

Review

Reasons why older adults play sport: A systematic review

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Abstract

Background: Despite the known contribution of sport to health and well-being, sport participation declines in older age. However, for some people, sport continues to play an important role in older age and may contribute to improved health and well-being in older years. Although the health-related benefits of participating in sport are commonly reported, the reasons why some older adults continue to play sport are not well understood. This systematic review aimed to (1) identify studies from the literature that evaluated the reasons why older adults (aged 55 years and older) participate in sport and (2) synthesize and discuss the reasons for their participation reported in the literature.

Methods: Searches of the electronic databases Embase, Medline, PsycInfo, PubMed, and SPORTDiscus were performed. Studies were included that evaluated reasons for sport participation in adults aged 55 years and older because this is the age at which sport participation has been reported to begin declining. The studies included in this review used qualitative, quantitative, or mixed methods designs, were peer reviewed, and were published in the English language before the search date (20 January 2019).

Results: A total of 1732 studies were identified. After exclusions, 30 studies were included in the review (16 qualitative, 10 quantitative, and 4 mixed methods). The review presents several features and findings from the studies, including a description and systematization of the reasons for participating in sport and the main reasons that participants gave for participating in sport (maintaining health, feeling and being part of a community, and taking advantage of opportunities to develop relationships). Other reasons included competing and attaining a feeling of achievement, taking advantage of opportunities for travel, and being part of a team. Sport was identified as contributing to the overall experience of successful ageing. There were few comparative differences for participating in sport, and there were only small differences between genders for the reasons given for participation. Generally, the quality of the studies was good; however, mixed methods studies lacked appropriate data analysis procedures.

Conclusion: Older adults play sport for a range of health-related and social reasons that can contribute to the experience of successful ageing. Strategies to increase sport participation by older adults should focus on promoting these aspects.

Keywords: Competition; Health; Social engagement; Successful ageing; Team

1. Introduction

Public health policy has maintained a focus on engaging older people in successful ageing, with a significant emphasis on being as physically active as possible in older age.¹ Older adults are the most sedentary sector of the population,² and even small increases in physical activity (PA) for those who are least active can provide significant benefits for health and well-being.^{3,4} Improvements in PA are associated with reduced all-cause mortality and can help to reduce the risk of cardiovascular

disease, diabetes, bone disease, mental ill-health, and cognitive decline.^{3–5} Because population health is expected to decline over the coming decades as our population ages,⁵ being as physically active as possible into older age will become increasingly important for maintaining population health and well-being.

Given the clear evidence of the health benefits gained from engaging in exercise,⁵ most health organizations around the world have guidelines recommending engagement in PA. This includes the World Health Organisation,⁶ which recommends that older adults engage in 150 min of moderate-intensity PA per week or, when health conditions impact a person's ability to be physically active, to be as active as one's abilities and health allow.

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One way that older people can maintain a healthy level of PA is by playing physically appropriate sport.⁷ Sports such as golf, croquet, bowls, and swimming are perhaps less physically demanding and, therefore, may be better matched to the physical capacity of many older adults. However, despite many people being actively involved in sport throughout their younger years, most do not continue to play sport as they age. In Australia, rates of participation in sport are estimated to peak in teenagers (~56% play some sport), but this decreases to less than 10% for those aged more than 65 years.^{8,9} As people age, reduced sport participation is largely related to poor health or injury, and, to a lesser extent, other time commitments.^{8,10,11}

Sport is a form of PA that can be undertaken as part of a team or group, or undertaken individually. Sport requires participants to adhere to a set of rules, expectations, or behaviors; has a defined goal; and usually requires regular engagement and training.¹² In these ways, sport differs from exercise and PA more generally in that exercise and PA do not have defined goals, rules, or expectations.¹² However, most sports involve a component of PA and, therefore, provide a means by which participants can be physically active. Many people choose to do a combination of both sport and PA or exercise—for example, training for an upcoming marathon by undertaking a general activity such as running. Although there is sure to be debate as to the merit of these activities from a sporting perspective, it can be argued that gym and fitness activities are fundamentally different from sport, and participants who engage in these activities may, therefore, have different reasons for doing so and may derive different benefits.

In a recent systematic review,¹² the important role that sport can play as a contributor to the health and well-being of nations at a population level was identified. However, despite such evidence, there has been a continued decline in sport participation in recent decades,^{9,13} particularly among older people. To this end, governments have recognized the need to invest in providing opportunities for people to engage in PA, and, by extension, sport. The concept of sport and exercise as medicine, as well as a preventative strategy for reducing disease risk, now forms the basis of many global public health initiatives.¹

Much previous work evaluating the benefits of sport participation has focused on children and younger adults. Although there has been an increase in interest in the health-related benefits of sport for older athletes in recent years,¹⁴ the literature in the area is still developing. Much of the work related to older athletes has focused on athletes who participate in the Masters Games,^{15–18} and, to a lesser extent, on athletes who participate in other sports such as volleyball,¹⁹ general sport,²⁰ and golf.²¹ Previous reviews have examined determinants and trends in sport participation among older adults,¹⁴ but most have focused on the benefits of sport participation in older age^{7,22} rather than on the reasons for participation. Understanding the reasons why older adults play sport may help to inform strategies that will increase participation, thus providing opportunities for a greater number of older adults to obtain the benefits of participating in sport. Therefore, the aim of the

present review was to address this specific gap in the literature by systematically reviewing the extent, range, and nature of the literature related to the reasons why older adults participate in sport.

2. Methods

2.1. Search strategy

Our systematic review addressing the question of why older people play sport was conducted in accordance with Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.²³

The following electronic databases were searched: Embase, MEDLINE, PsycInfo, PubMed, and SPORTDiscus. The search terms used were “older adults OR older OR aging OR masters OR seniors” AND “sport OR sport participation” AND “reasons OR motivation OR motivate OR factors”, with the truncation symbol (*) used where appropriate to ensure all deviations of the search terms were captured in the search. The Boolean search terms AND and OR were used throughout the search process. The English language filter was applied, and the full database searches were conducted between 20 January 2019 and 22 January 2019, with no time or date limitations applied.

2.2. Search process

The search was conducted by 1 researcher (BJS), and all identified studies were imported into Endnote reference management software (Version X7.5.3; Thomson Reuters, Philadelphia, PA, USA). Following removal of duplicates, the file was exported into an online systematic review platform, Covidence© (www.covidence.org), for screening and review. Titles and abstracts were screened by 2 researchers (BJS and either JDB or ADM) to determine eligibility. Eligible and included articles were then subject to full text reviews by 2 researchers (BJS and a research assistant), at which time reference lists were perused for additional relevant studies. Any discrepancies between reviewers were resolved through discussion, and, if needed, an independent researcher (ADM) cast a deciding vote. [Fig. 1](#) provides full details of this process.

2.3. Selection criteria

Articles were included if they were published in English language in a peer-reviewed journal and reported specific data on the reasons for sport participation for adults 55 years of age or older. The current review used the age of 55 years because this corresponds with documented significant changes in participation rates in many popular sports.^{8–10} Sport was defined, per the definition of Khan et al.,¹² as “a subset of exercise, undertaken individually or as part of a team. Participants adhere to a common set of rules and there is a defined goal” (p. 59). It was also defined according to a list of sports specified by the Australian Sports Directory (www.sportaus.gov.au/Australian_sports_directory).

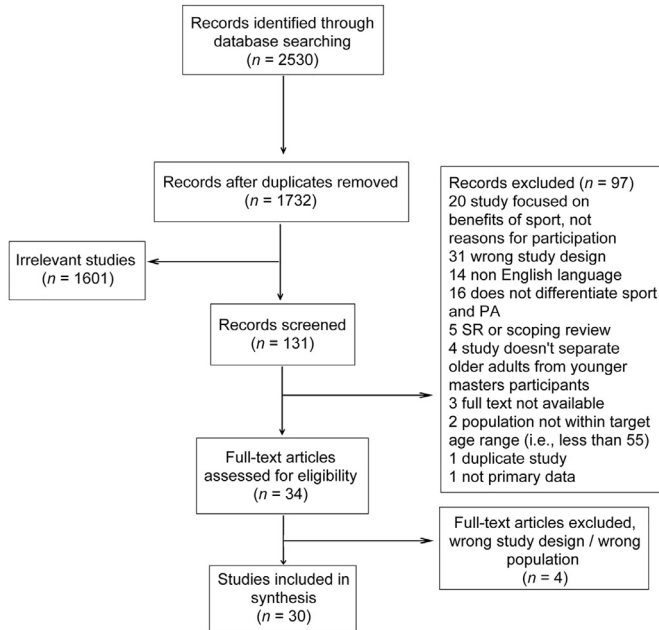


Fig. 1. Reference screening and selection. PA = physical activity; SR = systematic review.

2.4. Data extraction

Data extraction tables were developed to record relevant data from included studies. Data related to the following categories were extracted: authors, year of publication, country of origin, study aim, population (age, sample size, and other characteristics), sport evaluated, study methodology, and outcomes reported. Two reviewers (BJS and a research assistant) participated in the data extraction process. Any errors or inconsistencies were resolved by a third person (ADM). Data extracted are presented in [Table 1](#).

2.5. Review of quality

An overall appraisal of study quality was conducted using the Mixed Methods Appraisal Tool (MMAT) and associated user guide.^{24,25} The MMAT is specifically designed for the appraisal of systematic reviews that include qualitative, quantitative, and mixed methods studies. The MMAT initially applies 2 broad evaluations: (1) Are the research questions clear? and (2) Do the collected data address the research questions posed? If a study scored “yes” on these 2 criteria, which all studies in the current review did, the MMAT further reviews methodologic quality using questions relevant to the study design. Each question was answered using either yes, no, or can’t tell. An overall score was not calculated as this is not the intended purpose for the use of the MMAT.²⁴ The quality rating for each criterion for each study is provided in [Table 2](#).

3. Results

In total, 1732 studies were initially identified. After exclusions, 30 studies were included in the final review. Details of the study review process can be found in [Fig. 1](#). The 30 studies

included a mix of qualitative, quantitative, and mixed methods research. Given this mix, meta-synthesis, and/or meta-analysis was not possible. Thus, a narrative synthesis was performed.

3.1. Descriptive analysis

Of the 30 studies identified for inclusion, 16 were qualitative, 10 were quantitative, and 4 used mixed methods. Of the 16 qualitative studies, most used semistructured and/or in-depth interviews ($n = 12$), with the other 4 using focus groups. Sample sizes within the qualitative studies ranged from $n = 8$ to $n = 100$, with a total sample of $n = 705$. Ethnicity of participants was infrequently reported; however, in the studies that did report it, “white” or “Caucasian” was most often reported, with some studies reporting ethnicity as African American, Taiwanese, or Korean. The majority of studies were undertaken in the United States ($n = 11$). Studies were also conducted in Australia ($n = 6$) and Canada ($n = 2$). Three studies contained a mixed group of participants from the United States, Australia, Canada, and New Zealand. One study was undertaken in each of the following cities and countries: Denmark; France; Hong Kong, China; Italy; Korea; Slovakia; Taiwan, China; and the UK.

Within the 10 quantitative studies, all were cross-sectional and used a variety of questionnaires, with the Sports Motivation Scale²⁶ being used most frequently ($n = 3$). The sample sizes for the quantitative studies ranged from $n = 50$ to $n = 815$ (total $n = 2958$). Within the 4 mixed methods studies, sample sizes ranged from $n = 18$ to $n = 335$ (total $n = 597$).

Studies involving a mix of sports with participants in Masters/Seniors Games was featured heavily ($n = 9$), followed by studies involving a mix of sports with participants not competing in Masters/Seniors Games ($n = 6$). In other studies, bowling ($n = 2$), swimming ($n = 3$), and golf ($n = 2$) were featured as a sport. The remaining studies each involved a single sport, including cycling, rugby union, tennis, cricket, volleyball, softball, sport stacking, and football/soccer.

3.2. Description of the reasons for participation reported in the literature

Five main themes emerged from the studies in regard to why people participated in sport. These reasons were related to health, social groups/community, relationships, competition/achievement, and successful ageing.

3.2.1. Health factors

Health-related factors as reasons for participation in sport were featured prominently in the studies ($n = 21$), in that continuing to play sport provided participants with an opportunity to maintain their health and well-being (refer to Studies 3, 4, 5, 6, 7, 8, 9, 10, 11, 15, 17, 20, 21, 22, 23, 24, 26, 27, 28, 29, and 30 in [Table 1](#)). There was little differentiation between physical, mental and cognitive health, with only a few studies specifically identifying mental health (refer to Studies 7, 23, 24, and 29 in [Table 1](#)), and cognitive health (Refer to Studies 24 and 29 in [Table 1](#)) individually. In general, participants in sports included in Masters/Seniors Games, such as track and field, swimming, cycling, volleyball, and gymnastics, reported

Table 1
Study characteristics.

| Study | Year | Author(s) | Method | Design | Sample (<i>n</i>) and ethnicity | Age (year) and gender | Country | Specified aim | Sport | Reasons for participation | Commentary on findings |
|-------|------|-------------------------------------|--------------|---|---|---|----------|---|--|--|--|
| 1 | 2016 | Appleby & Dieffenbach ³⁷ | Qualitative | Descriptive/in-depth interviews | <i>n</i> = 3; Ethnicity unknown | Age range: 55–74; gender for age range unknown | USA | Investigate elite masters cyclists' involvement in competitive sport. | Cycling | Being part of community Competition Relationships with family and others Being part of a team Contributes to successful ageing | — |
| 2 | 2015 | Bendikova & Bartik ³⁸ | Mixed | Not specified | <i>n</i> = 172 (86 pairs); Slovakian | Mean age = 66.2 | Slovakia | Widen the knowledge concerning active lifestyle of seniors by means of sports activities. | Mixed, including cycling, swimming, table tennis, and others | Being part of community Relationships with others Achieving goals | Difference based on gender; men ranked pleasure, friendship, and health higher; women ranked social contact, health improvement, and feeling good higher |
| 3 | 2018 | Berlin et al. ³⁹ | Mixed | Quantitative descriptive and qualitative interviewing using “laddering” | Quantitative <i>n</i> = 256, Qualitative <i>n</i> = 79; Researchers and participants USA based, but no comment on ethnicity | Age = 70.1 ± 7.4 (mean ± SD); all female | USA | The purpose was to focus solely on active older women (defined here as ≥60 years) to determine to what extent these women, who engage in either sports-based physical activities (specifically, bowling and golfing) or exercise-based activities (swimming and walking), differ in subjective ratings of successful ageing and whether there were differences in the predictors of successful ageing across the activity groups. | Bowling <i>n</i> = 65, golf <i>n</i> = 59 (swimming included as PA in this study, as comparator group) | Health benefits Being part of community Competition Relationships Contributes to successful ageing | — |
| 4 | 2014 | Berlin & Klenosky ⁴⁰ | Qualitative | Semistructured interview using means-end approach | <i>n</i> = 79; Ethnicity unknown, reported 95% as “white” | Age range: 60–92, golfers: 74.0 ± 9.1, bowlers: 71.2 ± 7.0 (mean ± SD) | USA | The specific focus will be to identify the range of meanings, and the inter-connections among these meanings, that derive from continued participation in these activities. | Bowlers <i>n</i> = 17, golfers <i>n</i> = 21 | Overall health Being part of community Competition Travel Relationships Contributes to successful ageing | Difference between golfers and bowlers presented as a “summary of ladders and attributes” Staying active, meeting people, challenge, and other consistent across sports Only difference was golf being played outdoors |
| 5 | 1990 | Brodkin & Weiss ⁴¹ | Quantitative | Quantitative descriptive using Participation Motivation Questionnaire | <i>n</i> = 100 No comment on ethnicity | 27 may have been aged 55–74, although this number also includes 40–54; exact gender ratio unable to be determined | USA | Different age levels would have different motivational factors related to competitive swimming. | Swimming | Physical health Relationships Contributes to successful ageing | — |
| 6 | 2009 | Cardenas et al. ⁴² | Quantitative | Quantitative descriptive using reasons for participating scale | <i>n</i> = 438, 81% “white”, 10% African American, 5% American Indian, 4% Ethnicity unknown | Mean age = 70, age range: 55–96; 52% female, 48% male | USA | Explore reasons for participation in Northern Carolina Seniors Games. | Not specified; all were Masters Games participants | Physical health Competition Relationships | Differences based on gender—women rated interpersonal relationships higher than men, and games allowed a physical and social opportunity No differences regarding race/ethnicity |

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Table 1 (Continued)

| Study | Year | Author(s) | Method | Design | Sample (<i>n</i>) and ethnicity | Age (year) and gender | Country | Specified aim | Sport | Reasons for participation | Commentary on findings |
|-------|-------------------|------------------------------|--------------|---|---|---|--|--|---|--|--------------------------------------|
| 7 | 2016 | Cheng et al. ⁴³ | Qualitative | Semistructured interviews | <i>n</i> = 15 | Mean age = 63, age range: 54–83; all male | Taiwan, China | The purpose of this study was to explore the concept of serious leisure in the context of older rugby players. | Rugby Union | Physical and mental health Part of community Competition Relationships Being part of a team | – |
| 8 | 2012 | Cheung et al. ⁴⁴ | Quantitative | Quantitative descriptive using Participation Motivation Inventory | <i>n</i> = 50 | Aged ≥50; no data on gender split for this age group | Hong Kong, China | Investigate motivational determinants of participants in the Hong Kong Masters Games. | Tennis, orienteering, running, swimming, badminton, squash, lawn bowls, and gate ball | Health benefits Part of community Competition Relationships Being part of a team | No significant difference for gender |
| 9 | 2002 ^a | Dionigi ⁴⁵ | Qualitative | Exploratory inquiry, inductive process within an interpretive paradigm, semistructured interviews | <i>n</i> = 100, mainly white and middle class | Age ranged: 55–94, only 9 aged ≥80 years; 50% male/female | Australia | Investigate the experience of older adults in competitive sport. | Running, race walking, triathlon, cycling, track and field, archery, canoeing, swimming, gymnastics, sport aerobics, indoor rowing, netball, tennis, baseball, ice hockey, squash, soccer, badminton, field hockey, softball, cricket, basketball, and touch football | Physical health Part of community Competition Contribute to successful ageing Sense of achievement | – |
| 10 | 2013 | Dionigi et al. ⁴⁶ | Qualitative | Qualitative, semistructured interviews | <i>n</i> = 44 | Age range: 56–90, mean age = 72; 23 females, 21 males | Australia, participants from Australia, Canada, USA, and New Zealand | Understand how masters athletes account for their performance preservation in sport. | Swimming, athletics/track and field, squash, orienteering, weightlifting, tennis, badminton, and cycling | Physical health Competition Contribution to successful ageing | – |
| 11 | 2002 ^b | Dionigi ³² | Qualitative | Qualitative, semistructured interviews | <i>n</i> = 100, mainly “white” and middle class | Age ranged: 55–94, only 9 aged ≥80 50% male/female | Australia and New Zealand | Contribute to understanding of identity management, leisure and later life experiences of older adults who play competitive sport. | Running, race walking, triathlon, cycling, track and field, archery, canoeing, swimming, gymnastics, sport aerobics, indoor rowing, netball, tennis, baseball, ice hockey, squash, soccer, badminton, field hockey, softball, cricket, basketball, and touch football | Health benefits Part of community Competition Travel Relationships Contribution to successful ageing Achievement | – |
| 12 | 2011 | Dionigi et al. ¹⁶ | Qualitative | Qualitative, semistructured interviews | <i>n</i> = 44 | Age ranged 56–90, mean age = 72; 23 females, 21 males | Australia, participants from Australia, Canada, USA, and New Zealand | Determine what a group of Masters Games participants gained from competing and describe psychosocial processes that underpin continued involvement in competitive sport. | Swimming, athletics/track and field, squash, orienteering, weightlifting, tennis, badminton, and cycling | Part of community Competition Travel Relationship | – |
| 13 | 2014 | Ferrand et al. ⁴⁷ | Quantitative | Survey using SMS | <i>n</i> = 100, French | Age = 75.34 ± 4.89 (mean ± SD) 57 females, 43 males | France | Better understand motivation used by adults for exercise/sport and how this links to health-related quality of life. | Gymnastics, swimming, golf, archery or endurance activities such as skiing, cross-country walking, and cycling | Achievement | – |

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Table 1 (Continued)

| Study | Year | Author(s) | Method | Design | Sample (<i>n</i>) and ethnicity | Age (year) and gender | Country | Specified aim | Sport | Reasons for participation | Commentary on findings |
|-------|------|----------------------------------|--------------|---|--|--|-----------|--|--|---|--|
| 14 | 2012 | Hall & Ferreira ⁴⁸ | Quantitative | Quantitative descriptive | <i>n</i> = 104, 94% Caucasian, 6% Ethnicity unknown | Age range: 50–85, mean (SD) not provided | USA | What were the determinants that drove participants in an event to make a choice among competing Senior Games? | Track and field, swimming, horseshoes, cycling, volleyball, basketball, bowling, golf, bridge, and triathlon | Part of community Competition Travel | – |
| 15 | 2009 | Hamm-Kerwin et al. ⁴⁹ | Qualitative | Qualitative, semistructured interviews | <i>n</i> = 20 | Age = 72 ± 5.6 (mean ± SD) 75% male | Canada | Explore common factors associated with being a volunteer in sport. | Not described | General health Part of community Relationships | – |
| 16 | 2013 | Heo et al. ⁵⁰ | Qualitative | Qualitative, in-depth interviews | <i>n</i> = 10 (9 white and 1 African American) | Mean age = 63, age range: 52–71 6 males and 4 females | USA | How did competing in Senior Games contribute to successful ageing of older adults. | Tennis, volleyball, track and field, cycling, swimming, shuffleboard, table tennis, and race walking | Part of community Competition Relationships Being part of a team Contributes to successful ageing | – |
| 17 | 2005 | Heuser ⁵¹ | Qualitative | Qualitative, in-depth interviews | <i>n</i> = 18, Australian | Age range: 64–88; all female | Australia | Understand the development of a career in lawn bowls. | Lawn bowls | Health benefits Part of community Competition Relationships Contributes to successful ageing | – |
| 18 | 2016 | Jenkin et al. ⁷ | Qualitative | Focus groups | 8 focus groups, total of 49 participants Australian | Sport club member interviews: mean age = 62, age range: 50–85; 50/50 gender split | Australia | Explore benefits of older adults' participation for sporting organizations. | Tennis and cricket | Part of community Relationships with family and friends | – |
| 19 | 2013 | Kirby & Kluge ¹⁹ | Qualitative | Intrinsic case study, using focus group and individual interviews | <i>n</i> = 8 | Age range: 65–76; all female | Canada | Explore the formation of a women's ≥65 volleyball team and understand what it is like for older women to learn a new sport and participate in competition. | Volleyball | Part of community Competition Relationships Being part of a team Contributes to successful ageing Achievement | – |
| 20 | 2004 | Kolt et al. ²⁰ | Quantitative | Quantitative descriptive using PMQOA | <i>n</i> = 815 | Age = 63.6 ± 7.8 (mean ± SD), age range: 55–93 years; 399 males and 416 females | Australia | To identify the participation motives of older Australians involved in regular exercise and sport. | Golf, lawn bowls, tennis, and swimming | Health and fitness Part of community Relationships Being part of a team Contributes to successful ageing Achievement and challenge | Women rated social involvement and medical reasons as more important |
| 21 | 2013 | Medic et al. ⁵² | Quantitative | Quantitative descriptive exploratory | <i>n</i> = 338 Ethnicity not provided | Age = 55.3 ± 11.8 (mean ± SD); <i>n</i> = 338, 154 males vs. 184 females (<i>n</i> = 157 aged 55–74, no gender split was available) | Australia | Examine the contrasting perceptions of Masters swimmers in a 5-year age category. | Swimming | Physical health and fitness Competition | – |
| 22 | 2017 | Naar et al. ⁵³ | Qualitative | Interpretivist qualitative approach, using focus groups | <i>n</i> = 64 (40 white) | Mean age = 69.3, age range: 55–79; all female | USA | Identify factors that influence older women's participation in competitive softball. | Softball | Physical health Part of community Competition Relationships Being part of a team Contributes to successful ageing Challenging age-related stereotypes | – |

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Table 1 (Continued)

| Study | Year | Author(s) | Method | Design | Sample (<i>n</i>) and ethnicity | Age (year) and gender | Country | Specified aim | Sport | Reasons for participation | Commentary on findings |
|-------|------|-------------------------------|--------------|---|---|--|-----------|---|--|---|--|
| 23 | 1998 | Newton & Fry ⁵⁴ | Quantitative | Quantitative descriptive | <i>n</i> = 137, 93% Caucasian, 7% Ethnicity unknown | Age = 64.5 ± 7.8 (mean ± SD), age range: 49–83; 54 males, 82 females | USA | Examine the motivational perspectives of athletes participating in the Senior Olympic Games. | Including, but not limited to, tennis, track and field, and bowling Others were not specified | Physical health and fitness Mental health Part of community Competition Relationships Contributes to successful ageing | – |
| 24 | 2017 | Park ⁵⁵ | Mixed | Semistructured interviews and short survey | <i>n</i> = 18, Korean | Mean age = 73, age range: 68–79; all female | Korea | Describe the experience of sport stacking as applied to Korean older adults. | Sport stacking | Health benefits Part of community Relationships Contributes to successful ageing | – |
| 25 | 2017 | Pedersen et al. ⁵⁶ | Mixed | RCT with qualitative interview component | <i>n</i> = 72, Danish | 25 males, aged 79 ± 5; 47 females, aged 80 ± 7 (mean ± SD) | Denmark | To determine the effect of training organized as a small-sided team sport and resistance training on motivation of older untrained adults. | Football (soccer) and resistance training | Part of community Relationships Being part of a team | – |
| 26 | 2009 | Pero et al. ⁵⁷ | Quantitative | Quantitative descriptive using SMS, grounded in SDT | <i>n</i> = 430, Italian | Age range: 45–55, <i>n</i> = 229; age range: 56–65, <i>n</i> = 114; aged >65, <i>n</i> = 87; 348 males, 82 females | Italy | To determine motivation for participation in sport for older Italians and to determine whether there was any difference in reasons for gender or age. | Swimming and track and field | Health benefits Relationships Achievement | No gender difference |
| 27 | 2012 | Pike ⁵⁸ | Qualitative | Semistructured interviews and participant observations | <i>n</i> = 31 Ethnicity not reported | 18 males and 13 females; mean age = 65 | UK | Drawing on the stories of Masters swimmers (aged ≥60), identify the enablers and constrainers to participation in sports-level swimming. | Swimming | Health benefits Part of community Relationships Contributes to successful ageing | – |
| 28 | 2007 | Reed & Cox ¹⁸ | Quantitative | Quantitative using SMS and Motivation for Physical Activities Measure | <i>n</i> = 446 Ethnicity not reported | Mean age = 61.58, age range 50–92; 337 males, 109 females; age not available for each group | USA | Study the relationship between motivational regulation and reasons for participating in sport in older/senior athletes. | Individual sports not specified Only Masters Games | Physical health Part of community Competition Relationships | Social interaction and enjoyment more important for women than they are for men As age advanced, social interaction became more important for women and decreased for men |
| 29 | 2016 | Stenner et al. ⁵⁹ | Qualitative | Focus groups Qualitative descriptive | <i>n</i> = 31 Ethnicity not reported | Age = 66.8 ± 5.4; 12 males, age = 68.2 ± 7.5; 19 females, age = 66.0 ± 3.5 (mean ± SD) | Australia | Explore the reasons why older adults participate in golf and the benefits they perceive that they obtain from doing so. | Golf | Health benefits Part of community Competition Travel Relationships Contributes to successful ageing | – |
| 30 | 2016 | Yamada & Heo ⁶⁰ | Qualitative | Qualitative in-depth interviews | <i>n</i> = 10 (9 Caucasian and 1 African American) | 6 males and 4 females; age range: 52–71 with average of 63 | USA | Explore determinants and considerations of older adults in regard to their engagement in the Senior Games. | Track and field, cycling, swimming, shuffle board, race walking, volleyball, and table tennis | Routine and structure Health benefits Part of community Competition Travel Relationships Contributes to successful ageing | – |

^{a, b} Denote multiple publications in the same year by the same authors.

Abbreviations: PA = physical activity; PMQOA = participation motivation questionnaire for older adults; RCT = randomized control trial; SDT = self determination theory; SMS = sports motivation scale.

Table 2
Assessment of quality using the mixed methods appraisal tool.

| Study | Year | Author(s) | Screening S1 | Screening S2 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 5.1 | 5.2 | 5.3 | 5.4 | 5.5 | |
|-------|-------------------|-------------------------------------|--------------|--------------|-----|-----|-----|-----|-----|------------|------------|-----|------------|-----|-----|-----|-----|-----|-----|---|
| 1 | 2016 | Appleby & Dieffenbach ³⁷ | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |
| 2 | 2015 | Bendikova & Bartik ³⁸ | Y | Y | | | | | | | | | | | N | N | N | N | N | N |
| 3 | 2018 | Berlin et al. ³⁹ | Y | Y | | | | | | | | | | | Y | Y | Y | Y | Y | Y |
| 4 | 2014 | Berlin & Klenosky ⁴⁰ | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |
| 5 | 1990 | Brodtkin & Weiss ⁴¹ | Y | Y | | | | | | Can't tell | Can't tell | Y | Can't tell | Y | | | | | | |
| 6 | 2009 | Cardenas et al. ⁴² | Y | Y | | | | | | Y | Y | Y | Y | Y | | | | | | |
| 7 | 2016 | Cheng et al. ⁴³ | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |
| 8 | 2012 | Cheung et al. ⁴⁴ | Y | Y | | | | | | N | N | Y | Can't tell | Y | | | | | | |
| 9 | 2002 ^a | Dionigi ⁴⁵ | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |
| 10 | 2013 | Dionigi et al. ⁴⁶ | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |
| 11 | 2002 ^b | Dionigi ³² | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |
| 12 | 2011 | Dionigi et al. ¹⁶ | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |
| 13 | 2014 | Ferrand et al. ⁴⁷ | Y | Y | | | | | | Y | Y | Y | Y | Y | | | | | | |
| 14 | 2012 | Hall & Ferreira ⁴⁸ | Y | Y | | | | | | Y | Y | Y | Y | Y | | | | | | |
| 15 | 2009 | Hamm-Kerwin et al. ⁴⁹ | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |
| 16 | 2013 | Heo et al. ⁵⁰ | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |
| 17 | 2005 | Heuser ⁵¹ | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |
| 18 | 2016 | Jenkin et al. ⁷ | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |
| 19 | 2013 | Kirby & Kluge ¹⁹ | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |
| 20 | 2004 | Kolt et al. ²⁰ | Y | Y | | | | | | Y | Y | Y | Y | Y | | | | | | |
| 21 | 2013 | Medic et al. ⁵² | Y | Y | | | | | | Y | Y | Y | Y | Y | | | | | | |
| 22 | 2017 | Naar et al. ⁵³ | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |
| 23 | 1998 | Newton & Fry ⁵⁴ | Y | Y | | | | | | Y | Y | Y | Y | Y | | | | | | |
| 24 | 2017 | Park ⁵⁵ | Y | Y | | | | | | | | | | | Y | Y | Y | n | Y | Y |
| 25 | 2017 | Pedersen et al. ⁵⁶ | Y | Y | | | | | | | | | | | Y | Y | Y | Y | Y | Y |
| 26 | 2009 | Pero et al. ⁵⁷ | Y | Y | | | | | | Y | Y | Y | Y | Y | | | | | | |
| 27 | 2012 | Pike ⁵⁸ | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |
| 28 | 2007 | Reed & Cox ¹⁸ | Y | Y | | | | | | Y | Y | Y | Y | Y | | | | | | |
| 29 | 2016 | Stenner et al. ⁵⁹ | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |
| 30 | 2016 | Yamada & Heo ⁶⁰ | Y | Y | Y | Y | Y | Y | Y | | | | | | | | | | | |

^{a, b} Denote multiple publications in the same year by the same authors.

S1: Are the research questions clear? S2: Do the collected data allow the research questions to be addressed?

1. Qualitative: 1.1. Is the qualitative approach appropriate to answer the research question? 1.2. Are the qualitative data collection methods adequate to address the research question? 1.3. Are the findings adequately derived from the data? 1.4. Is the interpretation of results sufficiently substantiated by data? 1.5. Is there coherence between qualitative data sources, collection, analysis, and interpretation?

4. Quantitative descriptive: 4.1. Is the sampling strategy relevant to address the research question? 4.2. Is the sample representative of the target population? 4.3. Are the measurements appropriate? 4.4. Is the risk of nonresponse bias low? 4.5. Is the statistical analysis appropriate to answer the research question?

5. Mixed methods: 5.1. Is there an adequate rationale for using a mixed methods design to address the research question? 5.2. Are the different components of the study effectively integrated to answer the research question? 5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted? 5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed? 5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?

Abbreviations: N = no; Y = yes.

being motivated to participate by health-related factors (refer to Studies 5, 6, 7, 8, 9, 10, 11, 12, 16, 21, 23, 26, 27, 28, and 30 in [Table 1](#)). Those participating in individual sports, such as cycling (refer to Study 1 in [Table 1](#)), bowling (refer to Studies 3, 4, 17, and 20 in [Table 1](#)) and golf (refer to Studies 3, 4, 20, and 29 in [Table 1](#)), also reported that health was an important, but not the main, determinant of ongoing participation ([Table 1](#)).

3.2.2. Social groups/community factors

The opportunity to be part of a community or social group was another significant factor identified as contributing to sport participation. In 24 of the 30 studies, participants identified socializing, community feeling, togetherness, and being part of a group as important motivators in participating in sport (refer to Studies 1, 2, 3, 4, 7, 8, 9, 11, 12, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25, 27, 28, 29, and 30 in [Table 1](#)). There was no real differentiation between team-based and individual-based sports, in that regardless of the sport, being part of a community and being involved in social activities either before, during, or after the event was important ([Table 1](#)).

3.2.3. Relationship factors

Developing new relationships and strengthening existing ones through participation in sport also emerged as a key theme. This factor was featured in 25 of the 30 studies (refer to Studies 1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25, 26, 27, 28, 29, and 30 in [Table 1](#)). It was evident across all sports, regardless of whether the participants participated in multisport events or in individual sports.

3.2.4. Competition/achievement factors

Many of the studies ($n=20$) featured the ability of participants to continue to compete as a frequent driver of participation in sport. Although most evident for participants in Masters/Seniors Games (refer to Studies in 6, 8, 9, 10, 11, 12, 14, 16, 23, 28, and 30 [Table 1](#)), this factor also seemed to be particularly relevant to those participating in cycling (refer to Study 1 in [Table 1](#)), swimming (refer to Study 21 in [Table 1](#)), golf (refer to Studies 3, 4, and 29 in [Table 1](#)), rugby union (refer to Study 7 in [Table 1](#)), bowling (refer to Study 17 in [Table 1](#)), softball (refer to Study 22 in [Table 1](#)), and volleyball (refer to Study 19 in [Table 1](#)). Competition was not limited to competing with others. A number of studies ($n=10$) identified the importance of self-competition, self-improvement, and achievement of goals as drivers of participation in sport (refer to Studies 1, 2, 3, 9, 13, 16, 19, 20, 26, and 29 in [Table 1](#)).

3.2.5. Successful ageing factors

Successful ageing was also important to sport participants and was reported in 17 of the studies (refer to Studies 1, 3, 4, 5, 9, 10, 11, 16, 17, 19, 20, 22, 23, 24, 27, 29, and 30 in [Table 1](#)). Aspects of successful ageing that were evident within the literature were slowing the process of ageing, improving the experience of ageing, being engaged in sport despite getting older, helping to dispel social perceptions, and challenging stereotypes of being older.

Other less frequently reported reasons for participation included opportunities for travel (refer to Studies 4, 11, 12, 14, 29, and 30 in [Table 1](#)) and valuing being part of a team (refer to Studies 1, 7, 8, 16, 17, 19, 20, 22, 25, and 30 in [Table 1](#)).

3.3. Comparative differences among sports

Only a few studies explored the differences in reasons for participation by sport. Two Studies (Studies 3 and 4 in [Table 1](#)) compared the reasons for engaging in PA (i.e., noncompetitive swimming) with reasons for playing a different sport (i.e., bowling and golf). These studies reported that individuals who engaged in PA (i.e., noncompetitive swimming) did so because it was a means for improving their fitness and health, although those who engaged in other sports (golf and bowling) still valued the health benefits of participation but were also seeking social connections, support from others, achievement, and competition. There were no other comparative differences based on specific sports described in the literature.

3.4. Comparative differences between gender

A few studies explored the differences between genders in the reasons given for participation in sport (refer to Studies 2, 6, 8, 20, 26, and 28 in [Table 1](#)). In the studies that reported statistical differences by gender (refer to Studies 2, 6, 20, and 28 in [Table 1](#)), women valued social contact, health, well-being, and interpersonal relationships as more important than other factors, such as competition and achievement, which were more important to men. However, 2 studies found no difference in reasons for participation between genders (refer to Studies 8 and 26 in [Table 1](#)), and it was suggested that the lack of gender difference might be related to age and to longer term involvement in sport, with women who had participated in sport for a longer period of time sharing similar values to men (refer to Study 26 in [Table 1](#)). It should be noted, however, that the study by Cheung et al.⁴⁴ (refer to Study 8 in [Table 1](#)) had a very small sample size ($n=50$), and that details related to the statistical analysis of the data in this article were limited.

3.5. Quality of the studies

The ratings of quality, determined using the MMAT, are provided in [Table 2](#). In general, the qualitative studies ($n=16$) were of good quality, as were the quantitative studies ($n=10$). Quality issues existed within 2 of the mixed methods studies, where 1 study (refer to Study 2 in [Table 2](#)) did not meet any of the quality criteria and the other study (refer to Study 3 in [Table 2](#)) did not discuss inconsistencies and differences between the qualitative and quantitative results. No other quality issues were noted.

4. Discussion

This systematic literature review explored the reasons why older adults participate in sport. In general, the included studies reported that older adults participated in sport to improve their health and well-being. However, sport participation also provided opportunities for having social interactions, being a

part of a community, developing relationships, experiencing competition, achieving goals, and contributing to the overall sense of successful ageing.

The finding that health-related factors were an important consideration for why older adults participate in sport was consistent with an earlier review by Jenkin et al.¹⁴ In that review, older adults reported that participation in sport contributed to their health and well-being, and that this was one of the key benefits of ongoing participation.¹⁴ This finding was consistent with ours in that our study also identified health benefits as an important reason for participating in sport. Public health policy often promotes health benefits as an important part of exercise;^{1,5,8,27} therefore, it is not surprising to see health as a key driver in sport participation among older adults. As people age, participation in sport declines, and this decreased participation may be driven largely by ill health or age-related declines in physical abilities. If sport is to continue to provide health-related benefits for older people, it must be adapted in order to engage an ageing population and to provide options for participation by older adults.

Of the 30 studies included in our review, 25 (83%) identified factors related to community and/or friendship as a motivating factor for continued participation in sport. The importance of this factor should not be underestimated, given the increased risk of isolation and loneliness that older people experience and the negative impact this can have on their experience of ageing.^{28–30} The majority of the studies in our review included participants from Masters/Seniors Games, with a relatively small number of studies related to team-based or community-based sports, which was consistent with the review by Jenkin et al.⁷ This in itself is interesting, because one might assume that participating in a team environment would be more likely to instill a feeling of being part of and contributing to community and friendships. However, the results of our review suggest that this is not the case, and, regardless of the sport played, being around others who also engage in that sport fosters a sense of community and encourages development and/or strengthening of friendships.

Competition as a source for motivation for sport participation by older age groups might be underestimated. Despite older people not being able to compete in sports in the same way they did when they were younger, the desire to challenge their own limits and abilities, set goals and achieve them, and be successful in their chosen sport at an appropriate level are key drivers of sport participation. This is perhaps in contrast to the stereotypical view of older people, who are often negatively perceived as slowing down, no longer being physically able, and not being driven or motivated to succeed.^{31–33} Our review found that, for those still participating in sport, competition and challenge are important, and that older people take pleasure in achieving goals that help break down age-related stereotypes. Sport provides an opportunity for some older people to actively seek out and engage in competition. Sport can be a healthy and constructive part of the ageing process for those who choose to participate.

The contribution of sport to the experience of successful ageing is evident from the data gathered in our review.

Successful ageing has been defined as “multidimensional, encompassing the avoidance of disease and disability, the maintenance of high physical and cognitive function, and sustained engagement in social and productive activities”.³⁴ More recently, the definition has been expanded to include emotional health and well-being.³⁵ Although 17 of the studies specifically mentioned successful ageing as a motivation for sport participation, all 30 studies in our review reported reasons for participation in sport that directly contribute to the experience of successful ageing. Sport plays an important role in promoting successful ageing for older people because it contributes to the multifaceted nature of successful ageing as currently defined.

The quality of the studies included in this review was, in general, high. Most studies met the MMAT criteria for high quality. However, there were a small number of studies that did not meet the criteria, particularly those that used mixed methods, and it is important for future research using mixed methods to ensure that the methodology clearly uses and articulates the research process and uses data available from both study types (i.e., qualitative and quantitative) to better answer the research questions. The data obtained through the mixed methods studies included in our review may not be as useful as it could be due to methodologic flaws.

4.1. Gaps identified by the review

The focus of much research has been on Masters/Seniors Games, which typically involve athletic events such as track and field, swimming, and cycling. This is interesting given the differing popularity of sports, both within Australia and around the world. Generally, the top 5 sports for older people, ranked by participation rates, include golf, tennis, bowls, track and field, and swimming.⁹ It is not clear why the most popular sports have not been researched more extensively. This perhaps is due to pragmatic decisions around recruiting participants for research, in that Masters/Seniors Games attract a relatively large number of people in the same location at the same time, facilitating recruitment for studies. However, research involving participants in the more popular sports of golf, tennis, and bowling would potentially contribute to a much richer and broader understanding of motivations for participation in sport and could be conducted by using online methods to engage participants without the need to recruit participants from large gatherings of people at sporting events.

The studies included in our review typically involved participants from higher income countries such as Australia, the United States, and Canada, where participation in organized sport is generally more affordable to the residents of those countries. However, given the popularity of sport worldwide, participants from lower income countries and different ethnic or cultural backgrounds should be included in future studies to broaden the understanding of sports participation throughout the world.

There is also a wide difference in participation rates based on gender, with men typically playing more sport for a longer period of time than women.⁹ Despite the large difference in participation rates and the types of sport played, there are

relatively few studies that explore gender differences in sports participation and attempt to describe the motivational factors that might explain this difference. Differences are typically found in relation to the importance of social and relationship factors, which are of greater importance to women, whereas men report that health and competition factors are, in general, more important to them.^{20,36} Our review identified a significant gap in the literature in accounting for reasons for differences in sports participation as it relates to gender. The difference in sport participation rates between the sexes has in some way influenced policy change in that in recent times there has been a larger focus, and greater investment made, in encouraging more women to play sport, with some, but limited, success.¹³ However, given the relative lack of research investigating gender differences in reasons for sport participation, there are 3 questions related to the strategies used. First, given the relative lack of quality data exploring these gender differences, have the most appropriate messages been used when promoting sport? Second, have different messages been used to recruit men and women participants? Third, have these recruitment messages been successful? These questions could form the basis of future research in this area.

4.2. Limitations of this review

The search strategy used for this review was robust, and both the study selection and data extraction process was rigorous. However, it is important to acknowledge that this review only contained studies that were found using the stated strategy. The review did not include studies that were written in languages other than English and it did not contain grey literature, unpublished works contained in theses or dissertations, or other material. The use of the MMAT allowed for all studies to be evaluated using the same tool; however, this tool does not support the use of a scoring system. Therefore, a quality score, and a comparison between studies based on this score, was not possible. Despite the lack of an overall score, the studies individually are of good quality; therefore, data contained in this review can be used with confidence.

5. Conclusion

This review found that health-related factors were significant motivators for sport participation, as were factors related to community, friendship, competition, and the overall experience of successful ageing. This information can be used to inform strategies to increase sport participation by older adults, thus encouraging a larger proportion of the population to take advantage of the benefits that can be obtained by participating in sport in older age.

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Authors' contributions

BJS, JDB, and ADM contributed to the development of the systematic review question and search strategy; BJS conducted the search, screening, study selection, data extraction and quality assessment; ADM reviewed the data extraction and quality assessment; All authors were involved in the first and subsequent drafts of the manuscript. All authors have read and approved the final version of the manuscript, and agree with the order of presentation of the authors.

Competing interest

The authors declare that they have no competing interests.

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