on the fitness and academic performance of Latino children. | Experimental (GE/GC) | Dance Dance Revolution: Exergaming-based exercise program (30 min: 15 min DDR and 15 min other aerobic exercises with dance, jump rope) | Cardiorespiratory fitness, BMI and academic performance. | Stadiometer, weight scale, subjects' reading and math scores for the Utah Criterion-Referenced Test (CRTs) | Overall, participation in the exergaming-based program demonstrated a positive long-term effect on children's cardiorespiratory and math outcomes. |
| 8 | To incorporate a video game system such as AF into a traditional physical education class to enhance the curriculum and increase student engagement and activity. | Quasi-experimental (GE) | Dance Dance Revolution with dance mats: Incorporation of exergaming in Physical Education class (1 hour) | PA | Physical Activity Questionnaire for Adolescents (PAQ-A);(Crocker et al., 1997). | This intervention has been shown to be effective in meeting state and national physical education standards while increasing PA in adolescents as a reductive measure in the face of the childhood obesity pandemic. |
| 9 | To assess the effectiveness of an after-school programme combining dance, nutrition and lifestyle modification in reducing risk factors for cardiovascular disease and type 2 diabetes mellitus. | Quasi-experimental (GE) | High intensity dances, continuous (mambo, Cha-cha, hip hop and swing) 60 min/3 days per week | Blood pressure, resting heart rate, and BMI. Biochemical risk indicators (Cholesterol and glucose) | Dinamap . C100 (GE Healthcare, Waukesha, WI, USA), scale (Detecto Scales, Brooklyn, NY, USA), stadiometer (Holtain Limited, Crymych, Dyfed, UK) and descriptive non-validated questionnaire regarding their current nutrition and PA practices. | The program has been shown to be effective in reducing risk factors for cardiovascular disease and type 2 diabetes mellitus in overweight and obese schoolchildren. |
| 10 | To examine the influence of Dance Dance Revolution on total physical activity among overweight and obese youth. | Experimental (GC/EC) | "Dance Dance Revolution": Incorporation of exergaming in the classroom. | Height, body fat, weight, VO2, BMI and PA. | Self-reported PA; Pedometers VKR Fitness model SD-01T Accelerometers. ActiGraph Activity Monitors models GT1M and GT3X worn; Minutes of DDR played over the 12-week. | Based on self-reporting measures, DDR may have increased PA levels in obese and overweight children. However, these results are questioned because analyses based on objective measures do not confirm them. |

| | | | | | | |
|----|---|-------------------------|---|---|--|--|
| 11 | To increase the frequency of PA, self-efficacy to break dance and decrease the perception of neighborhood barriers to exercise. | Quasi-experimental (GE) | Latin Active intervention: Break dance session (30 min), individual practice (10 min) and freestyle (5-10 min). | MVPA, self-efficacy and neighborhood barriers. | The California Healthy Kids Survey (CHKS) and Ambient Hazards Scale (Heath et al., 1993). | The Latin Active program significantly increased vigorous PA and dance and increased self-efficacy among girls, and it decreased perception of neighborhood barriers among boys. |
| 12 | To measure the impact of dance classes on the physiological and psychological health and well-being of young people. To assess young people's attitudes towards dance as a physical activity and their levels of motivation to participate in dance classes. | Quasi-experimental (GE) | Dance 4 your life project: Warm-up (5-10 min), structured exercises (25-30 min), improvisation and choreography exercises (15-20 min) and return to calm (5-10 min). | Upper body strength, flexibility, aerobic capacity, self-esteem, intrinsic motivation and attitudes towards dance and physical activities. | Sit-and-reach box (Micro Medical, UK), dynamometer (Takei, Japan), the 20-metre shuttle run test, the Children's Effort Rating Test (CERT) (Williams et al., 1994), the Rosenberg self esteem scale (Rosenberg, 1965), intrinsic motivation inventory (McAuley & Tammen, 1989) and researcher-devised questionnaire. | The program had a positive impact on both participants' physical and psychological well-being, with significant changes in aerobic capacity, upper body strength, and self-esteem. In addition, it was found that adolescents showed high levels of intrinsic motivation towards dance. |
| 13 | To determine which types of PA generated greater amounts of moderate-vigorous PA in overweight minority girls. | Quasi-experimental (GE) | BOUNCE intervention: Flexibility session (30 min). Sports skills session (60 or 105 min) or a games session (75 min). Traditional fitness session (60 min). Dance session (60 min). | MVPA | Actical accelerometer. | In the study, traditional fitness activities were found to be the most effective in achieving a higher level of MVPA in overweight girls. Among these activities, step aerobics and rumba fitness showed the highest proportions of MVPA, followed by spinning/circuit training and salsa. |
| 14 | To test the feasibility, acceptability and potential efficacy of after-school dance classes and a family intervention to reduce television viewing, thereby reducing weight gain, in African American girls. | Experimental (GE/GC) | MVPA dance session (45-60 min). Talks on health (30 min). | BMI, waist circumference, Total cholesterol, HDL-cholesterol, LDL-cholesterol, Triglycerides, Glucose, Insulin, reported media use behaviors, overall dietary intake, PA, eating disorder risk, self-esteem and school performance. | Stadiometer (Shorr Productions, Olney, Md), Electronic scale (SECA Model 770), 24-hour dietary recalls on non-consecutive day, Computer Sciences and Applications (CSA) accelerometer, Blood samples, Over Concerns with Weight and Shape subscale of the McKnight Risk Factor Survey, 10-item Rosenberg self-esteem scale and 10 point scale of "most recent school grades" | The intervention had a positive impact on participants' weight, PA, mental health and academic performance, but had no significant effect on overall food intake. |
| 15 | To determine whether Dance for Health has a significant effect on improving aerobic capacity, helping to maintain or decrease weight, and improving attitudes towards PA and physical fitness. | Experimental (GE/GC) | Dance for Health : 3 dance sessions/week (50 min each). 2 health education/week (30 min each) | BMI, heart rate, mile running, feeling of physical education and feelings of sweating. | Questionnaire designed to measure attitudes about physical activity. | The Dance for Health program has been shown to be effective in improving fitness and reducing weight in Hispanic and African American minority adolescent girls. |

Note 2: Body mass index (BMI); Physical activity (PA); Moderate-vigorous physical activity (MVPA); Week (week); Minutes (min); Maximum heart rate (MHR); Experimental group (EG); Control group (CG)

Risk of bias assessment of individual studies

Risk of bias in each eligible article was performed using a dichotomous (yes/no) nominal scale, which was

developed to assess sample adequacy in all 15 studies. The agreement among evaluators, regarding the classification of the data collected from the included documents, was 93%.

Results

Selection of studies

The PRISMA flowchart (Figure 1) illustrates study identification, selection, eligibility, and inclusion. The database search yielded 392 articles. In total, 15 studies were eligible for inclusion in the analysis of this review.

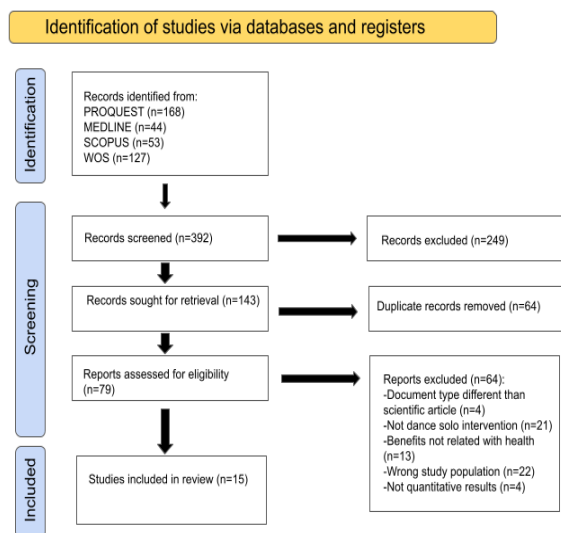


Figure 1. Organizational chart for the selection of research papers

Results regarding the characteristics of the selected studies

The total sample, of the 15 articles included, was 2,744 participants. In terms of the gender of the participants, only 10 studies provide this information (1,180 participants). Of these, 753 girls (63.81%) and 427 boys (36.19%) were considered.

Regarding the date of publication of the studies examined (Figure 2), there was an increase in the production of literature between 2012-2013, with 2012 being the most productive year, with 20% of studies (n=3), followed by 2013 (n=2; 13.33%) and 2010 (n=2; 13.33%).

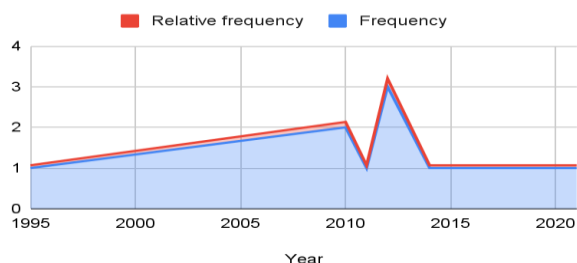


Figure 2. Frequency and relative frequency of literary production over the years

In relation to the type of dance used in the interventions (Table 3), and taking into account that some of them use more than one type of dance in their intervention, exergaming (n=6) and urban dances (n=5) were the most

used. They are followed by sports dance (n = 3) and folk dance (n = 2). Within the exergaming category, 4 of them put into practice the game Dance Dance Revolution (n = 4). Studies also showed interventions regarding classical, contemporary or ballroom dance with a lower frequency. Dance therapy interventions are also present in this work highlighting the power of dance as a therapeutic tool.

Table 3.

Type of dance used in the interventions of the selected articles

| Type of dance | Number of articles | Percentage |
|------------------|--------------------|------------|
| Classical | n=1 | 6,67% |
| Urban | n=5 | 33,33% |
| Contemporary | n=1 | 6,67% |
| Folk | n=2 | 13,33% |
| Sportive | n=2 | 13,33% |
| Latin | n=1 | 6,67% |
| Ballroom dancing | n=1 | 6,67% |
| Exergaming | n=6 | 40% |
| Dance therapy | n=1 | 6,67% |

When classifying the jobs according to educational stage (Table 4), it was found that 80% of the population belonged to primary school (n=12), followed by secondary school (early adolescence, up to 14 years) (n=6).

Table 4.

Educational stage in which the selected articles have been intervened

| Educational stage | Number of articles | Percentage |
|-------------------|--------------------|------------|
| Nursery school | n=1 | 6,67% |
| Primary school | n=12 | 80% |
| High school | n=6 | 40% |

Regarding the design of the study, of the 15 studies analyzed, the experimental one prevailed (n=8; 53.3%) with an EG and a CG in the intervention.

The duration of the intervention (Table 5) predominated the programs of 1 to 3 months (n=11; 73.33%). However, interventions could be found for up to 24 months.

Table 5.

Duration of interventions in selected articles

| Duration of intervention | Number of articles | Percentage |
|--------------------------|--------------------|------------|
| 1 to 3 months | n=11 | 73,33% |
| 3 to 6 months | n=1 | 6,67% |
| 6 to 12 months | n=1 | 6,67% |
| 12 to 24 months | n=2 | 13,33% |

Regarding the variables examined, they were also diverse. The most analyzed were those related to physical health (n=14), followed by mental health (n=8) and social health (n=5) (Table 6). Within the variables belonging to the physical health dimension, PA and BMI were examined in n=6 studies, while cardiovascular frequency and aerobic fitness in n=3. In relation to mental health, the most frequent variables analyzed was self-efficacy (n=3). With regard to social health variables, academic performance (n=2) and quality of life parameters (n=2) should be highlighted.

Table 6.

Types of health that are analyzed in the selected articles

| Dimension of health | Number of articles | Percentage | Variables belonging to each dimension | Frequency | Percentage (variables) |
|--|--------------------|------------|--|-----------|------------------------|
| Physical health | n=14 | 93,33% | Physical activity | (n=6) | 40% |
| | | | BMI | (n=6) | 40% |
| | | | Heart rate (cardiovascular health) | (n=3) | 20% |
| | | | Aerobic fitness | (n=3) | 20% |
| | | | Blood pressure | (n=2) | 13,33% |
| | | | MVPA | (n=2) | 13,33% |
| | | | % body fat | (n=2) | 13,33% |
| | | | Quality of life parameters (physical health) | (n=2) | 13,33% |
| | | | Physical condition | (n=2) | 13,33% |
| | | | Cardiorespiratory fitness | (n=1) | 6,67% |
| | | | VO2 | (n=1) | 6,67% |
| | | | Energy expenditure (metabolic health) | (n=1) | 6,67% |
| | | | Dream | (n=1) | 6,67% |
| | | | Mental health | n=8 | 53,33% |
| Academic performance | (n=2) | 13,33% | | | |
| Self-esteem | (n=2) | 13,33% | | | |
| Quality of life parameters (mental health) | (n=2) | 13,33% | | | |
| Cognitive processes | (n=1) | 6,67% | | | |
| Intrinsic motivation | (n=1) | 6,67% | | | |
| TCA Risk | (n=1) | 6,67% | | | |
| Emotional and behavioral difficulties | (n=1) | 6,67% | | | |
| Social health | n=5 | 33,33% | Quality of life parameters (social health) | (n=2) | 13,33% |
| | | | Academic performance | (n=2) | 13,33% |
| | | | Neighborhood barriers | (n=1) | 6,67% |

Regarding the data collection instruments, a high variability can be seen in the selected studies, finding only two types of recidivist instruments, accelerometers (n=4; 26.67%); used to monitor PA and the Rosenberg Test (n=2; 13.33%) to measure self-esteem.

Finally, in terms of the results obtained, 86.7% (n=13 articles) reported significant positive improvements in several variables related to different types of health. Two articles found no significant differences in any of the study variables. We found no studies with negative significance.

Discussion

Benefits of dance in integral health

The study published by Fancourt & Finn (2019) indicates that the practice of dance as an art form contributes positively to the integral health of the population. Dance-based intervention programs have demonstrated numerous health benefits within the educational setting. In particular, most of the articles selected in this study have measured some variable related to physical health, the most frequent being PA levels, body composition, physical fitness and cardiovascular health (Anjana et al., 2021; Azevedo et al., 2014; Cruz et al., 2016; Gao et al., 2013). This is especially relevant due to the close relationship between childhood obesity and global health (Ceballos et al., 2019). Childhood obesity is considered a nutritional epidemic of the twenty-first century and presents significant challenges for the physical (type 2 diabetes, hypertension and dyslipidemia) and psychological health of young people. To address these challenges, different studies highlight the importance of

increasing PA levels and reducing sedentary time in front of screens as an improvement strategy (Delgado et al., 2022; Cruz et al., 2016; Maloney et al., 2012).

Dance has been shown to be a favorite activity among children, providing moderate to vigorous PA levels, making it an effective tool for modifying these levels and improving overall health (Hogg et al., 2012; van den Berg et al., 2019). In addition, dance involves a high energy expenditure, the continuous use of muscle strength and the development of aerobic capacity (Morente & Calvo, 2020), which makes it a fundamental practice to increase adherence to PA and, therefore, benefit integral health. This has been demonstrated by several studies analyzed, confirming that dance increases the practice of PA (Anjana et al., 2021; Conolly et al., 2011; Cruz et al., 2016; Olvera et al., 2010; Pope et al., 2015; Quinn, 2013; van den Berg et al., 2019) and has positive effects on improving non-communicable diseases such as type 2 diabetes mellitus (Hogg et al., 2012), cardiorespiratory fitness (Anjana et al., 2021; Gao et al., 2013) and the reduction of body weight (Azevedo et al., 2014), thus contributing to the reduction of childhood obesity (Azevedo et al., 2014; Quinn, 2013).

Next, the second most studied variable in this review focuses on mental health. The most analyzed parameters include self-efficacy, academic performance, quality of life parameters and self-esteem, among others (Conolly et al., 2011; Moula et al., 2020; Robinson et al., 2010).

A relationship has been established between PA and levels of self-esteem and self-concept (Álvarez, et. al., 2019; Cascales and Prieto, 2018), so it is relevant to find methodological approaches that improve these aspects in the school environment. In this sense, dance is presented as

an effective discipline, since it connects body, mind and spirit, generating positive feelings that foster self-confidence, improve self-concept and increase self-esteem (Vergara et al., 2020).

Finally, the social health variable had a lower presence in the selected articles. Related parameters include quality of life parameters, academic performance, and neighborhood barriers (Moula et al., 2020; Romero et al., 2012). Despite its lower presence in the review, dance offers a great opportunity to improve interpersonal relationships. By practicing it, people can establish bonds of friendship with others who share similar interests, which contributes to strengthening self-confidence, reducing anxiety and increasing satisfaction and self-esteem in children and adolescents (Vergara et al., 2020). In addition, dance can have a positive impact on academic performance and serve as a preventive measure against social problems, illicit substance use and even suicide (Sánchez et al., 2011).

Most popular dance genres in education

Exergames, such as Dance Dance Revolution, are considered a category of interactive dance video games designed to reduce sedentary activity and promote a healthy lifestyle (López-Serrano et al., 2017). Participation in intervention programs that include this dance modality has shown positive effects on physical health, such as improvements in body composition (Azevedo et al., 2014), increased PA (Anjana et al., 2021; Conolly et al., 2011; Cruz et al., 2016; Olvera et al., 2010; Pope et al., 2015; Quinn, 2013; van den Berg et al., 2019) and cardiorespiratory benefits (Anjana et al., 2021; Gao et al., 2013). In addition, it has been shown that it also positively influences mental and social health, increasing self-efficacy (Pope et al., 2015) and improving academic performance, specifically, the scores of the subjects of Mathematics and Reading (Gao et al., 2013).

Importantly, children show a greater preference and motivation for interactive dance video games compared to other types of video games (Maloney et al., 2012; López-Serrano et al., 2017). These games not only generate interest, but also favor disinhibition and encourage active participation, even in male children and adolescents. Therefore, exergames seem to be a safe, fun and valuable option to reduce sedentary activity and promote a healthy lifestyle (Sales, 2020).

On the other hand, urban dance has been widely used in development programs aimed at disadvantaged youth groups. Its value has been recognized both as a form of healthy physical exercise and as a means of artistic expression that connects directly to their social needs, interests, and demands (Valdés et al., 2022). In addition, its transformative potential as a tool for socio-educational intervention in youth in general, especially during adolescence, has been highlighted, as it contributes to improving resilience (Harris et al., 2011). In the study

conducted by Valdés et al. (2022), the benefits of urban dance in an adolescent population were examined, and feelings of freedom, satisfaction and joy were observed after classes. Most participants recognized that the practice of urban dance allowed them to escape their everyday problems, and even helped them overcome them or at least face and manage them more effectively. These results coincide with the findings of research conducted by Romero (2012) and Robinson et al. (2020).

Finally, folk dance plays a crucial role in education, as it not only preserves and transmits the cultural traditions of a people, but also contributes to the integral development of people. Through folkloric dance, students have the opportunity to connect with their cultural heritage, strengthen their identity and understand the diversity of artistic expressions existing in the world (Pastor and Morales, 2021). Despite their importance, educational research has paid little attention to these dances, and only two selected studies have been conducted that implemented intervention programs based on folk dances (Anjana et al., 2021; Robinson et al., 2010), which points to the need for future research to demonstrate its benefits. Traditional or folkloric dances are not usually incorporated into classrooms, and their permanence depends on the personal interest of some teachers (Vicente et al., 2010). Two fundamental reasons that contribute to this exclusion are the low relevance given to them in the curriculum by teachers and legislators, and the incomplete initial training that future educators receive in this field (Díaz, 2012).

Gender gap in educational dance intervention programs

Educational dance is a powerful tool to foster the physical, emotional and cognitive development of individuals. However, it is clear that there is a marked gender gap in intervention programmes in this field. In the present systematic review, the presence of the female gender in those articles that specify it in their sample has been greater than the male gender. It should be added that 4 of the selected articles have an exclusively female sample (Anjana et al., 2021; Connolly et al., 2011; Olvera et al., 2010; Robinson et al., 2010).

The way a society or culture defines masculinity and femininity is reflected in dance expressions (Párraga et al., 2022). In Western society in general, the notion has been established that masculinity is associated with mind and reason, while femininity is linked to emotionality and the body. This differentiation of roles has led to the exclusion of women for a long time in activities considered rational, and men in those related to the body and "irrationality" (Rodríguez, 2018). Therefore, it is not surprising that dance has been perceived, and even continues to be, as a "feminine" activity, where men occupy a secondary place and their participation is mainly limited to the roles of power in the institutions where it is practiced (Fort i

Marrugat, 2015). In the educational field, the dance experience gives students the opportunity to understand how gender identities are constructed and how gender can be used as a means to challenge culturally accepted patterns that perpetuate inequalities. In this process, the role of the teacher is fundamental, since the repertoire and methodology used will influence the perception that students have of it. Teacher training must include the necessary skills to eliminate discriminatory aspects, stereotypes and social constructs that limit the understanding and appreciation of this art form (Llopis, 2013).

The results of the present review, regarding the benefits of dance participation, should be interpreted with caution and take into account the following limitations. First, the high level of heterogeneity detected in the included studies regarding the type of dance carried out. Second, the disparity of the variables and instruments used to assess health improvement makes it difficult to compare the findings produced. Finally, most interventions were of short duration, ranging from 1 to 3 months, leaving open the question of long-term effects that still need to be investigated.

As a limitation of the study, the type of health and the variables within each of them, the analysis is very diverse, with physical health being the most discussed topic in the articles. More studies are needed in each of the health areas described in this work, especially in mental and social health, to reach more reliable conclusions about the benefits of this sport.

Conclusion

By way of conclusion, it can be affirmed that the studies included show that participation in dance, in the school environment, brings numerous benefits to the integral health of schoolchildren. In the physical dimension, dance programs have proven to be significant in increasing physical activity levels and enhancing students' physical composition. Similarly, they have also shown implications for cardiovascular health and physical fitness levels. Concerning mental health, there is a recognized link between physical activity (PA) and levels of self-esteem and self-concept. In this regard, dance emerges as an effective discipline as it integrates body, mind, and spirit, engendering positive emotions that nurture self-confidence, enhance self-concept, and elevate self-esteem. Finally, in the social dimension, dance fosters bonds of friendship, thereby contributing to the reinforcement of self-confidence. Hence, the inclusion of dance in the classroom exhibits a positive effect on improving social relations among students, thus fostering a conducive classroom atmosphere.

including physical, mental and social aspects. In addition, it is important to note that the most popular dance

genres in the educational field are exergames and urban dance, while traditional dance has a more limited presence even though its contribution to cultural heritage is a key factor. It is critical to address the gender gap in educational dance programs to ensure equitable participation and provide opportunities for all students to enjoy the myriad benefits dance provides.

This paper provides specific guidance to monitors, practitioners, dancers and teachers of Physical Education for the implementation of dance programs adapted to an educational context and aimed at a population ranging from 3 to 14 years, with the purpose of promoting integral health.

As future lines of research, it would be interesting to focus on the comparative analysis of the health effects between dance and other types of PA. Moreover, the existing scientific literature highlights the pressing need for additional intervention studies to delve into the effects of the diverse facets of holistic health discussed in this article. Particularly, there is a dearth of research in the domains of mental and social health, especially among younger age groups and individuals without underlying pathologies. Expanding research efforts in these areas could provide valuable insights into the nuanced influences of dance programs on mental and social well-being across different demographics and contexts.

Acknowledgment

This work arises from a European Erasmus+ KA2 RESUPERES project. Therefore, the research team is thanked for their contribution during the process.

Financial support

Open access funding provided by University of Granada.

References

- Alpert, P. (2011). The health benefits of dance. *Home Health Care Management & Practice*, 23(2), 155-157. <https://doi.org/10.1177/1084822310384689>
- Alvarez, C. E., Herrera Monge, M. F., Herrera González, E., Villalobos Viquez, G., & Araya Vargas, G. (2019). Sobrepeso, obesidad, niveles de actividad física y autoestima de la niñez centroamericana: un análisis comparativo entre países. *Retos*, 37, 238-246. <https://doi.org/10.47197/retos.v37i37.71680>
- Anjana, R. M., Nitika, S., Sinha, S., Kuriyan, R., Pradeepa, R., Palmer, C., Kurpad, A. V., Mohan, V., Sallis, J., & Ranjani, H. (2021). A novel high-intensity short interval dance intervention (THANDAV) to improve physical fitness in Asian Indian adolescent girls. *Diabetes Technology & Therapeutics*, 23(9), 623-631.

- <https://doi.org/10.1089/dia.2021.0028>
- Arufe, V., Pena, A., & Navarro, R. (2021). Efectos de los programas de Educación Física en el desarrollo motriz, cognitivo, social, emocional y la salud de niños de 0 a 6 años. Una revisión sistemática. *Sportis. Scientific Journal of School Sport, Physical Education and Psychomotricity*, 7(3), 448-480. <https://doi.org/10.17979/sportis.2021.7.3.8661>
- Azevedo, L. B., Burges Watson, D., Haighton, C., & Adams, J. (2014). The effect of dance mat exergaming systems on physical activity and health-related outcomes in secondary schools: results from a natural experiment. *BMC Public Health*, 14(1), 951. <https://doi.org/10.1186/1471-2458-14-951>
- Brickenkamp, R., & Oosterveld, P. (2012). *d2 Aandachts-en Concentratietest: Handleiding [d2 Test of Attention: User Manual]*. Amsterdam: Hogrefe.
- Brozas, M.P., García, T. & López, S. (2011). Contemporary Dance in Spain (1989-2009): an approach to the choreography performance through «Por la danza» magazine. *Retos*, 20, 16–20. <https://doi.org/10.47197/retos.v0i20.34617>
- Cabello-Manrique, D., Lorente, J. A., Padial-Ruz, R., & Puga-González, E. (2022). Play badminton forever: A systematic review of health benefits. *International Journal of Environmental Research and Public Health*, 19(15), 9077. <https://doi.org/10.3390/ijerph19159077>
- Ceballos J. J., Pérez Negrón, R., Flores, J. A., Vargas J., Ortega, G., Madriz, R., & Hernández, A. (2018). Obesidad. Pandemia del siglo XXI. *Revista de sanidad militar*, 72(5-6), 332-338.
- Cid, F. (2016). Efectos del ejercicio físico sobre las funciones ejecutivas: una revisión del 2010 al 2016. *EmasF. Revista Digital de Educación Física*. Retrieved from https://www.researchgate.net/publication/309642920_Efectos_del_ejercicio_fisico_sobre_las_funciones_ejecutivas_una_revisión_del_2010_al_2016
- Connolly, M., Quin, E., & Redding, E. (2011). Dance 4 your life: Exploring the health and well-being implications of a contemporary dance intervention for female adolescents. *Research in Dance Education*, 12(1), 53-66. <https://doi.org/10.1080/14647893.2011.561306>
- Crocker, P. R., Bailey, D. A., Faulkner, R. A., Kowalski, K. C., & McGrath, R. (1997). Measuring general levels of physical activity: preliminary evidence for the Physical Activity Questionnaire for Older Children. *Medicine and Science in Sports and Exercise*, 29(10), 1344–1349. <https://doi.org/10.1097/00005768-199710000-00011>
- Cruz, T. H., Davis, S. M., Myers, O. B., O'Donald, E. R., Sanders, S. G., & Sheche, J. N. (2016). Effects of an obesity prevention intervention on physical activity among preschool children: The CHILE study: The CHILE study. *Health Promotion Practice*, 17(5), 693-701. <https://doi.org/10.1177/1524839916629974>
- Delgado, I. R., Miguel, M. J., Ayuda, M. B., Vicente, P. T., Alcón, B. B., & Tolosa, N. P. C. (2022). Obesidad infantil en el siglo XXI. *Revista Sanitaria de Investigación*, 3(7), 95.
- Diaz, A. (2012). Intervención en el aula a través de la danza folclórica. *Ensayos: Revista de la Facultad de Educación de Albacete*, 7, 101-108. <https://doi.org/10.18239/ensayos.v27i0.242>
- Fancourt, D., & Finn, S. (2020). What is the evidence on the role of the arts in improving health and well-being? *Nordic Journal of Arts Culture and Health*, 2(01), 77-83. <https://doi.org/10.18261/issn.2535-7913-2020-01-08>
- Flores, R. (1995). Dance for health: Improving fitness in African American and Hispanic adolescents. *Public Health Reports*, 110(2), 189-193.
- Fort i Marrugat, O. (2015). When dance and gender share the stage. *AusArt*, 3(1), 54-65. <https://doi.org/10.1387/ausart.14406>
- Fuentes, Á. L. (2006). *El valor pedagógico de la danza*. Valencia: Publications Service.
- Gao, Z., Hannan, P., Xiang, P., Stodden, D. F., & Valdez, V. E. (2013). Video game-based exercise, Latino children's physical health, and academic achievement. *American Journal of Preventive Medicine*, 44(3), 240-246. <https://doi.org/10.1016/j.amepre.2012.11.023>
- Garcia, A. W., Pender, N. J., Antonakos, C. L., & Ronis, D. L. (1998). Changes in physical activity beliefs and behaviors of boys and girls across the transition to junior high school. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, 22(5), 394–402. [https://doi.org/10.1016/s1054-139x\(97\)00259-0](https://doi.org/10.1016/s1054-139x(97)00259-0)
- Garcia, H. M. (2000). *La danza en la Escuela*. Inde.
- Going, S., Thompson, J., Cano, S., Stewart, D., Stone, E., Harnack, L., Hastings, C., Norman, J., & Corbin, C. (2003). The effects of the Pathways Obesity Prevention Program on physical activity in American Indian children. *Preventive Medicine*, 37(6 Pt 2), S62-9. <https://doi.org/10.1016/j.yjpm.2003.08.005>
- Goodman, R. (2001). Psychometric properties of the strengths and difficulties questionnaire. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40(11), 1337-1345. <https://doi.org/10.1097/00004583-200111000-00015>
- Harris, N., Wilks, L., Stetwart, D., Gopinath, V., & Maccubin, S. (2011). *Street dance and adolescent wellbeing: using hip hop to promote resilience in youth. Songs of resilience*. Cambridge Scholar Publishing.
- Heath, G., Pate, R., & Pratt, M. (1993). Measuring physical activity among adolescents. *Public Health Reports*, 108(Suppl 1), 42-46.
- Herrera, S. (2000). Ver la música, escuchar el movimiento.

- LEEME. *Revista Electrónica Europea de Música en la Educación*, 5, 1-4. <https://dialnet.unirioja.es/servlet/articulo?codigo=209335>
- Hogg, J., Diaz, A., Del Cid, M., Mueller, C., Lipman, E. G., Cheruvu, S., Chiu, Y.-L., Vogiatzi, M., & Nimkarn, S. (2012). An after-school dance and lifestyle education program reduces risk factors for heart disease and diabetes in elementary school children. *Journal of Pediatric Endocrinology & Metabolism*, 25(5-6), 509-516. <https://doi.org/10.1515/jpem-2012-0027>
- Laban, R. (1985). *Danza educativa moderna*. Barcelona: Ediciones Paidós Iberica.
- Llopis Garrido, A. (2013). *La danza en las titulaciones de educación física y ciencias de la actividad física y el deporte: actitudes y experiencias del alumnado desde una perspectiva de género* [Doctoral thesis, University of Seville].
- López, N., López, A., Nicolás, G. (2020). La danza em Educación Física: análisis de los currículos autonómicos españoles de Educación Primaria. *Retos*, 38, 517-522. <https://doi.org/10.47197/retos.v38i38.77413>
- López-Serrano, S., Ruiz-Ariza, A., Suarez-Manzano, S., & De la Torre Cruz, M. J. (2017). "Dance dance" Educación. ¿Una verdadera "revolución" para el aula? *MLS Educational Research*, 1(1), 7-18. <https://doi.org/10.29314/mlser.v1i1.22>
- López-Serrano, S., Ruiz-Ariza, A., Suarez-Manzano, S., & Martínez, E. (2017). Desarrollo de la actividad física y experiencias educativas mediante la práctica de exergames en niños y adolescentes. *EmásF: revista digital de educación física*, 47, 52-61.
- Low, D. C., Miller, S. D., & Squire, B. (2012). The Outcome Rating Scales (ORS) & Session Rating Scales (SRS): Feedback Informed Treatment in Child and Adolescent Mental Health Services (CAMHS). Norwich: Norfolk & Suffolk NHS Foundation Trust.
- Maloney, A. E., Threlkeld, K. A., & Cook- Maloney, A. E., Threlkeld, K. A., & Cook, W. L. (2012). Comparative effectiveness of a 12-week physical activity intervention for overweight and obese youth: Exergaming with "Dance Dance Revolution". *Games for Health Journal*, 1(2), 96-103. <https://doi.org/10.1089/g4h.2011.0009>
- McAuley, E., Duncan, T., & Tammen, V. V. (1989). Psychometric properties of the Intrinsic Motivation Inventory in a competitive sport setting: A confirmatory factor analysis. *Research Quarterly for Exercise and Sport*, 60(1), 48-58. <https://doi.org/10.1080/02701367.1989.10607413>
- Morente, F. J., & Calvo, A. (2020). Gasto calórico en bailarines de danza contemporánea. Estudio de caso. *Retos: Nuevas tendencias en educación física, deporte y recreación*, 37, 309-311. <https://doi.org/10.47197/retos.v37i37.74074>
- Moula, Z., Powell, J., & Karkou, V. (2020). An investigation of the effectiveness of arts therapies interventions on measures of quality of life and wellbeing: A pilot randomized controlled study in primary schools. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.586134>
- Norman, G., Sallis, J. F., & Gaskins, R. (2005). Comparability and reliability of paper- and computer-based measures of psychosocial constructs for adolescent physical activity and sedentary behaviors. *Research Quarterly for Exercise and Sport*, 76(3), 315-323. <https://doi.org/10.1080/02701367.2005.10599302>
- Ollora, N., Isidori, E., & López, E. M. (2023). Práctica de danza como actividad saludable a lo largo de la vida. Revisión de alcance. *SPORTIS. Scientific Technical Journal of School Sport, Physical Education and Psychomotricity*, 9(2), 366-387. <https://doi.org/10.17979/sportis.2023.9.2.9371>
- Olvera, N., Graham, M., McLeod, J., Kellam, S. F., & Butte, N. F. (2010). Promoting moderate-vigorous physical activity in overweight minority girls. *International Journal of Pediatrics*, 2010, 415123. <https://doi.org/10.1155/2010/415123>
- Ossona, P., & Venier, B. (1984). *Educación por danza: enfoque metodológico*. Barcelona: Paidós.
- Padilla, C., Coterón, J. (2013). Can we improve mental health dancing? A systematic review. *Retos*, 24, 194-197. <https://doi.org/10.47197/retos.v0i24.34556>
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., McGuinness, L.A., Stewart, L.A., Thomas, J., Tricco, A.C., Welch, V.A., Whiting, P., & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *Systematic Reviews*, 10(1), 89. <https://doi.org/10.1186/s13643-021-01626-4>
- Párraga, M., Vicente, G., & López, A. M. (2022). Género y danza: concepciones del profesorado de música en Educación Primaria. *Ensayos: Revista de la Facultad de Educación de Albacete*, 37(1), 102-116.
- Pastor, R., & Morales, Á. (2020). Didáctica de la danza tradicional para la escuela: revisión bibliográfica. *Retos: Nuevas tendencias en educación física, deporte y recreación*, 41, 57-67. <https://doi.org/10.47197/retos.v0i41.82280>
- Pope, Z. C., Lewis, B. A., & Gao, Z. (2015). Using the Transtheoretical Model to examine the effects of exergaming on physical activity among children. *Journal of Physical Activity & Health*, 12(9), 1205-1212. <https://doi.org/10.1123/jpah.2014-0310>
- Prochaska, J., Sallis, J., & Long, B. (2021). A physical activity screening measure for use with adolescents in primary care. *Archives of pediatrics & adolescent medicine*,

- 155(5), 554-559. doi:10.1001/archpedi.155.5.55
- Quinn, M. (2013). Introduction of active video gaming into the middle school curriculum as a school-based childhood obesity intervention. *Journal of Pediatric Health Care*, 27(1), 3–12. <https://doi.org/10.1016/j.pedhc.2011.03.011>
- Robinson, T. N., Killen, J. D., Kraemer, H. C., Wilson, D. M., Matheson, D. M., Haskell, W. L., Pruitt, L. A., Powell, T. M., Owens, A. S., Thompson, N. S., Flint-Moore, N. M., Davis, G. J., Emig, K. A., Brown, R. T., Rochon, J., Green, S., & Varady, A. (2003). Dance and reducing television viewing to prevent weight gain in African-American girls: the Stanford GEMS pilot study. *Ethnicity & disease*, 13(1), 65–77. <https://pubmed.ncbi.nlm.nih.gov/12713212/>
- Rodríguez, G. M. (2018). *La representación del cuerpo femenino y la construcción del género en la Danza del Vientre de Occidente* [Tesis doctoral, Universidad de Oviedo]. <http://hdl.handle.net/10651/49075>
- Romero, A. J. (2012). A pilot test of the Latin active hip hop intervention to increase physical activity among low-income Mexican-American adolescents. *American Journal of Health Promotion*, 26(4), 208–211. <https://doi.org/10.4278/ajhp.090123-ARB-24>
- Rosenberg, M. (1965). *Society and the adolescent self-image*. New Jersey: Princeton University Press.
- Sales, J. (2020). Unidad didáctica "Just dance". Una propuesta de aplicación práctica para enseñar baile. *EmásF: Revista Digital de Educación Física*, 11(66), 76-95.
- The KIDSCREEN Group Europe. (2006). *The KIDSCREEN Questionnaires - Quality of Life Questionnaires for Children and Adolescents. Handbook*. Germany: Pabst Science Publishers.
- Torre, E., Palomares, J., Castellano, R., & Pérez, D. M. (2007). La Expresión Corporal en el currículo del sistema educativo de la Republica de Cuba: Estudio de las necesidades en la formación inicial (Corporal Expression in currículo of the educative system of the Republica of Cuba: Study of the necessities in the. *Retos*, 11, 11-16. <https://doi.org/10.47197/retos.v0i11.35042>
- van den Berg, V., Saliassi, E., de Groot, R. H. M., Chinapaw, M. J. M., & Singh, A. S. (2019). Improving cognitive performance of 9-12 years old children: Just dance? A randomized controlled trial. *Frontiers in Psychology*, 10, 174. <https://doi.org/10.3389/fpsyg.2019.00174>
- Vergara, N., Fuentes, A., Gonzales, H., Cadagan, C., Morales, S., Poblete, C., & Poblete, C. E. (2021). Efecto de la danza en la mejora de la autoestima y el autoconcepto en niños, niñas y adolescentes: Una revisión (Effect of dance on improving self-esteem and self-concept in children and adolescents: A review). *Retos*, 40, 385-392. <https://doi.org/10.47197/retos.v0i40.76933>
- Vicente, G., Ureña, N., Gómez, M., & Carrillo, J. (2010). La danza en el ámbito educativo (Dance in the Educational Context). *Retos*, 17, 42–45. <https://doi.org/10.47197/retos.v0i17.34667>
- Wille, N., Badia, X., Bonsel, G., Burström, K., Cavrini, G., Devlin, N., Egmar, A.-C., Greiner, W., Gusi, N., Herdman, M., Jelsma, J., Kind, P., Scalone, L., & Ravens-Sieberer, U. (2010). Development of the EQ-5D-Y: a child-friendly version of the EQ-5D. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation*, 19(6), 875–886. <https://doi.org/10.1007/s11136-010-9648-y>
- Williams, J. G., Eston, R., & Furlong, B. (1994). CERT: a perceived exertion scale for young children. *Perceptual and Motor Skills*, 79(3), 1451–1458. <https://doi.org/10.2466/pms.1994.79.3f.1451>
- World Health Organization. (2020). *Basic Documents* (49th ed.). Geneva: World Health Organization. Retrieved from https://apps.who.int/gb/bd/pdf_files/BD_49th-en.pdf
- World Health Organization. (2019). *Global Action Plan on Physical Activity 2018-2030: More Active People for a Healthier World*. Retrieved from <https://apps.who.int/iris/handle/10665/327897>

Datos de los/as autores/as y traductores/as:

María Elena Atencia-Rodríguez
 Laura García-Pérez
 Esther Puga-González
 Rosario Padial-Ruz

mariatencia2000@gmail.com
 lgperez@ugr.es
 mpuga@ugr.es
 rpadiar@ugr.es

Autor/a – Traductor/a
 Autor/a – Traductor/a
 Autor/a
 Autor/a