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1 Experiences and strategies influencing older adults to continue playing walking football

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1 MANUSCRIPT

2 Running title: Experiences and strategies influencing older adults to continue playing walking
3 football

4

5 **Abstract**

6 Adults aged 55+ are most likely to be inactive, despite research suggesting older adults
7 experience multiple benefits when participating in physical activity and sport. Limited
8 research focuses on long-term continuation of sport participation in this population,
9 especially in 'adapted sports' like walking football. This study explored experiences of
10 walking football maintenance in 55- to 75- year-old players. Semi-structured interviews were
11 conducted with 17 older adults maintaining walking football play over six months. Inductive
12 analysis revealed five higher-order themes representing maintenance influences, and two
13 higher-order themes relating to maintenance mechanisms (i.e., the conscious process by
14 which players maintain). Influences when maintaining walking football included individual-
15 level and culture-level influences (e.g. perceived benefits of maintenance and ability
16 acceptance). Maintenance mechanisms included cognitions and behaviours (e.g., scheduling
17 sessions and redefining physical activity expectations). Findings highlight novel implications
18 for policy and practice, which are important to consider when delivering walking football to
19 older adults.

20 *Keywords:* older adults, football, soccer, behaviour change, maintenance, qualitative
21 methods, interviews

22

Literature Review

1
2 Within the United Kingdom (UK), adults reaching 65 years and older are expected to reach a
3 quarter of the population by 2046 (Randall, 2017). It has been reported that 2.8 million
4 people over 65 will need nursing and social care by as soon as 2025, suggesting the need for
5 a considerable increase in funding to provide care needs, and poor health markers having an
6 increased impact on public health services in the UK (Guzman-Castillo et al., 2017). It has
7 been suggested that physical activity (PA) can improve physiological markers and provide a
8 lower risk of all-cause mortality (Rezende et al., 2014), alongside potential psychological
9 benefits in older adulthood, such as increased memory performance (Chapman et al., 2013).
10 However, reports by sporting bodies such as Sport England suggest that older adults are less
11 likely to be active, with 42% of those over the age of 55 leading inactive or sedentary lives,
12 compared with 29% of the general population (Sport England, 2018). Additionally, it has
13 been reported that older adults struggle to maintain moderate to vigorous PA after completing
14 a 24-week programme (Kendrick et al., 2018), and research needs to consider how to
15 encourage long-term participation in groups least likely to continue participation over time.
16 Research in older adults has found environmental barriers to PA (e.g., access to facilities)
17 links to lower PA levels in those with lower socioeconomic status (SES), alongside
18 individual barriers such as health concerns (Franco et al., 2015; Stalsberg & Pedersen, 2018).
19 Therefore, finding ways to engage adults in activity as they reach later life is important to
20 increase physical and mental health markers, reduce care needs and improve overall health-
21 related quality of life (McPhee et al., 2016).

22 Sport participation in older adulthood is an alternative option to conventional forms of
23 PA advertised to older adults, such as brisk walking, water aerobics or dancing (National
24 Health Service, 2019). Sport participation or 'SP' is defined by Gayman and colleagues
25 (2017) as “activities which involve training or competition with some level of physical

1 intensity or organisation” (p.175). Research suggests many potential physical and
2 psychological benefits to SP in older adulthood, for example reporting less sedentary time,
3 increasing cognitive flexibility and accepting ageing processes (Gard et al., 2017; Gayman et
4 al., 2017; Heo et al., 2013; Pesce & Audiffren, 2011). Nonetheless, SP sees the biggest
5 decline over the lifespan, and has been found to progressively decline compared with those
6 that walk for health (McPhee et al., 2016). Similar patterns of SP have also been seen in other
7 countries, where sport participation declines with increasing age (Eime et al., 2016). To help
8 understand how to offset the decline in SP in older adulthood, research within the field of
9 behavioural psychology has begun to explore the determinants and barriers associated with
10 SP. Studies have found multiple factors related to participation in sport, including previous
11 sporting experience, physical health state and accessibility to sporting facilities (Jenkin et al.,
12 2017). Notable barriers to SP include a lack of sporting opportunities when reaching older
13 age and a lack of awareness about available sport programmes for older populations (Jenkin
14 et al., 2018). Research exploring how best to increase levels of inclusive sport and
15 appropriate playing opportunities for older adults is needed (Jenkin et al., 2018).

16 Adapted sports are defined as activities that are directed at those “who require
17 adaptation for participation in the context of physical activity” (Carlier et al., 2016, p.351).
18 Mainstream sports that have a level of adaptation, such as handicapping within golf, have
19 been highlighted in previous research as providing a means for older adults to stay involved
20 in sports as they age (Stenner et al., 2016). Adapted sports such as walking football are
21 estimated to have approximately 40,000 people take part each week in the UK (Lloyd, 2019)
22 and further research is starting to uncover psychological and physiological benefits that are
23 seen through playing such sports in older age. A recent report exploring benefits of walking
24 basketball highlighted the importance of competition for the participants' enjoyment of the
25 sport, alongside modifications to the sport in order to suit player capabilities and the

1 enjoyment of the sport (Jenkin et al., 2018). Research has started to explore physical benefits
2 arising from walking football, for example significant reductions in body fat and time to
3 volitional exhaustion (Arnold et al., 2015), alongside psychological aspects such as
4 enjoyment and forming new social connections (Reddy et al., 2017). The availability and
5 choice of walking football sessions, and the acceptance of all ability levels (regardless of
6 injury or health conditions) were also reported by participants as contributing influences
7 when initiating walking football in the first six months of play (Cholerton et al., 2020). In
8 addition, negative experiences were also reported, relating to injuries or health conditions
9 preventing play, and the experiences of wider football culture, especially in the availability
10 and promotion of women's walking football (Cholerton et al., 2020). Collectively, research to
11 date has highlighted the positive potential of walking football for older adults, but less is
12 known about experiences of older adults considered to be continuing, or 'maintaining' a sport,
13 especially adapted sports, such as walking football.

14 Maintenance of a health behaviour has been defined as a “sustained behavior during
15 the period of observation that meets a threshold believed to be necessary to improve health or
16 wellbeing within a given population” (Seymour et al., 2010, p.667). The concept of
17 maintenance was first introduced in theories such as self-determination theory (SDT) and
18 social cognitive theory (Bandura, 1977; Ryan & Deci, 2000), preceding later theories
19 concerning maintenance. Later theories include the Model of Behaviour Maintenance and
20 Habit Formation (Rothman, 2000; Rothman et al., 2009; Lally & Gardner, 2013), where
21 maintenance is driven by the satisfaction of the behaviour change created during initiation,
22 through reflective processes such as comparisons and shifting expectations, and automatic
23 ‘habit’ forming processes such as repeated performance of ‘healthful responses’. Despite a
24 large body of research focusing on maintenance of health behaviours, many theories were not
25 intended to focus on PA behaviour change specifically, and many non-PA theoretical

1 frameworks assist with intervention development (Hutchison et al., 2013). The
2 generalisability of these theories therefore still requires testing and it has been suggested that
3 predictions and theoretical explanations of maintenance should be tested across a variety of
4 contexts and populations (White et al., 2016). Research has suggested that understanding
5 maintenance of health behaviours holds importance, due to the health benefits seen after
6 making positive lifestyle changes over a long period of time. Long-term health benefits of PA
7 and sport are seen when older adults commit to activities for more than six months, including
8 physical health benefits such as elevated cardiovascular reserve and skeletal muscle
9 adaptations, alongside reduced psychological distress (Awick et al., 2017; Laitakari et al.,
10 1996; Roberts et al., 2017). In addition, maintenance strategies, such as the relapse-
11 prevention model, have been linked to PA adherence (Kahn et al., 2002). Lifestyle change is
12 normally said to reach the maintenance stage from six to eight months after adopting the
13 behaviour (Lally et al., 2010).

14 Differences between the initiation and maintenance phases of lifestyle change have
15 been identified in PA research and theory, highlighting different factors and mechanisms
16 present at different stages of lifestyle change (van Stralen et al., 2010; Voils et al., 2014).
17 Different factors in initiation, such as perceived access to facilities and functional limitations
18 were not identifiable in maintenance, where other factors such as enjoyment of PA and
19 having a sports partner were more prevalent (van Stralen et al., 2010). This suggests that
20 initiation and maintenance may be considered as distinct phases in lifestyle change.
21 Moreover, previous research examining SP specifically has focused on participation as a
22 whole (Jenkin et al., 2017, 2018), with less focus on participant experiences and influences of
23 SP initiation and maintenance. Therefore, it is essential to explore factors that increase the
24 likelihood of increased maintenance to adapted sports and how this might differ to the
25 initiation phase, which may require different behaviour change techniques or interventions.

1 Exploring the experiences of initiation and maintenance of adapted sports like walking
2 football can inform the development of effective interventions aimed at encouraging older
3 adults to continuing to play for longer.

4 This literature review highlights the state of PA and sport participation in older adults,
5 alongside the benefits which may be present for this population when continuing playing long
6 term. However, limited research focuses on maintenance of sport participation in this
7 population, especially in 'adapted sports' like walking football. The aim of this study was to
8 build on our previous research exploring initiation experiences in 55-75-year old adults
9 playing walking football, and qualitatively identify participant experiences of continuing
10 walking football long-term.

11 **Methods**

12 **Research Paradigm**

13 As limited research has been conducted to understand older adults' maintenance experiences
14 in adapted sport, qualitative enquiry was used to explore and address the research question
15 (Braun & Clarke, 2006; Clarke & Braun, 2013). An inductive, data-driven approach to
16 answering the research question was used, due to the limited research in this area and to
17 allow novel data to emerge in this context (Hilton & Johnston, 2017; Laverack, 2017; Ogden,
18 2016). The study design was guided by underpinning principles of phenomenological
19 research (Groenewald, 2004; O'Halloran et al., 2018), defined as "understanding social and
20 psychological phenomena from the perspectives of people involved" (Groenewald, 2004,
21 p.44).

22 **Participants**

23 Participants were recruited as part of a larger study exploring initiation and maintenance
24 experiences of walking football, and were interviewed in two parts, the first part exploring

1 initiation (Cholerton et al., 2020) and the second part exploring maintenance. This paper
2 reports the findings from part two only. The participants were recruited from different
3 walking football clubs across the UK. Participants were screened prior to data collection to
4 ensure they met the inclusion criteria for the study. Inclusion criteria specified participants
5 fell within the bracket of 55-75 years of age. Participants were required to have taken part in
6 walking football for six months or more, to ensure experiences of participants that had
7 satisfied the minimum term of maintenance were recorded (Lally et al., 2010; van Stralen et
8 al., 2009). Participant recruitment took place via visiting local football clubs, as well as
9 promotion of the study via social media channels.

10 **Participant demographics**

11 In total, 17 participants were interviewed (nine male, eight female). Participants were aged
12 between 55 and 71 years (Mean age = 64 years). Eleven participants had been playing
13 walking football for less than two years at time of interviewing, five participants taking part
14 between two and five years, and one participant taking part for over five years. Fifteen
15 participants had over ten years of experience participating in sport across their lives, with two
16 female participants having two to five years of sporting experience. Participants interviewed
17 were from a range of clubs from areas representing different SES levels. SES was determined
18 by the English indices of deprivation (Department for Communities and Local Government,
19 2015) and Scottish Index of Multiple Deprivation (Scottish Government, 2016). Five
20 participants played at a club located in an area containing the 20% least deprived population
21 in the UK (high SES), five participants from a club located within the bracket of 40% most
22 deprived UK population (middle SES), and seven participants from a club located within the
23 bracket of the 20% most deprived UK population (lower SES).

1 Interview Guide Design

2 The interview guide was developed acknowledging the research aims, as well as
3 taking into account a review of previous literature within the area of SP (Heo et al., 2013;
4 Simkin & Gross, 1994; Stenner et al., 2016). The interview guide used semi-structured, open
5 questions, addressing areas such as breaks in play, factors motivating continued participation
6 and what may cause long-term breaks from walking football. Example questions from the
7 interview included; *“Tell me about a time you have taken a break in playing walking
8 football”, “What are the most important things about walking football that motivate you to
9 continue to participate?”*, and *“What might make you completely stop playing walking
10 football in the future?”*. Follow-up questions (Roulston, 2012) were also used, to attribute
11 meaning to answers and assist participants with recall when being interviewed (McKenna et
12 al., 2004; Wenger, 2011). These included, for example; (when discussing factors relating to
13 continued participation) *“Why is/are that/they most important to you?”* and *“What
14 encourages you to continue playing even when you don't feel like it?”* Prior to data collection,
15 a pilot interview was conducted with an older-aged adult. The pilot interview highlighted
16 small, administrative changes to the study, for example rewording of certain language and
17 using lay language (for example, ‘staying in the sport’ instead of ‘maintenance’) when asking
18 interview questions.

19 Procedure

20 Ethics approval was obtained from the University's Research Ethics Committee (May,
21 2018). One-to-one interviews took place via face-to-face and telephone with the lead
22 researcher, who had no prior relationship to the participants interviewed. The interviews were
23 recorded using a digital sound recorder. Telephone interviews were chosen to reach
24 participants from diverse locations across the UK. Before interviews, participants received an
25 information sheet and a participant consent form, where informed consent was received via

1 writing or recorded verbal consent, in the case of telephone interviews. Participants also
2 completed a brief demographic questionnaire on paper, if the interview was face-to-face, or
3 by telephone before the interview, allowing for the researcher to obtain further demographic
4 information from the participants (age, gender, sporting experience and time playing walking
5 football). Club locations have not been disclosed in order to ensure participant anonymity in
6 line with GDPR guidelines. Participants were offered the opportunity to fill out a lifegrid (a
7 hard-copy or digital grid, detailing prevalent years relating to previous and current sport
8 participation, ages they started sports, and any life events which coincided with sport
9 participation) in order to help improve recall (Parry et al., 1999), however no participants
10 chose to utilise this. The mean interview time was 27 minutes. Where possible, 'memoing'
11 was used by the researcher where possible whilst the interviews were taking place, to collect
12 any useful reflections on the interview that may not have been explicit on the interview file
13 (Miles & Huberman, 1994). Participants were debriefed immediately following the interview
14 and offered the chance to email or contact the researcher regarding the study or provide any
15 information they had not discussed within the interview. All participants were contacted and
16 offered the chance to read transcripts as part of member checking (Birt et al., 2016); four
17 participants confirmed reading transcripts with no changes to be made, with the others
18 participants not responding to the email with any changes to be made.

19 **Data Analysis**

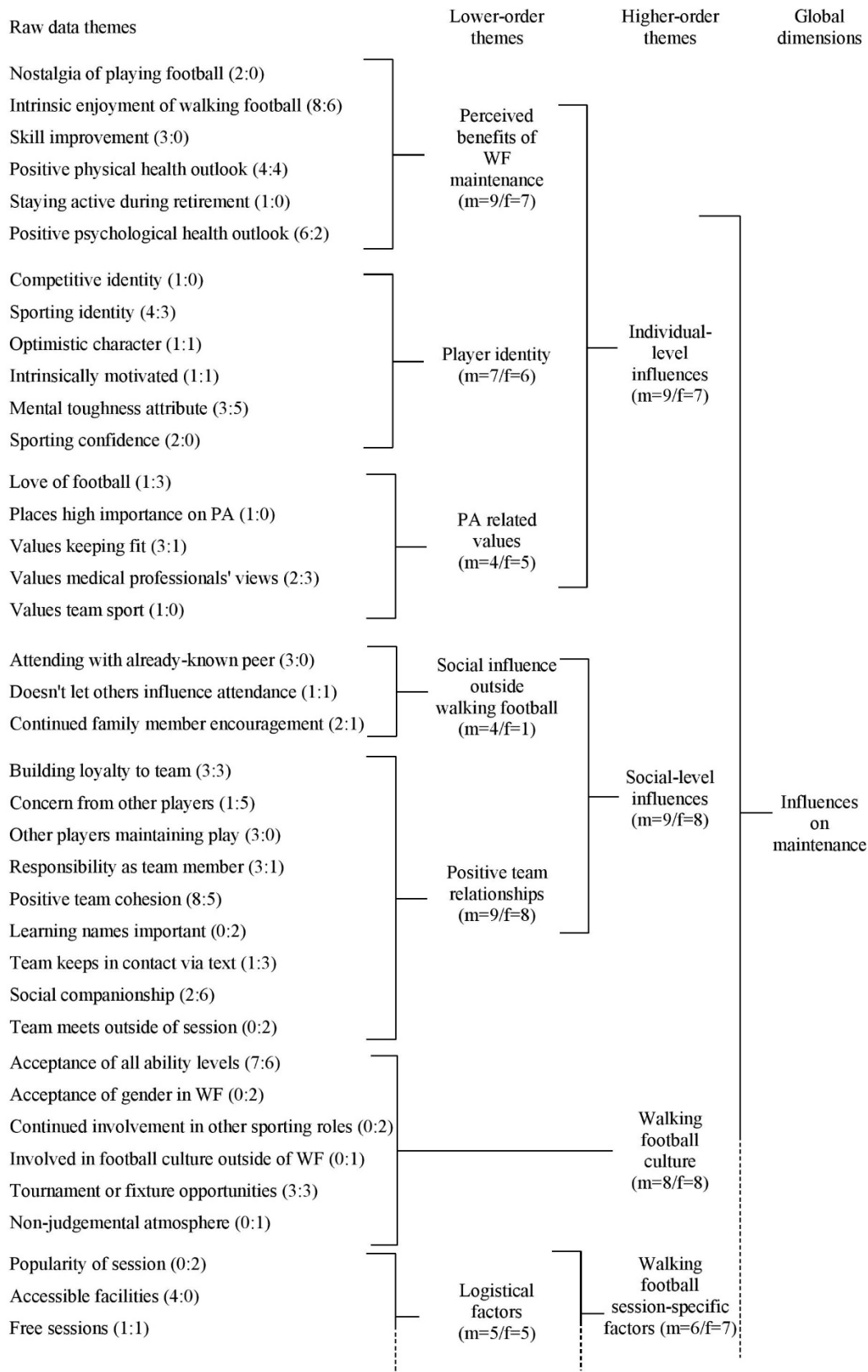
20 Interviews were transcribed verbatim by the lead author with Microsoft Word and
21 Audio Notetaker, and after all transcripts had been completed, personal details were removed
22 from transcripts to protect participant anonymity. Once all data from recordings were
23 transcribed, transcripts were read multiple times, allowing for immersion in the data (Miles &
24 Huberman, 1994). The NVivo software package (QSR International Pty Ltd, Version 11,
25 2017) was used to code interviews by the lead author. An inductive thematic approach was

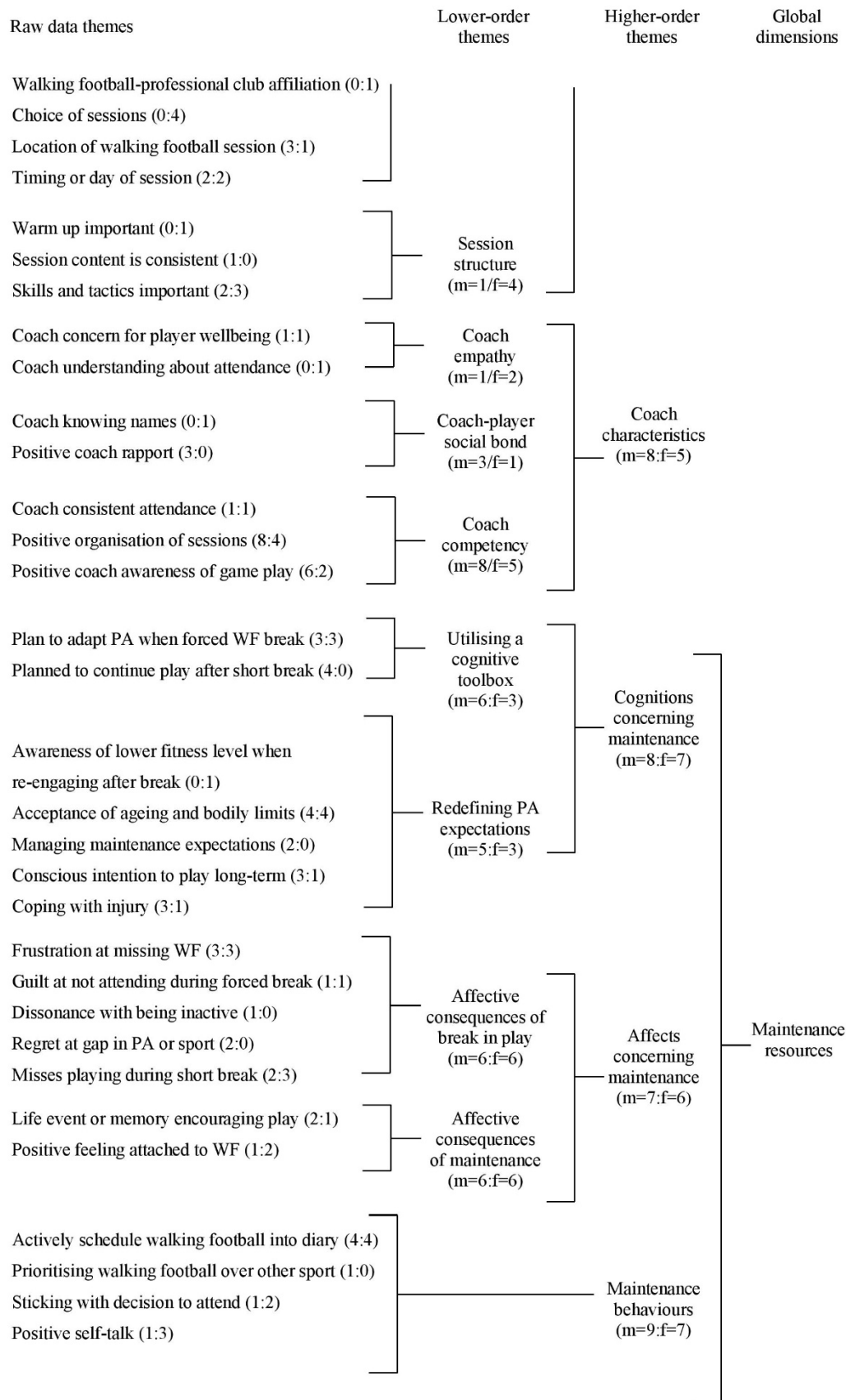
1 implemented when coding raw data, allowing for novel themes to emerge from the data
2 collected (Braun & Clarke, 2006; Thomas, 2006). A pre-given framework was not assigned
3 to the findings, in line with principles of phenomenology and to allow for a rich and in-depth
4 account of individual experiences (O'Halloran et al., 2018). Peer consultation of the data took
5 place with another researcher within the field of behavioural psychology. The second
6 researcher independently read through transcripts and codes determined by the initial
7 researcher were checked accordingly. Where any coding differences occurred, this was
8 resolved through discussion. Seventeen interviews were analysed and transcribed. Additional
9 discussion of the themes and subthemes took place within the wider research team of
10 psychologists, all with expertise in qualitative research and sport and exercise psychology, in
11 order to reach agreement of the themes and to maintain analytic rigour (Tracy, 2010).

12 Findings

13 Identified Themes

14 A total of 114 raw-data themes emerged from the analysis of the data. Further
15 analyses of the raw-data themes revealed five higher order and 10 lower order themes that
16 collectively represented influences involved in participants' walking football maintenance.
17 Two higher order and four lower order themes represented the global dimension concerning
18 mechanisms related to maintenance. The full analysis of higher order, lower order and raw
19 data themes can be seen in Figure 1. Each of the higher order themes will be explained in
20 detail below and where subtle differences arose between genders and those from different
21 socio-economic areas, these have been noted within the relevant theme. Within the figures
22 provided, the gender split of each raw data theme has been recorded (e.g., 4:4, male to female
23 respectively). Verbatim quotes are provided to demonstrate themes and are labelled with a
24 player pseudonym, gender (e.g., M = male / F = female) and player age (e.g., 65).





1 **Influences on Maintenance**

2 Higher order themes related to influences on walking football maintenance, which
3 were aspects of a participant's life believed to encourage walking football for those
4 continuing to play after six months. These included individual-factor influences, social-factor
5 influences, walking football culture, walking football session-specific factors, and coach
6 characteristics.

7 **Individual-level influences.** This higher order theme consisted of three lower order
8 themes: perceived benefits of walking football maintenance, player identity and PA related
9 values. A positive physical and psychological health outlook was prominent amongst
10 participants, and whilst both male and female participants acknowledged the physical
11 benefits of taking part in the sport, noticeably more male participants reported the
12 psychological benefits related to walking football play. One participant discussed that
13 walking football served as a respite from daily life, stating "yeah, you don't have anything
14 else on your mind for that hour. No matter what's going on in your life." (William, M, 64).
15 The intrinsic enjoyment (i.e inherent enjoyment, rather than enjoyment for a particular
16 outcome) of walking football was also important to two-thirds of participants, with one
17 participant explaining that she never felt as though she did not want to attend football
18 sessions, unlike more conventional types of exercise:

19 When you question not going, sometimes I think oh no I'm not looking
20 forward to this boot camp on Thursday, I never ever have that on the Monday or the
21 Friday at football (Nina, F, 60)

22 Participants also reported that a strong sporting identity encouraged them to maintain play,
23 with a large proportion of participant interviews reporting many years of sport involvement.
24 One participant stated "I've always done something sporty. You know, almost always, apart
25 from a gap when I hurt my back and I couldn't. So, there's always something that says you

1 know, I want to do something, I want to do something" (Theo, M, 62). Experiences related to
2 the player's ability to persist, and manage setbacks and adverse situations (i.e. mental
3 toughness) was reported by approximately half the participants interviewed, which
4 encouraged maintenance and helped overcome barriers to participation on a weekly basis.
5 Many participants claimed that they did not avoid sessions due to bad weather, with one
6 participant saying that they have "been out there in the rain before now, and played football
7 and loved it and thinking yes, you know I ain't frightened of rain" (Heather, F, 58).

8 Long-term values and perceptions participants held around sport, health and exercise
9 were also discussed as influential on maintenance. Overall, values relating to maintenance
10 included the love of football. One participant expressed that "I love five a side and this
11 [walking football] is to me my five a side now" (Jim, M, 61). In addition, many participants
12 from varying SES levels valued medical professionals' views on PA and sport, with some
13 participants discussing that they would take medical professional recommendations seriously
14 and consider ceasing walking football play if their doctor advised against playing walking
15 football:

16 I mean up till now, I've mentioned it to my doctors and what have you when I've been
17 to whatever, they've been like oh no that's great, yes brilliant, exercise good for you,
18 so. I think until somebody tells me you can't do that anymore then I'm gonna do it.
19 (Alice, F, 65)

20 **Social-level influences.** Two lower order themes were identified as social-level
21 influences on walking football maintenance: social influence outside walking football and
22 positive team relationships. Positive encouragement from peers outside of walking football
23 was believed to facilitate maintenance, and family members were also reported to actively
24 encourage participants to maintain behaviour. One participant discussed her relative's
25 positive influence on attending walking football sessions, stating that "I think sometimes you

1 do feel tired but then sometimes I even hear my sister's voice... you know because it's um,
2 once you get out there, you get going again" (Heather, F, 58). Some participants also felt that
3 attending walking football sessions with a peer encouraged maintenance, with one participant
4 discussing the influence his friend had on sporting activities throughout their lifetime:

5 I've known [friend] um, thirty odd years, our wives used to work together,
6 kids are same age, they grew up knowing each other so, you know there's a lot of
7 interplay or whatever, and we just go, we are different people without a doubt but um,
8 he's a bit older than me but um, we just do things whatever, we've played tennis in the
9 past together, we've played cricket probably about three or four times together, um,
10 but you know, it just works somehow. (Theo, M, 62)

11 Nevertheless, despite this support from family and peers, the majority of participants
12 discussed the importance of team relationships. Positive team cohesion was discussed by over
13 two thirds of participants interviewed, particularly the camaraderie of the teams and
14 encouragement given between team members, as well as one participant mentioning that
15 "You feel as though you're part of a football team" (Charles, M, 71). Female participants also
16 highlighted the support and specifically the concern from other members of the team if they
17 had missed a session or injured themselves in play, as highlighted by one participant:

18 You have the caring side where [name], I mean I don't think I've experienced it
19 myself but she got a really bad cramp...and she could not get her knee back but, they
20 all stopped and you have about four or five of them round her trying to help her and
21 comfort her (Anna, F, 61).

22 Male participants also reported team connections, however discussions focused more on
23 loyalty and responsibility which aided maintenance in walking football for some participants.
24 One participant talked of the responsibility to turn up so teams can be made up to play games,
25 "just because I don't feel like it, it's not an excuse." (Frank, M, 65).

1 **Walking football culture.** This higher order theme related to the culture surrounding
2 walking football which influenced participants' continued engagement in the sport. Many
3 participants described the acceptance of all ability levels within the club and one participant
4 discussed working with others with varying mental and physical conditions:

5 For me the important thing about those sessions is giving people who wouldn't
6 normally get the chance to play at all, the opportunity to play, I mean there's one guy
7 there who's got dementia, you know we don't change over at half time because it adds
8 another aspect that you've got to focus on (Alice, F, 65)

9 Additionally, many participants were encouraged by the club providing opportunities to play
10 in fixtures or tournaments. Several participants highlighted tournaments as an opportunity to
11 bond with team members of all abilities, and participants expressed a general level of
12 acceptance and team cohesion even if games were lost, "so long as we played our best as a
13 team" (Jim, M, 61). One female participant also mentioned the positive nature of tournaments
14 in relation to self-confidence and cultivating team connections:

15 I never would have even contemplated doing [a tournament], but you know things
16 like that, doing the football tournament to Spain, you know, I was the only woman in
17 a bunch of like, 15 blokes, you know what, so what?... I tried, a couple in my closer
18 friends from football were there and, you know it was great. (Alice, F, 65)

19 **Walking football session-specific factors.** This higher order theme consisted of two
20 lower order themes, relating to logistical factors and session structure. Within the lower order
21 theme of logistical factors, accessible and free sessions for those who may not be able to
22 afford weekly sessions were discussed by some participants of varying SES levels, as well as
23 female participants discussing the choice of sessions as being an important factor. One
24 participant discussed the benefit of having access to multiple sessions, with different groups
25 for different ages:

1 There's so many different sessions that, not particularly different abilities but
2 different age groups, to be able to, participate so, say, if, they've got an over 50s
3 group, and I can go and play in that, just because it says over 50s, and you're over 60
4 doesn't mean you can't go to us, so it's such a great mix (Nina, F, 60)

5 In terms of the walking football session structure, both male and female participants
6 discussed the ability to practice skills and tactics within sessions. One participant discussed
7 that skills and tactics were only weaved into sessions when attendance had dropped, for
8 example, over summer months when participants went away on holiday:

9 Then when we first started, and it's like, three of us who've turned up, to one
10 [session], and that can happen in the summer sometimes, when people go off on their
11 holidays and some things, it, just been given little skills to practice and things
12 (Andrea, F, 66)

13 Nevertheless, some participants felt that further emphasis on skills and tactics would be
14 beneficial within sessions, in order to improve ability during maintenance:

15 I think because, you know having played it for a year now and it, I'd say it's dropped
16 hints to us about tactics or a couple you know, calling people's names and things like
17 that when you go for the ball and telling them where you want it, but it's good to
18 reemphasise that (Paul, M, 71)

19 **Coach characteristics.** This higher order theme relates to the coach characteristics
20 which were highlighted by participants as important factors in their maintenance of walking
21 football. Lower order themes included coach empathy, the coach-player social bond, and
22 coach competency. Regarding coach competency, positive organisation of sessions and
23 awareness of game play was highlighted by the majority of participants as important for
24 walking football maintenance, with many participants praising the coach for enforcing
25 correct walking football rules, as highlighted by one participant:

1 [Coach] again, is very much on top of it, if you get, and we had one the other week, a
2 guy started he was new, he was, possibly a bit younger than most of us cos it's any
3 age group it's not whatever, he was 40s I suppose, and he was getting a bit keen and
4 getting a bit kinky or whatever, yeah we don't do that, no. (Theo, M, 62)

5 Nevertheless, one respondent noted confusion when it came to game play and rule
6 interpretation. They wrote that “one person’s overhead height isn’t the same as the next...”
7 and that there are concerns for when players are not penalised for running. This raises issues
8 relating to the standardisation of walking football rules within club sessions.

9 Participants appreciated when the coach showed concern for team players’ wellbeing,
10 and female participants often discussed the coach’s empathy, for example, if any injury issues
11 were presented or reasons for missing a session. More male participants than female
12 discussed the social bond with the coach and the coach knowing the players’ names was
13 discussed, alongside positive coach rapport and ‘pulling [coach’s] leg a little bit’ (Paul, M,
14 71), highlighting ‘banter’ shared between the team and coach.

15 **Maintenance Resources**

16 The global dimension of maintenance resources refers to the cognitive, affective and
17 behavioural processes which participants employed during maintenance of walking football,
18 to manage behaviour and continue walking football play. Higher order themes within this
19 global dimension included maintenance thought processes and maintenance behaviours.

20 **Cognitions concerning maintenance.** There were two lower order themes within this
21 higher order theme, relating to thoughts participants experienced when considering how to
22 maintain walking football. These themes were utilising a cognitive toolbox and redefining PA
23 expectations. ‘Utilising a cognitive toolbox’ referred to the participants’ thought processes
24 when adapting PA activities, after being forced to take a break from walking football. One

1 participant discussed the return to PA when taking a break from walking football due to
2 medical reasons:

3 Taking it steady. Building up, and I did that at the gym, did that, I started gingerly
4 playing golf again, going for walks, just gradually not throwing myself at it to get
5 myself back to where I was. (Frank, M, 65)

6 The redefining of ageing and acceptance of bodily limits was discussed by half of the
7 participants interviewed, when discussing maintenance experiences. One participant
8 discussed the cognitive acceptance of bodily limits when ageing, in relation to injury whilst
9 playing walking football:

10 I hurt my foot, and it was like I can't I know I can't go but I've resigned to the fact
11 yeah, it's okay so... I'll be back this week and back we go again, boom, gone. You
12 know. You have to accept that that might happen, and it can happen and it probably
13 will happen. You know, to people at our kind of age. (Theo, M, 62)

14 Alongside this awareness and acceptance of bodily limits, participants discussed the
15 flexibility of walking football being beneficial for maintaining participation, especially when
16 returning from injury. One participant discussed the flexibility of playing in different
17 positions when returning from injury and if they have “just got another pain, um, and they'll
18 just sort of stay in goal” (Emily, F, 64).

19 **Affects concerning maintenance.** Within this higher order theme, two lower order
20 themes relating to affective consequences of break in play and affective consequences of
21 maintenance were discussed. Participants talked about the affective consequences of small,
22 planned and unplanned breaks in walking football (for example, through an injury or a
23 holiday). Five participants expressed they missed playing the sport, with one player stating
24 they “had to get back” (Olivia, F, 58). This was often paired with a dissonance of being

1 inactive, or having guilt for not attending during a short break, as one player recalls when a
2 break was forced, due to a medical procedure:

3 I felt guilty not being here to be honest with you, it's a bit like when you go to work
4 [laughs] you know when you go to work and you're off sick and you think I should be
5 at work, what am I doing, I should be at work. It's a bit like that, so Wednesday nights
6 came round and I was sending [coach] a text saying I'm a bit under the weather I don't
7 think I can make it tonight, I actually felt I wanted to do it. (Frank, M, 65)

8 Further affective consequences of maintenance were discussed by participants, which
9 related to the feelings players had as a consequence of maintaining walking football play. In
10 some participant experiences, a previous life event or memory encouraged ongoing play:

11 It really does make you realise you know, I mean, I lost my partner, we'd been
12 together [number] years...it brings it home to you, you know there's so many things
13 that we talked about doing that we didn't, we never had the chance to do, we'll never
14 have the chance to do, and it's true what they say, life's too short. (P9, F, X)

15 Equally, some participants shared their experiences of having positive feelings
16 attached to walking football, with one participant recalling affects after the session has
17 finished, stating “rarely you felt, oh I wish I hadn't come tonight” (P7, M). Another
18 participant discussed that maintenance changed the feelings related to walking football,
19 “because having done it so many times, you just know that you do feel better, after” (P12, F).

20 **Maintenance behaviours.** This theme relates to the behaviours participants actively
21 employ to keep themselves playing walking football. Three of the most prominent behaviours
22 were the sticking with the decision to attend, actively scheduling walking football into a
23 diary, and prioritising walking football over other sports and PA. Having walking football
24 sessions as part of a weekly routine was believed to facilitate ongoing maintenance and help
25 to overcome any potential barriers. Planning walking football into participants' schedules

1 positive outlook of physical and psychological benefits. Similar themes have emerged in
2 previous research, with Stenner and colleagues (2016) highlighting perceived benefits as
3 being a reason for older adults' regular involvement in golf, alongside Jenkin and colleagues
4 (2018) highlighting the importance of competition within walking basketball players.
5 Rothman and colleagues (2009) theory of behaviour maintenance highlighted the importance
6 of satisfaction of the behaviour change and making temporal comparisons as being integral to
7 behaviour maintenance, and is seen in this study's findings, with participants highlighted the
8 benefits gained from playing walking football (both physical and mental). van Stralen and
9 colleagues (2010) also highlighted intrinsic motivation as being a driver for PA maintenance
10 in people over 50 years. SDT (Ryan & Deci, 2000) also highlights the importance of
11 intrinsically focused goals in maintaining health behaviours such as PA, and further
12 systematic reviews have supported the positive relationship between intrinsic motivation and
13 long-term exercise adherence (Teixeira et al., 2012). Despite these similarities to previous
14 studies, the walking football players in this study discussed qualities of walking football that
15 were sport specific, such as the ability to compete whilst playing in a safe environment.
16 Walking football players tended to have a strong sporting identity, and walking football
17 allowed players to continue playing sport where mainstream sport participation was not
18 possible, for example during injury or experiencing a health condition. This highlights the
19 valuable use of adapted sports, allowing for those who may not be able to participate in
20 higher intensity sports, (which many have had experience of in early life, as highlighted by
21 (Cholerton et al., 2020) to maintain sport participation.

22 Values and perceptions of PA were also highlighted amongst participants.
23 Interestingly, a number of participants (both men and women, from varying SES levels)
24 discussed their values relating to medical professionals' views on walking football and PA,
25 with participants stating they would consider giving up walking football participation if a

1 medical professional advised against play. Previous research has highlighted the importance
2 of healthcare provider advice in relation to PA support (Van Stralen et al., 2010), however no
3 research has explored this within SP specifically. This research highlights the importance
4 older adults place on their healthcare providers 'approving' their participation in walking
5 football, and the influence this may have on players' continuation in the sport. Additionally,
6 previous theories have discussed the benefits of implicit attitudes within the stage of initiation
7 (Rothman et al., 2009), however this was not highlighted as salient in the stage of
8 maintenance. This study suggests that values and perceptions relating to health and the
9 behaviour still remain important in 55-75 year-old walking football players.

10 **Walking football relationships and culture facilitating maintenance.** Social
11 influences within and outside the club environment were important in the maintenance of
12 walking football. Whilst social influences outside of the club (such as support and
13 encouragement from family members) were discussed, the majority of discussions focused on
14 the walking football culture itself, from club culture, to coach characteristics and team
15 connections. This research supports previous PA research in older adults, suggesting social
16 support, such as from family members and peers, is important when maintaining PA habits
17 (Maula et al., 2019; van Stralen et al., 2009; Wahlich et al., 2017), and previous walking
18 football research has highlighted the importance of team connections during interventions
19 with older adults (Reddy et al., 2017). Current findings also draw parallels with other
20 population groups, including youth sport and the notion of a positive 'social climate'
21 influencing intention to continue, including relationships with parents, coaches and peers
22 (Gardner et al., 2016). In the current study, whilst some older adults simply went to play
23 walking football and were not interested in forming new social connections, the majority of
24 participants highlighted the importance of camaraderie, social connections, and having a
25 good relationship with the coach. This theme was similar to themes found during experiences

1 of initiation (Cholerton et al., 2020). This highlights the continuing need for positive social
2 connections in sport throughout the lifespan, especially through not only initiation, but also
3 during maintenance.

4 Themes from this study included the ongoing acceptance of all ability levels from a
5 club culture level. By accepting older adults with varying levels of football, or indeed
6 walking football experience into adapted sport, walking football may offer a more lenient
7 atmosphere that mainstream sport with a higher intensity may not be able to offer. Again,
8 similar parallels can be drawn to youth sport and the influence of an inclusive club culture
9 (e.g. a 'caring climate') encouraging commitment to a sport (Hall et al., 2017). This study
10 reinforces that a caring and inclusive club culture is important to cultivate, no matter the age
11 of the players.

12 **The role of walking-football session specific factors.** Lastly, session specific factors
13 were found to play a role in influencing walking football maintenance in older adults.
14 Logistical factors such as the choice of sessions, alongside accessible facilities and in some
15 cases free sessions were all related to ongoing maintenance. Within session structure, a skills
16 and tactics portion of the session was deemed important by both male and female
17 participants, highlighting the interest in learning skills alongside simply playing the game,
18 which has been seen to aid positive development within older adulthood, both physical and
19 psychologically (Baker et al., 2010; Pesce & Audiffren, 2011) Previous research, suggests
20 that by giving players choice and accessible sessions, initiation of PA and sport is encouraged
21 (Jenkin et al., 2018; Michie et al., 2011; van Stralen et al., 2009) Whilst many maintenance
22 theories have focused on the individual and social aspects of maintenance, such as Rothman
23 et al., (2000; 2009), some theories have explored environmental aspects on maintenance of
24 health behaviours, such as access to facilities and the safety of such environments (Nigg et
25 al., 2008; Sallis et al., 2012). These session-specific factors highlight the importance of

1 keeping sessions accessible (such as choice of sessions and good facilities), even when
2 players have been maintaining SP, in order to influence further and longer-term engagement,
3 highlighting how certain aspects of the walking football environment can encourage
4 maintenance.

5 Overall, the influences on maintenance identified have highlighted similarities to
6 previous research (van Stralen et al., 2009) and established ecological models relating to PA
7 participation (Spence & Lee, 2003), which highlight a set of multi-level influences (intra- and
8 extra-individual) on an individual's PA levels. This research highlighted a similar, multilevel
9 set of influences on which players experienced when maintaining walking football, for
10 example individual-level influences, social support, and a suitable environment and culture
11 on the ability to maintain walking football play. Nevertheless, new themes represented the
12 added factors relating to adapted sport, such as the walking football specific culture, and
13 coach specific characteristics, which suggest different factors to consider when examining
14 adapted sport's ability to encourage PA maintenance in older adults.

15 **The utilisation of individual maintenance resources.** Cognitions, affects and
16 behaviours relating to walking football maintenance were discussed widely by participants.
17 Some conversations surrounding this theme focused on the planning of breaks in play (e.g.,
18 holiday or injury) and in the cases of mostly female participants, the use of self-talk to
19 encourage participation. The availability of 'maintenance resources' have been discussed in
20 previous literature and suggest that the availability of these psychological and physical assets
21 that can be drawn on during maintenance may affect the individual's ability to maintain the
22 behaviour (White et al., 2016). Additionally, behaviours influencing walking football
23 maintenance included embedding the routine of walking football sessions into the
24 participants' lives and sticking with the decision to attend sessions. Cognitions experienced
25 by the participants, especially the affective consequences of PA and planning for breaks in

1 play, supports previous evidence relating to behaviour change and a repeated, consistent
2 performance of the specific lifestyle behaviour that has been changed (Rothman et al., 2009;
3 van Stralen et al., 2009). Redefining of PA and bodily expectations was also discussed by
4 half the participants from a range of SES levels, and highlights similarities between
5 Rothman's theory of behaviour maintenance (2009), and 'shifting expectations' behaviour
6 seen in the maintenance phase of a healthier lifestyle behaviour, suggesting this can be seen
7 across different behaviours, from dietary change to PA. Certain narratives from the players
8 suggest that due to walking football's adaptive nature (such as the ability to change player
9 positions and play at a gentler speed), allowed time for injuries to settle, and adapt to a new
10 sporting life in older age. This may suggest that walking sports such as walking football, may
11 aid older adults to shift expectations in their PA ability as they reach older age.

12 Despite these similarities, Rothman and colleagues' study (2009) suggests planning
13 and implementation intentions were primarily seen within the stages of initiation, whereas
14 this study suggests that planning and intention to play long term is still important at the stage
15 of maintenance, in relation to attending walking football sessions and with some players
16 planning in their diary when to attend sessions. This highlights the need to consider the role
17 of planning and implementation intentions when encouraging PA or sport maintenance in
18 older adulthood, and encouraging active planning of attending sessions into the maintenance
19 stage. It is also important to note that whilst previous research has highlighted the ability of
20 SP in later life to help older adults redefine and accept older age and bodily limitations
21 (Dionigi, 2002; Dionigi et al., 2013) some research has reported that sport, in some instances,
22 can hinder this and push older adults into denying ageing processes. One such example of an
23 age process is degeneration (Dionigi et al., 2013), which could encourage ignorance of
24 injuries in this population. This knowledge provides understanding into how adapted sport

1 can provide older adults with PA whilst allowing players to accept bodily limits and adapt
2 play to suit this, as an alternative to mainstream sport.

3 **Applied Implications and Future Research**

4 Much of the analysis into walking football maintenance highlights the use of the sport
5 to encourage continued SP and on a broader level, PA participation. Many conversations
6 related to cognitions and behaviours concerning maintenance provide insight into relapse
7 prevention, for example players planning walking football into schedules, and also the
8 adaptation of PA when experiencing a short break from play. It is therefore advised that
9 coaches and clubs increase their awareness of those returning from injury or planning to go
10 on holiday, encouraging walking football play on return. Interestingly, the participants'
11 respect and reliance on medical professionals' advice across SES levels when taking part in
12 PA and sport was evident. It is imperative that health professionals understand the benefits
13 and risks of walking football play, so they can advise alternative activities to those looking to
14 increase PA levels. With much recent research highlighting the benefits of a whole system
15 approach and the need for preventative medicine (Brannan et al., 2019), further education for
16 medical professionals on the scope and range of different types of PA is essential.
17 Environmental, session-specific factors should also be taken on board, such as accessible
18 facilities and choice of sessions, in order to give older adults the biggest opportunity to
19 maintaining play. Lastly, the influence of the walking football coach should not be
20 overlooked. Coaches should organise sessions as much as possible to include not only game
21 play, but aspects of tactics and skills which may help players improve and progress over time.
22 In addition, group dynamics, camaraderie and coach-player relationships are important within
23 walking football and should be the focus of programmes aiming to encourage maintenance in
24 older adults.

1 In terms of future research, as the majority of work into psychosocial and behavioural
2 aspects of adapted sports has been largely explorative until now, further research to assess the
3 effectiveness of individual, social and environmental factors on adapted sport maintenance
4 would be advised, and may include exploring the fit of behaviour change frameworks into
5 this context. Further research may include prospective cohort studies to understand the key
6 ingredients and outcomes of adapted sport maintenance. The findings may also be used to
7 inform the development of programmes or strategies to enhance the ongoing participation of
8 older adults in sport. Further research into behavioural aspects of other emerging adapted
9 sports, such as walking netball and walking rugby, would also be recommended.

10 **Strengths and Limitations**

11 This study furthers understanding concerning experiences of maintenance of adapted sport,
12 which had not been studied previously. Strengths include a balanced gender sample,
13 recording of SES of clubs in order to understand experiences from different SES areas, and a
14 range of participants from across England and Scotland. The main limitation of this study is
15 that it presents the view of currently active players only. Further research exploring
16 perceptions of walking football from those that have dropped out of the sport and the views
17 of other stakeholders, such as coaches, may provide additional insight into the challenges
18 posed when maintaining SP.

19 **Conclusion**

20 This research aimed to understand experiences and influences of older adults, between 55-75
21 years old, continuing walking football play. Whilst maintenance has been heavily
22 documented within PA research, maintenance of SP from the perspective of older adults,
23 especially within walking football, is less understood. This research offers new knowledge
24 highlighting the ongoing awareness of walking football benefits, maintaining play after injury

1 or a short break, and social influences such as coach and team influence on player
2 maintenance. Furthermore, a positive walking football culture should not be discounted as an
3 important influence when maintaining walking football play. Additionally, maintenance
4 mechanisms such as cognitions (e.g. redefining PA expectations) and behaviours, (e.g.
5 planning walking football into schedules) are important to players when maintaining play.
6 Policy and practice suggestions include coach awareness of players returning from illness or
7 injury and wider awareness amongst primary care health professionals, such as GPs, of
8 walking football as alternative PA for older adults. The findings can be used to inform the
9 development of programmes or strategies to enhance the ongoing participation of older adults
10 in sport.

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