

# **FRIENDSHIPS FORGED IN FITNESS: AN ETHNOGRAPHY OF OLDER WOMEN'S SOCIAL EXPERIENCES AT A COMMUNITY FITNESS CENTER**

**Britteny M. Howell**

University of Alaska Anchorage, Division of Population Health Sciences, 3211 Providence Drive, Anchorage, Alaska 99508;  
bmhowell2@alaska.edu

**Bridget L. Hanson**

Montana State University, Center for Health & Safety Culture, 2327 University Way, Ste 3, Bozeman, Montana 59715;  
bridget.hanson@montana.edu

**Samantha Wanner**

University of Alaska Anchorage, Division of Population Health Sciences, 3211 Providence Drive, Anchorage, Alaska 99508;  
sdwanner@alaska.edu

## **ABSTRACT**

Gerontological research demonstrates that the social relationships forged by older women at community and fitness centers can be long-lasting and provide a variety of supportive functions. Research shows that participants, especially older women, are more likely to adhere to a fitness program when they have social supports. Older adults enjoy and respond well to pool- or water-based aerobic exercises that are safe on the joints and provide a comfortable environment away from the gym's intimidating nature. Therefore, water-based classes provided at community fitness centers are well positioned to provide ample social opportunities to further reinforce continued physical activity for older women, resulting in health and quality-of-life improvements. However, anthropological and ethnographic research into friendship formation and maintenance among older American women is lacking in the literature. This project was a three-month ethnographic exploration of the social relationships created and maintained in the context of water-based fitness classes (water aerobics) at a local community center attended primarily by white older adults (aged 50+). The friendships forged by women in the pool provide a variety of social supports that help to maintain healthy-aging outcomes among participants. Using a Grounded Theory approach, this study utilized participant observation, semistructured key-informant interviews, and survey questionnaires to provide a holistic anthropological investigation of the important physical, social, and mental health benefits that fitness center friendships can have on the daily lives of older women in urban Alaska.

## **INTRODUCTION**

Physical activity tends to decline as we age (Sallis 2000), which is related to increased risk of poor health outcomes (Warburton et al. 2006). Research shows that older adults, especially women, are more likely to adhere to a fitness program when they have social supports (Cress et al. 2005; Howell and Bardach 2018). Likewise, gerontological re-

search demonstrates that the social relationships forged by older women at community and fitness centers can be long-lasting and provide a variety of supportive functions (Aday et al. 2006). Social supports not only increase physical activity among older adults but also have other significant health benefits. Research shows that social isolation and

loneliness is linked to all-cause mortality risk and a range of disease morbidities (Holt-Lunstad et al. 2017).

Anthropological research shows that friendships among adults may take a variety of forms, depending on cultural context (see Bell and Coleman 1999). For example, Western middle-class ideas of friendship tend to involve personal and spontaneous relationships between individuals, who may decide to form new relationships or break off old ones as they see fit. Such a definition of friendship may imply a degree of autonomy that constitutes a “sociological luxury” (Paine 1969:513) not afforded to people in other societies, where formalized or ritually sanctioned relationships may predominate (Cohen 1961; Desai 2010). Although friendships are an important aspect of social life, research about the role of friendships among *older adults* is largely lacking in the anthropological literature (Blieszner et al. 2019), with the notable exception of Sarah Lamb’s work (1997, 2000, 2002, 2009). This is a concerning knowledge gap in the research because older adults’ experiences of health and quality of life are strongly associated with the quality of their social relationships (Holt-Lunstad 2017), and anthropological methods and analysis are well suited to fill this gap in our understanding of this important issue.

This ethnographic exploration of the social relationships created and maintained in the context of water-based fitness classes (water aerobics) at a local community center attended primarily by older adults aims to fill this gap in the anthropological literature. This project looks at the impact of these classes on friendship formation and physical and mental health among women. In this paper, we utilize a Western definition of “friendship,” held largely by the white urban research participants, as a relationship based on mutual respect, appreciation, and liking (Bryan et al. 2013). The definition goes beyond mere acquaintances with peers, where people spend time with those of the same age and maturity level, and includes relationships that provide informational, tangible, and emotional support and belonging.

We focus on women because research shows that white American men and women define friendships differently and report distinctions in the social benefits of their friendships. For example, white women in the U.S. report friendships that are closer, more supportive, and more cooperative than those of men, possibly due to differing cultural constructions of gender and an unequal position in the social structure (Felmlee and Muraco 2009; Rubin 1985). Older women also have higher expectations from their

friends and place greater emphasis on intimacy than older men (Felmlee and Muraco 2009), resulting in friendship structures that may look and feel very different by gender.

In this project, it was anticipated that the friendships forged by women in the pool provide a variety of social supports that help to maintain healthy-aging outcomes among participants. Utilizing a Grounded Theory approach, this project employed ethnographic methods to understand the role of fitness center friendships in the lives of a sample of older women in Anchorage, Alaska, and the possible beneficial health outcomes of these support networks. Following the foundational anthropological work of Clark and Anderson (1967), this study draws on participants’ words and experiences, gathered via participant observation, semistructured key-informant interviews, and survey questionnaires to determine the role of these socially embedded processes in the mental and physical health of older women in the urban Subarctic. Such ethnographic studies are needed in the literature because they can help to frame the range of lived experiences and adaptations to aging performed in the daily lives of older women in cultural context (Perkinson and Solimeo 2014).

In Alaska, 27.5% of older adults reported having had no leisure-time physical activity in the past month (Centers for Disease Control 2017). Such data are concerning, because a variety of health conditions, including cognitive impairments, can be delayed or mitigated with regular engagement in physical activity (Germain et al. 2016; Must et al. 2013). Research has shown that a powerful way to increase participation for older adults is to include social supports in physical-activity opportunities (Cress et al. 2005). When older adults have friends with whom they exercise, they are more likely to keep attending, further reinforcing their healthy behaviors (Belza et al. 2004). Such long-term friendships may have a positive effect on health outcomes, including self-reported health, physical activity, or nutritional improvements over time (Howell 2020; Howell and Bardach 2018; Miyawaki 2015).

However, older adults are less likely to be physically active outdoors in the Subarctic climate, which can be an issue of safety since unintentional injuries and falls on the ice are a major source of older-adult hospitalization (Brandon et al. 2009; Talbot et al. 2005). Indeed, falls remain the leading cause of serious injury and loss of independence in Alaska, costing the state approximately \$135 million in emergency services (Alaska Department of Health and Social Services 2013). Therefore, indoor activity programs that reduce the risk of falls and injury to the joints tend

to be popular among older adults (Amireault et al. 2018; Hale et al. 2012; Howell and Bardach 2018). Research also shows that water-based fitness classes, such as water aerobics, are often attended primarily by older women (Bocalini et al. 2008; Rezaeipour et al. 2021). Considering the potential health benefits from water-based fitness coupled with the social benefits of attending group classes, an ethnographic study of the benefits of participation in water aerobics at a local fitness center can reveal important information with the potential to improve older women's health and quality of life.

Although research demonstrates that there may be rural–urban disparities in physical-activity rates for older adults (Cohen et al. 2018), little research is being conducted to identify the unique psychosocial aspects of healthy aging in the urban Subarctic (Howell and Bardach 2018). Anthropological research has shown that urban environments provide their own range of stressors that require specific adaptations by older adults to their changing environment (Barg and Kauer 2005; Schell 1997). However, local community centers are often approachable and inclusive locations for low-income, disabled, and vulnerable Alaskans, since their membership fees are reduced for seniors (aged 62+ years) and financial assistance is available for low-income households. Research shows that despite such efforts to reduce barriers, white, middle-class women are the group most likely to utilize community fitness centers and participate in healthy-aging classes and programs (Howell et al. 2021; Kramer et al. 2018; Mathews et al. 2010). Therefore, Anchorage community fitness centers are an ideal location for a study of the social relationships that may form between such older women in the urban Subarctic and their impact on mental and physical health. To date, no such study has been conducted in Alaska.

To fill these gaps in the literature, this study employs ethnographic methods to elucidate the role of social supports from two viewpoints: (1) the perspectives of older women themselves, via key-informant interviews and questionnaire responses; and (2) the experiences of the researcher engaging in participant observation. These anthropological mixed methods (LeCompte and Schensul 2010) included participant observation, five semistructured key-informant interviews, and results from 22 survey questionnaires conducted with a sample of older-adult participants who attend water aerobics classes at a community fitness center at least once per month. Such ethnographic and anthropological methods are important for understanding how contemporary local identities are

forged and maintained in an increasingly urbanized world (Madden 2017).

## METHODS

The overarching research questions were: (1) What is the nature of social relationships forged through water-based fitness classes among older women (aged 55+ years); and (2) What is the role of these friendships on healthy-aging outcomes? Participant observation, conducted by the lead author (Howell), occurred throughout this entire study. After an initial period of introduction to the community, the lead author conducted semistructured interviews with five key informants, focusing on the social aspects of water aerobics participation and the nature of social-relationship formation. Participant observation and key-informant interviews informed the process of finalizing the survey questionnaire, which was administered to 22 participants. The paper instrument was a modified version of the Y-USA Social Connectedness and Healthy Aging Survey, and it was completed by a convenience sample of interested water aerobics participants via flyers, word-of-mouth, and direct recruitment in the pool. The survey collected quantitative data including demographics, details about their attendance at the fitness center, self-reported health status, and the strength of social relationships and various health outcomes both “now” (at the time of survey completion) and retrospectively “before” attending the fitness center. This survey was completed in a single sitting and returned to the research team.

Specific items analyzed in this paper include questions asking participants to rate their physical health and mental health, “including your mood and your ability to think.” Ratings are reported as 1 (poor) to 5 (excellent). Perceived social support was gathered through 20 items assessing companionship, connectedness, and loneliness. Each item was rated on a four-point scale from 0 (never) to 3 (often). Example items include “I lack companionship,” and “I have a lot in common with the people around me.”

All key informants ( $n = 5$ ) and survey respondents ( $n = 22$ ) signed informed consent documents as approved by the University of Alaska Anchorage Institutional Review Board (#1537420). Unfortunately, the emergence of the global pandemic of COVID-19 in March 2020 cut short the data collection of this study, resulting in a smaller-than-anticipated final sample size. Many public places were shut down during this time because of risk of infection, while the U.S. experienced a shortage in personal

protective equipment (PPE, i.e., face masks) before vaccines were widely available. However, this unprecedented experience further demonstrates how important social relationships are for older women in Anchorage.

## ANALYSIS

All field notes were recorded by the lead author immediately after participation in water aerobics class or related community activities. All interviews were audio-recorded and transcribed using a low-cost, automatic, online transcription service (www.temi.com). These transcriptions were downloaded, quality checked, and edited against the audio files by the third author (Wanner). Field notes and interview transcripts were coded by the first and third authors using line-by-line textual coding of the materials in NVivo v. 12 Pro (QSR International, 2018). Using deductive analysis and a Grounded Theory approach, the authors attached low-inference codes to text segments consisting of a sentence or paragraph (Card 2015). Grounded Theory approaches encourage researchers to create reciprocal relationships with research participants to facilitate the co-creation of meaning grounded in the participants' and researchers' experiences (Mills et al. 2006). A Grounded Theory approach also requires that researchers emphasize what is happening in the scene when they code data (Charmaz 2006). Low-inference codes were used because they are discrete from each other and do not require high levels of value judgments to assign text segments to codes. For example, a code for "financial barriers" and a code for "physical benefits of water aerobics" require a low level of inference because they are distinct categories that would not often be confused. The researchers used a grounded, open-coding structure, looking for specific information to elucidate how and whether women form friendships at the community fitness center, how they might maintain those relationships, and the role these friendships have on the women's mental and physical well-being. The research team created an initial codebook that was revised and modified two times to reach a consensus on the coding themes for all transcripts. The codes fell into three broad categories, presented below: physical benefits, mental health benefits, and social benefits of water aerobics attendance.

Quantitative data were cleaned and analyzed by the second author. Quantitative data management and analysis were conducted using SPSS v26. All the data were reviewed for missing data. One participant did not provide a

rating of their current mental health; data imputation was not used and mental health results were based on completed responses ( $n = 21$ ). No other data were missing. Social-support questions were reversed as needed to ensure higher ratings were associated with greater perceived social support (e.g., "No one really knows me well") and averaged to create overall scale scores. Reliability coefficients for the 20-item scales were acceptable for both "now" and "before" ratings (Cronbach's  $\alpha = 0.89$  for both time reference points). Change scores were calculated by subtracting "before" ratings from "now" ratings. Descriptive statistics and distributions were conducted and reviewed. The small sample size and violations of normality required the use of nonparametric statistics. Therefore, Wilcoxon signed-rank tests were used to assess for within-group changes over time in health and social-support outcomes of interest, and Mann-Whitney U tests were conducted to assess for between-group differences in the same outcomes. A traditional  $\alpha$  of .05 was chosen for the within-group analyses. A more lenient  $\alpha$  of .10 was chosen for the between-group analyses, given the small group sizes ( $n = 11$ ), the corresponding power limitations, and the exploratory nature of these analyses (Lavrakas 2008).

## RESULTS

Five key informants, ranging in age from 27 to 77 years old, were interviewed and given pseudonyms (Table 1). These participants were selected for interviews based on their role in the water aerobics classes (as aquatics director, instructor, or participant) to provide important insights into the relationships of water aerobics participants. One male was selected for interview ("Bob") because of his longtime participation and general popularity with the older women in the classes.

The 22 survey questionnaire participants included women aged between 57 and 82 years, with the majority ( $n = 12$ ) aged 66–75 years (Table 2). Half of the participants lived alone ( $n = 11$ ) and half reported being married or living with their partner ( $n = 11$ ). All participants reported driving their own car and five participants were

*Table 1. Characteristics of key informants.*

Pseudonym	Gender	Age	Role
Brittany	F	27	Aquatics director
Babette	F	58	Water aerobics instructor
Betsy	F	66	Water aerobics instructor
Bob	M	77	Water aerobics participant
Beverly	F	75	Water aerobics participant



employed (17 were retired). Half of the participants reported having attended the community fitness center for five or fewer years, while the other half had been attending for six to 32 years. All participants reported attending the community fitness center at least three times per week, with three women reporting attending every day. Eleven women attended group fitness classes regularly in the gym studio (such as yoga, Pilates, Silver Sneakers, etc.), and all 22 participants reported attending water aerobics classes. Most participants also reported attending faith-based services less than once per year or never ( $n = 12$ ), but most participants reported attending some other type of regular social event, such as fitness groups ( $n = 7$ ), community groups ( $n = 5$ ), or special interest groups ( $n = 7$ ) in their communities. More than half of the women reported attending potlucks and other social events at the community fitness center ( $n = 12$ ).

Participants reported two main reasons for beginning to attend water aerobics at the local fitness center. Most reported in interviews and informal conversations with the researchers during or after class that the low-impact nature of this water-based exercise is what attracted them to attend their first session. Participants often indicated that a specific injury prevented them from participating in most other types of fitness activities. Such injuries included osteoarthritis of the knees, hips, and ankles resulting in participants turning away from running and biking, while rotator-cuff injuries tended to cause participants to avoid weight-lifting activities. Most older participants reported having experienced one of these main types of injuries, or their having a general desire to avoid those injuries in the future, as the reason for beginning to attend water aerobics.

The second reason why women began to attend water aerobics classes was at the recommendation of a friend or relative who already participated. Nearly half of female participants who spoke to the researchers about this topic indicated that their first water aerobics class was with a friend who already attended. Participants reported three main reasons for continuing to attend water aerobics: for the physical, mental health, and social benefits.

Survey questionnaire respondents reported improvements in physical and mental health as well as increases in social support throughout their participation at the community fitness center (Table 3). All differences were statistically significant when tested with the Wilcoxon signed-rank test, and they are described in further detail in the following sections.

*Table 2. Characteristics of survey respondents.*

	n	%
<b>Gender</b>		
Female	22	100.0
<b>Age</b>		
56–65	6	27.3
66–75	12	54.5
76–85	4	18.2
<b>Racial Identity</b>		
White	20	90.9
Prefer not to disclose	2	9.1
<b>Marital Status</b>		
Married or living with a partner	11	50.0
Divorced	5	22.7
Widowed	4	18.2
Never been married	2	9.1
<b>Education Level</b>		
Some high school	9	40.9
High school graduate or GED	2	9.1
Vocational, technical, or 4-year college	6	27.3
Graduate or professional degree	5	22.7
<b>Current Employment Status</b>		
Not employed	17	77.3
Employed full- or part-time	5	22.7
<b>Length of participation at fitness center</b>		
5 years or fewer	11	50.0
More than 5 years	11	50.0
Range: 1–32 years; M = 12.0, SD = 10.5		
<b>Frequency of use</b>		
3 times a week	14	63.6
4 times a week	5	22.7
Daily	3	13.6

Additionally, by regularly attending water aerobics classes and participating in community events, the research team was able to build credibility and trust, which improved the study's recruitment and the fidelity of the information received. By "being there," engaging in the same activities (socialization, exercise, etc.) with them in the pool throughout the day, and by attending social events and potlucks, the lead author was able to participate in community life and gather important sociocultural and environmental information that the survey administration alone could not fulfill. Besides the recruitment and rapport-building, such direct and participant observation gave the research team insight into the research question that other research methods do not easily elicit. Throughout this work, participant observation created close relationships between the research team and the older women. In fact, despite differences in age between the researchers (three white cis women aged 20–38) and the participants (mostly

Table 3. Descriptive data of self-rated health and social support before attending community fitness center compared to now.

	“Before”			“Now”			Wilcoxon
	<i>Mdn</i>	<i>M</i>	<i>SD</i>	<i>Mdn</i>	<i>M</i>	<i>SD</i>	<i>z</i>
Physical health	2.50	2.45	.86	3.00	3.18	.66	-3.07**
Mental health	3.00	3.14	.73	4.00	3.90	.83	-3.36**
Social support	2.18	2.11	.50	2.45	2.29	.44	-2.56*

\*p < .05; \*\*p < .01

white, cis women aged 60+), the water aerobics participants began referring to the first author as belonging to them (“she’s ours”), creating a “semi-insider” positionality that assisted the research team in understanding life as an older woman in our community (Sixsmith et al. 2003). In addition, participants were likely more willing to agree to interviews and to complete the questionnaire because they were approached directly by a fellow water aerobics participant (the lead author) whom they already knew, as well as by word-of-mouth from other participants. Participant observation resulted in “thick descriptions” (Geertz 1973), which confirmed and contextualized many of the questionnaire findings detailed below. Such a glimpse into the lived experiences of older women provided the researchers with a greater understanding of the meaning of water aerobics attendance to these participants.

PHYSICAL BENEFITS

Participants attending water aerobics classes reported that the physical benefits of participation were significant, resulting in the desire to continue attending. Specific benefits mentioned by participants include increased balance, muscle tone, cardiovascular fitness, and confidence in their quality of movement and functioning. Most respondents wanted to dispel the myth that water aerobics was somehow an easy pursuit. For example, one of the older fitness instructors reflected:

I always just thought [water aerobics] was kind of “fluffy” before I started doing it. I was like, “Oh, okay, whatever. You know, a bunch of people bobbing around out there and not really doing much.” But it’s not! I mean, my mom [attends sporadically] and she’ll say “I can feel a firmer arm,” you know, and “I feel more balanced and have more energy.” I mean it’s amazing ‘cause I used to be a runner and I was pretty intense with the fitness stuff and so to me, water aerobics was like not moving your body all that much. But it is! (Betsy, 65-year-old instructor)

Another instructor indicated that the classes are tailored to each participant, so those who wanted a greater challenge could have it, while those with specific limitations were provided with modifications and adaptations. For example:

I make modifications. Like, if they don’t want to jump, they don’t have to jump. They know if they want to walk it out or step it out, and that’s the beauty about water aerobics, it can be whatever you want it to be. Not going fast enough for you? Go faster, double time, go, go, go! (Babette, 58-year-old instructor)

Bob concurs, reporting (somewhat) jokingly that he is “the hardest working one in the bunch.” He comes to the pool 30 minutes early to work on his own cardio circuit, attends the hour-long class, then engages in lively conversations in the steam room before returning home. Another participant succinctly indicated that the physical and social benefits of attendance are intertwined for her, resulting in continued participation:

It’s been a lifesaver for me. The last two winters here, I could easily see myself going down a dark hole if I just didn’t get out and do anything. It’s made me get up in the morning, more structure to my days. Makes you feel good. Although there’ve been some classes where sometimes things are achy afterwards, I always think this is good for me. Most of us like to be around other people, so even if you’re not chitchatting [in class], being around them has an effect. I’m really grateful for [the instructors]. (Beverly, 75-year-old participant)

Survey results confirmed the interview findings related to physical benefits, with the majority of participants (72.7%) reporting perceived improvements in their physical health when comparing their health before they began participating at the community fitness center to their health “now.” Most of the remaining participants (22.7%) reported that their physical health remained the same, while only 4.5% reported declines in physical health.

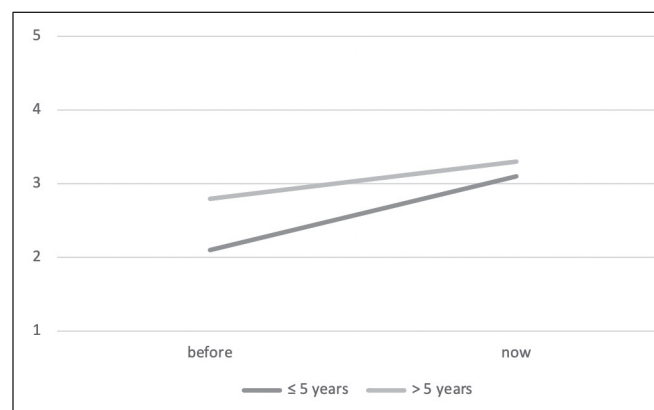
Length of participation at the community fitness center was inversely associated with improvements in physical health, such that newer participants reported greater improvements in physical health than participants who had been attending for longer. Participants who had been attending for more than five years had higher “before” ratings ( $Mdn = 3.00$ ,  $M = 2.82$ ,  $SD = .75$ ) compared to those who had been attending for fewer than five years ( $Mdn = 2.00$ ,  $M = 2.09$ ,  $SD = .83$ ),  $U = 87.00$ ,  $z = 1.85$ ,  $p = .088$  (Fig. 1).

Although physical improvements may have been a main reason for women to begin attending water aerobics classes, the mental health benefits and social interactions are what keeps most of them coming back.

### MENTAL HEALTH BENEFITS

Most survey respondents (61.9%) reported better mental health “now” compared with before their participation at the community fitness center. The remaining participants (38.1%) reported no change, and no participants reported that their mental health had worsened over time. Unlike physical health, change in the mental health score was not associated with length of participation at the community fitness center. The positive benefits of participating in these group fitness classes were also apparent in key-informant interviews and participant observation. For example, Betsy’s mother,

has to drag herself [to water aerobics class]. She enjoys it when she gets here, but getting up and getting dressed and getting out of the cold, you know, it’s a challenge . . . But the good thing is people ask after her, you know? It’s such a nice group. [They ask] “Where’s your mom?” You know, and,



*Figure 1. Self-rated physical health before attending community fitness center and now by length of participation.*

“where you been?” It’s a really good thing in terms of being a social-support group. (Betsy, 65-year-old instructor)

Indeed, participant observation confirmed that Betsy’s mother, Barb, was an incredibly popular water aerobics participant. During our project, Barb was missing from class only three times, but each time several women asked Betsy about her mother’s whereabouts. When she returned to class the next day, women often huddled around asking if she was okay and whether she would come back to class tomorrow. Betsy and Barb both indicated that this level of concern made them feel supported and happy for the rest of the day. Elevated mood appeared to be a major outcome of water aerobics participation, since many women and men would continue to happily chat after class in the locker room, the sauna, and the community room next to the pool.

However, relying on water aerobics friendships for a mood boost may have led to difficulties for some women during the COVID-19 shutdowns in Anchorage, which began in March 2020. In April, the research team checked in with Beverly, a reportedly “lonely” older woman whose only friends were from her water aerobics classes. When asked how she was holding up when classes were canceled, she said,

I’m just fine. Trying to be patient and not overthink the situation. The only thing I could really use about now is an elliptical or treadmill. And I’m SO missing the folks and the pool at the Y, as you can imagine. [Before COVID-19] I had worked up to [attending] four days a week before they shut down. Doin’ some needed spring cleaning to pass the time and keep moving. (Beverly, 75-year-old participant).

During this global pandemic, many news and other media outlets, including the CDC, have focused on the vulnerability of older adults versus their younger counterparts to complications from COVID-19 infection. In Alaska, approximately 76% of COVID-19 deaths were among those aged 60+ years, representing 620 out of 816 total deaths as of November 24, 2021 (Alaska Department of Health and Social Services 2021). However, such media coverage bordered on ageist in its assumption that older adults were incredibly vulnerable and in need of constant protection, despite evidence that comorbidities and congregate living arrangements were actually the greatest risk factors for infection, rather than age alone (Verbruggen et al. 2020). Such messaging is likely what contributed

to Beverly's desire to "not overthink the situation" since older adults were frequently being told that they were at risk for this virus due to advanced age, possibly leading to a depressed mood among water aerobics participants during the shutdown (Armitage and Nellums 2020). Clearly there were many positive effects of water aerobics participation because once the pool opened back up (with reduced capacity), many of "the regulars" were back in the pool, according to Beverly. The research team did not return to fieldwork as the university transitioned to on-line classes alone, and it closed many research projects that required in-person data collection, for the safety of participants and researchers.

### SOCIAL BENEFITS

Closely related to mental health benefits is the social value of participation in water aerobics classes to these older women. Bob shared this example of how friendships are forged and reinforced both inside and out of the pool,

You know how Barbara is 96 [years old]? She turns 97 the first part of March. I always buy a hockey jersey with [her age] on the back so she doesn't forget how old she is. She really likes that. And she's from Canada and we talk hockey. But I go, I check on people. I've got the time, and they're my friends. Betty's checked on me before [when I missed class]. She tries to be my friend, you know, and she's done some things for me. (Bob, 77-year-old participant)

Although Bob joked around a lot about being "the hardest worker in this class," he truly did care about the other class participants as friends. Friendships were most often demonstrated to the research team in terms of who has each other's cell phone numbers. The exchange of phone numbers for calls or texts was an indicator that people were invested in each other, beyond the superficial relationship of "class attendees" and moving toward a true friendship. For example,

I know that there's at least six or seven of the gals that have a phone network, so anytime something's going on, they'll call each other and text each other, you know? Which is really cute, 'cause sometimes the older generation doesn't text as much, you know. But *they* do. Matter of fact, about 10 of them were texting about having a potluck for Brenda [the water aerobics instructor] earlier this year. (Betsy 65-year-old instructor)

Such "phone networks" were often utilized for more than just planning events, such as for also ensuring every-

one had a ride to attend class or for assisting with household tasks when needed. For example, Brittany explains,

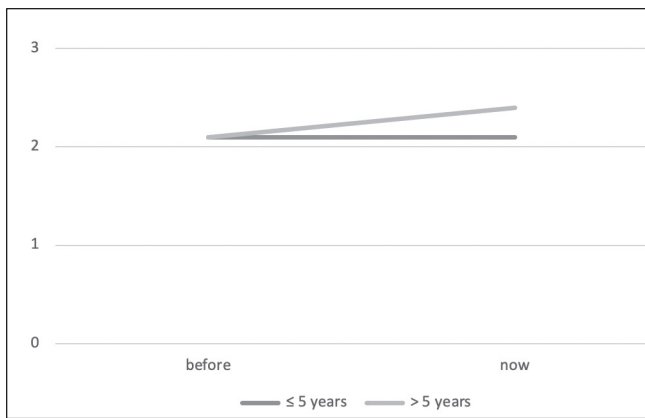
You know, they're getting older and so if they lose the ability to drive or family members get sick or, you know, their life circumstances change, I hear them saying, "Well, I'll pick you up," or, "I'll make sure that you get here," or, "While you're out of town, I'll cover this for you..." They all have each other's birthdays written down and they celebrate birthdays when they're here in the pool. And they organize potlucks, and they usually sit at these two tables right in here after classes are over, and they chat about their lives and different directions that they're going in. They really do a good job of building that community and supporting each other both here and outside of [the gym]. (Brittany, gym staff member)

Likewise, most survey respondents reported improvements in social support the longer they attended the community fitness center. A majority of respondents (59.1%) indicated higher social-support scale scores compared with before they attended the community fitness center. Additionally, 31.8% experienced no change in social support and only 9.1% reported decreased social support over time. Participants' retrospective perception of their social support before they began attending the community fitness center did not differ based on their length of participation. However, people attending for more than five years had more improvement (change  $Mdn = 0.25$ ,  $M = 0.35$ ,  $SD = 0.51$ ) than people attending for less time (change  $Mdn = 0.00$ ,  $M = 0.00$ ,  $SD = 0.34$ ),  $U = 88.00$ ,  $z = 1.84$ ,  $p = 0.076$  (Fig. 2).

### DISCUSSION

Understanding the role of friendships for older adults is useful for this ethnographic analysis because it helps to contextualize why some seniors are more active, engaged, or healthy than others (Minkler 1981). Understanding the various motivations and facilitators for women to continue attending water aerobics classes elucidates the pathways through which their health may be supported by such friendships, and vice versa. Forming new friendships can be challenging with advancing age (Rawlins 2004), but friendships formed at the community fitness center may provide the needed physical, mental, and social relationships to support healthy aging. Indeed, social supports and friendships can have a direct impact on psychological well-being by promoting self-esteem and self-regulation, while





**Figure 2.** *Social support before attending the community fitness center and now by length of participation.*

also mediating the consequences of life stressors (Kumar 2016; Thoits 1985). As reported in this study, those with more social supports reported greater health benefits from their water aerobics participation than those with fewer social relationships. Friendship is an iterative and interactive process by which older adults report benefits to their well-being both from *receiving* social support as well as *giving* social support to others (Hupcey 1998; Thomas 2009), as demonstrated by our participants' interview responses.

For the abovementioned reasons, older adults with more social supports, both in this study and in the research literature, demonstrate a variety of better outcomes than those who are isolated. Such health outcomes range from better physical, functional, and cognitive health to lower rates of obesity and depression, and increased rates of physical activity and engagement in the community (de Leon 2005; Everard et al. 2000; Golden et al. 2009; Potts 1997; Seeman et al. 2001). As Betsy's mother demonstrated in this study, water aerobics can result in greater upper body strength along with a greater sense of physical balance and energy. Specifically, research on older female participation in water aerobics has shown a positive effect on cardiovascular health, metabolic response, and cognitive performance, such as improved executive functioning, attention, and memory (Fedor et al. 2015; Nikolai et al. 2009). Water aerobics has also been shown to increase arm strength while decreasing systolic blood pressure and overall body fat mass (Pereira Neiva et al. 2018).

Research also indicates that older adults who obtain the most physical activity tend to be those with the most social supports (Sasidharan et al. 2006; Smith et al. 2017), including older adults in Alaska (Howell 2020). This is because friends and family members often in-

vite each other to attend events and activities together, which requires older adults to get out of the home more often. However, older adults may not have the motivation or physical capacity for outdoor recreation in the urban Subarctic where inclement weather is frequent, so this research has demonstrated the importance of having a place where older adults can feel they belong and forge new friendships in the safety of their communities. For example, when friends are forged in the pool, women reported keeping track of each other's attendance and checking in when someone was missing, further reinforcing their continued attendance at these much-needed physical-activity classes. Although friendships can also be formed in the context of sedentary pursuits, these active women desired to maintain their physical activity by forming friends with others who had the same values and motivation, which is not uncommon among older adults who are forging new friendships (Fiori et al. 2020). When older adults make friends in fitness classes, they are further reinforcing their own positive health behaviors by creating social structures of accountability and support (Eynon et al. 2019; Hardcastle and Taylor 2001).

Additionally, the impact of COVID-19 on this project and on the lives of older women in Anchorage should not be understated. Although we had limited ability to investigate this impact, other research demonstrates that loneliness and isolation increased for older adults during the shutdowns when public spaces were closed, and many people were reluctant to visit with those considered vulnerable to the virus (Armitage and Nellums 2020). Our protocol for this study relied on in-person recruitment and data collection in the pool, so when we were unable to attend water aerobics classes, we were cut off from our participants and not able to contact and check in with them. COVID-19 impacted opportunities for longer-term engagement as well as the contexts we were able to observe. One participant, Beverly, had given the research team her email address as a friend, so we were only able to connect with her about her individual experiences. However, the lives of older adults during COVID-19 were not adequately captured in this project, and this constitutes an important avenue for future investigation.

Other limitations of this study include the small sample size and possible "social desirability bias." Although the women were not given any incentives for anonymously reporting beneficial changes over time because of their participation in water aerobics, some research suggests that participants may exaggerate their improvements since

this may be viewed as a desirable response (Van de Mortel 2008). We engaged in best practices to reduce this tendency, in how we introduced the study, established rapport with participants, and asked questions during informal conversations as part of our participant observation (Bergen and Labonté 2020).

Last, the ethnographic investigation provided in this study can provide important contributions to our understanding of broader theoretical issues in anthropology. For example, this work not only elucidates the lived experience of older women in the urban Subarctic, but also the nature of making and sustaining friendships throughout the lifecourse in this time and place for older urban women. Ethnographic and mixed methods contribute to our understanding of health as a holistic experience that crosscuts the social, physical, and mental health aspects that may be present for older adults engaging in group-based physical activities. Ethnographic explorations can also help us contextualize the larger research literature on older-adult health. In this article, we have attempted to utilize anthropological data and understandings of these women's experiences to address the overall research question on older-adult health, which is so often situated solely in the public health research literature. Rather than reducing anthropology down to "the study of culture," the contribution of anthropological perspectives, as demonstrated in this article, extends to interpreting the interconnected health and social conditions (Park and Littleton 2013) that can support older women's goals to stay active and engaged.

## CONCLUSION

Overall, participants reported increases in social support over the length of their participation at the community fitness center, which supports the qualitative finding that water aerobics classes provide social benefits. The survey respondents who had been participating at the community fitness center for more than five years reported greater increases in social support than those who had been attending for fewer than five years. Despite participants reporting similar levels of social support before they began at the community fitness center, the newer participants did not report any change from "before" to "now," while the individuals with a longer history of participation reported higher current levels of social support. The lack of improvement among the newer participants may simply

indicate that friendships take a considerable amount of time to develop, or it may suggest that the established relationships among the seasoned fitness center participants are difficult for newcomers to break into.

Additionally, survey participants also reported improvements in both their mental and physical health throughout their participation at the community fitness center, and only a very small percentage of survey respondents reported diminished physical health "now" compared with before they began attending classes. Given that health may decline with age, maintenance of physical health for as long as possible has a positive benefit for older adults. "Before" ratings of health were better for people who were newer to the community fitness center compared with those who had been attending for more than five years, given that "before" was longer ago for the long-attending participants. They were relatively younger at the time, which may make their retrospective health ratings better. Current ratings of physical health did not differ based on length of participation, with participants reporting "good" physical health on average. Participant observation and key-informant interviews also support the results that physical health improvements and social supports improved over time because of continued participation in water aerobics classes.

A large number of older adults have been attending these classes for years, making this particular location ideal for such a study of social relationships. Research demonstrates that having psychosocial supports and friendships is linked to positive healthy behaviors and healthy-aging outcomes among older adults (Cress et al. 2005; Hung et al. 2004). This ethnographic study provided the research team with the closest possible experience to "a native's point of view" (Geertz 1974; Schensul et al. 1999), which elucidated several correlates of friendship formation and maintenance within the context of this local fitness center. Determining the physical, mental, and social benefits of water aerobics participation helps researchers to identify model programs that foster friendships in a fitness setting. Such ethnographic work provides important information that can be replicated elsewhere to increase physical-activity patterns and healthy-aging outcomes among older women. Other programs will be able to translate these findings into fitness program improvements that foster environments of psychosocial support and improved quality of life for seniors.

## REFERENCES

- Aday, Ronald H., Gayle C. Kehoe, and Lori A. Farney  
2006 Impact of Senior Center Friendships on Aging Women Who Live Alone. *Journal of Women & Aging* 18(1):57–73.
- Alaska Department of Health and Social Services  
2021 Alaska COVID-19 Dashboard. <https://dhss.alaska.gov/dph/Epi/id/Pages/COVID-19/default.aspx>  
2013 Facts about Senior Falls. <http://dhss.alaska.gov/dph/Chronic/Pages/InjuryPrevention/Falls/default.aspx>
- Amireault, Steve, John M. Baier, and Jonathan R. Spencer  
2018 Physical Activity Preferences among Older Adults: A Systematic Review. *Journal of Aging and Physical Activity* 27(1):128–139.
- Armitage, Richard, and Laura B. Nellums  
2020 COVID-19 and the Consequences of Isolating the Elderly. *The Lancet Public Health* 5 (5):e256.
- Barg, Frances K., and Jane Kauer  
2005 An Anthropological Perspective on Urban Health. In *Handbook of Urban Health*, edited by Sandro Galea and David Vlahov, pp. 243–258. Springer, New York.
- Bell, Sandra, and Simon Coleman  
1999 *The Anthropology of Friendship*. Routledge, London.
- Belza, Basia, Julie Walwick, Sharyne Shiu-Thornton, Sheryl Schwartz, Mary Taylor, and James LoGerfo  
2004 Older Adult Perspectives on Physical Activity and Exercise: Voices from Multiple Cultures. *Preventing Chronic Disease* 1(4):A09.
- Bergen, Nicole, and Ronald Labonté  
2020 Everything Is Perfect, and We Have No Problems: Detecting and Limiting Social Desirability Bias in Qualitative Research. *Qualitative Health Research* 30(5):783–792.
- Blieszner, Rosemary, Aaron M. Ogletree, and Rebecca G. Adams  
2019 Friendship in Later Life: A Research Agenda. *Innovation in Aging* 3(1):1–18.
- Bocalini, Danilo Sales, Leonardo dos Santos, and Andrey Jorge Serra  
2008 Physical Exercise Improves the Functional Capacity and Quality of Life in Patients with Heart Failure. *Clinics* 63(4):437–442.
- Brandon, Caitlin A., Dawn P. Gill, Mark Speechley, Jason Gililand, and Gareth R. Jones  
2009 Physical Activity Levels of Older Community-Dwelling Adults are Influenced by Summer Weather Variables. *Applied Physiology, Nutrition, and Metabolism* 34(2):182–190.
- Bryan, Kathleen S., Yesmina N. Puckett, and Matthew L. Newman  
2013 Peer Relationships and Health: From Childhood through Adulthood. In *Health and Social Relationships: The Good, the Bad, and the Complicated*, edited by Matthew L. Newman and Nicole A. Roberts, pp. 167–188. American Psychological Association, Washington, DC.
- Card, Noel A.  
2015 *Applied Meta-analysis for Social Science Research*. Guilford Publications, New York.
- Centers for Disease Control and Prevention (CDC)  
2017 Percentage of Adults Aged 65 Years or Older Who Had No Leisure Time Physical Activity in the Past Month. Behavioral Risk Factor Surveillance System. <https://chronicdata.cdc.gov/Healthy-Aging/Percentage-of-adults-aged-65-years-or-older-who-ha/2q7f-daa8.sc>
- Charmaz, Kathy  
2006 *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis*. Sage, Thousand Oaks.
- Clark, Margaret, and Barbara Gallatin Anderson  
1967 *Culture and Aging: An Anthropological Study of Older Americans*. Charles C. Thomas Publishing, Springfield.
- Cohen, Steven A., Mary L. Greaney, and Natalie J. Sabik  
2018 Assessment of Dietary Patterns, Physical Activity and Obesity from a National Survey: Rural–Urban Health Disparities in Older Adults. *PloS One* 13(12):e0208268.
- Cohen, Yehudi A.  
1961 Patterns of Friendship. In *Social Structure and Personality: A Casebook*, edited by Yehudi A. Cohen, pp. 351–386. Holt, Rinehart, and Winston, New York.
- Cress, M. Elaine, David M. Buchner, Thomas Prohaska, James Rimmer, Marybeth Brown, Carol Macera, Loretta DiPietro, and Wojtek Chodzko-Zajko  
2005 Best Practices for Physical Activity Programs and Behavior Counseling in Older Adult Populations. *Journal of Aging and Physical Activity* 13(1):61–74.

- de Leon, Carlos F. Mendes  
2005 Social Engagement and Successful Aging. *European Journal of Ageing* 2(1):64–66.
- Desai, Amit  
2010 A Matter of Affection: Ritual Friendship in Central India. In *The Ways of Friendship: Anthropological Perspectives*, edited by Amit Desai and Evan Killick, pp. 114–132. Berghahn Books, New York.
- Everard, Kelly M., Helen W. Lach, Edwin B. Fisher, and M. Carolyn Baum  
2000 Relationship of Activity and Social Support to the Functional Health of Older Adults. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 55(4):S208–212.
- Eynon, Michael, Jessica Foad, John Downey, Yasmin Bowmer, and Hayley Mills  
2019 Assessing the Psychosocial Factors Associated with Adherence to Exercise Referral Schemes: A Systematic Review. *Scandinavian Journal of Medicine and Science in Sports* 29(5):638–650.
- Fedor, Andrew, Sarah Garcia, and John Gunstad  
2015 The Effects of a Brief, Water-Based Exercise Intervention on Cognitive Function in Older Adults. *Archives of Clinical Neuropsychology* 30(2):139–147.
- Felmlee, Diane, and Anna Muraco  
2009 Gender and Friendship Norms among Older Adults. *Research on Aging* 31(3):318–344.
- Fiori, Katherine L., Tim D. Windsor, and Oliver Huxhold  
2020 The Increasing Importance of Friendship in Late Life: Understanding the Role of Sociohistorical Context in Social Development. *Gerontology* 66(3):286–294.
- Geertz, Clifford  
1973 Thick Description: Toward an Interpretive Theory of Culture. In *The Interpretation of Cultures: Selected Essays*, pp. 3–30. Basic Books, New York.  
1974 From the Native's Point of View: On the Nature of Anthropological Understanding. *Bulletin of the American Academy of Arts and Sciences* 28(1):26–45.
- Germain, Cassandra M, Elizabeth Vasquez, and John A. Batsis  
2016 Physical Activity, Central Adiposity, and Functional Limitations in Community-Dwelling Older Adults. *Journal of Geriatric Physical Therapy* 39(2):71–76.
- Golden, Jeannette, Ronán M. Conroy, and Brian A. Lawlor  
2009 Social Support Network Structure in Older People: Underlying Dimensions and Association with Psychological and Physical Health. *Psychology, Health and Medicine* 14(3):280–290.
- Hale, Leigh A., Debra Waters, and Peter Herbison  
2012 A Randomized Controlled Trial to Investigate the Effects of Water-Based Exercise to Improve Falls Risk and Physical Function in Older Adults with Lower-Extremity Osteoarthritis. *Archives of Physical Medicine and Rehabilitation* 93(1):27–34.
- Hardcastle, Sarah, and Adrian H. Taylor  
2001 Looking for More Than Weight Loss and Fitness Gain: Psycho-Social Dimensions among Older Women in a Primary Health Care Exercise Referral Scheme. *Journal of Aging and Physical Activity* 9(3):313–329.
- Holt-Lunstad, Julianne  
2017 Friendship and Health. In *The Psychology of Friendship*, edited by Mahzad Hojjat and Anne Moyer, pp. 233–248. Oxford University Press, New York.
- Howell, Britteny M.  
2020 Interactions between Diet, Physical Activity, and the Sociocultural Environment for Older Adult Health in the Urban Subarctic. *Journal of Community Health* 45(2):252–263.
- Howell, Britteny M., and Shoshana Bardach  
2018 “It’s a Social Thing”: Sociocultural Experiences with Nutrition and Exercise in Anchorage, Alaska. *Arctic Anthropology* 55(2):1–16.
- Howell, Britteny M., Sage Corbett, and Jennifer R. Peterson  
2021 Where Are All the Men? A Scoping Review of the Barriers, Facilitators, and Recommendations to Older Male Participation in Health Promotion Interventions. *Innovation in Aging* 5(suppl. 1):845.
- Hung, Chihya, Bill Daub, Bill Black et al.  
2004 Exercise Training Improves Overall Physical Fitness and Quality of Life in Older Women with Coronary Artery Disease. *Chest* 126(4):1026–1031.
- Hupcey, Judith E.  
1998 Clarifying the Social Support Theory–Research Linkage. *Journal of Advanced Nursing* 27(6):1231–1241.



- Kramer, M. Kaye, Karl K. Vanderwood, Vincent C. Arena, Rachel G. Miller, Rebecca Meehan, Yvonne L. Eaglehouse, Gerald Schafer, Elizabeth M. Venditti, and Andrea M. Kriska
- 2018 Evaluation of a Diabetes Prevention Program Lifestyle Intervention in Older Adults: A Randomized Controlled Study in Three Senior/Community Centers of Varying Socioeconomic Status. *Diabetes Educator* 44(2):118–129.
- Kumar, Rohit
- 2016 Social Support and Its Implications on Health: An Anthropological Study of the Elderly Residing in Old Age Homes. *Journal of the Anthropological Survey of India* 65(2):319–332.
- Lamb, Sarah E.
- 1997 The Making and Unmaking of Persons: Notes on Aging and Gender in North India. *Ethos* 25(3):279–302.
- 2000 *White Saris and Sweet Mangoes: Aging, Gender, and Body in North India*. University of California Press, Berkeley.
- 2002 Intimacy in a Transnational Era: The Remaking of Aging among Indian Americans. *Diaspora: A Journal of Transnational Studies* 11(3):299–330.
- 2009 *Aging and the Indian Diaspora: Cosmopolitan Families in India and Abroad*. Indiana University Press, Bloomington.
- Lavrakas, Paul
- 2008 *Encyclopedia of Survey Research Methods*. SAGE, Thousand Oaks, CA.
- LeCompte, Margaret Diane, and Jean J. Schensul
- 2010 *Designing and Conducting Ethnographic Research*, 2nd ed. AltaMira Press, Lanham, MD.
- Madden, Raymond
- 2017 *Being Ethnographic: A Guide to the Theory and Practice of Ethnography*. Sage, Thousand Oaks, CA.
- Mathews, Anna E., Sarah B. Laditka, James N. Laditka, Sara Wilcox, Sara J. Corwin, Rui Liu, Daniela B. Friedman, Rebecca Hunter, Winston Tseng, and Rebecca G. Logsdon
- 2010 Older Adults' Perceived Physical Activity Enablers and Barriers: A Multicultural Perspective. *Journal of Aging and Physical Activity* 18(2):119–140.
- Mills, Jane, Ann Bonner, and Karen Francis
- 2006 Adopting a Constructivist Approach to Grounded Theory: Implications for Research Design. *International Journal of Nursing Practice* 12(1):8–13.
- Minkler, Meredith
- 1981 Applications of Social Support Theory to Health Education: Implications for Work with the Elderly. *Health Education Quarterly* 8(2):147–165.
- Miyawaki, Christina E.
- 2015 Association of Social Isolation and Health across Different Racial and Ethnic Groups of Older Americans. *Ageing and Society* 35(10):2201–2228.
- Must, Aviva, Jennifer Spadano, Eugenie H. Coakley, Alison E. Field, Graham Colditz, and William H. Dietz
- 2013 The Disease Burden associated with Obesity. *Journal of the American Medical Association* 282(16):1523–1529.
- Nikolai, Amy L., Brittany A. Novotny, Cortney L. Bohnen, Kathryn M. Schleis, and Lance C. Dalleck
- 2009 Cardiovascular and Metabolic Responses to Water Aerobics Exercise in Middle-Aged and Older Adults. *Journal of Physical Activity and Health* 6(3):333–338.
- Paine, Robert
- 1969 In Search of Friendship: An Exploratory Analysis in "Middle-Class" Culture. *Man* 4(4):505–524.
- Park, Julie, and Judith Littleton
- 2013 Tacking Between Disciplines: Approaches to Tuberculosis in New Zealand, the Cook Islands, and Tuvalu. In *When Culture Impacts Health: Global Lessons for Effective Health Research*, edited by Cathy Banwell, Stanley Ulijaszek, and Jane Dixon, pp. 157–166. Academic Press, Waltham.
- Pereira Neiva, Henrique, Luís Brandão Faíl, Mikel Izquierdo, Mário C. Marques, and Daniel A. Marinho
- 2018 The Effect of 12 Weeks of Water-Aerobics on Health Status and Physical Fitness: An Ecological Approach. *PloS One* 13(5):e0198319.
- Perkinson, Margaret A., and Samantha L. Solimeo
2014. Aging in Cultural Context and as Narrative Process: Conceptual Foundations of the Anthropology of Aging as Reflected in the Works of Margaret Clark and Sharon Kaufman. *Gerontologist* 54(1):101–107.
- Potts, Marilyn K.
- 1997 Social Support and Depression among Older Adults Living Alone: The Importance of Friends Within and Outside of a Retirement Community. *Social Work* 42(4):348–62.

- QSR International, Inc.  
2018 NVivo v.12 Pro. <https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home>
- Rawlins, William K.  
2004 Friendships in Later Life. In *Handbook of Communication and Aging Research*, edited by Jon F. Nussbaum and Justine Coupland, pp. 273–299. Erlbaum Associates, Mahwah, NJ.
- Rezaeipour, Mohammadreza, Gennady Leonidovich Apanasenko, and Zahra Raghi  
2021 Efficacy of the WATERinMOTION Aquatics Exercise Programme on the Body Weight and Composition of Sedentary Older Women with Overweight/Obesity. *Montenegrin Journal of Sports Science and Medicine* 10(2):19–24.
- Rubin, Lillian B.  
1985 *Just Friends: The Role of Friendship in Our Lives*. Harper & Row, New York.
- Sallis, James F.  
2000 Age-Related Decline in Physical Activity: A Synthesis of Human and Animal Studies. *Medicine and Science in Sports and Exercise* 32(9):1598–1600.
- Sasidharan, Vinod, Laura Payne, Elizabeth Orsega-Smith, and Geoffrey Godbey  
2006 Older Adults' Physical Activity Participation and Perceptions of Wellbeing: Examining the Role of Social Support for Leisure. *Managing Leisure* 11(3):164–185.
- Schell, Lawrence M.  
1997 Culture as a Stressor: A Revised Model of Bio-cultural Interaction. *American Journal of Physical Anthropology* 102(1):67–77.
- Schensul, Jean J., Margaret D. LeCompte, G. Alfred Hess Jr., Marlene J. Berg, Bonnie K. Nastasi, Jeremy Brecher, Lynne Williamson, and Ruth Glasser  
1999 *Using Ethnographic Data: Interventions, Public Programming, and Public Policy*, vol. 7. AltaMira Press, Lanham, MD.
- Seeman, Teresa E., Tina M. Lusignolo, Marilyn Albert, and Lisa Berkman  
2001 Social Relationships, Social Support, and Patterns of Cognitive Aging in Healthy, High-Functioning Older Adults: MacArthur Studies of Successful Aging. *Health Psychology* 20(4):243.
- Sixsmith, Judith, Margaret Boneham, and John E. Goldring  
2003 Accessing the Community: Gaining Insider Perspectives from the Outside. *Qualitative Health Research* 13(4):578–589.
- Smith, Lindsay, Gabrielle Banting, Lauren Eime, Grant O'Sullivan, and Jannique G.Z. van Uffelen  
2017 The Association between Social Support and Physical Activity in Older Adults: A Systematic Review. *International Journal of Behavioral Nutrition and Physical Activity* 14(1):56.
- Talbot, Laura A., Robin J. Musiol, Erica K. Witham, and E. Jeffery Metter  
2005 Falls in Young, Middle-Aged and Older Community Dwelling Adults: Perceived Cause, Environmental Factors and Injury. *BMC Public Health* 5(1):86.
- Temí  
2021 Temí: An Innovative Speech-to-Text Transcription Service. <https://www.temi.com/blog/speech-to-text-transcription-service/>
- Thoits, Peggy A.  
1985 Social Support and Psychological Well-Being: Theoretical Possibilities. In *Social Supports: Theory, Research, and Applications*, edited by Irwin G. Sarason and Barbara R. Sarason, pp. 51–72. Martinus Nijhoff Publishers, Boston.
- Thomas, Patricia A.  
2009 Is It Better to Give or to Receive? Social Support and the Well-Being of Older Adults. *Journals of Gerontology: Series B* 65B(3):351–357.
- Van de Mortel, Thea F.  
2008 Faking It: Social Desirability Response Bias in Self-Report Research. *Australian Journal of Advanced Nursing* 25(4):40–48.
- Verbruggen, Christine, Britteny M. Howell, and Kaylee Simmons  
2020 How We Talk about Aging during a Global Pandemic Matters: On Ageist Othering and Aging “Others” Talking Back. *Anthropology and Aging* 41(2):37–51.
- Warburton, Darren E.R., Crystal Whitney Nicol, and Shannon S.D. Bredin  
2006 Health Benefits of Physical Activity: The Evidence. *Canadian Medical Association Journal* 174(6):801–809.