



SOCIAL VALUE OF *Movement and* *Dance*

FULL TECHNICAL REPORT

**SPORT+
RECREATION
ALLIANCE**

An evidence-based review and modelling of the unique contribution of movement and dance-based participation and volunteering to social value outcomes in England

Contents

Introduction

PART ONE – The ‘General Model’

PART TWO – Beyond the General Model

Physical and Mental Health

Mental Wellbeing

Individual Development

Social and Community Development

PART THREE – Summary and Conclusions

Recommendations

Acknowledgements

References

1 Introduction

1.1.1 The Sport and Recreation Alliance (SRA), in partnership with the 26 members of its Movement and Dance Division and a consortium of academic professionals specialising in research on movement and dance, has developed this report to identify and articulate the social value contribution of movement and dance.

1.1.2 The report uses a peer-reviewed methodological approach to assesses this social value contribution of movement and dance across four 'social value outcome areas'. These outcomes are based on those cited in Sporting Future, United Kingdom (UK) Government's strategy for sport and are as follows:

- Physical and mental health;
- Mental wellbeing;
- Individual development and;
- Community development.

1.1.3 The report is structured in three parts:

- **Part One** – The contribution of movement and dance-based activities based on the 'general model' for calculating the social value of participation and volunteering in community sport and physical activity.
- **Part Two** – The 'enhanced modelling' of the contribution of movement and dance-based activities based on the specific benefits evidenced by existing peer reviewed literature.
- **Part Three** – Conclusions and recommendations drawn from the findings of Part One and Two.

1.2 Motivations For Developing This Report

1.2.1 This work builds on a previous report published by the SRA on behalf of the Movement and Dance Division in August 2021¹. The report summarised consultations with 38 teachers and practitioners on the perceived benefits of movement and dance to their participants, volunteers, and deliverers.

1.2.2 Movement, dance and exercise as physical activity is widely understood to have significant benefits for individual and community wellbeing. However, when individuals are advised to increase their physical activity, taking up movement and dance classes is often overlooked as a recommended activity.

1.2.3 This document seeks to articulate the social value generated by the movement and dance organisations that make up the Movement and Dance Division of the SRA. The contributions of movement and dance are outlined in accordance with the Department for Digital, Culture, Media, and Sport's key outcomes for sport and physical activity as defined in *Sporting Future (2015)*²: physical and mental health, mental wellbeing, individual development and community development (note: economic development is not featured as part of this report).

1.3 Changing Perceptions

1.3.1 Movement and dance falls between the arts and sports (Portas, *n.d.*). Within the sport and physical activity sector, the creativity, strength and performance of movement and dance are not always as well appreciated as a footballer who scores a perfect goal, the hand-eye coordination of a hockey player, or the nimbleness of a boxer's footwork. We can term this phenomenon as a 'recognition deficit' of the current and potential contribution of movement and dance to the sport and physical

¹ Sport and Recreation Alliance, *The Social Value of Movement and Dance to the UK*:

<https://www.sportandrecreation.org.uk/pages/social-value-of-movement>

² UK Government, Department of Digital, Media, Culture and Sport, 2015, *Sporting Future: A New Strategy for an Active*

Nation: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/486622/Sporting_Future_ACCESSIBLE.pdf

activity sector.

- 1.3.2 According to Sport England's Active Lives survey (November 2018-19), 3.66 million adults in England participated in a dance class at least twice over a 28-day period³. With the physicality of innovative dance styles being shared across social media platforms, such as TikTok and Instagram, more people including those who may previously have shied away from the traditional image of dance, are choosing their own styles from around the world, while the traditional routes are as popular as ever.
- 1.3.3 The recognition deficit for movement and dance is not as prevalent in other sectors such as childhood education, learning and development, the arts and television, and leisure and tourism. However, the role of dance in society is profound: dance is often something children do in school or as part of a performance for guests at family gatherings while adults dance at parties and social gatherings. At the other end of the spectrum, the dancers on the West End stage receive standing ovations and celebrity 'Strictly' dancers have nothing but praise and admiration for their teachers. The recognition deficit can, therefore, be seen as the gap between the cultural contribution of dance, and the lack of investment and support given its contribution to strategic objectives in the sport and physical activity sector.
- 1.3.4 The changes being made to traditional sport and activities, including dance, in order to sustain appeal to young audiences could be interpreted as further fragmentation of the sector. A product of this process is that organisations delivering sport and activity become focused on ever smaller substrata of the population rather than on the sector acting as a cohesive network of organisations focused on delivering high quality movement for physical and mental wellbeing, as well as performing and the joy of 'moving the body'.
- 1.3.5 Within recreational classes it is not just the muscle groups that are worked but mental faculties of listening, understanding and implementing; and social skills of working with a partner, group, or competitor. Furthermore, through the regular participation in classes, attendees can grow a strong sense of community, friendship, and sense of place. Finally, participation in classes, employment of teachers, the purchasing of clothing, footwear, equipment, travelling, refreshments, and staying overnight for events are all significant contributors to the UK economy.
- 1.3.6 This document seeks to contribute to changing the perceptions of those within the sport and activity sector as to the current and potential future contribution of movement and dance to society.

³ Sport England, 2019, *Active Lives Data*, <https://activelives.sportengland.org/Result?queryId=50940>

2 Calculating The Social Value of Movement and Dance using the General Model

2.1.1 Part One of this report summarises the impact of movement and dance produced using the general model. The general model was developed for Sport England by Sheffield Hallam University's Sport Industry Research Centre (SIRC) to evaluate the economic and social effects of community sport and physical activity in England over a 12-month period⁴. The results of this study were published in 2020. A summary of the basic approach underpinning the 'general model' is provided below.

2.1.2 We then apply the metrics and assumptions used in the 2020 social value report to movement and dance activity.

2.2 Summary of the Method Used to Produce the General Model

2.2.1 The 'general model' developed for Sport England by SIRC used the following process to generate a single 'social value outcome':

- Sufficient robust evidence demonstrates that a subject population's likelihood to 'do something' (i.e. develop a medical condition or commit a crime) is either increased or decreased by their being 'physically active' (a causal change).
- This causal change is then applied to the number of people within the subject population known to be 'physically active' (minimum of 150 minutes of physical activity per week) to produce a 'quantity' (the number of people that would be expected to 'do something' if there were zero physical activity being undertaken within the subject population). The 'quantity' can be thought of as the number of units saved or produced by a portion of the subject population being physically active.
- Sufficiently robust evidence is available to calculate the financial unit-value (the monetary cost or gain per unit) of the causal change.
- The unit-value is then applied to the 'quantity' to produce a financial expression of the value of the subject group being physically active.

2.2.2 This process is then applied wherever there is sufficiently robust evidence to demonstrate physical activity changes the likelihood of a subject population to 'do something', and where the units saved or produced by that physical activity can be expressed financially.

2.2.3 The above can be more easily understood by way of a practical example. For people aged 16+ who are physically active (the subject population), there is a reduced risk of developing Type 2 Diabetes (the 'do something') of 40%⁵ (the causal change). Using Sport England's Active Lives data, the 'general model' calculates 913,487 cases of Type 2 Diabetes (the quantity) are averted due to people aged 16+ being physically active⁶. A single case of Type 2 Diabetes costs £4,013⁷ (the unit value). By applying the quantity to the unit value, physical activity in England is understood to reduce the cost of Type 2 Diabetes in England by £3.66 billion per year⁸.

2.2.4 The study undertaken by SIRC identifies 18 specific outcomes for which sufficiently robust evidence is available to calculate a social value outcome. The study evidenced a total of £71.61 billion worth of value produced by community sport and physical activity over 12 months between November 2017 and 2018. When compared to the expenses of engagement and providing opportunities, for every £1 spent on community sport and physical exercise, a £3.91 return on investment (ROI) was generated for people and society. The social value outcomes from the SIRC report are summarised below.

⁴ Sport England, 2020, *Social Return on Investment*: <https://sportengland-production-files.s3.eu-west-2.amazonaws.com/s3fs-public/2020-09/Social%20return%20on%20investment.pdf?5BgvLn09iwpTesBJ4BXhVfRhV4TYgm9E>

⁵ Ibid

⁶ Ibid

⁷ Ibid

⁸ Ibid

Figure 2.1: Social Value Outcomes of Community Sport and Physical Activity – based on November 2017 – 2018 ALS/CYP Data

Outcome Area	Value in £ million
Physical and mental health	£9,592.84
CHD and stroke	£1,065.54
Type 2 diabetes	£3,666.00
Breast Cancer	£305.23
Colon Cancer	£160.42
Dementia	£3,477.50
Depression	£114.49
Hip Fractures	£803.31
Back Pain	£415.43
Good Health	£1,129.38
Sport-related injury	-£1,544.46
Mental Wellbeing	£41,760.81
Participants	£31,218.05
Volunteers	£10,542.76
Individual Development	£282.07
Improved attainment	£4.53
Enhanced human capital	£277.53
Social and Community Development	£19,974.67
Crime	£38.62
Social Capital	£14,222.74
Volunteering Value in Kind	£5,713.31
Outcomes Total (net)	£71,610.39

2.3 Method for Deriving the Social Value of Movement and Dance Using the General Model

2.3.1 There were three steps involved in the derivation of the social value of movement and dance in England for 2018/19:

- **Recalibrate the general model** for sport and physical activity using participation and volunteering data from the 2018/19 Sport England Active Lives Adults Survey (ALS) and Active Lives Children and Young People Survey (CYP) as well as updated prevalence rates for health conditions, sports injuries, educational qualifications, and criminal incidences from multiple sources.
- **Calculate the ‘unique market share’ of movement and dance** for each subject population category within the general model. This requires us to identify the number of physically active people within a subject group and establish the average proportion of ‘active time’ these people participate in movement and dance (see more on this below).
- **Apply the ‘unique market share’ of movement and dance to each of the 18 social value outcomes** referenced within the ‘general model’ and calculate the total contribution of movement and dance.

Recalibrating the General Model

2.3.2 The general model is comprised of numerous evidence-based assumptions connecting social outcomes with participation and volunteering in sport and physical activity. The assumptions can be summarised by expressing that: *“being ‘physically active’ (participating in 150+ minutes of moderate intensity activity or 75+ minutes of high intensity activity per week) has the following impacts...”*

Physical and Mental Health

- Reduces risk of chronic heart disease and stroke in adults (16+) by 35%;
- Reduces risk of type 2 diabetes in adults (16+) by 40%;
- Reduces risk of breast cancer in females (16+) by 20%;
- Reduces risk of developing colon cancer in adults (16+) by 20%;
- Reduces risk of developing dementia in adults (16+) by 30%;
- Reduces risk of clinical depression in adults (16+) by 30%;
- Reduces risk of back pain in adults (16+) by 25%;
- Reduces risk of hip fracture in adults (65+) by 52%;
- Sport participants are 14.1% more likely to self-report good health than non-participants. This results in a) reduced GP visits and b) reduced psychotherapy service usage;
- There is a 'linear dose-response relationship' between fairly active participation (30-149 minutes) in sport and physical activity, and a reduced risk of developing the outcomes identified above and;
- Participation in sport increases the risk of getting a sports-related injury.

Mental Wellbeing:

- Participation is associated with improved subjective wellbeing and;
- Volunteering in sport and physical activity is associated with improved subjective wellbeing.

Individual Development

- Participation leads to a 1% increase in educational attainments in those aged 11-18; and,
- Graduates who participate in sport at university earn an average of 5% more per year than their non-sporting counterparts. This is known as 'enhanced human capital'.

Social and Community Development

- Participation leads to a 1% reduction in criminal incidents for males aged 10-24 years;
- Participation is associated with 10% higher social networks, trust and reciprocity (known as enhanced social capital);
- Volunteers create non-market benefits to the organisations they give their time to; and,
- Volunteer time is worth at least the equivalent value of average hourly earnings.

2.3.3 Note that the social value calculation for all health-related outcomes includes both 'active' and 'fairly active' adults, and the participation definition includes active travel. The social value calculation for all non-health outcomes is based on 'physically active' adults exclusively and excludes active travel.

2.3.4 No updates were made to the above assumptions for the purposes of this study.

Calculating the 'Unique Market Share' Under the General Model – For 'Physically Active' People

2.3.5 The general model contains a number of 'subject populations'. Each of these feed into the various 18 specific 'social value' outcomes:

All participants aged 16+:

- Coronary heart disease (CHD) and stroke;
- Type 2 diabetes;
- Colon cancer;
- Dementia;
- Clinical depression;
- Back pain;
- Reduced GP visits;
- Reduced psychotherapy services;
- Sports injuries;
- Mental wellbeing; and,
- Enhanced social capital.

Female participants aged 16+:

- Breast cancer.

All participants aged 65+:

- Hip fractures.

All volunteers:

- Mental wellbeing; and,
- Volunteer 'value in kind'

All participants aged 11-18:

- Improved educational attainment.

All participants in the final year of higher education:

- Enhanced human capital.

Males aged 10-24:

- Crime reduction.

2.3.6 The unique market share of a specific activity (movement and dance in this instance) for each of the above subject populations is required to develop an activity specific estimation of social value. This is calculated through the following process:

- Using ALS/CYP data, the total number of those 'physically active' (people undertaking a minimum of 150+ minutes of physical activity per week) who engage in movement and dance as part of the mix of activities in which they regularly engage, is identified.
- Using ALS/CYP, the average proportion of this cohorts' 'active-time' engaging in movement and dance is then established (the percentage of the total time the cohort spends being physically active that is spent doing movement and dance, averaged across the cohort).
- This average percentage is applied to the original total subject population of physically active people who participate in movement and dance, to produce a figure representing the 'unique market share' for the subject population.

2.3.7 This process is then repeated to produce the unique market share of movement and dance for each subject population.

Calculating the 'Unique Market Share' Using the General Model – For 'Fairly Active' People

2.3.8 The above outlines the approach for calculating the 'unique market share' for physically active people (those undertaking 150+ minutes of physical activity per week). For health outcomes at the 150+ participation threshold, the risk reduction assumptions included in the general model are largely guided by the 2019 UK Chief Medical Officer (CMO) Guidelines for Physical Activity and the underpinning evidence.

2.3.9 This leaves the question of how to consider the benefits derived from the cohort of people who regularly participate in movement and dance, but do not exceed 150+ minutes of physical activity per week. This group are defined as 'fairly active' (people undertaking 30-149 minutes of physical activity per week).

2.3.10 The assumptions for applying causal changes for 'fairly active' people in the general model was derived from a targeted search and review of evidence, and consultation with experts working in physical activity and health. The inclusion of this assumption in the general model reflects the consensus of experts working in academia and policy, and the CMO guidelines that lower volumes (less than 150 minutes per week), lower intensities and lower frequencies of physical activity may also confer causal changes, including health benefits.⁹

2.3.11 The research underpinning the general model found that risk reductions associated with lower volumes of activity are rarely quantified in the literature and where they are, the evidence is wide ranging covering different outcomes, populations, ages, intensities and so on, with the precise effect difficult to establish. Therefore, for 'fairly active' people (30-149 minutes of activity per week), the general model uses a linear dose-response relationship on which to build a valuation. This means that for every minute under 150 that an individual participates in physical activity per week, the scale of the causal change they derive increases or decreases in direct proportion. This is referred to as a 'linear regression' model.

2.3.12 For example, under the social value element of 'clinical depression', someone participating in 150+ minutes of physical activity per week derives a reduction in their risk of developing clinical depression of 30% (the model does not factor in an increased benefit for participating in more than 150 minutes)¹⁰. For someone who is undertaking 75 minutes of activity per week (half the amount needed to derive the full benefit), they are considered to receive a reduction in risk of 15% (half of the causal change benefit) under a linear dose-response relationship valuation.

⁹ Ibid

¹⁰ Ibid

2.3.13 Calculating the unique market share for 'fairly active' participants in movement and dance follows the same steps as with 'physical active' participants, with one additional step:

- Using ALS/CYP data, the total number of 'fairly active' people (people undertaking 30-149 minutes of physical activity per week) who engage in movement and dance as part of the mix of activities in which they regularly engage, is identified.
- Using ALS/CYP, the average proportion of this cohorts' 'active-time' engaging in movement and dance is then established (the percentage of the total time the cohort spends being physically active that is spent doing movement and dance, averaged across the cohort).
- This average percentage is applied to the original total subject population of fairly active people who participate in movement and dance, to produce a figure representing the 'unique market share' for the subject population.
- Using ALS/CYP, the average number of minutes per week spent being physically active (between 30-149) for the cohort is calculated and applied to the unique market share population. This figure is then applied to a linear-regression model for the given social value outcome to calculate the average linear-dose relationship for the unique market share population.

2.3.14 In calculating the unique market share for both 'physically active' and 'fairly active' subject populations, it is now possible to apply these populations to the 18 social value outcomes of the general model.

2.4 Data Limitations, Further Assumptions and Key Decisions

2.4.1 When applying the principles of the approach outlined above, a number of limitations were encountered. These limitations required the applications of further assumptions and key decisions which are outlined below.

2.4.2 It should be noted that at every point a limitation was encountered, and a decision was required, or an assumption applied, the more conservative route was followed. This approach was taken with the view to creating the most defensible appraisal of the social value contribution of movement and dance possible.

2.4.3 Each time a limitation was reached, and a decision required, the options were presented to the Movement and Dance Research Steering Group. This approach ensured the study remained a collaborative exercise, and that no decisions were taken against the prevailing wishes of the group. At no point was an assumption applied without the unanimous consent of the steering group.

2.4.4 **Defining 'movement and dance':** The original intention for the study was to appraise the social value of the activities within the auspices of the organisations that comprise the S+RA's Movement and Dance Division. Following close consultation with Sport England (who administer the ALS/CYP data) it was confirmed segmenting the data in such a way to accurately reflect the participation in the activities, and then to calculate the combined unique market share for this group of activities would not be feasible. Instead, a pre-coded grouping of 'Dance-based Classes' was suggested (ref. Total Social Value) for adults and 'Dance' for children and young people (Dance_CA170). As the vast majority of the division members' activities are delivered via 'classes', this approach would adequately reflect the level of participation of the activities within the division.

2.4.5 This approach did mean that some of the activities within the division were discounted from the study. Notable examples include cheerleading, which is not included within the 'Dance-based Classes' segmentation. Further, a small number of activities under the auspices of Exercise, Movement, and Dance UK (EMD UK) were not included in the study. Despite these limitations, the steering group agreed that proceeding using the 'Dance-based classes' segmentation represented a fair reflection of the vast majority of the activities covered in the division.

2.4.6 **Estimating the number of movement and dance volunteers:** The ALS/CYP data does not make provision for estimating the unique market share of volunteers in movement and dance in the same way as it does for participation. Initially, all persons participating in movement and dance who also volunteered in some capacity in sport and physical activity were included in this estimation. However,

this figure did not present as defensible as it claimed too great a proportion of the total number of volunteers within sport and physical activity for movement and dance.

2.4.7 In the absence of any other data to help calculate the number of volunteers supporting movement and dance, it was decided to apply the average ratio of participants: volunteers as found across sport and physical activity as a whole.

2.4.8 **Choosing which year to analyse:** Deciding which year of ALS/CYP data to use for the study was also a difficult decision. In part, this was complicated by the impact of Covid-19 on participation in movement and dance; specifically, the disproportionate impact of the pandemic on older age groups, for which movement and dance is highly indexed. Further, members of the Movement and Dance Division felt that the pandemic had seen an uptick in participation through video and streaming based sessions. However, the steering group were uncertain as to how this had been captured or reflected in the ALS/CYP data.

2.4.9 To address this question, the steering group returned to the original purpose of the study, which is to reflect the contribution of movement and dance to the sport and physical activity landscape. Therefore, to mitigate the impact of Covid-19 from clouding this point, the steering group decided to use the last available ALS/CYP dataset unimpacted by the pandemic. This meant the study has used data from the November 2018-2019 survey. This carries the advantage of being just one year removed from the Sport England 2018 model.

2.5 Results

2.5.1 The above has outlined the key assumptions used to generate the data behind the report, and the approaches for calculating the unique market share of movement and dance across the subject populations (for both 'physically active' and 'fairly active' cohorts) and applied to each of the 18 social outcome areas.

2.5.2 Figure 3.2 summarises the social value of movement and dance in England (based on the ALS/CYP data for the year 2018-2019).

Figure 3.2: Social Value Outcomes of Movement and Dance (Dance-based Classes) – based on November 2018-2019 ALS/CYP data

				Total Social Value		% of S/PA	
SOCIAL VALUE OUTCOMES				£3.49 billion		5%	
	QUANTITY	VALUE	IMPACT (£m)	% of Outcome Area	% of Total Subject Activity Social Value Outcome	% of All S/PA Social Value	
PHYSICAL AND MENTAL HEALTH			£ 430.30		12%	4%	
Coronary Heart Disease (CHD) and Stroke	6,487	£ 7,059	£ 45.79	9%	1%	4%	
Type 2 Diabetes	39,262	£ 4,013	£ 157.56	32%	5%	4%	
Breast Cancer	387	£ 53,141	£ 20.56	4%	1%	7%	
Colon Cancer	130	£ 53,141	£ 6.89	1%	0%	4%	
Dementia	3,996	£ 37,401	£ 149.44	30%	4%	4%	
Clinical Depression	16,131	£ 305	£ 4.92	1%	0%	4%	
Back Pain	66,664	£ 268	£ 17.87	4%	1%	4%	
Hip Fractures	1,034	£ 37,962	£ 39.24	8%	1%	5%	
Reduced GP Visits	1,312,878	£ 15	£ 19.69	4%	1%	4%	
Reduced Psychotherapy Services	1,430,553	£ 20	£ 28.61	6%	1%	4%	
Sports Injuries	11,076	£ 5,442	-£ 60.27	-12%	-2%	4%	
MENTAL WELLBEING			£ 2,061.27		59%	5%	
Participants	1,209,653	£ 1,274	£ 1,541.10	75%	44%	5%	
Volunteers	195,332	£ 2,663	£ 520.17	25%	15%	5%	
INDIVIDUAL DEVELOPMENT			£ 13.69		0.39%	5%	
Improved Educational Attainment	159	£ 1,385	£ 0.22	2%	0.01%	5%	
Enhanced Value of Human Capital	11,085	£ 1,215	£ 13.47	98%	0.39%	5%	
SOCIAL AND COMMUNITY DEVELOPMENT			£ 983		28%	5%	
Crime Reduction	891	£ 38.16	£ 0.03	0.0%	0.0%	0.1%	
Enhanced Social Capital	1,209,653	£ 580	£ 701.60	71%	20%	5%	
Volunteering (value in kind)	195,332	£ 1,443	£ 281.86	29%	8%	5%	

- 2.5.3 Figure 3.2 shows that the total social value generated by movement and dance over the 12 months between November 2018 and November 2019 was **£3.49 billion**. The value generated represents around **5% of the total social value generated by community sport and physical activity**. To put this another way, for every £20 of social value generated by sport and physical activity, £1 is uniquely attributed movement and dance.
- 2.5.4 The largest contribution to the £3.49 billion is the **uplift in mental wellbeing** provided to participants and volunteers in movement and dance, at £2.01 billion, or 59% of the total social value contribution. Critically, this represents **a unique contribution of movement and dance of improved mental wellbeing for 1.2 million people through participation, plus 195,000 through volunteering**. Uplift in mental wellbeing is based on the work of Daniel Fujiwara. This is calculated from the average amounts people report they would be 'willing to pay' to achieve the comparable uplifts in mental wellbeing produced by participation and volunteering in sport and physical activity^{11,12,13,14}.
- 2.5.5 The second largest area of unique social value generated by movement and dance is in social and community development, with **£980 million worth of social value, representing 28% of the total**. This is comprised from the following outcomes:
- **Enhanced social capital:** The value of improved social networks, trust, and reciprocity within a community. Based on the work of Gratton (2018), this element of social value quantifies the uplift in the respondent's sense of outcomes including community engagement, personalised trust, generalised trust, community identification, and reciprocity¹⁵. As shown in Figure 3.2, for the general model, the uplift achieved is equivalent to £580 per person (on average) across the unique market share of 1.2 million participants. Using this rubric, **movement and dance is estimated to have generated over £700 million worth of value in enhanced social capital**.
 - **Volunteering:** The amount required to pay to replace the work carried out by volunteers is **valued at over £280 million per year**, from work carried out by 195,000 volunteers.
 - **Crime reduction:** The contribution of movement and dance to the reduction of criminal incidents in males aged 10-24 years old. This is based on the work of Meek (2018) who was able to show the impact on physical activity on the chances of young males from offending¹⁶. Our study indicates that **participation in movement and dance prevents 891 young males from committing a criminal offence per year**.
- 2.5.6 The next largest area of social value that movement and dance generates is in physical and mental health; at **£430 million per year, or 4% of the overall physical health savings produced by sport and physical activity**. Some of the outcomes of note are discussed below:
- The largest contribution to this total is in **Type 2 diabetes**, where movement and dance reduces the risk of **over 39,000 cases per year, equating to a saving of £157 million**.
 - Movement and dance also helps to **reduce the risk of developing dementia in around 4,000 people, representing a saving of over £149 million per year**.
 - Although not the largest financial savings generated, it should also be noted that movement and dance helps to **avoid back pain in over 66,000 people, and reduces the risk of the development of clinical depression in 16,000 people**.
 - Movement and dance **reduces the amount spent on GP visits and uses of psychological services by an estimated £50 million per year**. Again, this equates to a unique contribution of 4% of the total savings produced by sport and physical activity in this area.

¹¹Fujiwara, D. et al. (2015). Further analysis to value the health and educational benefits of sport and culture. DCMS.

¹² Fujiwara, D. et al. (2014a). Quantifying and valuing the wellbeing impacts of culture and sport. DCMS.

¹³ Join in. (2014). Hidden diamonds: Uncovering the true value of sport volunteers. (online). <https://www.joininuk.org/hidden-diamonds-true-value-of-sport-volunteers/>

¹⁴ Fujiwara, D. et al. (2014b). Measuring the social impact of community investment: A guide to using the wellbeing valuation approach, HACT: ideas, and innovation in housing

¹⁵ Gratton, C. et al. (2018 unpublished). Economic value of community club-based sport in Australia. Australian Sports Commission and Griffith University, Queensland

¹⁶ 6 Meek, R. (2018) A sporting chance: An independent review of sport in youth and adult prisons, Ministry of Justice. [Independent Review of Sport in Justice \(publishing.service.gov.uk\)](https://www.justice.gov.uk/independent-reviews/reports-and-evidence/sporting-chance)

2.5.7 Most critically, there are two distinct physical and mental health outcomes that movement and dance produces where social value is well above its 5% average: preventing cases of breast cancer in females aged 16+ and preventing hip fractures in participants aged 65+.

- **Breast cancer:** Figure 3.2 shows that movement and dance helped to reduce the incidence of breast cancer by 387 cases per year. This equates to 7% of the total number of cases prevented by sport and physical activity per year. This represents a 40% 'over-delivery' in comparison to its unique market share of 5%. It should be stressed that this is not due to a unique quality of the activity of movement and dance but reflects the fact that a high proportion of its unique market share is female. Nevertheless, in terms of demonstrating the contribution of movement and dance to sport and physical activity outcomes, it should be noted that movement and dance over-delivers for the female (16+) subject group, and by association, the conditions with which it is associated.
- **Hip Fractures:** Movement and dance contributes to the **reduction in the number of hip fractures in England by 1,034 per year, saving £39 million in the process.** This figure represents a slight 'over delivery' when compared to other physical and mental health savings in other areas (with the exception of breast cancer). Again, it should be stressed that this is not because of a particular quality of movement and dance per se, but because the participant profile over-indexes for people within the subject group of the social value element (namely, people aged 65+). **Again, it should be noted that movement and dance plays a disproportionate role in helping people aged 65+ be physically active.**

2.5.8 Finally, within the physical and mental health area, it should be acknowledged that movement and dance contributes a total of **11,000 related injuries, at a cost of £60 million per year.** This is in line with the average contribution of an activity at this level of unique market share of participation.

2.5.9 The area of lowest financial contribution is in individual development, at a total of **£13.69 million.** This is not distinct to movement and dance as its contribution falls in line with the proportion of its unique market share across all of sport and physical activity.

2.5.10 The model shows that **movement and dance supports a material increase in the educational attainment (exam results) the equivalent of 159 people.** This represents 5% of the total produced by sport and physical activity. Similarly, movement and dance is understood to uniquely contribute to the enhanced human capital of 11,085 people, at a value of £13.47 million. Enhanced human capital is based on the work of Johnes (2018) and refers to the causal relationship between participation in sport and physical activity and the uplift in earnings received by this cohort, versus non-participants following graduation¹⁷. Put another way, by participating in movement and dance, graduates from 2019 will add a total of £13.47 million to their earnings.

2.6 Summary and Next Steps

2.6.1 Section 1 of this study has shown that across all 18 outcomes tracked in the general model, the participation and volunteering in this group of activities produced £3.49 billion worth of social value (based on the ALS/CYP data from November 2018-19). This equates to around 5% of the total social value generated by sport and physical activity.

2.6.2 It must be noted that this figure refers only to the generic or non-specific benefits of physical activity produced by the unique market share of movement and dance. It does not consider any of the benefits movement and dance produces that are specific to the activity and its participants. To put this another way, the above provides evidence as to the minimum, provable social value contribution of movement and dance.

2.6.3 The next stage in this study is to step beyond the general model, and to evidence the ways in which movement and dance produces social value outcomes by virtue of the specific and distinct characteristics of its practice, the profile of the individuals involved, and the community and culture that has grown up around it.

¹⁷ Johnes, G. (2018). A sporting change: on the impact of sports participation on subsequent earnings. *Economics Bulletin*. 38, 1 (146-151).

3 Calculating the additional social impact of movement and dance

- 3.1.1 The aim of this review is to identify evidence on the social impact of movement and dance beyond that expressed in the general model used in Part 1.
- 3.1.2 This research has been conducted in partnership with the following researchers from leading universities in movement and dance: Alexandra Balfour (Buckinghamshire New University), Claire Farmer (Middlesex University), Siân Hopkins (Middlesex University), and Kathryn Stamp (Coventry University).

3.2 Approach and Study Selection

- 3.2.1 International academic literature published in peer-reviewed journals and 'grey literature' were included in the search. 'Grey literature' is materials and research carried out by government bodies, charities, trusts other similar organisations.
- 3.2.2 Two approaches were used to identify the literature. First, searches of academic databases for peer reviewed research, including EBSCOhost, PubMed, Scopus, Sport Discus, Sports Medicine and Education Index, Coventry University Institutional Database, and Sociological Abstracts were conducted. The date filter was unrestricted to enable all movement and dance literature to be identified. In addition to the academic database search, a search for grey literature was conducted using Google, Google Scholar, and key organisations websites. A search of key authors who have published research on the social impact of sport was also conducted.

3.3 Study Selection

- 3.3.1 A search of academic databases including EBSCO and PubMed was carried out, with 149 papers included in the final evidence review.
- 3.3.2 While the search was focused to look at the social impact of movement and dance and participation, the results revealed a wide range of issues that are outside the scope of this analysis and not immediately related to the discussion of social outcomes. The reasons for papers being excluded from review are outlined below.
- 3.3.3 A number of blogs on the social impacts of movement and dance were also eliminated from the study. These were excluded because they were narrative in character and presented anecdotal information based on someone's own opinion rather than objective and empirical data.
- 3.3.4 Dance has historically been viewed as an authoritarian art form (Dragon, 2015), with the teacher imposing knowledge and set movement upon the student. However dance also incorporates creative and artistic expression, with improvisation and creative tasks applied in various settings and with all age groups. The artistic and thus health outcomes of dance will vary depending on the specific dance form (Chappell et al., 2021). This is also reflected in the physiological demands which will differ depending on the dance genre (Guidetti et al., 2015). For example, the physiological demands of ballroom dancing will differ greatly when compared with contemporary dance, ballet, popping, Latin, salsa, or aerobic dance such as Zumba. The number of dance styles and genres is vast and continually growing (ACE, 2009). Different genres of dance also have a differing class structure. Some will involve a lot of free dancing or creative and improvisational tasks, whereas others will follow a set structure.
- 3.3.5 The physical, holistic, and creative package that dance often delivers can mean that research on dance is often difficult to categorise and has multiple applications across different areas of discourse. The cross-connections between the different categories (physical health, mental wellbeing, individual development, and social & community development) cannot be underestimated, so this synthesis of the literature, divided into sections, should be read with the understanding that many of the examples will connect with other sections. For example, aspects of mental wellbeing, such as treatment for depression or anxiety also link to aspects of individual development, including social cohesion and social capital.

- 3.3.6 Dance is also highly susceptible to funding changes (ACE, 2009) meaning that projects are often short term and therefore the longitudinal impact of dance cannot be fully assessed.
- 3.3.7 Research papers to date have utilised different methodologies. Therefore, there are difficulties in comparing outcomes of dance interventions, comparing dance with other physical activities, and thus any proposed outcomes and benefits (Chappell et al., 2021; Clift, 2020; McCrary et al., 2021).

3.4 Limitations on the Scope of This Review

- 3.4.1 Dance in the community and dance for health comes in a variety of genres and settings. It is imperative to differentiate between the structure and outcomes of dance for health classes seen in different contexts and Dance Movement Psychotherapy (DMP) / Dance Movement Therapy (DMT).
- 3.4.2 Dance classes can take place in a range of settings including in community centres, hospital day rooms, schools, dance studios, day centres, and care homes. Dance has been defined as an activity that can be both performative and participatory (Chappell et al., 2021). These dance classes provide an enjoyable, social activity, exploring physical activity, creativity, with or without a performance outcome, led by a dance specialist. Although these classes may have therapeutic outcomes such as decreases in anxiety, depression or loneliness, improvements in balance, or the ability to express one's emotions, these are often not the prevailing purposes of the class. The overriding focus is on dance rather than therapy (Chappell et al., 2021).
- 3.4.3 Dance Movement Psychotherapy (DMP) is a psychotherapeutic practice that 'recognises body movement as an implicit instrument of communication and expression' (Association for Dance Movement Psychotherapy, 2021), and is a relational process that uses the body and movement as well as verbal and non-verbal communication. This form of therapy is termed Dance Movement Psychotherapy in the UK to recognise the strong focus on the psychotherapeutic approaches, whereas it is termed Dance Movement Therapy in other countries. DMP utilises the body to explore themes and qualities in the patient, employs non-verbal interaction such as mirroring and empathetic witnessing through authentic movement (Karkou & Meekums, 2017). These approaches have been suggested to be beneficial to those who may struggle to verbalise their experiences with trauma, depression, and anxiety as well as those who are non-verbal.
- 3.4.4 It should be noted that most dance related research projects are short term due to funding restrictions. Therefore, the longitudinal impact and adherence over many months cannot currently be ascertained.
- 3.4.5 Due to the many varieties of styles and forms of movement and dance, no studies have been identified that generate an evidence base on the benefits of movement and dance as a collective group. For example, an intergenerational line-dancing programme reported that participant's heart rate (HR) reached 50%HRMax (Schroeder et al., 2017). HR Max also differed between age groups and therefore the demands of the class will need to vary according to the participants. Additionally, in a study into psychophysiological responses to salsa dance among men and women, it was noted that Rueda de Casino elicited a higher HR than a typical salsa class (Guidetti et al., 2015). Therefore, the impact of "dance" cannot be inferred across all dance styles equally as there are a multitude of dance genres which each have differing physiological requirements, stylistic qualities, and class structure. As such if a dance intervention is specifically aiming to impact cardiovascular fitness, the specific dance genre would need to be carefully selected to address this fitness parameter.

4 Physical and Mental Health

Summary: Unique Contribution of Movement and Dance to Physical and Mental Health

VALUE OF IMPACT	% OF THE SOCIAL VALUE PRODUCED BY MOVEMENT AND DANCE	% OF THE SOCIAL VALUE PRODUCED BY ALL SPORT AND PHYSICAL ACTIVITY
£430.3 million	12%	4%

Summary of The Literature Review

4.1.1 Physical activity (PA) has been shown to have benefits on physical and mental health, but most children and adults do not meet the recommended guidelines for activity (Schroeder et al., 2017). Adherence to traditional PA is low with high drop-out (Guidetti et al., 2015). Enjoyment in an activity can improve adherence (Guidetti et al., 2015; Fong Yan et al., 2018). For many, dance is an enjoyable form of activity and thus might help adherence rates. Research has also suggested that dance is more appealing to women (Barranco-Ruiz, Paz-Viteri, & Villa-González, 2020) and might therefore encourage levels of participation in PA in women.

4.1.2 Studies that compare dance with other physical activities have shown similar improvements in fitness parameters (Fong et al., 2018), although they suggest adherence is greater for dance-based activities.

4.2 Movement and Dance Classes Unlock the Benefits of Moderate and High Intensity Physical Activity

4.2.1 A number of studies, some of which are summarised below, show that movement and dance-based classes meet the minimum thresholds of intensity for both young people and adults:

- Hogg et al's (2012) study provided aerobic dance exercise where, for an average duration of 50 min per class, participants HR averaged 130bpm. This is considered moderate to vigorous physical activity (MVPA).
- Overall, girls spent 52.3% (95% CI: 39.3% to 65.3%) of each session engaged in MVPA in Must et al (2022) study with girls with intellectual disabilities.
- Moores & Kull (2020) found no statistically significant difference in training time MVPA between athletics and dancing.
- O'Neill et al (2011) found that over one-quarter of girls' moderate-vigorous activity was obtained through dance class activity. "Dance classes for adolescent girls, were also found to involve very limited amounts of sedentary behaviour, providing evidence that dancing is an activity that promotes continuous movement and associated energy expenditure" (O'Neill et al, 2012)
- Huang et al (2012) found that ballroom dancing provides MVPA in elementary school children for >50% of class time.
- Romero (2012) found a hip-hop intervention with 11-16 year olds had significant increases in self-efficacy, and vigorous physical activity.
- Connolly et al (2011) found significant increases ($p=0.001$) in aerobic capacity following contemporary dance intervention with 14-year-old females.
- Burkhardt & Brennan's findings (2012) suggest that recreational dance can improve cardiovascular fitness and bone health of children and young people and can contribute to preventing or reducing obesity. Although, further high-quality research is recommended in this field.
- Hogg et al (2012) findings showed a positive impact on BMI (body mass index) and body composition among children who are obese and overweight. These included a decreased ratio of Total Cholesterol to HDL and LDL and statistically significant changes in BMI ($p = 0.03$ and 0.01) and FFM (fat free mass). Improvements in glucose ($p= 0.02$) and HOMA-IR ($p=0.04$) as well as a decrease in percentage body fat (BF) ($p = 0.05$), were found in the overweight group. There was no significant difference found in BMI and BF changes in children in the normal weight group.
- In Huang et al's study (2012), 86% of the students remained in the same BMI category; 14% improved one or two categories; and none of the students moved to a category of greater risk
- Robinson et al (2003) found that girls that participated in African dance, step, or hip-hop dance watched less television and had decreased weight concerns than controls.

4.3 Coronary Heart Disease (CHD) and Stroke

Summary: Unique Contribution of Movement and Dance to the Reduction of CHD and Stroke

UNIQUE CASES PREVENTED PER YEAR	PER UNIT VALUE	VALUE OF IMPACT	% OF ALL SOCIAL VALUE GENERATED FOR THIS ELEMENT BY SPORT AND PHYSICAL ACTIVITY
6,487	£7,059	£45.79 million	4%

Summary of Literature Review

- 4.3.1 Preliminary data has shown that dance-based therapy has a similar impact on VO2Max and health related quality of life as standard rehabilitation programmes, but that dance-based therapies might aid adherence to these programmes. Philip et al's (2020) study indicates this is related to the social nature of dance-based classes and the dance being a means-to-an-end in of itself.
- 4.3.2 Longitudinal studies are required to confirm this finding, but it does provide a basis that dance-based interventions can increase attendance and retention to physical activity based classes above other interventions (such as gym-based exercise or other cardiac-pulmonary rehabilitation programmes (Franco, et al 2016; Neto, Menezes & Carvalho, 2014). Thus, movement and dance should be strongly considered for interventions such as social prescribing, whereby individuals are directed to physical activity opportunities within their communities (alongside walking, cycling, swimming, gym-based exercise and others).
- 4.3.3 Prior research into neuroplasticity mechanisms after stroke show that physical activity interventions which simultaneously integrate cognitive, motor, and social aspects are beneficial to the patient (Morice et al. 2020). Dance appears to be an example of such an intervention. Dance is multi-dimensional. It offers physical activity, but also fine motor control, social interaction and opportunities for creativity and joy, which addresses many of the aspects present in chronic health conditions (Bruyneel. 2019). It also improves intrinsic motivation and therefore adherence to the activity (Morice et al. 2020).
- 4.3.4 It should be noted that there are currently limited studies into the impact of dance on stroke patients, with only two cited to date. These studies did not include a control group and therefore the results can only be treated with caution (Morice et al. 2020).
- 4.3.5 Studies have investigated the potential for dance interventions in the place of existing rehabilitation or treatment programmes, including for chronic respiratory disease, a leading cause of global morbidity and mortality (Philip et al, 2020) and chronic heart failure (Neto, Menezes & Carvalho, 2014). A qualitative study into a series of dance sessions for those with respiratory conditions resulted in key themes emerging of dance as a source of social cohesion, as a holistic intervention and as an enjoyable activity that formed part of their life (Philip et al. 2020). The sessions were led with a Qi-gong warm up followed by relaxed but slightly challenging dance activity, with the focus on dance as an enjoyable activity. Participants reported that the activity induced breathlessness but not to an excessive degree (Philip et al, 2020). There was a desire amongst participants to participate in an activity that was an exercise, dance, and social activity, with all being inextricably linked. The prevailing factor for attendance to the dance activity was that the dance was an end in itself, rather than a means to an end as per gym-based exercise. They enjoyed their participation rather than only participating to see the end result (Philip et al, 2020). Herein lies the added value of dance activity to the holistic health of the human being.
- 4.3.6 Adherence to traditional cardiac and pulmonary rehabilitation programmes and exercise programmes has been shown to be suboptimal (Franco, et al 2016; Neto, Menezes & Carvalho, 2014). Preliminary data has shown that dance therapy has a similar impact on VO2Max and health related quality of life as standard rehabilitation programmes, but that dance based therapies might aid with adherence to these programmes. However, this data should be considered carefully as further, longitudinal studies are required to fully ascertain the impact. Several studies however have suggested that dance may be suitable for application into rehabilitation programmes (Neto, Menezes & Carvalho, 2014; Kokubo, Tajima, Miyazawa, & Maruyama, 2018).

4.4 Type II Diabetes

Summary: Unique Contribution of Movement and Dance to the Reduction of Type II Diabetes

UNIQUE CASES PREVENTED PER YEAR	PER UNIT VALUE	VALUE OF IMPACT	% OF ALL SOCIAL VALUE GENERATED FOR THIS ELEMENT BY SPORT AND PHYSICAL ACTIVITY
39,262	£4,013	£157.56 million	4%

Summary of Literature Review

- 4.4.1 Peer reviewed research has demonstrated that participation in movement and dance derives benefits in both the prevention and management of Type II diabetes, but not beyond that of other high or moderate intensity activities.
- 4.4.2 Mangeri et al (2014) found a reduction in weight and waist circumference with 2x weekly structured standard ballroom and Latin dance classes (2 groups dance vs self-selected programmes). Fasting glucose and liver enzymes decreased in both groups.
- 4.4.3 Vrishti et al (2019) found that Zumba and walking are both effective in reducing blood glucose levels and improving the quality of life in subjects with type 2 diabetes, but Zumba shows better results compared to walking.

4.5 Breast Cancer and Colon Cancer

Summary: Unique Contribution of Movement and Dance to the Reduction of Breast and Colon Cancer

UNIQUE CASES PREVENTED PER YEAR	PER UNIT VALUE	VALUE OF IMPACT	% OF ALL SOCIAL VALUE GENERATED FOR THIS ELEMENT BY SPORT AND PHYSICAL ACTIVITY
Breast Cancer: 387	£53,141	£20.56 million	7%
Colon Cancer: 130	£53,141	£6.89 million	4%

Summary of Literature Review

- 4.5.1 There are currently no studies looking specifically into how movement and dance can specifically reduce the risk of participants contracting breast cancer beyond the benefits derived from participating in general sport and physical activity. Dibbell-Hope's (2020) study looked at using dance movement therapy as a rehabilitative agent for breast cancer patients, however, these findings are not conclusive. It should be noted that as the profile of movement and dance participants indexes higher for females, movement and dance delivers a greater proportion of the total social value generated for breast cancer than other physical and mental health outcomes.
- 4.5.2 Physical activity has been recommended at all stages of breast cancer treatment, both as a protective factor but also alongside treatment to minimise collateral effects (Boing et al. 2020). It has been suggested that mind-body activities may be beneficial for cancer patients (Carlson & Bultz, 2008), however little research has been carried out with dance and breast cancer outcomes. One study is currently underway to ascertain the impact of solo Pilates and belly dancing on quality of life, cardiorespiratory fitness, measures of physical fitness such as muscular strength and flexibility, body image, self-esteem, and sexual function (Boing et al. 2020). However, no outcomes have yet been recorded.
- 4.5.3 Prior research with breast cancer patients has focused on dance movement therapy as a means to reconnect with the body, or other mind/body focused interventions, with much of the research being qualitative or anecdotal in nature (Dibbell-Hope, 2020). Further research into the potential physical, psychological and emotional impacts of a dance intervention on these patients is needed.

4.5.4 Although some research has begun to explore the use of dance and dance movement psychotherapy in cancer patients, to date this has not begun to focus on specific types of cancer.

4.6 Dementia

Summary: Unique contribution of Movement and Dance to the reduction of Dementia

UNIQUE CASES PREVENTED PER YEAR	PER UNIT VALUE	VALUE OF IMPACT	% OF ALL SOCIAL VALUE GENERATED FOR THIS ELEMENT BY SPORT AND PHYSICAL ACTIVITY
3,996	£37,401	£149.44 million	4%

Summary of Literature Review

4.6.1 No peer reviewed studies have explored the role of leisure/recreational movement and dance in protecting participants from the on-set of dementia. There has been more research into dance movement therapy as means of supporting those with cognitive impairments; the outcomes of these maybe impacted by type and style of dance used.

4.6.2 Although there is currently no cure for dementia, physical activity has been shown to have protective qualities in those with previously good cognitive function (Chang et al. 2021). Numerous studies have demonstrated the positive impact of dancing as well as those with mild cognitive impairment (Chang et al. 2021),

4.6.3 Research to date has mixed methodologies and care should be given to interpreting results, although small benefits can be seen in the interventions so far (Mabire, Aquino, & Charras, 2019). Consideration should also be given when considering the style of dance and if it is a dance intervention or dance movement therapy, as these have differing approaches to the participant, with dance having a leisure outcome that may have therapeutic qualities and dance movement therapy has a therapeutic outcome (Mabire, Aquino, & Charras, 2019).

4.6.4 Dance has been shown to represent a cognitively demanding activity due to its combination of music and movement, requiring simultaneous listening and processing from its participants (Bläsing et al, 2012; Douka et al, 2019) as well as providing a source of cognitive stimulation through increased social interaction (Kosmat & Vranic, 2017). Such stimulation is associated with the protection against the onset of dementia.

4.7 Clinical Depression and Depression-like Behaviour/Stress & Anxiety

Summary: Unique Contribution of Movement and Dance to the Reduction of Depression

UNIQUE CASES PREVENTED PER YEAR	PER UNIT VALUE	VALUE OF IMPACT	% OF ALL SOCIAL VALUE GENERATED FOR THIS ELEMENT BY SPORT AND PHYSICAL ACTIVITY
16,131	£305	£4.92 million	4%

Summary of Literature Review

4.7.1 Various studies have demonstrated that dance can have a positive impact not only on physical aspects of health, but also mental wellbeing. Feelings of self-confidence and self-esteem have been found to increase through dance participation (Christensen et al. 2017). Dance sessions were described as a time-out from daily stress, and that being able to express emotion through movement was a source of stress reduction (Duberg et al., 2016; Mercia et al., 2010), with the physicality of dance aiding elevation of mood and relieving anxiety (Froggett & Little, 2012). The effect of dancing can have positive benefits on social integration, and be a means of self-discovery, increasing one's sense of worth (Mansfield et al., 2018). Salihi et al's (2021) integrated review of studies using dance interventions showed that moderate intensity dancing interventions are effective in reducing depression symptoms, stress, and anxiety in adults, when adhered to for 150 minutes per week.

- 4.7.2 Social interaction with creative tasks and physical exercise can positively impact and counter depressive states. Participating in intrinsically rewarding or autotelic activities rather than the exotelic systems of achievement that make up much of everyday life.
- 4.7.3 Somatic symptoms of stress and emotional distress were significantly reduced in adolescent girls after participating in an intervention of twice-weekly dance sessions for 8 months (Duberg et al., 2020). As with other reports and interventions that have found similar conclusions, positive effects are unlikely to be maintained without continued participation, which could lead to more sustainable results.
- 4.7.4 Conclusions of dance interventions based around impact on general wellbeing have often found positive overall effects, though there are varied outcomes depending on severity of experience of depression, age range of participants, length of study, and method of evaluation. However, there are many studies that advocate exercise as having a positive effect on people suffering with depression, with exercise relating to a reduction or lessening in severity of symptoms.
- 4.7.5 Depression and anxiety are often comorbid conditions occurring alongside other diagnoses of mental or physical health. A sedentary lifestyle with low physical activity can be correlated to depression morbidity, prevalence of depressive symptoms and increase in severity of symptoms (Pengpid et al., 2019; Vancampfort et al., 2018; Teychenne et al., 2010). Kaiser et al. (2021) identified predominantly physical symptoms as the strongest bridge symptoms between depression and anxiety disorders. With this in mind, developing psychomotor skills involving movement coordination, strength and grace could likely impact the severity of symptoms experienced.
- 4.7.6 Most studies into the impact of physical activity and neurotransmission are related to exercise in general, rather than movement and dance specifically. Research into the change in neurotransmitter production and the effects this has on the mind and body are limited, especially when specifically related to dance. Effects of drug stimulation has been investigated, but less so on our natural release of mood-altering functioning. With the above caveat in mind, dance-based exercise has been found to trigger the release of reward-related neurotransmitters, including endorphins (Morgan, 1985) and opioids (Boecker et al, 2008). In addition, dance practice provides strong psychobiological learning opportunities (Elguindy et al, 1994, Hanna 1995, Levy 2007, Levy 1992). In this regard, dance has been found to 'provide socioemotional coping skills, to increase self-confidence, and to boost self-esteem' (Christensen et al. 2017, p9). Like all physical exercise, dance enhances immunoreactivity (Wildmann et al, 1986) and improves caloric equilibrium, coordination, muscle tone, and cardiovascular health (Merom et al, 2016 & Morris et al, 1993).
- 4.7.7 Vankova et al's (2014) study indicated that their dance intervention (1hr weekly for 3 months) using reminiscent music and ballroom-based movement, decreased depressive symptoms among typical nursing home residents. These findings were in accordance with studies investigating the impact of dance on depressive symptoms in elderly individuals in a community dwelling setting (Haboush et al., 2006; Murrock & Graor, 2014). On the other hand, Alpert et al (2009) found no significant reduction in depressive symptoms of older people following a modified Jazz dance intervention. Aliberti & Raiola (2021) investigated the effects of resuming a Line Dancing class with older adults after Covid-19 restrictions were lifted. They found that the Line Dancing intervention (3 times per week for 3 months) allowed participants to improve not only their physical condition, but also their social and mental conditions and reduce their depressive state. These could be considered important findings considering the high prevalence of depression among older adults (Murrock & Graor, 2014). It is suggested that the expressive characteristics of dance rather than the exercise itself may assist individuals to deal with feelings otherwise difficult to accept or express (Pinniger et al, 2012).

Adverse Effects/Issues of Dance on Mental Health

- 4.7.8 Some research indicates high intensity training (often in a professional setting) can have adverse effects on the mental health and wellbeing of participants. This mirrors the impacts of high intensity training from other activities across the sport and activity landscape.

4.8 Back Pain

Summary: Unique Contribution of Movement and Dance to the Reduction of Back Pain

UNIQUE CASES PREVENTED PER YEAR	PER UNIT VALUE	VALUE OF IMPACT	% OF ALL SOCIAL VALUE GENERATED FOR THIS ELEMENT BY SPORT AND PHYSICAL ACTIVITY
66,664	£268	£17.87 million	4%

Summary of Literature Review

- 4.8.1 We are not aware of any research to date that investigates the use of dance to address back pain in any populations. Contrary to this, there are a multitude of research papers looking into the causes of lower back pain in professional and pre-professional dancers.

4.9 Falls Prevention and Hip Fractures

Summary: Unique Contribution of Movement and Dance to the Reduction of Hip Fractures

UNIQUE CASES PREVENTED PER YEAR	PER UNIT VALUE	VALUE OF IMPACT	% OF ALL SOCIAL VALUE GENERATED FOR THIS ELEMENT BY SPORT AND PHYSICAL ACTIVITY
1,034	£37,962	£39.24 million	5%

Summary of Literature Review

- 4.9.1 Falls are a leading cause of unintentional injury in those aged 65+, which can result in potentially severe injuries such as hip fractures, brain injuries and upper limb injuries (Vella-Burrows et al. 2021). Vella-Burrows et al's (2021) study provides qualitative evidence that the perception of improvements in strength and balance were reported by the participants. Themes of body control, coordination and a sense of achievement were raised. In addition, the social aspect and a sense of belonging were important to study participants. However, clear changes in fall likelihood were not necessarily born-out in quantitative evidence.
- 4.9.2 There are currently several falls prevention programmes, including two evidence-based programmes 'Falls Management Exercise' (FaME) led by Postural Stability Instructors and Otago. These programmes are usually accessed via GP or hospital referral and have been shown to prevent falls as well as reduce fear of falling. Otago is a strength, balance exercise and walking program consisting of 17 exercises to be undertaken under supervision and at home. FaME is a continuation of Otago which develops the components of targeted fitness including floorwork.
- 4.9.3 These programmes are delivered by Falls Specialists as part of a rehab or prehab falls prevention intervention and in community falls awareness programmes. However, these programmes are not always consistently delivered in the recreational setting as a physiotherapy assistant will have different scope of practice to that of an exercise instructor. As a prescriptive evidence-based exercise programme without music the feedback has suggested they are not engaging for some patients (Vella-Burrows et al. 2021).
- 4.9.4 The Dance to Health programme has taken the principles of FaME and Otago and embedded them into creative dance practice that is fun and sociable as well as building strength, balance, flexibility, and overall wellbeing (Vella-Burrows et al. 2021). Although more research is required in this area, it highlights the valuable impact of social belonging and creative activities alongside the building of physical fitness parameters, a tool that is provided through all dance activities wherever they take place.

4.10 Additional Benefits of Movement and Dance Not Covered in the General Model - Parkinson's Disease

- 4.10.1 The unique combination of dance and music to negotiate the symptoms of Parkinson's, particularly in relation to motor skills, is a benefit not found in some other exercise treatments such as treadmill walking. Dance and movement activity has been shown to improve gait, including dynamic balance in people with Parkinson's disease (Pereira et al, 2019; Mak and Wong-Yu, 2019), with the relationship to the music and rhythm also allowing them to more easily move through freezes. However, there have been differing results in relation to balance, dependent on methodology used.
- 4.10.2 Dance forms explored in relation to Parkinson's include Ballet and Popping. However, current clinical measures into the benefits of dance for Parkinson's do not account for the wider impact on the individual's daily life, including emotional and social impacts. These nuanced, but highly valuable benefits of dance and movement activity in those living with Parkinson's therefore need to be further investigated (McGill, Houston & Lee, 2014).

4.11 Additional Benefits of Movement and Dance Not Covered in the General Model - Young People

- 4.11.1 Dance has been widely suggested as an alternative, fun and enjoyable way to increase physical activity in young people. Taking into consideration the popularity of dance among young people (particularly girls) (Liu et al, 2013; Song et al, 2015), it has been suggested as a potential strategy to increase the amount of daily general levels of physical activity in children and adolescents (Grieser et al, 2006; Hogg, 2012; Must et al, 2022; Robertson-Wilson, 2016). Investigations have also been suggested into dance as an alternative way for preventing obesity and other cardiovascular risk factors associated with sedentary behaviour (Hogg et al, 2012; Resaland et al, 2019).
- 4.11.2 Overweight and obese children have a higher risk of becoming obese adults than their normal-weight counterparts (Mamun et al, 2009). Thus, finding strategies to reduce the rates of obesity in children through increased physical activity is imperative (Hills, 2011). Silva et al (2017) found that children who participated in organised sport >3 per week had 2.6 times greater odds of meeting PA recommendations compared to those who participated less. Mooses and Kull (2020) support and build on these findings that participation in organised sport even once or twice per week tripled the odds of meeting PA recommendations and those who participated three or more times had four times greater odds of meeting PA recommendations when compared with children who did not participate in organised sport.
- 4.11.3 Studies have shown that dance is able to expend similar effort to other aerobic exercise activities (Hogg, 2012; Janyacharoen, 2013; Belardinelle, 2008; Connolly et al, 2011). In children and adolescents, dance has been used as an enjoyable way to promote weight loss, decrease BMI, decrease systolic and diastolic blood pressure, and improve aerobic capacity, all whilst avoiding traditional aerobic activities that are not so attractive for this particular population (Hogg, 2012).

4.12 Additional Benefits of Movement and Dance Not Covered in the General Model - Older Adults

- 4.12.1 Dance, regardless of its style, has been found to significantly improve muscular strength and endurance, balance, and other aspects of functional fitness in older adults (Hwang & Braun, 2015). The social aspect of dance is particularly important for this age group through addressing social cohesion, loneliness and therein mental health such as anxiety, depression, and stress. McKinley et al (2008) saw a 25% drop out rate among participants allocated to the 'walking' intervention group (rather than the Tango intervention group), implying that older participants were excited to dance rather than walk. These findings reinforce the theme above that dance-based exercise can achieve greater levels of retention than other types of exercise.
- 4.12.2 It has been suggested that older adults enjoy participating in dancing, particularly social dances such as organised tea dances, as this is something they did recreationally in their youth. Although there is some truth to this assumption, older adults also appreciate learning new dance forms and dancing to different music, rather than solely relying on dances and music from a specific era.
- 4.12.3 Research on dance with older people has been conducted in a range of settings and across the globe. However, the evidence on the efficacy of dancing in care homes, communities and hospitals is limited, in part, owing to the methodological challenges facing such research (Guzman-Garcier et al, 2013). There have, however, been some positive effects cited throughout the research which alludes to dance being an enjoyable and social way to improve elderly peoples' physical activity, health and

psychosocial states. Since dance is an activity that engages participants physically, cognitively, socially and emotionally, interventions involving this may be particularly well suited for addressing a variety of health conditions (Crumbie et al, 2015) and be an effective tool for the prevention and the fight against the health problems of the elderly (Douka et al, 2019).

- 4.12.4 In Bungay & Hughes (2021), dance sessions for elderly people in a hospital setting were valued as an enjoyable way to undertake physical activity and provided an opportunity for social interaction between patients. This was also found in Haboush et al's (2006) study on community dwelling older people, whilst Wshah et al (2019) noted that many of their older participants were motivated to continue with the dance-based program, if it continued to be offered.
- 4.12.5 Twelve weeks of Creative Dance practice (emphasising body awareness and communication through movement) was found to promote improvements on proprioception of older adults, namely in arm positioning and knee kinaesthesia in flexion (Marmeleira et al, 2009). A weekly 50 minute Creative Dance intervention of 24 weeks, was found to enhance physical fitness (strength and flexibility of lower limbs, aerobic endurance, motor agility/ dynamic balance, and body composition) and life satisfaction of 57 older females (Cruz-Ferreira et al, 2015)
- 4.12.6 Tango dance sessions for 10 weeks led to greater improvements in balance skills and walking speed than walking alone for exercise (McKinley et al., 2008). It was also highlighted that this type of dance program can be considered as an option for a variety of vulnerable populations due to the great 'levelling' effect of dance. McKinley et al stated that at the end of the 10-week course, all participants were equally able to dance at a set pace and walking with a cane was not a barrier to performing the tango. None of the participants who walked with a cane had any trouble dancing without their canes (McKinley et al., 2008).
- 4.12.7 Douka et al (2019) found that 32 weeks of 75 minute Traditional Greek dance classes with 130 older participants resulted in a significant improvement in the strength of the legs, flexibility in lower back and hamstrings, and shoulder range of motion. A statistically significant improvement was also observed in hand grip strength. Traditional Greek dance was also explored in Sofianidis et al (2009) and findings show that a 10-week intervention was effective in reducing postural sway during performance of One-Legged stance and increasing the range of upper trunk rotation during dynamic Weight Shifting in the sagittal and frontal planes.

4.13 Additional Benefits of Movement and Dance Not Covered in the General Model - Disability and Dance

- 4.13.1 The study area of inclusive dance or dance and disability is growing. Dance and disability activity usually takes place within two specific realms: community dance and dance therapy (separate to professional dance practice by disabled artists). While there is a wealth of dance and disability provision in the UK (see Para Dance UK, People Dancing, and regional inclusive dance organisations) within community settings, empirical research that documents this and, more specifically, the benefits, is growing but currently limited. The majority of research that discusses the benefits of dance for disabled people is focused on DMP and DMT interventions. Alternative research into dance and disability focuses on the construction of an inclusive dance practitioner (Urmston & Aujla 2018), or the wider benefits for all participants in inclusive dance (Zitomer and Reid 2011; Traver & Duran 2014) .
- 4.13.2 Zitomer and Reid (2011), who have researched extensively in the area of dance interventions for disabled children, recognise that inclusive dance classes can benefit all participants, disabled and non-disabled. Their study of inclusive dance classes, and specifically perceptions of disability for participants, involved 16 students aged between 6 and 9 years old. This revealed a subtle positive change in perception of disability for non-disabled participants. This was also supported by Traver and Duran (2014: 1153) whose analysis of the Believe Ballet programme showed that participation in ballet projects that involved both disabled and non-disabled participants "led to their increased awareness of the existence and experiences of individuals with physical disabilities, grappling with constructions of physical ability and disability, acceptance of and appreciation for body diversity, and communion with others across (dis)abilities".
- 4.13.3 Research has indicated that there are significant barriers to participation in dance for disabled children (although many of these are also experienced by adults), which might explain the limited research. These barriers include attitudinal, aesthetic, logistic, environmental and a lack of knowledge, to name a few (Aujla and Redding, 2013). Therefore, more is needed to reduce the barriers to participation

and to document the benefits of this participation.

5 Mental Wellbeing

Summary: Unique Contribution of Movement and Dance to Mental Wellbeing Uplift for Participants and Volunteers

UNIQUE INDIVIDUALS TO HAVE BENEFITED PER YEAR	PER UNIT VALUE	VALUE OF IMPACT	% OF ALL SOCIAL VALUE GENERATED FOR THIS ELEMENT BY SPORT AND PHYSICAL ACTIVITY
Participants: 1,209,653	£1,274	£1,541.1 million	5%
Volunteers: 195,332	£2,663	£520.17 million	5%
		2,061.27 million (59% of M&D SV)	5%

Summary of Literature Review

- 5.1.1 The outcome from multiple studies on benefits to mental health and wellbeing from general exercise is generally positive from regular participation. Effects include increased self-esteem, lower anxiety levels, and general mood state lifted. Both anaerobic and aerobic exercise has potential short-term benefits to positive social-behaviours, emotional regulation, attention, with long-term benefits possible with continued participation. The evidence discussed in this section of the report indicates that exercise accessed via movement and dance is as efficient in delivering these benefits, and in some cases more effective given the profile of subject group.
- 5.1.2 The use of arts therapies in clinical and non-clinical settings has been shown to have wide ranging benefits including improved ability to cope, reduced anxiety and stress, increased wellbeing, increased social interaction and sense of self-worth (Jensen & Bonde, 2018). “Engaging in musical and dance activities can make people feel trust and connectedness, promote prosocial behaviour within a group, and also reduce prejudices between groups. Sustained engagement in these art forms brings change in a matter of seconds (such as hormonal changes and associated stress relief), months (such as improved emotional wellbeing and learning outcomes), and decades (such as structural changes to the brains of musicians and dancers and superior skills in expressing and understanding emotion)” (Horwitz et al. 2021).
- 5.1.3 Many studies have been published on the benefits and uses of Dance Movement Psychotherapy (DMP), but there is less evidence when investigating arts having therapeutic and self-development values outside of this specialised setting. The benefits found within DMP may however still be present in varying ways when participating in regular dance sessions. Below, research into the ways in which movement and dance can provide mental wellbeing uplift is summarised.

5.2 Identity

- 5.2.1 One of the ways in which mental wellbeing can be improved or reduced is via a reinforcement or threat to a person’s identity. Aspects of self-identity are understood to be invoked through dance, including taking on the identity of a dancer, linking with a sexual self and spirituality (Seyler, 2009) and, linking everyday lives with cultural identity (Akademi, 2017). Zelig et al. (2019) and Kontos and Grigorovich (2018) explore, embodied self-expression as part of a relational understanding of citizenship for people with dementia (Chappell et al 2021). These studies indicate that dance-based activities can invoke and empower a sense of self-identity, on a personal or community-cultural plain.
- 5.2.2 ‘Froggett and Little (2012) suggest dance is a place for meaning-making since it occupies an “in-between” space, between mind and body, bridging inner and outer experience, whilst Wakeling and Clark (2015) link it with the capacity of dance to link effective experiences in both past and present.’ (Chappell et al 2021).

5.3 Creativity and Enhanced Learning/State of Flow

- 5.3.1 Practices that encourage creativity and a 'state of flow' are understood to counter negative mental experiences in subjects by bringing the participant into the present moment. This is achieved by taking the attention away from the worries and stresses about past and future events which are often one of the causes of mental distress and low self-esteem.
- 5.3.2 Dance offers a similar experience, focussing the attention on the here and now, while completing complex physical tasks in time with a set rhythm and matching the timing of others in the space. Shifting attention to internal sensation over external perspectives. As a visual artform, witnessing others move in the space with you can also add to enjoyment of the task and offer inspiration for sustained participation. This is achieved as 'the mind and body relaxes, yet one is energized and able to access thoughts and feelings with a creative flow. This embodiment experience of being and feeling together with someone is reminiscent of the quiet alert state that infant development specialists have identified which facilitates optimal learning – simultaneously engaged and soothed (Stern, 1995). This state of open receptiveness allows new information to enter and be integrated.' (Kalila B. Homann (2010)
- 5.3.3 'That artistic creative participation leads to emotional regulation is identified as including stimulation and happiness (Akademi, 2017), positivity (Burke et al. 2018), significant improvements in emotional wellbeing and fatigue reduction (Campion & Levita, 2013), improved cognitive function and wellbeing (Houston & McGill, 2015) and emotional growth (Seyler, 2009).' (Chappell et al. 2021). Froggett and Little (2012) found that imagination was engaged in the process of expressing inner-experience through movement. Being creative, and being creative with movement can help us find a more fulfilling sense of self.
- 5.3.4 Yoga, Tai Chi, Qi Gong are types of meditative movement practices. All consist of connecting breath with a flow of postures, balance, shift of weight and controlled articulations of the body, often performed slowly with the aim of maintaining concentration and remaining present in the moment.
- 5.3.5 The philosophy behind moving and finding mental clarity and calm is closely connected to meditative practices, where one can aspire to experience deep emotive expressiveness. Techniques for finding individual serenity and a sense of control, which may be utilised when participating in dance, have the effect of calming and de-stressing.
- 5.3.6 Contemplative practices are methods used to consciously experience movement in the body, when approached with concentration and learned control. The use of breath to enhance movement is a skill in dance that enables full embodiment and expression through the movement and a calmness in the brain. Being around other people and facilitating a feeling of safety while opening up to vulnerability.

5.4 Attention Deficit Hyperactivity Disorder (ADHD)

- 5.4.1 Levin (2018) looks at the Cartesian image of mind and body as separate when describing ADHD, where attention is perceived to be elsewhere, disembodied, or independent from the whole. Going on from this to explore consciousness not being disembodied, but as an event taking place in the entire self, the body included as one in this, and where instances of dance -based movement (specifically capoeira mentioned) can create an outlet of expression from the hyperactive tendencies of ADHD (Levin, 2018). Rather than viewing dance as an intervention that can resolve symptoms of various mental health diagnoses, there could be a recognition of the potentially therapeutic effects on diagnosed traits, which may positively affect one's state of being when dealing with the daily struggles faced.
- 5.4.2 Contemplative movement practices are methods used to consciously experience movement in the body, when approached with concentration and learned control. The use of breath to enhance movement is a skill in dance that enables full embodiment and expression through the movement as well as a calmness in the brain. Studies examining the effects of mindfulness training and physical activity for children with ADHD found significant improvement to attention, awareness and self-control, and the interventions may help enhance adaptivity when learning as well as alleviate issues with interpersonal interactions (Chan, 2021).
- 5.4.3 Although the majority of studies are on the effects of general physical exercise on ADHD symptoms, dance has been included in some of these, even if not the main activity in the intervention.

6 Individual Development

Summary: Unique Contribution of Movement and Dance to Individual Development

VALUE OF IMPACT	% OF THE SOCIAL VALUE PRODUCED BY MOVEMENT AND DANCE	% OF THE SOCIAL VALUE PRODUCED BY ALL SPORT AND PHYSICAL ACTIVITY
£13.69 million	0.39%	5%

6.1.1 Individual development refers to the benefits a person engaged in participating or volunteering in a given activity derives from doing that activity. The outcome is made up of ‘educational attainment’ and ‘enhanced human capital’, which are defined below.

6.2 Educational Attainment

Summary: Unique Contribution of Movement and Dance to Educational Attainment

UNIQUE INDIVIDUALS BENEFITED PER YEAR	PER UNIT VALUE	VALUE OF IMPACT	% OF ALL SOCIAL VALUE GENERATED FOR THIS ELEMENT BY SPORT AND PHYSICAL ACTIVITY
159	£1,385	£0.22 million	5%

Summary of Literature Review

6.2.1 There is evidence that demonstrates how dance (and music) can help with student learning across subjects, helping progress and success across the curriculum (Petrie, 2020). In addition, it was perceived that participation in dance-based activities for students helped “discipline and focus” (Petrie 2020: 341), posited as central tenants for developing self-regulation abilities. It was also found that dance was particularly beneficial for ‘failing’ students, helping to increase their artistic knowledge, career preparedness, cultural competency, social skills, and wellbeing (Petrie 2020).

6.2.2 It should be noted that when it comes to educational attainment, there is a breadth of literature that focuses on arts in education, not dance specifically, as well as the benefits of sports and physical activity for school students.

6.2.3 While research into the relationship between dance and educational attainment is limited, there is an increasing interest in how dance may influence reading ability (McMahon et al 2003; Makopoulou et al 2021). For some interventions this meant reading through dance-based tasks, whereas other activities involve the merging of reading and dance together creatively. McMahon et al (2003) found there were improvements in reading abilities such as learning consonants and vowels, as well as overall phoneme segmentations, working up to blending into words. This study was conducted in America, with 721 first-grade students (6–7-year-olds) with the results being “overwhelmingly positive” (McMahon et al 2003: 119). Similarly, but conducted in the UK, Makopoulou et al (2021:281) found that “meaningful integration of dance with reading can bring moderate, albeit significant, gains in (reading comprehension) attainment”. The possible links between dance and literacy were explored by Adams (2016), who emphasises a semiotic-kinaesthetic link, which is also supported through educational research into learning styles. Finally, Giguere’s (2011) exploration of dance and poetry identifies that “by giving children opportunities to create dances, perhaps we are also giving them an opportunity to challenge and refine their abilities to solve many kinds of problems”.

6.2.4 In addition to educational attainment, which has an emphasis on success, educational experience is also very significant, not just for how the student operates in the school environment, but also for their future in terms of socialisation, creativity and teamwork skills. Olga et al (2018: 43) found that creative dance classes can “help students cooperate and communicate with their classmates while also offering them rich social experiences”. Purvis’ (2018: 72) literature review indicates that dance education, specifically creative dance classes, engages students in a way that promotes inclusivity, collaboration and “engages diverse students”. The promotion of creativity and enhanced imaginative engagement through dance was also supported by Vasudevan (2022), who looked at how black freshman co-constructed a dance programme in the US.

6.2.5 In particular, there is a collection of research that specifically explores the benefits of dance activity for disabled students. In reviewing a range of studies, Prieto et al (2020) found that in-school engagement in dance-based activities for disabled students can help social interaction between students and increase psychological benefits e.g., motivation, self-awareness, self-esteem and independence. Similarly, Zitomer (2016: 228) found that experiencing dance helped disabled children gain “a sense of belonging, which is one of the aims of inclusive education”. This is in addition to the documented benefits of dance engagement for disabled people both within therapy settings and recreational participation.

6.3 Enhanced Human Capital

Summary: Unique Contribution of Movement and Dance to Enhanced Human Capital

UNIQUE INDIVIDUALS BENEFITED PER YEAR	PER UNIT VALUE	VALUE OF IMPACT	% OF ALL SOCIAL VALUE GENERATED FOR THIS ELEMENT BY SPORT AND PHYSICAL ACTIVITY
11,085	£1,215	£13.47 million	5%

Summary of Literature Review

- 6.3.1 Enhanced human capital is defined by Wright & McMahan (2011), from a psychological perspective, as having the “knowledge, skills, abilities and other characteristics of individuals, with this including cognitive ability and job performance”.
- 6.3.2 In terms of dance, it has been identified that human capital is significant and often developed during formative years (Hopper et al 2020: 471). One aspect of human capital includes transferable skills, which Holdsworth (2013:174) explored through their study of boys and young men’s participation in dance activity. The skills that were appreciated by the participants included “creativ(ity) through physicality and learning new moves and routines, as well as transferable skills such as listening, communication, focus, trust, teamwork, and the discipline of rehearsing and rehearsing in order to ‘get it right’”. Higdon & Stevens (2017) explored the concept of employability in relation to dance and how it can enable creative employability, and transferable skills that are often sought by employers. This was also linked by some (Tsitsou, 2014) to economic means, although this is not often a significant factor when discussing dance activity.
- 6.3.3 The Empowering Dance project identified ‘soft skills’ which are developed through dance engagement. These communication, behaviour, and thought related skills have been identified by UNESCO and the World Economic Forum as key skills that should be prioritised for the future (Empowering Dance 2022).

7 Social and Community Development

Summary: Unique Contribution of Movement and Dance to Social and Community Development

VALUE OF IMPACT	% OF THE SOCIAL VALUE PRODUCED BY MOVEMENT AND DANCE	% OF THE SOCIAL VALUE PRODUCED BY ALL SPORT AND PHYSICAL ACTIVITY
£983 million	28%	5%

- 7.1.1 When exploring the social benefits of dance for people, looking at the motivation for people's participation is a useful way to understand why people choose dance. Maraz et al's (2014) development of the Dance Motivation Inventory demonstrates the range of reasons for participation in dance. They highlight that for those specifically taking dance classes as a recreational activity, and not pursued as a profession, "four additional factors were identified: Mood Enhancement, Self-confidence, Trance and Escapism" (2014: 8). This recognises that the social benefits of dance also respond to the individual (self-confidence, trance) as well as the benefits of improving mood and as a form of escapism.
- 7.1.2 Considering the implications of dance on social cognition, as a means of creating social cohesion and social interaction, Sevдалис & Keller (2011) explored dance as a means for developing perceptive and responsive abilities. Their study recognized that dance as a means of communication makes it ideal for "investigating the timing and dynamics of actions and interpersonal interactions" (234-235). Through their review of literature, Sevдалис and Keller concluded that dance can reveal much about action processes, cognitive perception and the benefits of audio-visual engagement for social cognition.

7.1 Crime Reduction

Summary: Unique contribution of Movement and Dance to Crime Reduction

UNIQUE CASES PREVENTED PER YEAR	PER UNIT VALUE	VALUE OF IMPACT	% OF ALL SOCIAL VALUE GENERATED FOR THIS ELEMENT BY SPORT AND PHYSICAL ACTIVITY
891	£38.16	£0.3 million	0.1%

Summary of Literature Review

- 7.1.1 In terms of crime reduction, there is a bank of literature exploring crime reduction interventions using arts and sport activities, but little focused on dance itself. There are more studies exploring dance classes as an intervention for prison rehabilitation activity to help with reform, most commonly in women's prisons. The majority of the literature uses practitioner perspectives to evaluate the projects (anon 2012; Mortimer 2017; Ifill 2021; Branfman 2022), whereas some other studies use Dance Movement Therapy as the vehicle for prison intervention and, as is the hope, crime reduction (Seibel 2008).
- 7.1.2 Studies that explore dance participation within prison settings reveal something of the potential of dance to work within environments that have complex power structures and participants with challenging backgrounds. These suggest that dance in prisons can help in building empathy and connections between participants, as well as self-advocacy using the body (Ifill, 2021). Mortimer (2017:125) conducted a study of dance classes delivered in three settings: a women's prison, a remand unit, and a youth residence. This study highlighted how the prison environment prohibits touch, contemplating how this alters the experience but also what dance can do when combined with other arts activities e.g., writing and poetry, to break down emotional barriers and build social relationships. It also works to challenge hierarchies, especially when prison guards or people in charge of the participants in the particular setting, took part in the dance activities as well.
- 7.1.3 Dance in prison environments has also been found to break down machismo, as Houston (2009) uncovered when exploring contact improvisation delivery for males in prison. Dance helped to foster community, with the dance classes helping aid "the cessation of manipulation, the release of tension and affirming co-operation, trust and sensitivity" (Houston 2009: 112). These are skills that, if

facilitated within interventions that aim to reduce crime before offender’s tip into illegality, could have significant benefits for those at risk of incarceration.

7.2 Enhanced Social Capital

Summary: Unique contribution of Movement and Dance to the Enhancement of Social Capital

UNIQUE INDIVIDUALS BENEFITED PER YEAR	PER UNIT VALUE	VALUE OF IMPACT	% OF ALL SOCIAL VALUE GENERATED FOR THIS ELEMENT BY SPORT AND PHYSICAL ACTIVITY
1,209,653	£580	£701.6 million	5%

Summary of Literature Review

- 7.2.1 Firstly, it is important to define the concept of social capital. Sociologists understand social capital to relate to social relationships and their “outcomes, includ(ing) social networks, civic engagement, norms of reciprocity, and generalised trust” (Bhandari & Yasunobu 2009). Therefore, social capital encompasses relationships and engagement with others in society, as well as processes and societal institutions.
- 7.2.2 In terms of social relationships, Samochowiec et al (2022: 78) found that moving with partners in the Argentine tango classes that were studied aided communication skills, increasing “self-expression, strengthen(ing) contact with others and promot(ing) group cohesion, which translates into communication quality in a close partner relationship”. It should be noted that this study was looking specifically at pair relationships and discussed aspects of romantic interaction, but also contemplated the wider social implication of the communication skills that were observed in this context. Quinones et al (2018) explored social capital development in Colombia, where it was found that dance participation can improve bodily self-awareness, agency and empowerment. The specificity of this project was around dealing with trauma but indicated that dance is a beneficial activity for building social capital, particularly in vulnerable communities.

Social Cohesion

- 7.2.3 Extending from the concept of social capital, which is focused on the types of social relationships one has, social cohesion recognises “the extent of connectedness and solidarity among groups in society” (Manca, 2014). This can include sense of belonging and relationships within certain communities amongst society.
- 7.2.4 Research on social aspects of dance have highlighted how dance offers an opportunity to explore cultural heritage (Perkins 2021) and cultural difference, contributing to greater understanding and encouraging social cohesion. Iuliano (2017: 143) describes how participants in social Latin dance classes found that dance helped with “reducing stress, helping with pain and sadness, and building confidence...and appreciated the potential of Latin dancing as a bridge between cultures and generations”. This was in addition to highlighting how the participants valued interactions with other people in the class.
- 7.2.5 Olsson & Heikkinen’s research on dance classes for older people highlighted that the ritual process and routine was positively received by participants, which created a process of “emotional amplification” (2019: 7). This was similar to Schupp’s findings when looking at dance classes within school environments, finding that routines innate in school life and the opportunity to work together through dance meant that students increased their “awareness of collaboration and proficiency as collaborators” (2015: 157). These are key skills that contribute to social cohesion.
- 7.2.6 Looking specifically at the potential of dance as a conflict resolution tool, Eddy (2016: 108) found that somatic dance-based activities, with appropriate facilitation, allows emotions to be released in a safe environment. This can enhance bodily awareness and can be applied to both performance and non-performance situations, enabling people to “act from the heart rather than seeking to defend it” (Eddy 2016: 110). While there are no specific studies on dance as a tool for social cohesion, there is evidence that dance can facilitate and develop some of the skills, techniques and environments that are needed to create social cohesion.

7.3 Impacts Not Considered in the General Model - Reduction Of Loneliness

- 7.3.1 In recent years dance has been identified as an activity that can be employed to alleviate loneliness, particularly for older adults, as a form of social prescribing, with GPs in the UK able to prescribe dance to patients (Crumbie et al 2015). As loneliness has been found to significantly impact on mental health and is closely linked to forms of depression, research on the benefits of dance for these are also relevant here. Perkins (2021: 2) explored group line dancing in women aged over 60 years and found that social activity increased and participation encouraged community engagement and charitable activity. Similarly, Hansen et al (2021) suggest that body appreciation and social connections are increased through engagement in dance-based classes, not only from the social interaction but also the chance to tackle shared tasks and have autobiographical exchanges, leading to meaningful connections.
- 7.3.2 In addition, there are wider benefits of dance for older adults related to symptoms of loneliness. Pil, Main & Hartling (2021) found that dance activities improved participants quality of life and life satisfaction. It was emphasised that “a positive relationship between social connection and body appreciation can be established (through dance) and maintained through collaboration and relational body awareness” (14). While there were limitations of this study due to the small sample size and because the study was interrupted due to the COVID-19 pandemic, there were still significant positive outcomes concerning relational awareness and body experience. It was also highlighted that the pandemic had significant negative effects on the mental health of older adults from the study.
- 7.3.3 In response to the negative impact of the COVID-19 pandemic, Busuttil (2021) explored online dance activity for seniors in social isolation due to the lockdown. They found that despite the challenges of switching to digital delivery of activity, there were still positive personal and social outcomes (329-330).

7.4 Impacts Not Considered in the General Model - Homelessness and Drug Rehabilitation

- 7.4.1 When we consider the benefits of dance for wider community development and cohesion, one area where there is an emerging body of work is with homeless people or for drug rehabilitation (Fortin 2021; Knestaut et al 2010). In her work with women experiencing (or previously experienced) homelessness, Fortin (2021) advocates for dance as an activity that can attend to the “social, physical, psychological, cognitive and artistic” needs of participants. This is largely due to the dialogue and support connections that are fostered through social and bodily interaction. Similarly, Knestaut et al (2010) found that children and adults experiencing precarious living conditions were being provided for, through agencies, in terms of food and shelter, but their emotional and social needs were neglected. Dance was considered to address these needs, resulting in participants feeling happier, more energetic, more relaxed and experiencing more joy, with reduced feelings of sadness and frustration (Knestaut 2010).
- 7.4.2 While research on the effects of dance on drug rehabilitation is limited, Tao et al (2021) recently published results on a study that explored dance and cycling interventions for women who have methamphetamine abuse (MA) disorder. The findings demonstrated that dance had a slightly greater positive impact for the participants, through a reduction of attention they paid to the negative stimuli that can trigger drug relapse or need. They identified that “emotional regulation, especially the ability to regulate negative emotions, is critical to individuals who have MA use disorder to help prevent drug relapse” (Tao 2021: 6). This demonstrates the potential for dance to work as a distraction activity that can emotionally engage participants so that they can reduce the negative influence of drug demand.
- 7.4.3 From surveying the literature on dance provision in prison settings, for crime reduction, and for tackling homelessness, there is a significant imbalance regarding the population groups that have been involved in research. These predominantly focus on females, and more work is required to expand this to other population groups. Additionally, it must be recognised that provision and access to dance classes for these vulnerable or, in some cases, marginalised groups can be extremely limited. Therefore, more provision and more research is needed to further explore the benefits of dance for these community groups, and then the wider impact on society as a result.

8 Considerations from Part Two

8.1 Summary and Implications for Modelling

- 8.1.1 In summary, the scoping review found limited evidence on the causal link between movement and dance and social outcomes.
- 8.1.2 Research and analysis carried out by Portas (2019) on the social impact of child participation identifies a number of social outcomes related to sport, however the report lacks transparency. Given it was not possible to verify the evidence used to support the claims made in the report, or establish the sources of data used to derive estimates, we are unable to use this report to support the social value modelling work.
- 8.1.3 There is insufficient evidence to advocate adopting the sports-specific model obtained from the national model with movement and dance-specific values due to a lack of data on the social effect of movement and dance.

8.2 Future Research Requirements for Enhancing the 'General Model' for Movement and Dance

- 8.2.1 The literature review exercise, summarised above demonstrates the current research on the social impact of movement and dance is yet not suitable for the 'general model' to be enhanced to capture the benefits unique or specific to the activity. To do so, further data and activity-specific evidence is required to establish the causal links between specific style/types of movement and dance, or for movement and dance in general.
- 8.2.2 Further, the model requires movement and dance-specific data on volunteering. Volunteers not only provide non-market benefits to the organisations they volunteer with; they also benefit from improved personal wellbeing. Accurate data on volunteering would enhance the validity of the model.

9 Summary and Conclusions

- 9.1.1 This report investigates whether movement and dance-based activities should be considered as an equally valid deliverer of strategic objectives, alongside other sports and activities. This is motivated by the sense that movement and dance-based activities can, in a strategic sense, ‘fall between the stalls’ of the arts and sport and physical activity.
- 9.1.2 DCMS’ strategy for the sector, *Sporting Future*, identifies five social value outcomes as the central strategic objectives for sport and physical activity: physical and mental health; mental wellbeing; individual development; social and community development; and, economic development. This report has examined the first four of these (the latter being beyond the resources available for this project).
- 9.1.3 Using the methodology outlined in Sport England’s 2018 study on the social value of participation and volunteering in sport and physical activity, this report quantifies the unique contribution of movement and dance-based activities to the total social value generated in England. However, this approach only provides an estimate of the value of the physical activity delivered through movement and dance in general terms, without consideration for the specific or unique benefits derived from the activity.
- 9.1.4 This report collates and summarises the existing evidence as to the specific or unique social value benefits of movement and dance-based activities. To ensure the highest possible levels of confidence, rigour and robustness, the report cites only published evidence and methodologies subject to scrutiny through peer-review (from qualified individuals based at Higher Education Institutions).
- 9.1.5 The key conclusions, are summarised below.

9.2 £1 of Social Value in Every £20 is Produced By Movement and Danced-Based Activities

- 9.2.1 The calculation of the unique social value carried out in Part One demonstrates that movement and dance-based activities produce of £3.5 billion worth of social value, representing 5% of the value generated by sport and physical activity. Movement and dance therefore generates £1 in every £20 of social value in England.
- 9.2.2 This places movement and dance as a key strategic contributor to the the objectives outlined in *Sporting Future*. As a class of activities, movement and dance must be considered equally alongside other activities as a deliverer of key strategic outcomes for DCMS, Sport England and other key stakeholders (Department of Health and Social Care, Department of Education, Department of Justice etc).
- 9.2.3 As the current evidence is not yet adequate to update the general model for movement and dance based benefits specifically, these figures should be considered as the bare-minimum provable social value generated. It is likely, were better evidence available, a higher social value figure could be calculated.

9.3 Movement and Dance is an Equally Valid Form of Exercise

- 9.3.1 The literature review shows that dance-based exercise is an equally adequate delivery method for the health-based outcomes of sport and physical activity. As outlined in paragraph 4.2.1, a number of studies demonstrate that movement and dance-based activities can be sufficiently strenuous to meet the minimum thresholds of moderate and intense physical activity. Crucially, studies demonstrate that movement and dance can deliver this output to a number of different groups of people:

- General population: Hogg et al (2012), Mooses & Kull (2020);
- People living with obesity: Hogg et al (2012);
- School-aged children: Huang et al (2012), Romero (2012), Burkhardt & Brennan (2012);
- Girls: O’Neill et al (2011) Connolly et al (2011), Robinson et al (2003), Liu et al (2013); Song et al (2015); and,
- Girls with intellectual disabilities: Must et al (2022)

9.4 Movement and Dance is Highly Effective at Retaining Participants in Exercise

- 9.4.1 The literature review indicates that movement and dance excels in providing physical activity delivery that retains participants. This finding is repeated across multiple studies including Hwang & Braun, (2015), Bungay & Hughes (2021), McKinley et al (2008), Marmeleira et al (2009), Franco, et al (2016), Neto, Menezes and Carvalho, 2014), Philips et al (2020), Kokubo, Tajima, Miyazawa, & Maruyama (2018), Mabire, Aquino, and Charras (2019). A consistent finding across these studies is that movement and dance-based exercise does an equal or better job of retaining participants due to two factors, its social-ness as an activity, and the intrinsic value of learning the new skills and techniques in of themselves.
- 9.4.2 To explain this further, the evidence shows participants cite the 'worthwhile-ness' or 'intrinsic value' of the learning moves and dances encourages participants to return time and again. This finding is especially prevalent amongst people taking classes as a form of therapeutic treatment. In essence, it seems skills and moves in dance-based classes are seen by participants as 'intrinsically valuable' (inherently valuable in of itself) and they are much more likely to return than other activity-based therapeutic interventions.
- 9.4.3 Complementary to the above, studies demonstrate the inherent social nature of taking a movement and dance-based class is repeatedly identified as a key reason participants keep on returning to participate. Clearly, other group and team based activities also have a social element, but the nature of partner and group dancing seems, again, to make participants more likely to return.
- 9.4.4 This 'stickiness' (the inherent ability of dance based exercise to retain participants) is a key benefit of movement and dance. By making it more likely participants will return, movement and dance enables participants to reap the benefits of physical activity over a long period of time, thus amplifying its benefits to participants and to society as a whole.

9.5 Movement and Dance Reaches People Other Forms of Sport and Physical Activity Do Not

- 9.5.1 The participant profile of movement and dance over over-indexes both for females and older people.
- 9.5.2 Movement and dance-based activities represent 5% of the unique market share of all physical activity, but 7% for females aged 16+. This is reflected by its equivalent contribution to the prevention of breast cancer amongst this cohort.

Young Women and Girls

- 9.5.3 Research has found that more than one million teenage girls in the UK (43%) who once considered themselves 'sporty', disengage from sport following primary school¹⁸. Of the 4,000 teenage girls and boys surveyed as part of the study, 43% of teenage girls who once actively engaged with and enjoyed sport were being side-lined in their teenage years, compared with just 24% of boys of the same age.¹⁹
- 9.5.4 Evidence cited in this report (including Romero (2012), Huang et al (2012), and Robinson et al (2003)) has demonstrated that involvement in dance-based exercise has a beneficial impact of retaining girls in exercise and physical activity for girls.
- 9.5.5 The prevailing reason given for girls disengaging from sport and exercise are: fear of feeling judged by others (68%); lack of confidence (61%); pressures of schoolwork (47%); and, not feeling safe outside (43%).
- 9.5.6 This report has provided evidence that participation in movement and dance-based activities can help in the mitigation of some of the barriers to retention cited by teenage girls. For example, participation is understood to increase emotional regulation and is identified as including stimulation and happiness (Akademi, 2017), positivity (Burke et al. 2018), significant improvements in emotional wellbeing and fatigue reduction (Campion & Levita, 2013), improved cognitive function and wellbeing (Houston & McGill, 2015) and emotional growth (Seyler, 2009). (Chappell et al. 2021). Froggett and Little (2012) found that imagination was engaged in the process of expressing inner experience through movement. Being creative with movement can help people find a more fulfilling sense of self. Further, Kalila B. Homann (2010), found that participation in dance can help curate a state of 'open

¹⁸ Women in Sport 'Reframing Sport for Teenage Girls' <https://womeninsport.org/press-release/more-than-1-million-teenage-girls-fall-out-of-love-with-sport/#:~:text=Ahead%20of%20International%20Women's%20Day.from%20sport%20following%20primary%20school.>

¹⁹ Ibid

receptiveness', thus allowing new information to be absorbed and be integrated by the recipient. In addition, Levin (2018) identified potential positive benefits of dance and movement for those challenged by ADHD.

- 9.5.7 More directly, Petrie (2020: 341) has shown that there is evidence that demonstrates how dance (and music) can help with student learning across subjects, helping progress and success across the curriculum; specifically helping students by enhancing "discipline and focus". It was also found that dance was particularly beneficial for 'failing' students, helping to increase their artistic knowledge, career preparedness, cultural competency, social skills and wellbeing (note Petrie 2020 focuses on increasing education in arts and PE based learning).
- 9.5.8 McMahon et al 2003 and Makopoulou et al 2021 have identified that there is evidence of a link between dance and reading ability. Conducted in the UK, Makopoulou et al (2021: 281) found that "meaningful integration of dance with reading can bring moderate, albeit significant, gains in [reading comprehension] attainment". The possible links between dance and literacy were also explored by Adams (2016), who emphasises a semiotic-kinaesthetic link, which is also supported through educational research into learning styles.

Older People

- 9.5.9 Research on dance with older people has been conducted in a range of settings and across the globe. However, the evidence on the efficacy of dancing in care homes, communities and hospitals is limited, in part, owing to the methodological challenges facing such research (Guzman-Garcier et al, 2013). There have, however, been some positive effects cited throughout the research which alludes to dance being an enjoyable and social way to improve elderly peoples' physical activity, health, and psychosocial states. Since dance is an activity that engages participants physically, cognitively, socially, and emotionally, interventions involving this may be particularly well suited for addressing a variety of health conditions (Crumbie et al, 2015) and be an effective tool for the prevention and the fight against the health problems of the elderly (Douka et al, 2019).
- 9.5.10 Of the studies focusing on dance interventions for older people, the findings summarised in this report show that movement and dance-based classes are an excellent vehicle with which to deliver these benefits. McKinley et al (2008) found that, when compared to participants allocated to the 'walking' intervention, the Tango based intervention group had a 25% higher retention rate; implying that older participants were excited to dance rather than walk. Philip, 2020, reinforces this, finding that the prevailing factor for attendance to the dance activity was that the dance was an end in itself, rather than a means to an end as per gym-based exercise; subjects enjoyed their participation rather than only participating to see the end result. Similar findings have been recorded in care home and sheltered accommodations for older people as recorded by Bungay & Hughes (2021), Haboush et al (2006). Wshah et al (2019), (Cruz-Ferreira et al, 2015), The above studies, and others alongside them show that for all people, but especially those of an older age, dance-based exercise represents a highly appealing activity, and consequently, has greater chance of retaining older people within exercise.
- 9.5.11 It also should be noted that several of these studies identified physiological improvements in their cohorts as a result of dance-based interventions, including improvements in strength, coordination and balance. Of particular importance to older adults, falls are a leading cause of unintentional injury in those aged 65+ with potentially severe injuries such as hip fractures, brain injuries and upper limb injuries (Vella-Burrows et al. 2021). Vella-Burrows et al's (2021) study shows provides qualitative evidence that the perception of improvements in strength and balance were reported by the participants including themes of body control and coordination. The Dance to Health programme has taken the principles of FaME and Otago and embedded them into creative dance practice that is fun and sociable as well as building strength, balance, flexibility and overall wellbeing (Vella-Burrows et al. 2021). Although more research is required in this area, it highlights the valuable impact of social belonging and creative activities alongside the building of physical fitness parameters, a tool that is provided through all dance activities wherever they take place.
- 9.5.12 There are currently several falls prevention programmes including two evidence-based programmes Falls Management Exercise (FaME) led by Postural Stability Instructors and Otago. These programmes are usually accessed via GP or hospital referral and have been shown to prevent falls as well as reduce fear of falling. Octago is a strength, balance exercise and walking program consisting of 17 exercises to be undertaken under supervision and at home. FaME is a continuation of Otago which develops the components of targeted fitness including floorwork. These programmes

are delivered by Falls Specialists as part of a rehab or prehab falls prevention intervention and in community falls awareness programmes. However, these programmes are not always consistently delivered in the recreational setting as a physiotherapy assistant will have different scope of practice to that of an exercise instructor. As a prescriptive evidence-based exercise programme without music the feedback has suggested they are not engaging for some patients (Vella-Burrows et al. 2021).

9.6 Movement and Dance is Excellent at Helping to Build and Sustain Community Identity, Cohesion, and Capital

9.6.1 Movement and Dance helps individuals and communities to develop and sustain interconnectivity. The evidence presented in this report demonstrates that dance-based classes can help develop communities in three ways; the development and sustaining of cultural identities; improved cohesion through shared experiences and being better at working together; and, enhanced relationship building through contact and connection with one-another.

9.6.2 Cultural identity; aspects of self-identity are understood to be invoked through dance and link everyday lives with cultural identity (Akademi, 2017). Zelig et al. (2019) and Kontos and Grigorovich (2018) explore, embodied self-expression as part of a relational understanding of citizenship.' (Chappell et al 2021). These studies indicate that dance-based activities can invoke and empower the sense of self-identity, on a personal or community-cultural plain.

9.6.3 Social cohesion recognises “the extent of connectedness and solidarity among groups in society” (Manca 2014). This can include sense of belonging and relationships within certain communities amongst society. Research on social aspects of dance have highlighted how dance offers an opportunity to explore cultural heritage (Perkins 2021) and cultural difference, contributing to greater understanding and encouraging social cohesion. Iuliano (2017) describes how participants in social latin dance classes found that dance helped with building an appreciation of the potential of Latin dancing as a bridge between cultures and generations” (143). Further, Schupp’s findings when looking found that dance classes within school environments helped increase students their “awareness of collaboration and proficiency as collaborators” (2015: 157), key skills for contributing to social cohesion.

9.6.4 Finally, ‘social capital’ relates to the social relationships and their “outcomes, includ(ing) social networks, civic engagement, norms of reciprocity, and generalised trust” (Bhandari & Yasunobu 2009). Movement and Dance has been shown to be effective in enhancing the quality of relationships between individuals on a one-to-one basis. Samochowiec et al (2022) found that moving with partners aided communication skills, increasing “self-expression, strengthen(ing) contact with others and promot(ing) group cohesion, which translates into communication quality in a close partner relationship” (2022: 78). Quinones et al (2018) found that dance participation can improve bodily self-awareness, agency and empowerment, particularly in vulnerable communities.

9.7 More Research Is Required to Better Evidence and Understand the Social Value of Movement and Dance.

9.7.1 There is a clear strategic need for further research to demonstrate the benefits of movement and dance as a class of activities moving forward. The literature review undertaken for this report has highlighted that the current evidence base is limited or lacks replicability in terms of rigorous methodology. Evidence to date suggests that dance has a similar impact in relation to meeting recommended levels of physical activity as other sports, but could potentially hold greater benefits in terms of mental health, social impact and adherence to exercise.

9.7.2 The research developed to date is promising, but a lack of funding limits the further interrogation of the impact of the movement and dance on health and social cohesion, particularly through longitudinal studies.

10 Recommendations and Calls to Action

10.1.1 This report has used the standardised general model to quantify the unique contribution of movement and dance-based physical activity. In addition, a thorough literature review has clearly demonstrated benefits brought to society by movement and dance that are not reflected in the general model.

10.1.2 In so doing, the report clearly evidences that movement and dance based activities have the power to reach and keep active some of the most inactive groups in our society, as well as preventing, delaying, or mitigating some of the most profound challenges facing our country. These include:

- Mitigating obesity related illness such as heart disease, strokes, and Type II Diabetes;
- Increased mitigation of breast and colon cancer;
- Delaying the onset of cognitive-neural diseases including dementia and Parkinson's Disease;
- Reducing the likelihood and suffering caused muscular-skeletal conditions such as back pain or hip fractures;
- Reducing the development of depression;
- Improving mental wellbeing amongst participants and volunteers;
- Enhancing educational attainment and human capital;
- Enhancing the social value (the connectiveness of communities);
- Reducing crime and antisocial behaviour;
- Improved retention of groups that suffer from physical; activity inequalities including: young people, older adults, and people living with disability;
- Enhancing falls prevention programmes;
- Enhanced sense of self-identity;
- Enhanced Creativity and Learning / State of Flow;
- Reduction in the symptoms of ADHD;
- Reduction of loneliness; and,
- Enhanced outcomes for homelessness and drug rehabilitation programmes.

10.1.3 This power, if maximised, can support the tackling of some of the key challenges facing our society. Below, a set of recommendations are listed. These recommendations outline the actions needed to harness the full social value potential of movement and dance-based activities better and more fully.

10.2 Better Collaboration and Cross-Organisational Working Between Organisations Involved in the Delivery of Movement and Dance.

10.2.1 This is the first study of its type attempted in the UK, However, for the priorities outlined below to be enacted will require organisations in the movement and dance sector to coalesce around joint priorities and to collaborate on solutions. It is therefore recommended that organisations overseeing the delivery of movement and dance develop new and innovative ways of working together– including through the Sport and Recreation Alliance's Movement and Dance Division – which enable their collective social impact to be maximised

10.3 Better Integration of Movement and Dance Into Health, Care and Prevention Practices, Including 'Social Prescribing', To Help Relieve NHS Pressures

10.3.1 The report above provides robust evidence that movement and dance can facilitate equivalent physical and mental health benefits to any other form of physical activity. This means that movement and dance-based activity should be considered on an equal footing as walking, cycling and other activities that form part of the social prescribing. Crumbie et al (2015) provides evidence that dance can be employed as a form of social prescribing with GPs in the UK able to prescribe dance to patients (in this case to alleviate loneliness).

10.3.2 In addition to loneliness, movement and dance-based exercise has been found to be effective in enhancing falls prevention programmes; delaying the onset of dementia and Parkinson's Disease; tackling obesity related illnesses such as heart disease, strokes, and Type II diabetes; and, reducing back and hip pain. Dance-based exercise has also been found to be more effective at retaining people requiring therapeutic activity than direct interventions, thought to be linked to the 'intrinsic-worthwhileness' of learning dance.

10.3.3 Key partners for this work would include but are not limited to: the Department for Health and Social Care; the Office for Health Inequalities and Disparities; NHS England and Integrated Care Systems,

the Royal College of General Practitioners, the National Academy for Social Prescribing, Sport England, the Richmond Group of Charities and other key stakeholders in directing persons or groups at-risk of developing inactivity related illnesses to active-opportunities.

10.4 Utilising Movement and Dance as A Key Method To Engage Young Girls and Address the Challenge Of Drop-Off In Activity When Entering Secondary Education

- 10.4.1 Research has found that more than one million teenage girls in the UK (43%) who once considered themselves 'sporty', disengage from sport following primary school²⁰. 43% of teenage girls who once actively engaged with and enjoyed sport were being side-lined in their teenage years, compared with just 24% of boys of the same age. The prevailing reason given for girls disengaging from sport and exercise are: fear of feeling judged by others (68%); lack of confidence (61%); pressures of schoolwork (47%); and, not feeling safe outside (43%)²¹
- 10.4.2 This study has provided evidence that participation in movement and dance-based activities can help in the mitigation of some of the barriers to retention cited by teenage girls. For example, participation is understood to increase emotional regulation and is identified as including stimulation and happiness (Akademi, 2017), positivity (Burke et al. 2018), significant improvements in emotional wellbeing and fatigue reduction (Campion & Levita, 2013), improved cognitive function and wellbeing (Houston & McGill, 2015) and emotional growth (Seyler, 2009). (Chappell et al. 2021). Froggett and Little (2012) found that imagination was engaged in the process of expressing inner experience through movement. Being creative with movement can help us find a more fulfilling sense of self. Further, Kalila B. Homann (2010), has found that participation in dance has been found to help curate a state of 'open receptiveness', thus allowing new information to be absorbed and be integrated by the recipient. In addition, Levin (2018) identifies potential positive benefits of dance and movement for those challenged by ADHD.
- 10.4.3 Through the evidence summarised above and featured throughout the report, movement and dance can be a complementary part of the solution to addressing and mitigating the barriers to girls and young women continuing to be physically active throughout their teenage years. It is recommended that movement and dance organisations be supported in engaging with organisations involved in the oversight and delivery of physical education, sport and physical activity opportunities to this group, including (but not limited to); schools and academy trusts, the Department for Education; the Government Equalities Office and the Minister for Women and Equalities; Office for Health Improvements and Disparities; Department of Health and Social Care; Women in Sport; Youth Sport Trust, and other relevant national delivery charities.

10.5 Utilising Movement and Dance as a Key Method To Keep The Population Active as They Get Older, Supporting an Ageing Population To Age Well, By Reducing Many Conditions Associated With Being Sedentary

- 10.5.1 Keeping people active in older age is a key challenge faced by the sport and physical activity sector. According to Sport England's Active Lives Survey, those aged 75 and over are around 40% less likely to be active than the average for the overall population, including a significant drop-off in activity from 55-74²². Alongside the physical health benefits associated with participation in older age, there are substantial mental wellbeing and community-based enhancements that can be brought to the lives of older people.
- 10.5.2 Above, (paragraphs 9.5.9 – 9.5.12) is a summary of the available evidence pertaining to the benefits of movement and dance for older people. In the context of significant challenges in keeping older people active and engaged in regular physical activity, coupled with the evidence-based understanding of the physical, mental, and social benefits, plus the enhanced ability to retain this group in activity, movement and dance-based exercise must be considered as a vital element in tackling inequalities.
- 10.5.3 As a consequence of the above, it is recommended that opportunities for movement and dance-based exercise be extended across the country. One vehicle for this may be through social prescribing, as

²⁰ Women in Sport 'Reframing Sport for Teenage Girls' <https://womeninsport.org/press-release/more-than-1-million-teenage-girls-fall-out-of-love-with-sport/#:~:text=Ahead%20of%20International%20Women's%20Day,from%20sport%20following%20primary%20school.>

²¹ Ibid

²² <https://sportengland-production-files.s3.eu-west-2.amazonaws.com/s3fs-public/2021-10/Active%20Lives%20Adult%20Survey%20May%202020-21%20Report.pdf?VersionId=YcsnWYZSKx4n12TH0cKpY392hBkRdA8N>

identified above, and therefore, the same partners and key stakeholders will need to be engaged.

10.5.4 In addition, there is a clear need for further research into the benefits of movement and dance-based exercise to older people in fall prevention and walking confidence. This should be conducted in partnership with universities and researchers, with funding from stakeholders relevant to the health and wellbeing of older people.

10.6 Improved research and data capture to understand and articulate the contribution movement and dance-based activities make

10.6.1 Further high quality research is needed to better understand, evidence, and articulate the collective impact of the movement and dance to society. All areas discussed above would be better served through greater investment in research.

10.6.2 Enhanced research should be undertaken in two distinct areas:

1. **Better funding for studies that look at dance as a single 'class' of exercise.** Many of the studies cited above report on specific types or forms of dance, as opposed to dance as a single class of exercise. As such, the evidence is disparate and, arguably, lacks cohesion. By encouraging studies that look at dance as a single class of activities, a more cohesive evidence base could be developed by better articulating the combined contribution of this activity, and thus derive more investment and funding from organisations with aligned priorities.
2. **Better funding for longitudinal studies.** A further weakness of the evidence base above is the prevalence of studies to focus on distinct and defined interventions. This means that the longer-term benefits of movement and dance are less clearly and objectively evidenced. Therefore, better funding for longitudinal studies is required to correct this shortcoming.

10.6.3 This research should be undertaken across a number of intersectional lenses, including older people; young women and girls; and, diverse communities. It should be noted that the current canon of research is of insufficient rigour or breadth to update the general model of social value (see Part One).

10.6.4 It is recommended that organisations involved in the funding of research at Higher Education Institutions prioritise studies that look at dance across its various disciplines, and focus on long-term impacts, as opposed to those found from defined and relatively short-term interventions.

10.7 Greater recognition of the sector's unique social value contribution and for this to be reflected in wider funding, policy and strategy

10.7.1 Currently very few movement and dance organisations receive substantial public funding despite movement and dance-based activity uniquely contributing 5% of all social value in England

10.7.2 It should be noted that movement and dance indirectly benefits from other sources of public funding. For example, many of the locations classes are delivered, including church halls and studio spaces, are either heavily or partly supported by public funds for both capital investment and maintenance.

10.7.3 However, given the social value identified in this report we recommend movement and dance is considered for further investment by Sport England and other relevant national and local funding bodies where it can deliver the social value outcomes required.

10.7.4 More broadly we believe the social value of movement and dance can and should be better reflected in wider national and local strategies. This includes the forthcoming refresh of the Government's sport strategy *Sporting Future* as well as in policies and strategies aimed at strengthening preventative health (notably for women and the elderly), extending social prescribing, building community cohesion and tackling loneliness.

10.7.5 Finally, stakeholders within movement and dance may wish to identify and prioritise the collective strategic actions needed to deliver the recommendations above. Using this study and other works as the evidence base, this could involve the creation of an action plan to coordinate effort and investment from stakeholders to drive strategic level change. Such a piece of work would help sustain momentum and focus effort on maximising the contribution of movement and dance to national life and wider society, and to help the nation keep dancing.

ACKNOWLEDGEMENTS

The development of this report has been driven by Tracy Levy, former Chair of the Alliance's Movement and Dance Division. During the course of the project, Tracy Levy stepped down as Chair of the Movement and Dance Division having reached her maximum term limit. Annette Hufton stepped into this role and, working in partnership with Tracy, has been instrumental in continuing to drive this project forward.

As with any project of this scale, the work has not been achieved in isolation.

The work began when 38 colleagues experienced in the delivery of movement and dance lent their expertise and knowledge to a series of workshops and consultations. The findings from this exercise were written into a report and published by the Sport and Recreation Alliance in 2021.

Following the publication of this summary, the division agreed that a stronger, more objective, and scientifically robust articulation of the benefits of movement and dance was required. Ricky Boardman, with the support of Lisa Wainwright MBE, CEO of the Sport and Recreation Alliance, were tasked with exploring how this could be achieved with the resources available to the division.

Following consultation with Andrew Spiers, Strategic Lead for Research and Analysis of Sport England, a methodology for the project was outlined. Without the support of Andrew this project would not have been possible.

The project also required the support of qualified researchers, specialising in the field of movement and dance. Four researchers came forward to offer their time and expertise to undertake a detailed literature review of 149 sources. In alphabetical order they are:

Alexandra Balfour, Buckinghamshire New University

Claire Farmer, Middlesex University

Kathryn Stamp, Coventry University

Siân Hopkins, Middlesex University

The scientific rigour of this report, and consequently its entire existence is squarely down to the contributions and guidance of the four researchers listed above. Thanks are also extended to their respective Universities and departmental faculties for supporting this project.

In addition to those named above, there are countless others who have offered support and guidance throughout its development. This report is testament to these efforts.

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Middlesex University London

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At Middlesex, we're a global family with a shared vision of a world that's fairer and more inclusive. Our work is about taking action and finding solutions, bringing together disciplines, sectors and cultures. Middlesex University's Dance degrees promote individuality through rigorous technique training, collaborative dance making, performance, and applied professional practice. Dance at Middlesex University offers a range of Undergraduate and Postgraduate training routes that foster individuality, promote innovation, and prepare dance artists for lifelong careers in the Arts and Creative Industries.



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Coventry University

The Centre for Dance Research (C-DaRE)

The Centre for Dance Research (C-DaRE) is located within the Institute for Creative Cultures at Coventry University. The Centre, led by Director Professor Sarah Whatley, specialises in an inclusive interdisciplinary approach to diverse forms of artistic and scholarly research in dance supported by new approaches to documentation, analysis and dissemination of choreographic creativity. C-DaRE embraces leading edge research developments including reflexive enquiry into embodied practices, collective and political action, digitisation, cultural value, and the expanded choreographic field. In addition, C-DaRE also seeks to investigate and critique the legal frameworks that can be used to support and empower the sector.



Association of Dance and Freestyle Professionals



British Association of Teachers of Dancing



British Dance Council



British Wheel of Yoga



Dalcroze UK



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National Association of Teachers of Dancing



The Northern Counties Dance Teachers' Association



Para Dance UK



Patanjali Yog Peeth (UK) Trust



Royal Academy of Dance



Theatre Dance Council International



UKA Dance



UK Cheerleading Association

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