

Feasibility of Lifestyle Redesign® for community-dwelling older adults with and without disabilities: Results from an exploratory descriptive qualitative clinical research design

Abstract

Introduction. Although Lifestyle Redesign® has been shown to be effective in improving older adults' health and well-being, little is known about the feasibility of implementing this program to develop meaningful and health-promoting routines of community-dwelling older adults in Canada. This study thus aimed to explore the feasibility of implementing a culturally-adapted 6-month version of Lifestyle Redesign® with community-dwelling older French-Canadians with and without disabilities. **Methods.** An exploratory descriptive qualitative clinical research design was used with 17 older adults living at home or in a seniors' residence, divided into two groups participating in Lifestyle Redesign®. Semi-structured interviews were conducted with participants and the occupational therapist who delivered the program and recorded clinical notes. **Findings.** Participants were aged between 65 and 90; they were mainly women (n=11; 64.7%) and 7 (41.2%) had disabilities. The intervention was tailored to the participants' needs, interests and capacities in each group (e.g., modules selected, number of individual sessions, assistance of volunteer). Over the 6-month period, older adults participated in an average of about 25 group sessions with the occupational therapist and in four or five outings with their group (e.g., restaurant, market, museum) and attended between five and eleven individual sessions with the occupational therapist. The most common reasons for missing group sessions were being ill, working, or having another appointment. Personal facilitators and barriers to participation in the intervention were mainly related to abilities, needs, spiritual life, and health. Environmental facilitators were mostly the regularity of the sessions, group and external support, including human resources to deliver the intervention, while barriers were the residence's time restrictions and staff's attitudes, cost of some activities targeted in the program, and transportation problems. **Conclusion.** Lifestyle Redesign® is a feasible

preventive occupational therapy intervention for community-dwelling older French-Canadians. These findings will guide future studies including large-scale clinical trials.

Keywords: ageing; occupational therapy; feasibility; intervention; prevention.

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Title: Feasibility of Lifestyle Redesign[®] for community-dwelling older adults with and without disabilities: Results from an exploratory descriptive qualitative clinical research design

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Introduction

The proportion of older adults worldwide is growing rapidly and this trend is also seen in Canada, where the number of older adults is expected to double by 2068 (Statistics Canada, 2019). Because physical and mental health as well as functional ability often decline in later life (WHO, 2015), these demographic changes challenge societies and effective interventions are required to maintain and improve older adults' health and quality of life (Stav et al., 2012). By intervening with people with and without disabilities and assisting them in redesigning meaningful daily routines, occupational therapists are well positioned to support healthy ageing. These interventions not only help older adults to be more independent, they also improve their well-being and make their lives more meaningful. However, despite the call to make global 'healthy ageing' a priority (WHO, 2021) and growing evidence of the contribution of preventive occupational therapy interventions, they are still rarely used in practice (Gobeil & Levasseur, 2018), including Lifestyle Redesign[®], that has been shown to be effective and relevant to occupational therapists (Lévesque et al., 2019).

Developed in California, Lifestyle Redesign[®] involves 2-hour weekly group sessions and 1-hour monthly individual sessions over 6 to 9 months enabling community-dwelling older adults to develop and maintain meaningful and health-promoting routines (Clark et al., 1997, 2012). According to a recent systematic review, Lifestyle Redesign[®] has been demonstrated to be beneficial to both mental and physical health in community-dwelling older adults and to be cost-effective in the U.S. (Lévesque et al., 2019). More specifically, two large randomised controlled trials with 361 and 460 older Americans, respectively, showed positive effects on bodily pain, vitality, social and mental functioning, and life satisfaction (Clark et al., 1997, 2001, 2012); also, 90% of therapeutic gains were maintained 6 months after the intervention (Clark et al., 2001). Given these positive effects, Lifestyle Redesign[®] has been adapted to specific cultural backgrounds, including Latinos (Schepens Niemiec et al., 2018) in California,

Swedes (Johansson & Bjorklund, 2016), Israelis (Maeir et al., 2021), U.K. residents (Chatters et al., 2017; Mountain et al., 2008, 2020; Mountain & Craig, 2011) and migrants in the Netherlands (Abma & Heijnsman, 2015). Adaptations have also been tailored to specific populations, including people with chronic pain (Lagueux et al., 2020), stroke (Lund et al., 2012, 2018), early-stage dementia (Sprange et al., 2015), and chronic illnesses (Horowitz & Chang, 2004). Newly adapted for older French-Canadians with the help and close supervision of the original team, this version of Lifestyle Redesign[®] was found to benefit participants' mental health, interest in leisure, and life balance (Levasseur et al., 2019; Lévesque et al., 2020). More specifically, older adults with disabilities improved their social participation and attitudes toward leisure, while those without disability increased their engagement in meaningful activities. Participants also reported positive effects on their mental health, leisure, mobility, and social participation, including higher frequency and greater quality of social interactions, and better occupational routines (Levasseur et al., 2019).

In a worldwide effort to implement preventive occupational therapy initiatives, it is important to have a better understanding of the feasibility of Lifestyle Redesign[®] (Hirvonen & Johansson, 2022), including for older adults with disabilities who may be hard to reach and at greater risk of social isolation (National Seniors Council, 2014) and functional decline. To our knowledge, eight studies examined feasibility while implementing adapted versions of the intervention primarily with high-functioning older adults, and none examined its *integration* within the existing system (Appendix 1). Feasibility was mainly studied in relation to *acceptability* and *implementation* (each n=6; 85.7%) and *practicality* (5; 71.4%; Bowen et al., 2009). More specifically, results showed: 1) high level of satisfaction but different attendees' profiles, 2) feasible *implementation* but questions about who benefits most from individual sessions, 3) challenge recruiting older adults but very low attrition rate, 4) *adaptation* more complex than anticipated because of differences in expectations and values, and 5) participants

who benefited most had experienced life-changing events and recognised the need to make changes. Although providing information about satisfaction and perceived effects of the intervention (*acceptability*), execution (*implementation*) and modifications in response to resource constraints (*practicality*), these studies focused less on *adaptation*, the *implementation* component related to professional practice (tasks, roles and skills), and *acceptability* of the program based on facilitators and barriers to older adults' participation and the occupational therapist's recommendations. To fill this gap in the literature, this study explored the feasibility, including adaptations, implementation and acceptability, of implementing a culturally-adapted version of Lifestyle Redesign[®] with French-Canadian community-dwelling older adults with and without disabilities.

Methods

Study design and participants

This study was part of a research program adapting and implementing the French-Canadian Lifestyle Redesign[®] and exploring its influence on older adults (Levasseur et al., 2019; Lévesque et al., 2020). In this study, an exploratory descriptive qualitative clinical design (Miller & Crabtree, 2003) was used with a convenience sample of 17 older participants (Levasseur et al., 2019) living at home or in a seniors' residence, divided into two groups: 10 older adults without disabilities (one group) and 7 with mild to moderate physical or cognitive disabilities (other group). Eligibility criteria were to: 1) be aged 65 or older, 2) have normal cognitive functioning, 3) live in their own home or a residence for semi-independent older adults, and 4) speak French. Level of disability was obtained with the Functional Autonomy Measurement System, a 29-item scale measuring functional ability in activities of daily living, mobility, communication, mental functions, and instrumental activities of daily living (SMAF; Hébert et al., 1988), where a score of 19/87 was used to distinguish between slight and moderate-to-significant loss of autonomy (disability score out of 87: <5: no disability; 5-19:

slight to moderate disability; >19: moderate to severe disability). To ensure that participants were able to understand and answer the questions, older adults with moderate or severe cognitive impairments [cut-off score <17/22 on the phone version of the Mini-Mental State Examination indicates mild or no cognitive impairments (ALFI-MMSE; Roccaforte et al., 1992)]; those with language impairments were also excluded. Older adults were recruited using a list of participants from a previous study of people attending a day hospital and day centre in a Health and Social Services Centre (HSSC) in Quebec, Canada, and from individuals selected by a recreationist in a seniors' residence. The research ethics committee of the Eastern Townships HSSC approved the study (2015–488).

Intervention

The French-Canadian Lifestyle Redesign[®] program (Levasseur et al., 2019) was held over a 6-month period between August 2015 and March 2016. Developed around the central theme of health through occupation, the intervention is organised in 12 modules (e.g., occupation, health, and aging; transportation and occupation; Clark et al., 2015). The key elements of Lifestyle Redesign[®] are: 1) identifying and implementing realistic and sustainable changes in activities; 2) developing strategies to overcome obstacles (e.g., pain, transportation); and 3) participation in targeted activities involving practising and repeating changes in daily routines. Lifestyle Redesign[®] is led by an occupational therapist and includes educational presentations, peer discussions, reflective exercises, direct experience, and personal exploration (Clark et al., 2015, 2021). The weekly 2-hour group sessions focus on the participants' active engagement rather than passive reception of information. There is a group outing about once a month as well as individual sessions with the occupational therapist. Individual sessions aim to help participants incorporate and apply the content of group sessions to their situation and engage in personally meaningful activities based on their personal goals. Individual sessions also include following up goals.

To support the occupational therapist and ensure consistent program delivery, 1 hour of supervision per week was provided by an academic occupational therapist specialising in health promotion and clinical research (first author). The Management and Partnership Committee (MPC) also provided guidance once every 3 months. Before the program began, the occupational therapist had taken the University of Southern California 6-hour online training course on Lifestyle Redesign[®] and, because the translation was not finished, had read parts of the French program manual (Clark et al., 2021). The occupational therapist had about 20 years of clinical experience, mainly with older adults, including group interventions, health promotion and research, and was allowed by the HSSC to spend about 21 hours/week preparing and delivering the program, paid by the research grant.

Data collection

All participants met individually at home with a research assistant or occupational therapy student. A sociodemographic questionnaire was administered before the intervention. One month after the intervention, face-to-face semi-structured interviews lasting about 90 minutes were conducted with each participant. Using a semi-structured guide, which had been validated by five qualitative research experts and pretested, interviews explored participants' views on the feasibility of the French-Canadian Lifestyle Redesign[®], including its adaptations, implementation and acceptability. The interviews were digitally audiotaped, transcribed and verified.

In addition to interviews, three methods were used to explore the feasibility of the intervention, i.e., clinical notes, summaries of group sessions, and periodic evaluations. Written by the occupational therapist after each group and individual session, the clinical notes summarised attendance and content of the group sessions (including outings), activities done according to goals set by each participant, difficulties encountered and participants' impressions of the session. These notes also allowed the MPC to follow the occupational therapist, intervention, and study. MPC meetings were digitally audiotaped and summarised. Finally, two periodic

evaluations, digitally audiotaped and transcribed, were conducted by the occupational therapist during group sessions with participants. The first evaluation took place midway through the program, which allowed the occupational therapist to make the necessary adjustments for the remaining sessions. The second evaluation was done a few weeks before the end of the intervention to help participants prepare for the end of Lifestyle Redesign[®] and engage them in organising a celebration at the end of the group sessions.

Data analysis

The participants' sociodemographic characteristics and attendance were analysed using descriptive statistics. Transcripts of interviews and periodic evaluations, clinical notes, and summaries of group sessions were content-analysed using a mixed coding approach (Miles et al., 2014) considering adaptations, implementation and acceptability, and based on the Human Development Model–Disability Creation Process (HDM–DCP; Fougeyrollas, 2010). Used to plan and evaluate health services (Fougeyrollas et al., 2019) the HDM–DCP is a model of human development and disability that emphasises interactive systemic dynamics between personal and environmental factors and their influence on social participation, including participation in the program.

To increase credibility, reliability and confirmability (Laperrière, 1997), the first author (ML) co-coded one third of the data, which had been analysed by a specially trained research assistant (MB). The first author (ML) closely supervised the analysis, and the synthesis of participants' perceptions of the intervention was adjusted until consensus was reached. Additional memos were used to note the research team's thoughts, questions and discussions. Analyses were conducted using SPSS (version 18.0) or NVivo (version 10). A figure based on the HDM-DCP presents some of the main results of our study (i.e., document acceptability, including facilitators and barriers to participation in the French-Canadian Lifestyle Redesign[®]).

Findings

Of the 19 participants initially enrolled in the French-Canadian Lifestyle Redesign[®] program, one dropped out because of serious health problems and one died. The remaining 17 older adults completed the study (Table 1). Aged between 65 and 97 and all Caucasian, most participants were women (n=11; 64.7%), owners (n=5; 29.4%) or tenants (n=7; 41.2%) of their dwelling, and nearly half lived alone (n=7; 41.2%). Close to half had 12 or more years of schooling (n=8; 47.1%), and most had a family income under CAN\$40,000 (n=12; 70.6%) and rated their health as good or excellent (n=12; 70.6%; Table 1). Two groups as homogeneous as possible in terms of level of functional ability were created, one including 7 participants with disabilities (SMAF scores between 20 and 45.5/87) and the other with 10 participants without disabilities (SMAF between 1 and 16.5/87). Five participants with disabilities lived in the seniors' residence where the group sessions were held. During the program, participants targeted a variety of personal goals (Appendix 3), mostly formulated in terms of changes in behaviour. These goals mainly concerned general physical and mental health (e.g., stopping smoking), and doing more physical (e.g., swimming regularly), intellectual (e.g., reading more), spiritual (e.g., meditating) and social activities (e.g., improving a relationship). Personal goals also involved mobility (e.g., going outside in a wheelchair), nutrition (e.g., reducing salt), housing (e.g., cleaning the house), or communication (e.g., asking for help). While the personal goals of participants with moderate or severe disabilities were more likely to be related to daily activities (Appendix 3), the goals of those without disabilities involved healthy habits (e.g., reducing coffee) and social roles and interactions (e.g., being more patient).

Table 1. Characteristics of participants (n = 17)

<u>Continuous variables</u>	<u>Mean</u> (standard deviation)	<u>Median</u> (interquartile range)
Age (years)	77.6 (8.6)	75 (6)
Disability (SMAF; /87)	18.9 (16.4)	10.5 (16.5)
No. of group sessions	24.3 (2.1)	25.0 (1.5)
No. of individual sessions	6.4 (1.3)	6 (0.0)
<u>Categorical variables</u>	<u>Frequency (%)</u>	
Gender (woman)	11 (64.7)	
Type of residence		
- Owner	5 (29.4)	
- Tenant	7 (41.2)	
- Lives in a seniors' residence	5 (29.4)	
Living situation		
- Lives alone	7 (41.2)	
- Lives with partner	4 (23.5)	
- Lives with family member	1 (5.9)	
- Other	5 (29.4)	
Income		
- \$10,001-15,000	3 (17.6)	
- \$15,001-20,000	1 (5.9)	
- \$20,001-25,000	0 (0.0)	
- \$25,001-40,000	8 (47.1)	
- >\$40,000	1 (5.9)	
Missing data	4 (23.5)	
Education		
- High school (7-11 years)	9 (52.9)	
- College/professional diploma (12-14 years)	3 (17.6)	
- Bachelor's degree (15-16 years)	5 (29.4)	
Self-rated health		
- Excellent	5 (29.4)	
- Good	7 (41.2)	
- Fair	4 (23.5)	
- Poor	1 (5.9)	
Health conditions [†]		
- Diseases of the nervous system	9 (52.9)	
- Diseases of the circulatory system	9 (52.9)	
- Injury, poisoning and other consequences of external causes (including traumatic brain injury and wrist fracture)	8 (47.1)	
- Diseases of the musculoskeletal system and connective tissue	7 (41.2)	
- Diseases of the eye and adnexa	4 (23.5)	
- Diseases of the skin and subcutaneous tissue	7 (41.2)	

[†] Classified according to the International Classification of Diseases (ICD-10)

Note: The total for health conditions may exceed 100% because participants can have more than one condition.

Out of 27 possible group sessions, including a needs assessment and outings, the older adults participated in an average of about 25 2-hour group sessions with the occupational therapist, i.e., 90% or more of the planned sessions, and four or five group outings (e.g., going to a museum). The main reasons for missing group sessions were health issues, working, or having an appointment (Appendix 2). The participants attended between five and eleven 1-hour individual sessions with the occupational therapist. In addition to attending most sessions, participants generally appreciated the intervention, and the majority would recommend it to other older adults: “*I would tell them: ‘Go ahead, it’s worth it’.*” (P11).

To consider the participants’ needs, interests and capacities, different *adaptations* modified how the intervention was delivered for both groups. These differences mainly concerned assistance of a volunteer, number of guest speakers, number of sessions per module, and specific adaptations (Table 2). For example, in the group with disabilities, discussions in the module Community mobility: transportation and occupation (#2) focused on public transportation and paratransit instead of use of a car since these participants did not drive. The outings were also chosen according to older adults’ interests and capacities, and local opportunities (Table 2). One module, Hormones, ageing and sexuality (#11), was not covered in either group since no needs were expressed for this topic (Table 2). For overall and weekly planning, the occupational therapist used the Planning worksheet from the program manual (Exhibit II.2).

Table 2. Summary of group sessions in French pilot study and examples of adaptations

	Older adults with disabilities [n=7]	Older adults without disabilities [n=10]
• Total number of group sessions, including a needs assessment and outings	27	27
• During group sessions, assistance of a volunteer to help with:	✓	
○ Mobility (go to bathroom, return to own room because of fatigue)	✓	
○ Participation in the discussions or activities	✓	
• Number of guest speakers	1	3
• Guest students (participating in a group outing and a regular session)	✓	
• Replacement during occupational therapist's 2-week vacation	✓	✓
• Two weeks without sessions during Christmas holidays	✓	✓
<u>Modules covered (number of sessions on each module)</u>		
1: Occupation, health and aging	4	2½
2: Community mobility: transportation and occupation	2	2¼
3: Building blocks of longevity: physical, mental, spiritual, social, and productive activities	2½	3¾
4: Stress and inflammation management	3¼	3
5: Dining and nutrition	1½	1¼
6: Time and occupation	2	3
7: Home and community safety	1	2
8: Relationships and occupation	½	1
9: Thriving	2½	1
10: Navigating health care	¼	¼
12: Ending a group: finalizing Personal Engagement Plans (PEP) (graduation party)	1½	1
<u>Module not covered</u>		
11: Hormones, aging and sexuality		
<u>Examples of specific adaptations</u>		
• Adding activities (e.g., citizen action, card activity on gratitude)	✓	✓
• Modifying activities (e.g., bus hunt for a rally, healthy pleasures fair with 3 kiosks to share knowledge with younger people)	✓	
• Adapting discussion to participants' situation (e.g., living in a seniors' residence)	✓	
• Doing a group exercise individually	✓	
• Doing an exercise in a group rather than individually		✓
• Adding content from other sources (e.g., initial individual interview used in a HSSC, text about managing time and priorities, exercise on identifying risk situations)	✓	✓
• Adapting content to participants' situation (e.g., country, province or city resources, end-of-life care law, public holidays and events, etc.) [†]	✓	✓
• Finding reference documents or websites in French [e.g., eating well for healthy aging, simplified version of the "Activities-specific Balance Confidence (ABC) scale"] [†]		✓
• Summarising in French the content of material only available in English (e.g., video <i>Flow</i> , the <i>Secret to Happiness</i>) [†]		✓
• Drafting new documents (e.g., participant's declaration form for outings and physical activities, details to remember for outings)	✓	✓
<u>Outings</u>		
• Total number of group outings during the 6-month program	4	5
• Assistance of at least two volunteers during group outings	✓	
• Walking and using public transit		✓
• Using paratransit service	✓	
<u>Location of group outings</u>		
• Public market	✓	✓

	Older adults with disabilities [n=7]	Older adults without disabilities [n=10]
• Museum of Nature and Science	✓	✓
• Tai chi		✓
• Painting on ceramic		✓
• Rally in a shopping centre	✓	
• Restaurant (brewery or culinary school)	✓	✓
<u>Occupational therapist's tasks related to group sessions</u>		
Logistics tasks (preparing, cleaning, and reorganising the room; buying and preparing healthy and varied snacks; printing material; planning and leading group sessions including managing time for each activity)		
Phone participants (e.g., verification after a remark by one participant)		
Contact spouse about group outings		
Contact paratransit service (to reserve front seat for one participant)		
† <i>Because the manual was still being translated and adapted</i>		
✓ = included in/applies to? the group (with or without disabilities)		

Explored in relation to professional practice, *implementation* involved multiple tasks and roles (Table 2). For group sessions, the occupational therapist developed and adapted the content and activities and chose material and information to be shared with participants, which often involved Internet searches. She also carried out logistics tasks (Table 2). When possible (depending on time and capacities), older adults participated in cleaning and reorganising the room. For group outings, the occupational therapist's support involved logistical organisation and achievement of personal goals. To foster greater social and occupational participation, the occupational therapist also used various skills in individual sessions (Table 3). Generally held in older adults' homes, these sessions helped them identify their needs, goals, meaningful activities, and facilitators and barriers to their accomplishment. More specifically, these sessions involved communication and coaching skills such as active listening (e.g., loss of relatives), support to overcome fears and barriers, positive reinforcement, encouragement to maintain efforts and reflect on accomplishments (Table 3). The occupational therapist also used process skills to evaluate, follow the participants' progress and enable the implementation of appropriate solutions to meet their needs. She educated and adapted the content of group sessions by providing information, tools, recommendations and training (Table 3). Moreover,

in preparation for individual sessions, the occupational therapist coordinated, collaborated and advocated by searching for resources to compensate for disabilities and contacted various organisations or health professionals for services or equipment (Table 3). Nearly three quarters of the interventions performed during individual sessions were within occupational therapy's scope of practice.

Table 3. Occupational therapist's interventions during individual sessions with older adults (n=17)

Process skills

- Initial interview (life history and activities, needs assessment)
- *Evaluation (e.g., bed or bath transfer)[†]*

Communication skills

- *Active listening (e.g., loss of loved ones or abilities; traumatic events in the past; possibility of moving into seniors' residence; caregiver's experience)*

Coach

- *Challenges or goals (with or without Personal Engagement Plan)*
 - *Support in identifying needs and meaningful activities*
 - *Encouragement and support to set a goal, act, overcome fears or other barriers, maintain efforts and go further*
 - *Positive reinforcement and reflection on accomplishments*

Educate

- *Reminder and deepening of certain content covered in groups (e.g., time management, flow)*
- *Information (e.g., healthcare and social service system; types of seniors' residences)*
- *Awareness (e.g., occupational balance; role of caregiver and reality of a person with dementia)*
- *Education and training (e.g., about equipment use and mobility, safe transfers; how to lean safely; functional use of the telephone; techniques for dressing; guidance for using the digital tablet as reminder to consult regularly; technique for transfers to and from bath; fall prevention; adapted techniques for using stairs with knee pain)*
- *Practice: meditation; abdominal breathing*

Adapt

- *Recommendations (e.g., equipment, participants' health management, security, etc.)*
- *Tools (e.g., meditation on computer or USB key; adapted exercise program; list of adapted activity and outing ideas)*

Coordinate

- *Direct support (compensating for disabilities): write and email a letter to a funeral home (unable to attend in person); with participant, contact paratransit service (to organise a personal outing); search for resources*
- *Verification of availability of day centre*
- *Contacts with organisations offering friendly visits*

Collaborate

- Follow-up and support for participants' actions (contacting their case manager, talking to a doctor about their pain and medication, contacting associations); in connection with suicidal thoughts (identification of a person to contact by the participant), with new equipment
- Contact with a physician (in connection with suicidal thoughts)
- Contact the navigator (e.g., in relation to waiting list; social isolation)
- Contact with the residence's nurse (transmission of information about dyspnea)

Advocate

- Equipment loan request
- Request for home adaptations to the Activities of Daily Living program
- Contact regarding adapting or changing wheelchair
- Contact nurse at the Health and Social Services Centre who referred participant to rehabilitation; contact association of visually impaired people in the region and ask for a navigator (waiting list)

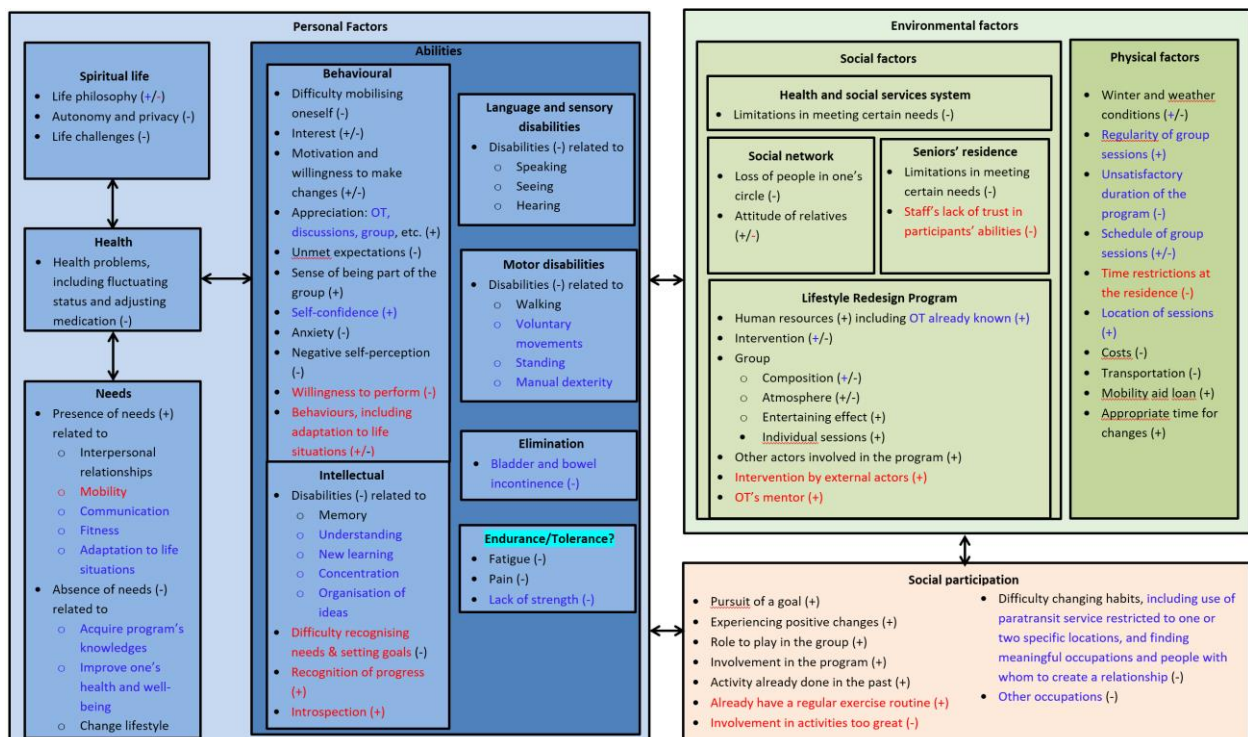
† *Italics* indicate interventions specifically related to occupational therapists' scope of practice.

Note: Occupational therapists' enabling skills in parentheses refer to Townsend, E.A. & Polatajko, H.J. (2013). *Enabling occupation II: Advancing an occupational therapy vision for health, well-being & justice through occupation*. Ottawa, ON: CAOT Publications ACE.

Documenting *acceptability*, facilitators and barriers to participation in the French-Canadian

Lifestyle Redesign[®] were related to personal and environmental factors (Figure 1).

Figure 1. Facilitators (+) and barriers (-) in pilot study of French version of Lifestyle Redesign[®] identified by all (text in black) or specifically by participants (blue) or occupational therapist (red)



Among **personal factors**, facilitators included participants' interest in Lifestyle Redesign[®] and having the motivation to make changes or mobilise themselves (Figure 1). This motivation was more evident in participants who thought the program could meet their needs. One woman who had retired four years earlier reported: "*[The program] happened at a good time in my life... I didn't know how to organize myself in my retirement.*" (P9). Reduced endurance (e.g., fatigue, pain) or manual dexterity, sensory limitations and lack of bowel control were among the barriers to group sessions and outings (Figure 1), especially for participants with disabilities. One woman reported: "*With my reduced vision, I capture less [information] than other people. I have to rely solely on what I hear.*" (P17). One participant with disabilities also mentioned that negative self-perception was a barrier, as she felt confronted with his losses during group sessions: "*I wasn't one of the gang [...] I was more aware of what I could no longer do.*" (P4). Among barriers, difficulty recognising their needs and being unwilling to make changes or mobilise themselves were also reported (Figure 1). Some participants without disabilities were very satisfied with their lifestyle and activities before the program and saw no need to change: "*I'm perfectly happy with the way I live my life.*" (P2). Therefore, although attending group sessions, these participants were less engaged in the program (e.g., less motivated to set personal goals). Both fully and less engaged participants experienced episodes of decreased motivation during the program and, according to the occupational therapist, the individual sessions were essential to maintain their motivation and support change.

Among **environmental factors**, social facilitators included external support for the program, regularity of the sessions, group experience, and social climate (Figure 1). For example, the group dynamic supported participants' interest and engagement in the program, according to one woman: "*Everyone became a bit friendlier. The more we got to know each other, the nicer it was.*" (P6). As participants shared resources and were involved in the choice of activities and outings, they had the opportunity to learn from each other's daily routines and experiences,

which was highlighted by another woman: *“It was enriching to see how others functioned, it gave us ideas.”* (P4). Participants’ openness and engagement were reported to be very important in having a positive group experience (Figure 1), as mentioned by one man: *“In the group, we all worked together, were all involved in the process, and it worked. [...] We came to a common understanding. We had our differences but were able to adjust.”* (P5). The occupational therapist was highly valued for her group animation skills, kindness, leadership and content expertise, and was also viewed as a facilitator and source of motivation, as noted by one woman: *“Maybe, if the [therapist] had been less interesting, I might have given up after four or five sessions.”* (P3). Facilitators were also found in external support, i.e., from families, residence’s staff or health professionals (Figure 1). One woman reported that Lifestyle Redesign® complemented the support she received from a health professional: *“I know exactly what I have to do because of the [program] but [...] I still have a way to go, and a social worker helps me.”* (P8). In the group of participants with disabilities, one or two volunteers assisted older adults (e.g., to go to the bathroom) or helped the occupational therapist during activities. Several volunteers were also required during outings. Finally, facilitators included the location of the group sessions, specifically for participants who lived in the seniors’ residence where the group sessions were held, and the possibility of having the individual sessions at home: *“If I had had to go out, I’m not sure I would have gone every week...It was reassuring that it was here.”* (P13). Among barriers, the residence’s time restrictions (e.g., could not come back from outings during the lunch period) and staff’s lack of confidence in participants’ abilities were reported (Figure 1). The weather (rain or winter conditions) was a barrier for some participants, especially for outings: *“It was winter and I didn’t have boots, so I didn’t go.”* (P2). Generally, transportation also represented a barrier (Figure 1). Although many participants without disabilities did not perceive the utility of using public transit for outings, some admitted they were happy they had tried it. For some participants with

disabilities, the use of paratransit was an important barrier (e.g., long wait time). Finally, the cost of some activities and difficulty finding free activities and places accessible to people with reduced mobility were also reported as barriers.

For **social participation**, older adults reported participation facilitators in Lifestyle Redesign[®] related to their experience with the program and their sustained involvement in it, as well as already having a regular exercise routine or doing the activity (Figure 1). Pursuing a goal with regular follow-ups was also a facilitator: “*Having a goal forced me to think about it. Each week, the [occupational therapist] asked us if it had worked.*” (P3). Playing an active role in the group was important too, as reported by one woman: “*Every week, we had a small role. I brought different positive thoughts each week. This task was for me!*” (P13). This might even influence participants’ sustained involvement, as reported by one man: “*When I am part of a group, I get involved.*” (P1). Among barriers, participants reported difficulty changing their habits, including the use of paratransit restricted to one or two specific locations, being already highly involved in an activity, and having other occupations (Figure 1). For some participants, finding people to develop a relationship with and engaging in meaningful occupations constituted a barrier, as reported by one woman: “*I choose the people I’m going to be comfortable with, it’s not just anyone. That’s why it takes a bit longer! [...] Sometimes it’s harder to find things that will interest me.*” (P9).

In the occupational therapist’s opinion, the *acceptability* of the French-Canadian Lifestyle Redesign[®] represented an important and intensive 6-month commitment to deliver the program properly. To optimise training as well as program planning and delivery, the occupational therapist made a number of recommendations based on her experience with the program (Appendix 4).

Discussion

This study aimed to explore the feasibility of the 6-month version of Lifestyle Redesign[®] with French-Canadian community-dwelling older adults with and without disabilities, including specific aspects of its adaptation, implementation and acceptability. It was found that the French-Canadian Lifestyle Redesign[®] can be successfully delivered to older adults with and without disabilities by adapting it to the local context and to the participants' interests and abilities. Cultural and contextual adaptations of the program have been frequently reported as crucial to the program's success (Abma & Heijman, 2015; Maeir et al., 2021), which was supported by this study's findings. These adaptations should go beyond language, values and interests, and consider older adults' functional profile and facilitators and barriers to participation for an optimal fit between their reality and the methods used in the program. Since this was the first time the program had been given in a French-Canadian context and to older adults with varying level of disability, future implementations of the program adaptations should take less time.

Time considerations are also important for the sessions. More specifically, the high attendance and retention rates for the program indicate that session frequency, intensity, and duration were suitable for older adults with and without disabilities. Consistent with other studies on adapted versions of Lifestyle Redesign[®] (e.g., Mountain et al., 2020) and interventions fostering social participation in older adults (Raymond et al., 2013), this intensity and duration appear necessary to develop trust, openness to others, a positive group dynamic, awareness of individual challenges, and successful behavioural changes. The high attendance and retention rates for this program are comparable to other studies (Cassidy et al., 2017; Maeir et al., 2021; Mountain et al., 2008) and might be partly due to positive relationships between participants and with the occupational therapist. These results are supported by other studies showing the centrality of the social aspect in adherence to and better engagement in interventions (e.g.,

Chatters et al., 2017; Johansson & Bjorklund, 2016; Lund et al., 2018). Individual sessions complementing group sessions have been described as a key element of the intervention (Clark et al., 2015, 2021), and may have helped maintain older adults' engagement in the program. However, individual sessions were considered more valuable by occupational therapists than by busy and active older adults, who reported not needing (Mountain et al., 2020) or benefiting from them (Chatters et al., 2017). In this study, a good balance between individual and group sessions, including outings, might also explain the high attendance and retention rates in the program, along with experiencing positive changes and empowering the participants (Clark et al., 2015, 2021). In featuring a wide range of tasks, roles and enablement skills, our findings are similar to those of Chatters and colleagues (2017), who stressed the importance of having an occupational therapist lead the program. In this study, the occupational therapist played an important role in successful delivery of the program, including fostering a positive group dynamic. Although it would be desirable to share the tasks involved in preparing and delivering group sessions, professional facilitation seems the best way to help empower older adults to redesign their lives and ultimately foster their ability to cope with adversity, including in new situations such as the pandemic.

Concerning acceptability, personal factors were mainly related to abilities, needs, spiritual life, and health. For environmental factors, facilitators were mostly regularity of the sessions, group and external support while barriers were the residence's time restrictions and staff's attitudes, cost of some activities, and transportation. Overall, these results are similar to those for a shorter version of Lifestyle Redesign[®] with high-functioning participants (Cassidy et al., 2017; Mountain et al., 2020). Shorter versions could optimise human and financial resources and increase access to the intervention in an ageing population or after a pandemic.

The results of this study are especially relevant in post-COVID-19 pandemic situations when there are greater risks of having an unhealthy routine or being socially isolated (Caruso Soares

et al., 2021). Although still rarely implemented in clinical settings (Clark et al., 2013), Lifestyle Redesign[®] is an emerging and recommended practice. For example, the program is supported by National Institute for Health and Care Excellence guidelines in U.K. (NICE; 2008), is taught in Canadian universities, and is involved in research and practice development projects worldwide. Occupational therapists can use a feasible program like Lifestyle Redesign[®] to foster healthy routines and meaningful activities. It has not only helped individual older adults, it may also support community development (Chaskin, 2001). Future research could assist occupational therapists to implement and adapt the program better to the needs of their community and contribute to the development of preventive occupational therapy. Since the COVID-19 pandemic, decision-makers are increasingly interested in reducing loneliness and preventing decline and sedentary behaviours in older adults, but further evidence is still needed (Chastin et al., 2021). Occupational therapists are well positioned to guide future adaptations and appropriate delivery of Lifestyle Redesign[®] for various populations.

Study strengths and limitations

This is the first rigorous qualitative study of the feasibility of the French-Canadian Lifestyle Redesign[®] with older adults with and without disabilities. The results provide a nuanced understanding of specific feasibility components, as described by those directly involved in implementing the program. Another strength of this study is the combination of methods used to explore the program's feasibility, a concept that is not easily captured by questionnaires. Transferability of the results to other older adults is facilitated by detailed descriptions of the participants, their context, and the intervention. The plurality of data sources enabled data triangulation and produced good credibility (Laperrière, 1997). Credibility was also enhanced by consensual data analysis by the researchers as well as interviews that were digitally audiotaped and transcribed and the wording verified. Social desirability, a potential bias, was minimised by not giving participants a detailed explanation of the research objectives and

reassuring them that there were no right or wrong answers. On the other hand, the number of participants was relatively small. Larger studies are needed to continue to investigate conditions for success in implementing Lifestyle Redesign[®] as well as facilitators and barriers to implementation.

Conclusion

Lifestyle Redesign[®] is a well-documented innovative preventive occupational therapy intervention that provides older adults with new knowledge, support, and empowerment in redesigning their lives. Since it mainly uses a group approach that slows the decline associated with ageing, the intervention may also optimise the use of human and financial resources and contribute to addressing the global ‘healthy ageing’ priority. By showing that this occupation-based health-promoting intervention is feasible and by exploring its adaptation, implementation and acceptability, including with a population of older adults with disabilities with whom the program has rarely been studied, these findings support conducting a large-scale clinical trial to investigate the effectiveness of the French-Canadian Lifestyle Redesign[®] and will also ensure proper delivery of the intervention during the trial. Although the program was found to be feasible and to benefit participants, further research is needed to explain how and why the program works for some people and in different situations and explore the conditions for its integration in the healthcare system.

Key Points for Occupational Therapy

- Contextual adaptation of Lifestyle Redesign[®] is critical, including tailoring the approach to older adults’ profiles
- Consistent implementation of the program is feasible and ensured by occupational therapists’ expertise
- Participation is influenced by older adults’ profiles and how/when/by and with whom the program is delivered

Authors' contributions

ML was responsible for conception and design, which were reviewed by MHL and NL. ML also supervised data collection, analysis, and interpretation. ML drafted the article with the help of JLB and MHL. All authors revised and approved the version submitted.

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Conflict of interest

The authors have no conflict of interests to declare.

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Appendix 1. Feasibility components[†] addressed in studies on adapted versions of Lifestyle Redesign[®]

Studies (country; program name)	Acceptability (e.g., reaction to the program)	Demand (e.g., interest or intention to use)	Implementation (e.g., degree of execution, resource use)	Practicality (e.g., appropriate delivery despite resource constraints)	Adaptation (e.g., performance in a new format or with a different population)	Integration (e.g., perceived sustainability)	Expansion (e.g., potential for success in a different setting)	Limited efficacy testing (e.g., intended effects)
Abma & Heijnsman, 2015 (Netherlands; Healthy and Active Ageing)	Feeling of intrusion into privacy. Belief in destiny prevented reflection on ADL. Social aspects were appreciated.		Partial implementation with only 4 group sessions held and 3/5 participants (migrants with a Surinamese-Hindustani background) attending all of them.		Striking differences in expectations (e.g., get information vs reflect on daily habits) and values (e.g., personal control vs destiny) between older migrants and OTs.			
Cassidy et al., 2017 (U.S.; Aging Well by Design)	Participants were satisfied and would recommend the program. Perceived benefits for social relationships, awareness of community resources, and change in attitude toward aging.		13 participants attended between 8 and 11 group sessions, but only 5 completed 2 individual sessions. Program completed as planned. Human, material and financial resources were suitable. OT spends 10 hr/wk on the program + direct intervention time. Volunteer assists 4 hr/wk. \$1000 budget for supplies and food.	Program shortened to 3 months because clinicians thought a 6- or 9-month program too long and too resource-intensive for health care systems to implement.			Program implemented as a community outreach program in a primary care clinic affiliated with the US healthcare system.	
Maier et al., 2021 [Israel; Israeli Lifestyle Program (ILP)]	High satisfaction (median score = 4.5/5). All participants would recommend the program to a friend.		Median participation = 13/15 group sessions. All completed the program and attended 3/3 individual sessions.	Program shortened to 15 wks and 1½ hr/wk to align better with the Israeli public health system.	Program edited, translated, and adapted to Israeli culture. Content modified by adding or changing topics as well as providing culturally appropriate options (e.g., adding alternative subjects in the			Significant ↑ for occupational performance, environmental and social QoL factors. ↓ in depressive symptoms.

					“Hormones, aging, and sexuality” module to be acceptable to the ultra-orthodox Jewish community, which does not tend to speak about sexuality).	
Matuska et al., 2003 (U.S.; Designing a Life Wellness)	87% rated the program as good to excellent. Instructors, students, session length, group discussions and socialisation were all highly rated.	65 older adults attended ≥ 5/24 classes over 6-month period. High attenders were more likely to be nondrivers and older.	Group session shortened to 1½ hr/wk. OT student involvement was well received.			↑ in health (SF-36 scores for vitality, social functioning, and mental health) & frequencies of social and community participation
Mountain et al., 2008 (U.K.; Lifestyle Matters)	42 older adults expressed interest in taking part.	Challenge in finding, attracting and engaging older adults during recruitment, especially those more isolated, but very low attrition during the intervention. Lack of involvement of district nurses in recruiting.	OT technical instructors can deliver the 8-month program if adequately supported by OTs.	Content and language adapted for cultural appropriateness. Might need further adaptation with a greater focus on family relationships and spirituality.		Cumulative scores for physical and mental health improved but not significantly.
Mountain & Craig, 2011 (U.K.; Lifestyle Matters)	Of 4 older adults experiencing eroded lifestyle because of diminished health, all participants were able to (re)engage with new or neglected occupations despite continuing compromises, and with the support of					All participants experienced improved engagement and mental well-being with a resulting impact on their overall health and well-being.

	peers and facilitators.				
Mountain et al., 2020 (U.K.; Lifestyle Matters)	Most participants experienced no significant impact on daily life, but they reported behavioural changes.	10/13 older adults attended ≥10/16 classes. Difficult to recruit those at risk of age-related decline (i.e., lonely, isolated and inactive). Limited adherence to the overall program.	4-month program given by 2 OTs, 1 social worker and 1 community worker.	Group discussions translated and adapted to Welsh-speaking participants.	Participants with most benefits had experienced life-changing events and recognised the need to make changes.
Sprange et al., 2015 (U.K.; Journeying through Dementia)	Program's flexibility and facilitator's engaging style fostered attendance, increased confidence and self-efficacy, engagement in new or lapsed activities, and reengagement in fun and friendships. Majority enjoyed the program and wanted it to continue.	10 participants attended between 9 and 12 group sessions and 6/7 attended all 4 individual sessions. Low recruitment rates through? memory services and, despite interest, insufficient recruitment of older adults aged 64 and under. Weekly supervision guided facilitators with planning and tailoring the program.	Program shortened to 12 wks, given by 2 OTs (replaced, if needed by 2 OT students). Group size of 7 participants allowed sufficient time and resources to support the group and deliver individual sessions.	Program adapted for people with early-stage dementia. Carers were invited to join the group on 3 occasions.	↑ DemQoL from baseline to 8-wk follow-up, especially for those initially lower, and maintained post-intervention.

† According to the typology of Bowen et al. (2009)

Legend: ↑ = increase; ↓ = decrease; ADL = Activities of Daily Living; DemQoL = Dementia Quality of Life questionnaire; HRQoL = Health-Related Quality of Life; OT = Occupational Therapist; QoL = Quality of Life; SF-36 = 36-Item Short Form General Health Survey

Appendix 2. Reasons for absence from group sessions and outings

Reasons for absence	Older adults with disabilities (n=7)	Older adults without disabilities (n=10)
	Frequency (% [†])	
<u>Scheduling conflict</u>		
Appointments (doctor, dentist, other)	3 (23.1)	5 (15.2)
Work	0	7 (21.2)
Outing organised by the residence	1 (7.7)	0
Holiday	0	4 (12.1)
Other family commitment	2 (15.4)	3 (9.1)
<u>Personal reasons (and interests)</u>		
Health reason (did not feel well, injury, recovering from an operation)	3 (23.1)	5 (15.2)
Death of a family member	0	2 (6.1)
Did not want to go	0	3 (9.1)
<u>Activity-related</u>		
Activity too difficult	2 (15.4)	1 (3.0)
Activity too expensive	0	1 (3.0)
<u>Environmental barriers</u>		
No parking space	0	1 (3.0)
No battery in hearing aid	1 (7.7)	0
<u>Mistake</u>		
Did not wake up in time	0	1 (3.0)
Planning error	1 (7.7)	0
Total	13 (100)	33 (100)

[†] Out of the total number of absences per group

Appendix 3. Personal goals

Types of personal goals	Older adults with disabilities (n=7)	Older adults without disabilities (n=10)	Total (n=17)
	Frequency (% by goal)		
Goals related to activities in general		2 (20)	2 (11.8)
• Trying new activities through the program		1 (10)	1 (5.9)
• Establishing a routine		1 (10)	1 (5.9)
Goals related to physical and mental health	3 (42.9)	6 (60)	9 (52.9)
• Consulting a doctor	1 (14.3)		1 (5.9)
• Treating a wound	1 (14.3)		1 (5.9)
• Having a healthy weight (gaining or losing weight)	1 (14.3)	4 (40)	5 (29.4)
• Stopping smoking	1 (14.3)		1 (5.9)
• Resting (taking care of oneself)		1 (10)	1 (5.9)
• Using ways to improve mood (e.g., positive thoughts)	1 (14.3)		1 (5.9)
• Appreciating doing activities		1 (10)	1 (5.9)
Goals related to type of activity			
Physical activities	5 (71.4)	7 (70)	12 (70.6)
• Increasing physical activity (other than walking)		2 (20)	2 (11.8)
• Walking	2 (28.6)	5 (50)	7 (41.2)
• Modifying one's physical activity (incorporating jogging into routine)		1 (10)	1 (5.9)
• Doing exercises	2 (28.6)	1 (10)	3 (17.6)
• Swimming regularly		1 (10)	1 (5.9)
• <i>Doing more exercises to help strengthen legs by increasing participation at the day centre[†]</i>	1 (14.3)		1 (5.9)
Spiritual activities	4 (57.1)	4 (40)	8 (47.1)
• Meditating	4 (57.1)	4 (40)	8 (47.1)
Intellectual activities	2 (28.6)	2 (20)	4 (23.5)
• Doing more mental activities	1 (14.3)		1 (5.9)
• Reading more		1 (10)	1 (5.9)
• Increasing attention span		1 (10)	1 (5.9)
• Developing other learning methods		1 (10)	1 (5.9)
• Learning braille	1 (14.3)		1 (5.9)
Social activities	4 (57.1)	1 (10)	5 (29.4)
• Increasing social activities	1 (14.3)	1 (10)	2 (11.8)
• Improving a relationship	1 (14.3)		1 (5.9)
• <i>Getting out with daughter</i>	1 (14.3)		1 (5.9)
• <i>Participating in an activity at the seniors' residence</i>	1 (14.3)		1 (5.9)

	Older adults with disabilities (n=7)	Older adults without disabilities (n=10)	Total (n=17)
Types of personal goals	Frequency (% by goal)		
• <i>Dining in a restaurant with group participants</i>	1 (14.3)		1 (5.9)
Community activities	2 (28.6)		2 (11.8)
• Going to a restaurant	1 (14.3)		1 (5.9)
• Participating in group discussions	1 (14.3)		1 (5.9)
Goals related to lifestyle			
Daily activities	6 (85.7)	5 (50)	11 (64.7)
Mobility	5 (71.4)	1 (10)	6 (35.3)
• Transferring or repositioning in bed	1 (14.3)		1 (5.9)
• Using the equipment required for walking (e.g., orthotics, walker) or human assistance	1 (14.3)	1 (10)	2 (11.8)
• Going outside (wheelchair)	2 (28.6)		2 (11.8)
• Getting out (visiting husband at the Rehabilitation Centre), including using paratransit (transportation for people with disabilities or limited mobility)	3 (42.9)		3 (17.6)
Nutrition	2 (28.6)	3 (30)	5 (29.4)
• Reducing coffee		1 (10)	1 (5.9)
• Reducing salt	1 (14.3)		1 (5.9)
• Drinking more		1 (10)	1 (5.9)
• Stopping eating dessert (for a limited time)	1 (14.3)		1 (5.9)
• Eating on time	1 (14.3)	1 (10)	2 (11.8)
Housing	2 (28.6)	2 (20)	4 (23.5)
• Cleaning the house		1 (10)	1 (5.9)
• Organising the house	2 (28.6)	1 (10)	3 (17.6)
Communication	2 (28.6)		2 (11.8)
• Expressing opinions	1 (14.3)		1 (5.9)
• Asking for help (to walk)	1 (14.3)		1 (5.9)
Personal care	1 (14.3)		1 (5.9)
• Shaving beard every day	1 (14.3)		1 (5.9)
Social interactions and roles	2 (28.6)	3 (30)	5 (29.4)
Interpersonal relationships	2 (28.6)	1 (10)	3 (17.6)
• Being more patient	2 (28.6)	1 (10)	3 (17.6)
Employment		1 (10)	1 (5.9)
• Having a normal working rhythm		1 (10)	1 (5.9)
• <i>Working on projects</i>		1 (10)	1 (5.9)

† *Italics* indicate goals planned for post-program

Note: Same participant can appear under more than one type of personal goal but only once for the total of each type.

Appendix 4. Experience with Lifestyle Redesign® and recommendations from the occupational therapist

Although the occupational therapist received support from a mentor each week, she would have appreciated having a colleague to share the tasks related to preparing the group sessions, outings, and personalised follow-ups with participants. In addition, to optimise preparation of the occupational therapists delivering the program in the future, the training could be revised and improved to provide a better overview of the whole intervention and delivery methods. The occupational therapist reported that it is important *“to read the entire manual before beginning the intervention and have a good understanding of it, including the number of individual sessions and general group functioning. Several [modules] contain many good ideas for individual sessions, and the last module [12] should be read first.”* The occupational therapist also felt that a more detailed explanation of the outings and their aims was needed. Suggested training improvements included adding examples from the program with older adults, instead of about weight loss, and more comprehensive content about group dynamics and facilitation. According to the occupational therapist, it was a challenge to find activities adapted to a wide range of profiles. Although various profiles within a group provide a heterogenous vision of aging and foster mutual help from participants, especially during outings, more homogeneous groups should be targeted. Because they were important for mobilisation, the outings were beneficial for participants and should be organized, even if complicated by snow and hard for older adults with disabilities: *“Outings are essential. If I had to do [the program] again, I would organise the first outing in advance, maybe prepare two activities and ask the participants to choose one to get them into the action quickly. I would then give them more responsibility for organising subsequent outings.”* Finally, although the Personal Engagement Plan (PEP) was explained to them at the beginning of the program,

participants made little use of it. According to the occupational therapist, although the PEP was very useful in making them aware of their achievements and their progress on their personal goals, it may be too complex for some participants and could be simplified (e.g., summary of goals) to facilitate its use in future implementations of Lifestyle Redesign®.