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ORIGINAL RESEARCH

IMPACT OF SOCIAL FRAILTY ON RELOCATION OF OLDER ADULTS

S. DUPUIS-BLANCHARD[1], C. BIGONNESSE[1], M.K. ANDREW[2], O. GOULD[3], D. MAILLET[1]

1. Université de Moncton, Moncton, Canada; 2. Dalhousie University, Halifax, Canada; 3. Mount Allison University, Sackville, Canada.
Corresponding author: Suzanne Dupuis-Blanchard, School of Nursing, Université de Moncton, 18 Antonine Maillet Ave., Moncton, NB E1A 3E9, Canada,
Email : suzanne.dupuis-blanchard@umoncton.ca, Telephone : (506)858-4673, Fax : (506)858-4017

Abstract: *Background:* The relationship between frailty and variables such as housing are the least included in models of frailty and research on frailty or social frailty and relocation is negligible. The decision to relocate is complex and demanding for older adults with a loss of independence but little is known about what makes older adults relocate to congregated housing designated for older adults, let alone in combination with social frailty, and how they navigate this transition. *Objectives:* This mixed method descriptive study aims to understand the influence of social frailty for a population of French-speaking semi-independent older adults relocating to a housing continuum community. *Design:* Semi-structured individual interviews including sociodemographic data and the PRISMA-7 Frailty Scale were conducted with recently relocated older adults. *Setting:* A newly opened French-speaking housing continuum community in Eastern Canada that offers luxury apartments for independent older adults, two assisted living facilities for semi-independent older adults along with a long-term care facility. *Participants:* Twenty-nine older adults with a mean age of 85 years, mostly female, married or widowed and highly educated. Measurements: Content analysis of the transcribed recorded interviews and descriptive statistical analyses to examine relationships between the frailty PRISMA-7 scale, answers to additional questions and the sociodemographic data. *Results:* There was not a significant difference in the scores for socialization before and after relocation nor between prior help and current help; however, there was a significant negative correlation between help and socialization before and after relocation. Three main themes included: imposed influences, push and pull factors and post relocation. *Conclusions:* The results indicate that several social factors contributed to relocation and that participants were experiencing social frailty. Participants were at the crossover point of being vulnerable to experiencing additional deficits which would potentially have led to higher frailty had they not relocated.

Key words: Social frailty, relocation, social support, community, official language minority.

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Introduction

Although frailty phenotypes have mostly ignored the notion of social frailty (1), the concept is slowly gaining interest in the literature. Defined as the absence of social resources, limited social activity and the inability to accomplish basic social needs (2), social frailty is touted as the precursor to physical frailty (3) or prefrailty (4, 5). Others who have explored the concept of social frailty have identified protective factors such as social support, engagement, living situation, self-esteem, sense of control, relations with others and contextual socio-economic status (6). Additional factors such as not living alone, going out more frequently, visiting friends, feeling helpful and talking with someone every day also had a strong impact on future disability in older adults living in the community (2, 7). Furthermore, despite the relevance of both frailty and social context on decision-making regarding housing and re-location (e.g. moving from rural to more urban areas, down-sizing or moving to supported living settings), the relationship between frailty and variables such as housing are the least included in models of frailty (1) and research on frailty or social frailty and relocation is negligible (8). Therefore, the goal of this mixed method descriptive study was to understand the influence of social frailty on decisions to relocate for a population of mostly well-educated and financially secure French-speaking semi-independent older adults.

The decision to relocate is complex and demanding for older adults with a loss of independence. Factors such as transportation, access to home maintenance services (especially in the language of choice), adequate income and level of education, attitude and resolve, self-perceived health, and choice of home/community have been determined to influence older adults' ability to stay in their home (9) but little is known about what makes older adults relocate to congregated housing designated for older adults, whether social frailty plays a role in this decision, and how this transition is experienced (8). Although relocation is a common transition, it affects older adults much differently than younger adults. Recognizing components of social frailty in relocating older adults is important to prevent or delay a frailty diagnosis, prevent or lessen disability (10), reduce mortality (3) and improve the lives of families and caregivers (11).

This mixed method descriptive study was conducted at a newly opened Francophone housing continuum community in Eastern Canada that offers luxury apartments for independent older adults, two assisted living facilities for semi-independent older adults along with a long-term care facility. Given the influence of higher levels of education (12) and good

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Table 1
PRISMA-7 Scores

PRISMA-7 Question	Yes, n (%)	No, n (%)
1. Are you older than 85 years?	17 (58.6)	12 (41.4)
2. Are you male?	11 (37.9)	18 (62.1)
3. In general, do you have any health problems that require you to limit your activities?	14 (48.3)	15 (51.7)
4. Do you need someone to help you on a regular basis?	2 (6.9)	27 (93.1)
5. In general, do you have any health problems that require you to stay at home?	8 (27.6)	21 (72.4)
6. If you need help, can you count on someone close to you?	29 (100)	0 (0)
7. Do you regularly use a stick, walker or wheelchair to move about?	8 (27.6)	21 (72.4)

socioeconomic status (13, 14, 15) on reducing the risk of frailty and the impact of identifying as a French-speaking older adult living in an official linguistic minority community (OLMC) on health inequalities (16), this study provides insight into the role of language as well as favourable social positioning on social frailty and relocation.

Methods

After receiving ethics approval, semi-independent older adults speaking and understanding French, aged 65 years or older, and living in a luxury housing continuum community were recruited. Recruitment strategies included brief presentations to older adults, advertisements in the community's newsletter and electronic billboards, staff endorsing the study and the assistance of the Citizen Advisory Committee (CAC) which consisted of older adults and employees from the housing community.

The purpose of the CAC was to include stakeholders in the study to provide different perspectives and understanding to the research project to maximize the relevance of the results. CAC members informed and advised the research team and members included five older adults living at the study site, a community representative of an older adult organization, three researchers, one student research assistant and two employees from the housing continuum community. A total of three meetings were held with CAC members throughout the 12 months' study.

A purposive sample of 29 older adults participated in semi-structured individual interviews of an average 40 minutes in duration. Interviews were conducted at a date and time convenient to the participant and most participants chose to have the interview in their apartment unit (in their new home). Sociodemographic data were recorded at the beginning of the interview and the PRISMA-7 Frailty Scale (17) was administered at the end of the interview process. The PRISMA-7 Frailty Scale is meant for early detection and management of frailty and is composed of seven yes and no questions addressing risk factors for frailty. Three or more "yes" answers are used as the cut-off for being at risk. In addition, corresponding questions related to the scale were administered with the goal of better understanding frailty of study participants. These Likert scale questions explored such components as help needed prior to relocation and after relocation, social activities prior and post relocation as well as asking for help from family and friends. For these items, a 7-point scale was used, with higher scores indicating higher levels of vulnerability.

Qualitative data analysis consisted of conventional content analysis (18) of the transcribed recorded interviews using NVivo 11 software to develop initial codes derived from the data, categories and defining themes. Descriptive statistical analyses for small sample sizes (19, 20) were performed to examine relationships between the frailty PRISMA-7 scale, answers to the additional questions and the sociodemographic data. Study results were discussed with the CAC for context and clarification as well as with the research team.

Results

Participant Characteristics

Most of the 29 participants were female (62.1%) with an average age of 85 years old. Most were either married (38%) or widowed (41%) and 35% had no children living in proximity (20 km radius). Participants had relocated to the study site from a single dwelling (52%), an apartment or condo (28%) or directly from the hospital (14%). At the time of interview, most had relocated within 1-12 months. Participants were highly educated with 62% having a university degree and 17% a college education. Participants self rated their health as very good (35%) and good (41%) although 48% reported health problems that limited their activities.

Frailty Scale

Of the 29 study participants, 17 participants scored 3 or below (58.6 %) on the PRISMA-7 Frailty Scale with a group average score of 3.1 out of 7. Table 1 presents participants scores.

Given the PRISMA-7 Frailty Scale scores for questions 3 (related to activities) and 5 (related to health), two corresponding Likert scale questions were analyzed: finding

someone to help prior and post relocation as well as socializing before and after relocation. A paired-samples t-test was conducted to compare socialization prior to relocation and post relocation. There was not a significant difference in the scores for socialization before relocation (M = 5.14, SD = 1.38) and after relocation (M = 4.48, SD = 1.70), t(28) = 2.03, p = .052; d = .43 although a larger sample may have yielded statistical significance. Moreover, there was not a significant difference in the scores of prior help (M = 1.79, SD = 1.29) and current help (M = 1.36, SD = .78), t(27) = 1.80, p = .08; d = .40. A Pearson correlation indicated a significant negative correlation between help obtained and socialization both before relocation (r(28) = -.41, p = .03) and after relocation (r(27) = -.42, p = .03).

Imposed Influences

Results from the qualitative analysis indicated that two main life events seem to have compelled participants to move: health deterioration and capacity to source reliable support.

Health deterioration

Declining health happened over time but when a chronic health problem became overly challenging or that a new health issue arose, either for the study participant or their spouse, this was often a trigger factor that made participants decide to relocate. One participant explained: "My concern was mainly falling and finding myself alone." Another participant shared: "I could see my health failing in terms of mobility, so sooner or later, it was better for me to initiate the move myself."

Formal social support

Most participants described challenges in receiving formal home support services but also questioned the quality of the services once these were received. Many inconsistencies were identified such as arriving late, employee not staying for the contracted time, and tasks not completed. Even for those participants using private services, it remained challenging to receive the appropriate assistance. One participant shared, "I could have paid someone, but there's no one reliable. I don't mind paying $30 an hour, but they have to do the work."

Informal social support

The majority of participants voiced strong opinions of not wanting to ask for help from family members, especially their children, but also from friends and neighbours: "It's always trouble because you have to find someone to do your housework and other things, there's too many things." One reality shared by many participants was the impact of the loss of a spouse or primary caregiver as a trigger to relocation: "I have no one, I have no one anymore, they're all deceased."

Push and Pull Factors

Participants also identified other factors contributing to social frailty and pushing them out of their home: transportation and feelings of insecurity.

Transportation

The loss of one's ability to drive had an important impact on aging in place. Being able to drive was deemed an aspect of independence that is irreplaceable by public transit. One participant explained:

I didn't feel vulnerable, but in a condo, without a car…you need milk, well you have to call a taxi or a friend who has…In that sense, it didn't make sense anymore. [If] I had been able to keep my car, I would still be there you know.

Feeling of insecurity

Feelings of insecurity were mentioned by many participants and was described as: "I wasn't feeling well, I didn't feel safe where I was." Others explained that they were aware that they were aging and that they needed to make changes to facilitate life: "We knew that sooner or later, we would have to move. We wouldn't be able to keep up with our activities. Especially since it was a lot more work for me to, to maintain the house."

Pull factors

There were also reasons for wanting to relocate to the study location that facilitated participants' decision to relocate. Some of these factors include the location of the housing continuum, near the university and cultural centre, as well as the language spoken in the study location. Many shared: "We wanted to be somewhere Francophone; my English is not too good." Despite wanting to stay where French was spoken, some expressed difficulties with the different accents and words used by other residents. Other pull factors included the quality of services, the continuity of care options and the ability to be close to family members. Additionally, participants could financially afford to relocate to this relatively expensive housing complex.

Post Relocation

Participants explained that once relocated, they had to adapt to their new home and that this process was different for everyone. In fact, adapting to the new home seemed more difficult for those who had relocated without having made the decision to relocate or were forced by circumstances (or triggers), and while most had made their own decision, attitude towards their relocation seemed to impact their ability to adapt. Like this participant, many shared:

I meet people who ask me how I like my new apartment. It's too small, but I tell myself, I can't change it, I have to adapt. There you go. My head speaks to me a lot, I need to have patience. It's not tomorrow when everything will fall into place. It will take time.

Establishing a routine also seemed like an important step in developing feelings of belonging. This included socializing with others but not overstepping boundaries. One participant explained: "I noticed here that people don't go from apartment to apartment, and I like that." Another explained how easy it was to be with others: "At 7PM, if no one calls, I go downstairs, and there's someone there to play cards. You know, I think

Table 2
Additional Participant Quotes

Themes	Example quote
Health deterioration	You know, it was an interdependency between us. But he fell ill, he could no longer live in the condo, so we decided to sell and relocate here.
Formal social support	The last year or two in our home, we had such difficulty finding help, for example to keep up our place, someone who was responsible and adequate.
Informal social support	It was my decision to move. I'm very independent. I'll say this differently, they are all married, they all have their own families, and that is the reason I decided to come here, I did not want to have my children look after me, it was the principal reason I moved.
Transportation	In my condition, where I am now with my mobility, knowing that I will eventually lose my driver's licence, and the doctor telling me for the last two years that I was borderline with my vision and my ability to drive, I could not see myself staying where I was without being able to drive. That was going to be a problem.
Feeling of security	All I kept thinking about was if he hurts himself, I'm all alone. If he falls. I'll have to call the ambulance or my daughter in the middle of the night because it had already been twice when I had to call the ambulance. It would worry me. I didn't like calling the ambulance.
Pull factors	The availability of services, the feeling of security, the fact that we feel a bit less vulnerable because we know there is someone close by and we have a call system in all rooms that we can just press if we need help, all that was a factor.
Post relocation	Well, things have changed, because I was living in my house with, my people around me, but here, I'm comfortable but I'm not at home. It's difficult to explain, I feel at home but it's not really my home you know. It's an apartment, I've always been home, and it's just different because there are others here. But I do feel good in my apartment and I like it.

we're a group, it seems like we can talk to each other if we need to talk and we play cards." For those with hearing or sight impairments, socialization can be challenging and still for others, they feel like they don't belong. One important element is that the move was not just a move but much more. One participant explained: "I knew it would be a major upheaval. It's not a move, it's a life change. It's not really a move, I can't count how many times I've moved in my life, but this is a major upheaval. I know when I leave here it's probably going to be feet first." This followed with a discussion about adapting to an aging self and the realities of aging as part of their relocation. Table 2 presents additional illustrative quotes from study participants.

Discussion

Even though 79% of participants had a post-secondary education and all had an adequate income to access private supports before relocating, results indicate that social frailty may have been present before relocation and may have played a role in deciding to relocate. Even for this relatively advantaged group, access to services for aging in place remained challenging and inadequate which resulted in relocation. The post relocation administration of the PRISMA-7 Frailty Scale with a mean group score result of 3.1 suggests that prior to relocation, participants were at the crossover point of being vulnerable to experiencing additional deficits which would potentially have led to higher frailty had they not relocated, as a score of 3 or higher indicates a need for further assessment (17). By addressing social frailty through relocation, participants potentially alleviated multiple factors leading to the social frailty experienced prior to relocation (21). Two important factors that participants identified as forcing them to relocate were loss of social support networks, described as difficulties accessing services and death of a partner/primary caregiver, as well as a sudden change in health status in the self or partner. Other factors mentioned included transportation issues (loss of a driver's licence) and feelings of insecurity, both previously recognized as components of aging in place (9).

Most of the participants in this study made the choice to relocate, and their new home offered services in their preferred language, a location close to friends and family, and the availability of a continuum of housing and care. Although the transition to this more supportive environment seemed to alleviate social frailty it remained that participants were required to adapt to a new environment, and establish new routines, new relationships and new patterns of socialization. Participants' ongoing appraisal of their own resiliency, such as strong communication skills, affiliative personalities and favourable health status, combined with the unpredictability of the residential environment could influence their coping mechanism (22). This could potentially explain why participants failed to socialize more since relocation despite previous findings stating that one pull factor in relocation is increased socialization (23). Of particular interest is the finding that both before and after relocating to a supportive environment, those who require more help with daily activities tend to socialize less. If replicated, this finding may suggest that even in supportive environments, enhanced social support and opportunities for socializing may need to be provided when care needs increase, even with relatively independent older adults.

The results of this study provide a better understanding of the concept of social frailty. Specifically, social support

networks, formal support services, transportation, and feeling safe were identified as determining factors of social frailty leading to relocation to a housing continuum community. Moreover, the use of a highly educated and financially comfortable sample of older adults allowed us to explore how decisions to relocate are made when options are relatively unconstrained by socioeconomic concerns. Study participants would have had the financial resources to pay for increased supports in their prior home as well as the education and social privilege to advocate for themselves. While recognizing these contributions, limitations of the study include a non-representative sample, limited statistical power due to the small sample size, and the use of limited and self-reported measures. Further research on social frailty is needed to better understand the relationship between social frailty and physical pre-frailty/frailty. In addition, a longitudinal study of older adults with data collections beginning before a relocation transition and continuing to a few years post relocation in congregated housing would provide additional understanding of both social frailty and the transition process, and how these two constructs interact. Clearly, the role that social frailty plays in older adults' ability to age in place and the decision to relocate is worthy of future study.

Ethical standards: REB approval from Université de Moncton #1920-011.

Conflcit of interest: No conflict of interest.

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