

INSTRUCTOR SUPPORT IN GROUP PHYSICAL ACTIVITY

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Abstract

Instructors in organized physical activity classes can be a source of social support through their relationships with participants, influence on participants' interactions with each other, and design of activities. Grounded in interpretive description, the objective of this study was to examine older adults' experiences of and their perspectives on group physical activity instructors' supportive behaviors. Observations of 16 group physical activity classes ($N=295$) and focus groups or interviews with $N=38$ class participants age ≥ 55 ($n=29$ women) were conducted at four municipal recreation facilities in a Canadian city. Five themes shed light on how instructors provided social support: (1) supporting autonomous engagement, (2) developing caring connections, (3) fostering trust through expert instruction, (4) managing conflict directly and effectively, and (5) creating a climate where people want to go. Instructor training should consider older adults' social support needs and help instructors embody behaviors that support continued physical activity participation, thereby contributing to healthy aging.

Keywords: age-friendly cities, aging, autonomy support, exercise leaders, healthy aging, social relationships

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1 In Canada and globally, adults aged 55 and older comprise over 30% of the population,
2 with women accounting for the majority of the older adult population (Statistics Canada, 2022a;
3 World Health Organization [WHO], 2022). Supporting healthy aging, and physical activity
4 specifically, in older adulthood is important because only approximately 46% of the Canadian
5 older adult population are sufficiently active (Statistics Canada, 2022a; 2022b). Group physical
6 activities promote healthy aging and provide a space for older adults to experience physical and
7 social benefits (Kohn et al., 2016). Healthy aging has been defined as "the process of developing
8 and maintaining the functional ability that enables well-being in older age" (WHO, 2015, p.28),
9 while active aging can be described as the maintenance of health, social and civic participation,
10 and security to enhance quality of life as one ages (WHO, 2007). Participating in a group is
11 associated with increased physical activity engagement (Burke et al., 2005). Moreover, social
12 support (which older adults can gain from group physical activities; Zimmer et al., 2022) is
13 associated with increased physical activity participation and adherence (Lindsay-Smith et al.,
14 2017) and subjective well-being (Chen & Feeley, 2014) in older adults. However, not all social
15 experiences are positive, and the quality of social support is critical to whether participation,
16 inclusion, and well-being are enriched (Feeney & Collins, 2015).

17 Physical activity instructors are a significant source of social influence in physical
18 activity classes because they help to shape participants' experiences (Harvey & Griffin, 2020).
19 Instructors can provide expertise and guidance that facilitates participation and cultivates
20 successful physical activity experiences. As leaders, they influence the social climate, have
21 opportunities to facilitate or thwart social interactions among participants, and can provide
22 interpersonal support directly (Harvey & Griffin, 2020). While characteristics of effective and
23 inclusive instructors have been identified (Harvey & Griffin, 2020; Estabrooks et al., 2004),

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1 much of what is known about instructor social support is embedded in studies about social
2 support for (Harvey & Griffin et al., 2020; van-Stralen et al., 2009), barriers and facilitators to
3 (e.g., Bethancourt et al., 2014; Manson et al., 2017), and adherence to physical activity (e.g., de
4 Lacy-Vawdon et al., 2018; Hawley-Hauge et al., 2014; Killingback et al., 2017). Furthermore, it
5 is often unclear what behaviors are supportive. Understanding instructor behaviors that support
6 older adult group physical activity participants is needed.

7 The conceptual framework for this research was informed by the World Health
8 Organization's Age-Friendly Cities model (WHO, 2018; 2007), self-determination theory (SDT;
9 Ryan & Deci, 2000), and social support theory (Feeney & Collins, 2015). The Age-Friendly
10 Cities model emphasizes adopting structures and services within cities to promote health,
11 participation, and security in older adulthood (WHO, 2002; 2007). It takes a strengths-based
12 perspective on aging by focusing on policies and practices that enable self-determination, build
13 on people's strengths and capacities, and improve interactions among people and their
14 environment to promote active, healthy aging (de Lacy-Vawdon et al., 2018; WHO, 2018).

15 While the Age-Friendly Cities framework provides a societal and policy-level framework
16 for understanding healthy aging, the SDT and the social support theory provide frameworks for
17 understanding how social interactions affect individuals. SDT suggests that well-being and more
18 sustainable forms of motivation (e.g., intrinsic motivation) for physical activity are enabled by
19 supporting people's needs for autonomy (i.e., experiencing volition and internal control over
20 one's behaviors and choices), competence (i.e., effectively dealing with one's environment), and
21 relatedness (i.e., making meaningful and positive social connections; Ryan & Deci, 2000). SDT
22 suggests that support from instructors that meet these psychological needs will be more effective
23 at promoting well-being and sustained physical activity participation. Autonomy-supportive

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1 instruction in particular, which involves acknowledging individuals' experiences and feelings and
2 encouraging decision-making, can help fulfill participants' needs (Ryan & Deci, 2000).

3 Social support has been conceptualized in different ways. However, for this research, we
4 used Feeney and Collins' definition, which defines social support as an "interpersonal process
5 that functions to promote thriving in two life contexts – experiences of adversity and
6 opportunities or growth in the absence of adversity" (2015, p. 114). Social support includes
7 actions intended to be supportive or perceived as supportive. Not all social support attempts are
8 necessarily effective, wanted, or intentional. In this study, we focused on identifying supportive
9 behaviors and functions that instructors may employ to support older adults in the group physical
10 activity context and those that may pose barriers to older adults' engagement. This theory
11 complements SDT by focusing on interpersonal behaviors and functions that help individuals
12 cope in times of adversity (i.e., source of strength support) and promote growth in the absence of
13 adversity (i.e., relational catalyst support; Feeney & Collins, 2015). Source of strength support
14 includes providing a safe space, protection and relief, and empathy; helping nurture and fortify
15 strengths and abilities; assisting with motivation to cope, continue on, and problem-solve; and
16 assisting with reframing adversity as potentially catalyzing positive change (Feeney & Collins,
17 2015). Relational catalyst support includes encouraging the desire for growth and participation in
18 life opportunities; helping others take the perspective that opportunities are challenges rather
19 than threats; helping people develop skills and resources necessary to engage in opportunities;
20 and providing people with a secure base of support while they engage in life opportunities
21 (Feeney & Collins, 2015).

22 Using this conceptual framework, we examined group physical activities as a means of
23 promoting healthy aging and providing a space for older adults to experience physical and social

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1 benefits (Kohn et al., 2016). For this research, we define group physical activity as leisure-time,
2 recreational physical activity done in a group and led by an instructor. Instructors may provide
3 support through intentional means, or in the pursuit of other objectives such as facilitating skill
4 learning among their class participants. Given the complexity of support, and the different ways
5 in which support can be provided and facilitated, understanding instructor behaviors that older
6 adults perceive as supportive for group physical activity participants is necessary.

7 While there is a body of research on the roles physical activity instructors play in
8 establishing social cohesion, promoting physical activity culture, instructing classes, leading,
9 communicating, and educating participants (Harvey & Griffin, 2020), little research has focused
10 on specific behaviors instructors demonstrate that are perceived by older adult participants as
11 supportive. Instructors' supportive behaviors may be especially important for supporting
12 participation and long-term engagement (de Lacy-Vawdon et al., 2018; Lindsay Smith et al.,
13 2017; Van Stralen et al., 2009). Instructor social support has primarily been examined as one
14 source of support within studies examining social support for physical activity broadly. For
15 example, a recent meta-study examining social support related to physical activity in older adults
16 noted several supportive instructor behaviors including making the activity fun; acting as a
17 source of accountability; providing emotional support; modelling physical activity behavior;
18 providing information, knowledge, and advice; providing individualized feedback; and
19 encouraging participants (Beselt et al., 2021).

20 Research on barriers and facilitators to older adults' physical activity has also identified
21 various instructor qualities, characteristics, or behaviors. Instructors facilitate engagement if they
22 are knowledgeable, fun, and motivating without pushing participants too hard (Bethancourt et al.,
23 2014); are likeable and relatable, which often refers to the instructor's age; understand the aging

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1 body (Manson et al., 2017); are competent when leading exercises; demonstrate interest in each
2 participant (e.g., provide individual encouragement and feedback, understand individual needs);
3 facilitate group interactions; and monitor progress (Estabrooks et al., 2004).

4 Studies on adherence and attendance have also identified instructors as an important
5 social influence. A synthesis of literature on adherence and attendance in group-based older adult
6 physical activity programs found that providing individualized feedback; showing interest in
7 participants (particularly if they had missed a class); trust in the instructor's skill level; and
8 interpersonal qualities such as sincerity, empathy, and kindness, were critical for continued
9 participation (de Lacy-Vawdon et al., 2018). In another study following a multiple case study
10 design including quantitative (questionnaires and archival attendance records) and qualitative
11 (focus groups, participant observations, and interviews with instructors) methods, instructors
12 who built rapport with the group facilitated belonging and participation (Killingback et al., 2017).
13 Furthermore, being aware of health conditions and providing discrete advice or adaptations
14 supported participants to select comfortable exercise options, encouraging adherence
15 (Killingback et al., 2017).

16 While the research identifying effective instructor characteristics is consistent with the
17 idea that instructors are an important source of social support, the specific behaviors instructors
18 can use to provide support are less clear. For example, sincerity and empathy are viewed as
19 supportive, but how are they demonstrated? Moreover, the quality of support can influence
20 whether participants perceive it as supportive (Feeney & Collins, 2015). Some of the research
21 reviewed above has identified instructor behaviors that are supportive of physical activity, but
22 further research is needed that focuses on older adults' perceptions of social support behaviors
23 provided by group physical activity instructors including which behaviors they perceive as

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1 supportive. Thus, the purpose of this study was to examine older adults' experiences of social
2 support provided by instructors of group physical activity programs and their perspectives on
3 instructor behaviors that support participation. We addressed three research questions: 1) What
4 social support behaviors enacted by instructors enable and/or impede engagement in group
5 physical activity programs in this population?, 2) What social support behaviors enacted by
6 instructors facilitate positive psychosocial experiences among participants in these programs?,
7 and 3) What functions or needs of participants do these social support behaviors from instructors
8 serve?

9 **Methods**

10 **Methodology & Design**

11 This study is based on a larger, two-phase project. The larger project aims to identify the
12 social support needs and experiences of older adults who currently participate in group physical
13 activity programs and the interpersonal processes and social barriers that influence participation
14 and physical literacy. Two papers based on this dataset have previously been published; one
15 focuses on how social participation may be facilitated in group physical activity programs for
16 older adults to promote successful aging (Zimmer et al., 2021) and the other on social support
17 needs and barriers among older adult participants in group physical activity and support
18 behaviors that can facilitate engagement (Zimmer et al., 2022). The current study is distinct in its
19 focus on data pertaining to supportive relationships between participants and instructors.

20 This study used interpretive description methodology (Thorne, 2016), a constructivist and
21 naturalistic orientation to inquiry that addresses applied health-related research questions to
22 generate knowledge by understanding individuals' experiences of the phenomenon under study
23 (Thorne, 2016). The constructivist perspective acknowledges the multiple realities constructed

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1 by participants and the theoretical and practical knowledge that researchers bring to a project
2 (Thorne, 2016). The naturalistic quality of interpretive description allows for exploration of
3 phenomena within the context where they take place. Interpretive description was developed to
4 address research with practical applications and, as such, aligns with our goal of gaining insight
5 into older adults' experiences of physical activity instructors that can inform physical activity
6 interventions in the future. Phase one involved non-participant observation of social interactions,
7 taking ethnographic field notes during group physical activity programs, and examining the
8 interpersonal processes occurring in program contexts. Phase two included focus groups and
9 individual interviews with participants to understand their experiences with social support in the
10 program and their perceptions of the program's social context. By examining data from multiple
11 participants, collecting multiple types of data, and analyzing data with input from researchers
12 with training in multiple disciplines we strengthened confidence in our findings (Thorne, 2016).

13 **Context**

14 This study took place between November 2018 and April 2019 in Calgary, a large
15 western Canadian city of over one million people. Four recreation facilities were chosen as
16 research sites, one from each quadrant of the city. To capture the experiences of older adults
17 living across geographically and socio-demographically diverse areas, staff at the City
18 government's recreation business unit assisted the research team in choosing facilities with a
19 range of fitness amenities and programming predominantly serving adults aged 55 and older.
20 Three sites were City-owned and operated, and one was operated by a not-for-profit organization
21 partnered with the City. The group-based physical activities offered at the facilities included
22 water-based activities (e.g., tethered swimming, deep and shallow water workouts, aquacise),
23 fitness-based activities (e.g., general fitness), yoga (e.g., traditional, chair), and dance (e.g., line

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1 dancing). Programs were typically offered two or three times per week on a drop-in basis
2 throughout the day, seven days a week. Most programs ran year-round, but fewer classes were
3 offered during the summer and holiday periods. Instructors had completed a mandatory older
4 adult fitness certification course through a provincial fitness association. Instructors had a range
5 of experience and training, with some completing additional training (e.g., working with older
6 adults with dementia).

7 Participants

8 In phase one, a series of four observation periods were conducted at each of the four
9 recreation facilities to observe various programs at each study site. A total of 295 participants
10 from 16 programs were observed: Site 1 ($n = 75$), Site 2 ($n = 109$), Site 3 ($n = 61$), Site 4 ($n =$
11 50). The observed programs ranged from 4 to 40 participants (on the day of data collection,
12 depending on the program). The selected programs were either designed for or attracted older
13 adult participants; however, there were no age restrictions for attending these classes and some
14 participants may have been younger than 55 years. To comply with the facilities' observation
15 policies and ensure anonymity, no identifying information was collected during observations.
16 Therefore, the demographic characteristics of the phase one participants are unknown.

17 In phase two, we used purposive sampling to recruit participants to take part in focus
18 groups or interviews who: 1) were aged 55 years or older, 2) had participated in a group physical
19 activity program at one of the four facilities in the past month, and 3) were fluent in English. The
20 definition of *older adult* varies within the literature. While 65 years is a common age cut-off for
21 access to services, those younger may have similar experiences (Walsh et al., 2015). The age
22 inclusion criterion was chosen to be 55 years for this research to include the perspectives of older
23 adults who may be in between adult and older adult services, but face support needs and barriers

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1 similar or different to those 65 years and older. The second inclusion criterion was created to
2 capture participant experiences that would have occurred in similar conditions to the
3 observations to increase coherence between the two types of data collected. Because the research
4 team was only fluent in English, focus groups and interviews were limited to those who were
5 also fluent in English.

6 In total, 38 older adults participated in phase two: Site 1 ($n = 11$), Site 2 ($n = 12$), Site 3
7 ($n = 7$), Site 4 ($n = 8$). The sample ranged in age from 55-80 years ($M = 69.49$), and 29 identified
8 as women and nine identified as men. Participants were predominantly White (84.21%; 7.89%
9 Chinese, 2.63% Black, 2.63% Indigenous, 2.63% Polish), heterosexual (76.32%; 23.68% no
10 response), married or in a common-law relationship (57.89%; 23.68% widowed, 15.79%
11 divorced or single), retired (86.84%; 7.89% working part-time or full-time, 2.63% on sick leave;
12 2.63% no response), had children (71.05; 26.32% did not have children; 2.63% no response),
13 lived with at least one other person (65.79%; 31.58% lived alone; 5.26% no response),
14 completed at least some post-secondary education (76.32%; 18.42% high school diploma; 5.26%
15 no response), reported having a mid-to-high household income (76.32%; 7.89% less than
16 \$24,999, 18.42% \$25,000 - \$39,999, 31.58% \$40,000 - \$59,999, 5.26% \$60,000 - \$79,999,
17 23.68% \$80,000 or greater, 13.16% no response), and had at least one chronic health condition
18 (81.58%; 7.89% no health condition, 10.53% no response).

19 On average, participants had attended the City's physical activity programs 3.44 days per
20 week for 9.72 years. Most participants had attended water-based programs (60.53%), and several
21 had attended fitness-based activities (39.47%), yoga (23.68%), and sports programs (e.g.,
22 pickleball, golf; 10.53%). Most also partook in physical activities outside of the City's
23 programming (86.84%), and they reported spending an average of 210.43 minutes per week in

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1 moderate-to-vigorous physical activities. All participants reported engaging in at least one social
2 activity with another person (including but not exclusive to group physical activity) at least once
3 per week. Participants' average number of social activities was 17.74 per week, and most and
4 most participants (63.16%) were satisfied with their current social activity levels. Overall, the
5 sample was generally already physically and socially active and was a fairly homogenous group.

6 **Procedures**

7 Ethical approval for this study was obtained from the University Research Ethics Board.
8 One research assistant conducted all observations for phase one. Prior to each observation, a
9 notice was posted at the program entrance describing the study and the role of the observer.
10 Questions or concerns were directed to the research assistant. No participants expressed
11 significant concerns or declined to be observed. During each observation period, the research
12 assistant took ethnographic field notes to record the number of participants, describe the
13 program, and write notes about their understanding of the meaning of interactions between
14 participants and instructors, and barriers and facilitators to participation (Emerson et al., 2011).
15 The research assistant used a form created by the study team that included prompts to recognize
16 cues relevant to common functions of social support in the physical activity context based on
17 theoretical and empirical knowledge of group physical activity (see Supplemental File 1). But the
18 field notes were primarily open-ended, allowing the research assistant to describe actual
19 behaviors and record interactions that the form had not captured. Following the observation, the
20 research assistant distributed flyers with an explanation of phase two amongst the class
21 participants and those from other programs at the facility to facilitate recruitment. Interested
22 individuals were instructed to contact the research team either in person at the time of the
23 observation or by phone or email. The research assistant screened interested individuals to

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1 determine if they met the inclusion criteria and noted their availability to participate in a focus
2 group interview.

3 Two focus groups were conducted in private locations at each recreation facility. Two
4 participants who could not attend the focus groups due to scheduling conflicts participated in
5 individual interviews instead. Before beginning the focus group or interview, participants
6 provided written consent and completed a questionnaire and contact form. The questionnaire
7 contained demographic questions, a modified version of the *Godin Leisure-Time Exercise*
8 *Questionnaire* (Godin & Shephard, 1985) to assess physical activity levels, and a modified
9 version of the *Social Activities Checklist* (Cruice, 2012) to assess social participation. Social
10 participation was determined by summing the number of activities reported by participants that
11 were done with another person each week and finding the group average. Satisfaction with social
12 activities was determined by asking participants to select one of three responses: *I would like to*
13 *be doing more activities, I am satisfied with the number of activities I do, or I would like to be*
14 *doing fewer activities.*

15 A semi-structured focus group guide was used to facilitate discussion of participants'
16 experiences with social participation, social barriers, and physical activity (see Supplemental File
17 2). Examples of questions on social participation included "Please tell me about your experiences
18 and perspectives about participating in physical activity with others?" Questions related to social
19 support included, "In what ways do other people provide support for your physical activity that
20 helps you manage or cope with challenges?" Questions related to social barriers included, "Can
21 you please describe any interpersonal barriers you face in participating in physical activity with
22 other people?" Questions did not specify interactions with instructors, yet these were brought up
23 in both focus groups and interviews. The same questionnaires and focus group guide used for the

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1 focus groups were also used for the interviews. Focus groups ranged from two to six participants
2 and lasted 39 to 79 minutes ($M = 61.09$). The interviews lasted 38 and 49 minutes ($M = 43.86$). A
3 summary of the results was shared with participants, and they were given an opportunity to
4 provide feedback on whether they felt their experiences were reflected in the report. One
5 participant provided feedback, which was transcribed, and incorporated into the analysis to refine
6 interpretations of the data.

7 **Data Analysis**

8 The research assistant transcribed the observation field notes, and a professional
9 transcription service transcribed the audio recordings of the focus groups and interviews. NVivo
10 12 (released 2018) software was used to manage the data and facilitate analysis (finding, sorting,
11 organizing, and understanding patterns within the data; Thorne, 2016). The transcripts were
12 initially analyzed by the second and third authors. Both authors read the transcripts multiple
13 times to become familiar with the social support needs, challenges, and behaviors of older adults
14 in group physical activities, then re-read transcripts to code text relevant to instructor social
15 support. Text with similar meanings was combined into a single code. New codes were created
16 as new meanings were inductively identified in the analysis. The authors coded social support
17 needs, challenges, and behaviors to capture what was similar and different across cases. In the
18 initial stages of analysis, the authors kept the codes close to the data to create descriptions that
19 could later be interpreted. After all transcripts had been coded, coding for all transcripts was
20 reviewed for consistency. Codes generated later in the process were applied to those analyzed
21 earlier to ensure consistency.

22 The second and third authors reviewed the coding of all data to decide upon themes and
23 seek triangulation between observational and focus group/interview data. Themes were named to

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1 represent their central meaning. The preliminary themes described the collective experiences of
2 participants and cases where experiences varied. The third author revised the themes by
3 combining those representing similar experiences. The second and third authors met several
4 times to examine the themes in relation to the theoretical, empirical, and disciplinary literature on
5 social support, to confirm interpretations and build an understanding of the findings. The first
6 author then collaborated with the second author to review and refine the themes that were
7 specific to instructor supports. The first author examined the instructor support-related themes
8 with consideration for SDT, social support theory, and the age-friendly framework. Several
9 meetings were held between the first and second authors to discuss findings and reach consensus
10 on the themes. All authors had an opportunity to provide feedback on a draft of the results, and
11 insights were subsequently incorporated to enhance the interpretations of the data.

12 **Quality Criteria**

13 Interpretive description research is assessed on four criteria: epistemological integrity,
14 representative credibility, analytic logic, and interpretive authority (Thorne, 2016).
15 Epistemological integrity refers to the consistency between the research questions and the
16 research process and was addressed by reflecting on the tenets of interpretive description
17 regularly, to ensure that research decisions were appropriate for the methodology (Thorne,
18 2016). For example, data were collected via observations, focus groups, and interviews to enable
19 researchers to interpret participants' perceptions of social support from instructors, which aligns
20 with the constructivist underpinnings of interpretive description. Representative credibility refers
21 to the consistency between the claims made and how the knowledge was obtained. This criterion
22 was addressed through purposeful sampling and triangulation of data sources (i.e., observational
23 and interview data). Analytic logic refers to making explicit how the methodological tenets were

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1 followed and how they led to the claims made in the research. This requirement was attended to
2 by critically examining and asking questions about interpretive decisions during analysis and
3 ensuring that themes were described in detail with illustrative quotes to support the claims.
4 Finally, interpretive authority, which refers to the claims being supported by the data and
5 grounded in the meaning expressed by the participants, was addressed through the first, second
6 and third authors reflecting on their positionality and the potential influence they may exert on
7 the analysis process. The first author is a white, cis-gendered, able-bodied graduate student in
8 their twenties who has been highly active throughout their life. The second author is a white, cis-
9 gendered, able-bodied female university faculty member in her forties who has studied social
10 relationships in exercise and sport for over 20 years and has engaged in physical activity
11 throughout her life. The third author is a white, cis-gendered female in her thirties who does not
12 identify as living with a disability and has a history of being physically active. She holds a Ph.D.
13 and has studied physical activity in younger and older equity-deserving populations for ten years.
14 As all authors directly involved in the analysis are not considered to be older adults,
15 positionality, reflexivity, and discussions with the research team were useful in recognizing how
16 their perspectives may differ from those of the participants and how social or cultural norms may
17 have influenced the analysis and interpretation of the data.

Results

19 We identified five themes: (1) supporting autonomous engagement, (2) developing caring
20 connections, (3) fostering trust through expert instruction, (4) managing conflict directly and
21 effectively, and (5) creating a climate where people want to go. Themes represent functions that
22 supportive behaviors serve and are indicated by bold italicized headings. Supportive behaviors

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1 that contribute to each theme are in italics. Quotations are identified by participant number,
2 gender, and site number, and observations are identified by observation and site number.

3 ***Theme 1: Supporting Autonomous Engagement***

4 Autonomy-supportive instructors engendered acceptance and respect for participants.
5 They were encouraging and affirming by acknowledging participants' perspectives and
6 experiences, responding to participant needs and wants, and providing choice and options.
7 Instructors who welcomed and were receptive to suggestions allowed participants to have a say
8 in how the class was structured (e.g., lesson planning, content delivery) and which exercises or
9 activities they focused on. Requests were often initiated by individuals, but collective agreement
10 among participants was also used to influence classes. *By listening to participants' suggestions,*
11 *instructors responded to participants' needs and preferences while also providing opportunities*
12 *for choice and autonomy. Many participants expressed that autonomy and choice are an essential*
13 *part of a well-structured class because it allowed them to participate at a level, they were*
14 *comfortable with and express their preferences. In addition, they noted that instructors who*
15 *incorporated requests and suggestions into future classes* were typically seen as supportive. For
16 example, we observed an instructor incorporating participants' recommendations and interests
17 into class by teaching a specific dance that they requested (Observation 3, Site 4).

18 When instructors were not open to suggestions or feedback, they were often perceived as
19 unsupportive. One participant described an instructor who would not hear what she had to say:

20 I told her what was the problem and she still kept saying 'well you have to do it different
21 way' ... it felt to me that she was so convinced of herself that she almost felt 'well okay,
22 well if you don't do that then you're doing it wrong'. (Participant 3, Female, Site 3)

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1 Many participants voiced appreciation for instructors who accepted and respected participants'
2 perspectives by *considering individual abilities when giving feedback, provided modifications to*
3 *exercises, provided encouragement, and who would tell the participants to listen to their bodies.*

4 A lot of them ... say at the beginning of the class, you know, 'your workout is your
5 workout, so if you're not feeling great that day, then you're not gonna be a hundred
6 percent, which is okay.' So, I think that's good that all instructors say that at the
7 beginning of the class, so you don't feel bad. At least you're out there doing something.

8 (Participant 1, Female, Site 3)

9 Observational data showed that instructors took individual abilities into account by *asking*
10 *participants about physical conditions* that would affect their activity and *checked in regularly*
11 (Observation 3, Site 1). When instructors *encouraged the class to choose a suitable modification*
12 *or intensity level*, it created an inclusive environment where all options were valid and accepted.

13 Many participants expressed that they valued when instructors were able to provide
14 instruction without being controlling, as this allowed them to choose how they would like to
15 engage. Instructors respected participants' autonomy in class by *not pushing people* who chose to
16 rest or not do an exercise (Observation 4, Site 1). Several participants appreciated when
17 instructors did not push back against their decisions in class. When observing class instruction,
18 the class appeared engaged when the *instructor gave verbal prompts and explanations* on the
19 benefits of exercises (Observation 2, Site 1). In contrast, instructors who exhibited controlling
20 and judgmental behavior created negative exercise experiences and often undermined
21 motivation. For example, one instructor who was described as having a "military" (Participant 6,
22 Male, Site 3) attitude, and another who was confrontational and disrespectful to a man who later
23 stopped attending were seen as controlling.

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1 [The participant] would always just do his own thing in the corner of the pool, and when
2 [the instructor] first started, her first or second week there, it was, "If you're not here for
3 the class, you don't belong in the pool at all." He got out and he's never come back.

4 (Participant 4, Female, Site 4)

5 While participants noted that some people typically enjoyed this instructor's class, and a few felt
6 that their authoritarian style helped them stay on task, they were unanimous in expressing that
7 this incident was unacceptable.

8 ***Theme 2: Developing Caring Connections***

9 Participants often appreciated instructors who demonstrated genuine interest and care for
10 their well-being and physical activity experience and facilitated positive interactions among the
11 participants. When instructors got to know participants by *taking the time to speak with them to*
12 *understand their motivations*, they were able to push participants in a manner that was
13 welcomed. These interactions helped instructors learn about participants' needs and preferences,
14 which allowed them to know things such as who would appreciate being teased, and which other
15 participants they could inquire with if someone missed a class. "She also knows whom to ask if
16 someone's away. She even has the ability to know who's good friends, so she'll ask, 'Oh do you
17 know so and so, is something wrong?'" (Participant 2, Female, Site 3). Participants felt
18 comfortable sharing when instructors built rapport and relationships with them. Instructors who
19 took the time to get to know participants were perceived as empathetic and understanding.

20 Instructors who created a comfortable and upbeat atmosphere encouraged positive social
21 interactions. Two focus group participants from Site 2 noted:

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1 Participant 10, Female: I feel she sets an atmosphere, a feeling amongst the whole entire
2 group, and that adds to the comfort of whatever you say, or whatever you do is acceptable
3 because of the way she makes the group feel about themselves and each other.

4 Participant 9, Female: And then that tone carries on throughout the social, because then
5 everybody feels it is, and you do joke and laugh a little bit, and so, the conversation it ...
6 just everything flows, just makes it easier.

7 Instructors were able to foster a supportive atmosphere among participants by *encouraging them*
8 *to thank and congratulate each other* for showing up and doing their best at the end of class and
9 finding ways to *incorporate laughter and smiling*. Observational data described one instructor as
10 friendly and engaging, which encouraged the group to laugh and smile throughout the class
11 (Observation 3, Site 3). The instructor's attitude could also foster a positive environment. For
12 example, encouraging participants to do their best made some participants feel more comfortable
13 and encouraged persistence. Participants from Site 1 reflected together:

14 Participant 1, Female: I think that if you're surrounded by people who are obviously
15 doing their best ... And they're pushing themselves, I think it encourages you to push
16 yourself. If members of our class were just going, "Oh, I can't do that." Then you might
17 think oh well, why push myself. So, I think that's a positive that everyone is doing their
18 best and it encourages me to keep going, to keep doing.

19 Participant 3, Female: That's really the instructor's philosophy is to do more practice and
20 do the best you can, so we understood.

21 Instructors can show care and respect to participants by learning and understanding their
22 perspectives, building reciprocal and respectful relationships, modeling supportive and positive
23 interactions, and encouraging participants to do the same amongst themselves.

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1 ***Theme 3: Fostering Trust Through Expert Instruction***

2 Instructors who displayed knowledge and expertise in health and physical activity for
3 older adults were often noted as engendering trust. For example, one participant noted that when
4 instructors were confident in their skills, participants trusted them and were willing to engage.

5 So, those instructors that are doing that, as far as I'm concerned, really know their
6 business, and they know how you are feeling, and, when they tell you what you should be
7 feeling, you think, 'Right, I am!', and you trust them more. I do. I trust them. (Participant
8 5, Female, Site 3)

9 Strong background knowledge and experience allowed instructors to design instruction to
10 challenge participants appropriately. One way expertise could be demonstrated was to *give*
11 *adaptations and alternatives for each exercise in class so participants could participate safely*
12 (Observation 1, Site 4). Instructors who demonstrated their knowledge of health and physical
13 activity for older adults and provided modifications were perceived as supportive because they
14 were sensitive to age and disability-related limitations and could help participants keep up with
15 and be part of the class while working with their limitations safely. Providing alternatives
16 allowed participants to engage to the best of their ability, confident that they were not risking
17 injury.

18 I do like the program because especially she can modify it. If some people, they can only
19 do so much and others who need a little bit more work, or they want to do a little bit more
20 strenuous, and she modifies it and so she's good that way. She's just able to meet
21 everybody's needs right where they're at, so it's good. (Participant 11, Female, Site 2)

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1 Trust was also enhanced when instructors *disclosed their credentials, explained anatomical and*
2 *physiological information relevant to the activities, broke down movement sequences* to help
3 participants follow along, and *made corrections*.

4 Participants preferred instructors who *modelled correct exercise techniques*. As one
5 participant explained, "Well you live by doing. You learn by doing and watching. Watching
6 experts..." (Participant 11, Male, Site 1). Instructors who demonstrated skills and corrected
7 participants were also perceived as trustworthy because the participants felt safe and capable of
8 realizing the benefits of being active. As discussed in a focus group held at Site 2:

9 Participant 6, Female: She'll demonstrate ... because form is so important. If you're doing
10 something wrong, you're not getting the benefit from the exercise ... she watches
11 everybody to make sure you're doing it correctly and then if you're not she'll tell you how
12 to correct it...

13 Participant 1, Female: She just cares about what she does instructively. And she cares
14 about everybody.

15 Participant 3, Female: Yeah, it's very important.

16 Participant 1, Female: Because you can hurt yourself as much as you can help yourself.

17 Several participants felt that instructors who *incorporated a variety of exercises* into
18 classes supported their participation because it increased interest and demonstrated a breadth of
19 knowledge. *Providing cues and options for intensity* such as percent effort targets or cues about
20 when to move at fast, medium, or slow speed supported them in working as hard as they could
21 and having recovery when they needed it more effectively than when instructors pushed them too
22 hard or not at all. Participants appreciated such structure because it showed the instructor knew
23 what they were doing, and that it was safe to push themselves because adequate breaks, cool

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1 downs and warm-ups would be provided. When such direction was missing, participants felt less
2 safe to push themselves. Site 3 focus group participants noted:

3 Participant 5, Female: There was no pattern, building to 50%, 60%, 80, back down to 30,
4 50, and then back up. There was no pattern, it was just-

5 Participant 1, Female: Poor structure

6 Participant 5, Female: Yea, I just, I just wasn't comfortable with that. I was, I felt like I
7 was givin' 'er all the time and it, there was no rhyme or reason to it.

8 Knowledgeable and proficient instructors fostered trust, supported participants' ability to
9 complete the class with their peers, and feelings of belonging in the class.

10 ***Theme 4: Managing Conflict Directly and Effectively***

11 While participants' social experiences were predominantly positive, several participants
12 recounted examples of negative interactions such as interpersonal conflict. Participants expected
13 the instructor to *manage these conflicts directly and professionally*. "You get a mix of people
14 that sometimes some people do not play well in the sandbox, but the instructors deal with that"
15 (Participant 4, Male, Site 1). If the instructor ignored conflict or could not resolve it, some
16 participants felt it caused problems for the class. Participants described a case when an instructor
17 did not handle a conflict with a participant well and they wanted to step in:

18 And it just kind of like got misunderstood. It was really ... what [the instructor] could
19 have said is, "Is there anyone who would move back?" Well, I eventually moved back
20 anyway because I didn't want [the participant who was in conflict with the instructor] to
21 leave. She said, "I'm just going to go home." Well, we didn't want her to leave. So, I
22 said "I'll move to the next row. I don't care." (Participant 6, Female, Site 2)

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1 In situations like these, some participants wanted to provide feedback to the instructor or their
2 employer on how to improve the situation, but expressed concern that if they complained about
3 conflicts involving instructors, they would risk negatively impacting the instructor's job, which
4 was not their intent: "When the one lady who was involved went to make the complaint, we were
5 afraid that it would be enough that they would get rid of her, but they didn't" (Participant 2,
6 Female, Site 2). These participants expressed a need for ways to address conflict more
7 productively, as they were wary of some instructors, but they wanted the problem resolved.

8 *Theme 5: Creating a Climate Where People Want to Go*

9 Physical activity instructors' attitudes, expertise and teaching styles affected some
10 participants' choices about what facilities and classes they attended. For example, participants
11 were more likely to return to a class with a positive atmosphere as described in theme two.
12 Instructors who were energetic and encouraging were often seen as supporting participants to be
13 enthusiastically engaged in the class. Participants liked that their instructor was "always very
14 positive and everything and that helps too" (Participant 2, Female, Site 3), "energetic... really
15 energetic" (Participant 3, Female, Site 4) and "if she didn't have the personality that she has, it
16 probably wouldn't be as enjoyable, but she makes it fun" (Participant 8, Female, Site 2).
17 Specifically, instructors who *used an energetic and excited tone of voice* when leading exercises
18 were often seen as engaging. Observational data also showed that instructors provided support
19 through *positive encouragement* (Observation 3, Site 4) and *words of affirmation* (Observation 2,
20 Site 2). Conversely, when the instructor was not engaged, positive, or energetic, it detracted from
21 the participants' experience. For example, one instructor taught class from a chair.

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1 She's disinterested, she sits on a chair and gives the instruction from her chair. She's
2 flipping her hair. And she's just burnt out as far as we're all concerned, because I've
3 talked to her, and she teaches like 10 classes a day. (Participant 7, Female, Site 1)

4 Participants would also return to an instructor's classes if they perceived that instructor
5 was an expert in older adult physical activity, or that the class structure suited their physical
6 activity needs and preferences. Several participants followed an excellent instructor by
7 registering in other classes they taught, even if these were at less convenient times or locations.
8 The more often they attended a facility, the more they knew which instructors they enjoyed.

9 I find, you know, the more you come, the more you get favorite instructors, and you like
10 their style, you like their personality, or whatever. So, I don't know about you, but I do
11 like certain instructors, and I do attend their classes ... and that, along with the people,
12 motivates you to come. (Participant 1, Female, Site 3)

13 Similarly, some participants avoided classes with instructors they did not like.

14 I avoid her classes. I wish they would post who is conducting classes because I don't
15 enjoy her classes at all ... For the drop-in classes, I have no way of knowing on the web
16 site that I check out who is conducting the class, but she is a really not pleasant person.
17 (Participant 1, Female, Site 1)

18 Participants shared their instructor preferences and information about other locations and classes
19 taught by a preferred instructor with one another.

20 [Facility name] does have extended facilities ... and I'm hearing good things about one of
21 the Pilates instructors they have ... So, word gets around. Everyone chats, right? Who the
22 instructors are, or they'll mention it to people if they've got a good instructor. (Participant
23 1, Female, Site 3)

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1 Observational data confirmed that participants would go to multiple locations to attend a specific
2 instructor's class (Observation 1, Site 2). Participants valued good instructors and would make
3 efforts to attend classes they enjoyed, thus showing the importance of a good instructor.

Discussion

5 This study examined older adults' experiences of social support with instructors in group
6 physical activity programs and their perspectives on instructor behaviors that support
7 participation. Five themes of supportive functions were described: supporting autonomous
8 engagement, developing caring connections, fostering trust through expert instruction, managing
9 conflict directly and effectively, and creating a climate where people want to go. Within each
10 theme, supportive behaviors serving each function were identified.

11 The first three themes identified that behaviors that foster autonomy, connection, and
12 trust are supportive. Consistent with social support and SDT theories, instructors can be
13 autonomy-supportive by remaining open to requests and suggestions, providing a variety of
14 adaptations, and asking participants to choose options that work best for them. Conversely,
15 instructors who are controlling, unresponsive to feedback, or appear uninterested can undermine
16 participants' experiences. Autonomy-supportive instruction can also help satisfy participants'
17 needs for competence and relatedness (Adie et al., 2008; Ryan & Deci, 2000). Competence is
18 strengthened when instructors are sensitive to age and disability-related limitations and aid
19 participants in participating safely and to the best of their abilities (e.g., providing safe
20 alternatives to exercises), and relatedness is increased by building connections with and among
21 participants. While the positive impact of autonomy support is well documented in other physical
22 activity contexts (e.g., Adie et al., 2008), these findings suggest that acknowledging older adults'
23 needs for flexibility in dealing with physical limitations and encouraging class participants to

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1 provide input and express their needs and preferences is important for providing autonomy
2 support to this population. Instructors fostered connection and belonging by demonstrating
3 respect and showing interest in participants' well-being. This finding is in agreement with
4 research demonstrating the importance of social connections and reflect age-friendly
5 recommendations about facilitating older adults' social participation, preventing social isolation,
6 and demonstrating respect. For example, Killingback et al. (2017) found that instructors who do
7 not discourage socializing in class promoted a more positive physical culture for older adults.
8 Furthermore, Diongi and Lyons (2010) discuss how exercise contexts can promote a sense of
9 community for active older adults.

10 Consistent with age-friendly considerations, instructors' expertise and experience also
11 contributed to their ability to support participants in ways that went beyond their ability to plan
12 and deliver a workout. Expert instructors engendered trust and helped participants feel like they
13 belonged by providing options that enabled them to do the exercises and keep up with the class
14 despite limitations or injuries. This finding is complimentary with research demonstrating that
15 older adult-specific training or certifications can lead to better instructor attitudes toward aging
16 and older adults, and counter ageist physical activity perceptions and practices (Harvey &
17 Griffin, 2020), and extends prior research by identifying the role this expertise can play in
18 fostering support and promoting belonging. The need for expert instruction also aligns with
19 Newsom et al. (2022), who assert that emotional and informational support increase intention to
20 be active, while social control can lower intentions. Instructors who take time to build
21 connections with their participants, provide information about the activity, and respect autonomy
22 can provide such support and thus increase participants' intentions to remain active.

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1 While the importance of autonomy support, connection, and trust for enabling
2 engagement in physical activity are not new findings, identifying specific behaviors provides
3 practical guidance for instructors to support older adults' growth and coping. Our focus on
4 behavior was inspired by Feeney and Collins (2015), who emphasize supportive behaviors rather
5 than perceptions of feeling supported, and our interest in informing the practical aspects of
6 design and delivery of group physical activity programs for older adults. While Feeney and
7 Collins' social support theory focuses on close relationships, they assert that it can also be
8 suitable for studying other types of relationships, including teacher-student relationships (2015).
9 Our findings expand on the model by examining instructor social support in the group physical
10 activity context. Much of our findings align with the model. For example, theme one discusses
11 autonomy-supportive instructor behaviors, which the theory identifies as contributing to thriving
12 by promoting eudaimonic well-being, and as a form of sensitive support, which fosters
13 confidence and motivation (Feeney & Collins, 2015). Our finding that instructors who take the
14 time to build caring connections with their class participants (theme two) can provide more
15 individualized support (e.g., individualized feedback, modifications for injury) is also consistent
16 with the idea of being sensitive to needs when providing support as being crucial.

17 This research also expands on the theory by identifying forms of support that may be
18 more particular to the dynamics of group physical activity classes. For example, that instructors
19 with considerable expertise can support participants feeling that they are part of the group,
20 improve competence, and build trust by adjusting the tasks so participants were all capable of
21 participating may be more relevant to an instructor-participant type of relationship. Similarly,
22 relational catalyst support, which discusses the facilitation of preparation for engagement in life
23 opportunities (Feeney & Collins, 2015), was played out in this group situation where new skills

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1 are being taught through both individual interactions, and how the instructor designed and
2 delivered group instruction. In addition, themes four and five (managing conflict and creating a
3 climate where people want to go) are novel additions to the model when looking at instructor-
4 student relationships. How these may lead to feelings of support in class participants may be
5 explained by the Age-Friendly Cities model, which emphasizes the need for inclusive and
6 welcoming spaces (WHO, 2007).

7 Our interest in program design was inspired by the Age-Friendly Cities framework,
8 which discusses both creating age-friendly physical environments and considering how the social
9 environment should be age-friendly. The findings are important in identifying supportive
10 behaviors that instructors could implement in group physical activity settings and provide insight
11 into how some behaviors that may be seen as primarily serving other purposes (such as providing
12 modifications to exercises to ensure safe participation) also contribute to social support by
13 helping participants feel a sense of inclusion and belonging in the class. Future research may
14 develop innovative strategies for providing support that are not already part of current practice.

15 The focus on supportive behaviors highlights the importance of tailoring social support to
16 address individuals' needs and preferences. For example, while actions that foster connection and
17 belonging may be commonly experienced as supportive, whether a given practice such as teasing
18 is experienced as fostering connection or alienating may vary between people and contexts, even
19 if the person performing the behavior intends it to be supportive. Therefore, communicating with
20 participants and understanding their needs and preferences is fundamental to providing effective
21 support. Many of the behaviors that foster autonomy support and connection, such as instructors
22 being open to suggestions and taking time to speak with participants and understand their
23 motivations, may be helpful in fostering communication and getting to know participants'

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1 support needs and preferences. The quality of the relationship between a support provider and
2 recipient affects how support is perceived; thus, support from close relationships is perceived
3 more favorably, as is support from people perceived as being related to or understanding of the
4 situation at hand (Burlerson, 2009). As such, communication and building rapport with
5 participants is important so that instruction and support can be tailored to the individual needs
6 and preferences, and because it increases credibility and trust with participants and may be
7 perceived as more supportive as a result.

8 The results highlight that instructors influence older adults' interpersonal experiences and
9 engagement in group physical activity settings. Instructors can influence the atmosphere of the
10 class and set the tone for positive experiences (e.g., Hawley-Hauge et al., 2016; Killingback et
11 al., 2017). Our research identified that instructors affect interpersonal experiences through the
12 relationships they develop with each participant (Estabrooks et al., 2004; Killingback et al.,
13 2017) and by facilitating supportive interactions among participants in the class. The impact of
14 instructors on participant engagement in physical activity was particularly evident in the theme
15 about creating a climate where older adults want to go, which identified that participants choose
16 programs at least in part based on their social interactions with the instructor and shared their
17 recommendations with each other. The instructor can then improve the age-friendliness of their
18 class by creating positive social environments that older adults want to engage in. Similarly,
19 research on instructor perceptions of adherence and attendance to their physical activity classes
20 found that peer promotion and word of mouth were the critical modes of recruitment for older
21 adult classes (Hawley-Hauge et al., 2016).

22 Limitations of this study include our inability to collect demographic information during
23 the observational phase and a lack of representation of older adults representing minorities

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1 (racial, ethnic, income, education, sexual orientation, marital status, etc.) in the focus groups and
2 interviews. This lack of representation from diverse participants results in perpetuating or
3 implementing strategies that support those whose voices are represented and does not inform
4 practice recommendations from an equity, diversity, and inclusion lens. Notably, of those whose
5 demographic information was collected, our sample predominantly self-identified as women and
6 represented a fairly homogenous group who were both physically and socially active. Prior
7 research shows women are more likely than men to engage in group-based physical activities
8 (Golaszewski et al., 2022), and to engage in social support-seeking behaviors (Hajek et al.,
9 2016), which may have affected the demographics of the groups we recruited from and group
10 exercise participants' interest in taking part in a study on this topic. Future research should also
11 seek to explore the experiences of diverse gender identities in group physical activity and
12 barriers and preferences for group physical activity participation.

13 This analysis also excludes the experiences of those who face barriers to being active in
14 the first place, or those who were unable to participate due to economic, cultural, and language
15 barriers, or factors such as agism and gender role socialization. There was greater representation
16 of participants who were long-term attendees in group physical activity programs than those who
17 were new or had been participating for a shorter period of time. It is possible that participants
18 who are active and happy and have experienced support from instructors may have been more
19 likely to participate in the study. As such, the results should be interpreted with caution when
20 considering older adults whose circumstances differ from this particular sample. Furthermore,
21 the first author became involved in the research during the analysis stage and thus was not part of
22 data collection or initial analysis, which may have affected their interpretations of the data.
23 However, the collaborative conversations with the second and third authors, who had been

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1 connections, fostering trust through expert instruction, and managing conflict directly and
2 effectively. Such support behaviors contributed to the quality of participants' experiences and
3 continued and regular engagement in physical activity classes. Instructor training should consider
4 older adults' social support needs and help instructors embody behaviors that support continued
5 participation and thus healthy aging. Well-trained instructors who are able to adapt and respond
6 to participants' individual needs can contribute to age-friendly group physical activity settings.
7 Programs should enact policies for standards of training for physical activity instructors working
8 with older adults. Furthermore, more resources need to be developed to educate instructors on
9 best practices for providing social support to participants they work with.

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