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Exploring motivation, goals, facilitators, and barriers to adopt health behaviors at retirement age: a focus group study

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Abstract

Background This study qualitatively investigates retirement-age adults' perspectives on engaging in health behaviors such as physical activity or a healthy diet, distinguishing facilitators, barriers, goals, and motivations (the two later in line with Self-Determination Theory).

Methods Two clinical psychologists conducted four focus groups with Spanish adults around retirement age. We conducted inductive and deductive content analysis.

Results The main facilitators and barriers identified were the presence and absence of social support/social network, mental health, willpower, time, and motivation. Participants reported different types of motivation (e.g., intrinsic motivation in the enjoyment of the activity of exercise or cooking) and goals (intrinsic and extrinsic); except for the goal of health management, which presented both types of motivation, participants regulated intrinsic goals autonomously, and extrinsic ones with controlled motivation. A process of internalizing the source of motivation was identified inductively by participants.

Conclusions Facilitating social networks and addressing mental health issues could aid engagement in health behaviors among this population. Additionally, health management appeared as a significant goal, where autonomous motivation can develop even if the behavior initially arises from controlled motivation or external triggers, such as medical advice.

Keywords Retirement, Self-determination theory, Motivation, Facilitators, Barriers, Healthy lifestyles

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Introduction

Engaging in health behaviors such as physical activity, eating healthy, etc., is paramount for preserving physical health and staving off age-related ailments [1]. However, older adults often fail to adhere to these recommendations [2]. An opportune moment for the promotion of these behaviors could be the retirement transition, as people need to restructure their lifestyles, habits, and daily activities and might be already motivated to establish new daily routines [3, 4]. In this context, acknowledging the subjective viewpoint of individuals aspiring to adopt health behaviors becomes crucial. Consequently, researchers have concentrated on pinpointing factors perceived as facilitators and barriers when endeavoring to instigate behavioral changes and uphold a healthy way of life [5, 6]. They have identified various barriers and facilitators: common barriers include limited structural resources (e.g., time, financial resources, information about services, and environment) or personal challenges (e.g., knowledge, habits, personal choices, and preferences, as well as previous experience) [7, 8]. Facilitators include social support and networks, willpower, and individual motivation [9, 10]. Nevertheless, it is not merely significant to pinpoint facilitators and barriers; it is also crucial to delve into the goals and types of motivation that underpin the establishment and preservation of health behaviors, as these factors significantly impact the likelihood of sustaining such behaviors [11, 12]. Yet, in qualitative studies targeting the identification of these goals, facilitators, and motivations, there is often a conflation of these elements [13, 14]. This would be particularly important considering that the goals and motivation one pursues may vary with age and the perception of time, for which retirees can have a unique perspective [15]. According to Self-Determination Theory [16], people who adopt and maintain health behaviors have different motivations and pursue different goals through them. So, it is essential to differentiate the content of the goal as the "what" and the motivation that regulates the behavior as the "why."

Starting with the "why" (i.e., regulating motivation), it is first relevant to differentiate between controlled motivation, when the source of motivation is external pressure or rewards or partly internal pressure, and autonomous motivation, which occurs when the pleasure from the behavior itself or one's interests and values motivates the behavior (Organismic Integration Theory) [17, 18]. In this theory, motivation is a continuum with varying degrees of internalization (see Fig. 1).

Starting from controlled motivation, we can distinguish between external motivation deriving from external pressure or rewards and introjected motivation due to a somewhat internal pressure, such as avoiding feeling guilty or internal rewards, such as ego enhancement. In autonomous motivation we find identified motivation (the behavior is considered something personally relevant), integrated motivation (the behavior is considered necessary and in line with one's values), and intrinsic motivation (the source of motivation is the enjoyment of the behavior itself) [17]. When the motivation behind a behavior is predominantly controlled, it is not likely to be sustained over time; on the contrary, empirical studies and different meta-analyses find that autonomous forms of motivation relate to engagement and maintenance of different health behaviors such as exercise, healthy eating, smoking cessation, and others [11, 19, 20].

The content of the goals, the "what" in Self-Determination Theory, refers to what the person is trying to achieve through the activity (e.g., improving their physical appearance) rather than the self-regulation and motivation that is taking place to achieve it (Goal Content Theory) [21]. There are two types of goals: intrinsic and extrinsic. The achievement of intrinsic goals is supposed to be inherently rewarding, such as improving at an activity, developing one's skills, or developing social connections through the activities, and contribute to the satisfaction of basic needs such as autonomy, competence, and relatedness [16]. Whereas extrinsic goals are not self-rewarding but lead to external rewards from the activity, for example, obtaining social recognition for a fit physical appearance [18]. Pursuing intrinsic goals to a greater

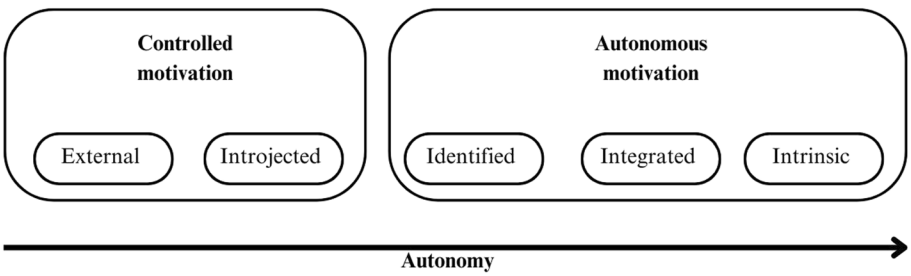

Fig. 1 Continuum of autonomy along the distinct types of motivation and regulation types [adapted from 16]

extent than extrinsic ones has been related to higher adherence in exercise [12, 22] and healthy eating [23, 24]. Even though the distinct types of goals can be regulated autonomously or controlled, intrinsic goals are associated to a greater extent with autonomous motivation, whereas extrinsic ones are associated with controlled motivation [25, 26]. In fact, some studies have found that motivation mediated the relationship between goals and adherence to a behavior [25, 27].

Researchers have identified over the years different intrinsic and extrinsic goals for exercise and eating healthily [22, 26, 28, 29]. The latest approaches [26, 28] characterized the following intrinsic goals: (1) skill development, as the goal of improving or developing skills in the activity; (2) health management, as the goal of improving one's health or fitness through the activity; (3) social affiliation, as the objective of establishing close or meaningful relationships with others through the activity. They characterized the following extrinsic goals: (1) appearance, as the goal of improving one's physical appearance, and (2) social recognition, as the objective of obtaining admiration and recognition by others.

This study endeavors to gain a deeper qualitative insight into the perspectives of adults in retirement age concerning the initiation and perpetuation of health behaviors. To our knowledge, this has not been studied in this population. Furthermore, previous qualitative studies usually fail to adequately define and identify motivators, usually conflating these with goals and facilitators [13, 14, 30]. This study focused on offering a complete view of this population's perspective by distinguishing between facilitators, barriers, goals, and types of motivation, following the Self-Determination Theory for these two later concepts.

Methods

This was a qualitative study involving focus groups.

Participants

The target population was people living in Madrid, Spain between 50 and 70 years old. We selected this age range to include all the variability in the age of retirement and to collect all possible perspectives in the retirement period (expectations before retirement, pre-retirement, retiring, and already retired). Furthermore, this age range is the standard one used in research about the retirement transition (e.g., [30–32]). Aiming to recruit a significant sample with socioeconomic diversity, we distributed information in social media and in the following centers: public Hospital Universitario Ramón y Cajal, Ramón y Cajal Institute for Health Research (IRYCIS), UNINPSI Clinical Psychology Center, private Comillas Pontifical University, and to different public associations for retirees and older adults. A total of 34 participants registered for the study; however, we excluded four who were younger than 50 years old. We invited the remaining volunteers to participate, but only 19 attended the focus groups (mean age of 61.5 years old, and predominantly women $n=15$; Table 1). Regarding marital status, most of the sample was married ($n=12$); 6 individuals were single or divorced, while one participant was a widow. Reasons for non-participation were no answer nor confirmation to the invitation ($n=5$), not being able to attend on the set dates and times ($n=5$) and being diagnosed with COVID-19 at the time of the group meeting ($n=1$).

Procedure

Two female clinical psychologists designed and moderated the focus groups, one senior researcher with a background in gerontology (M.S.I., PhD) and a PhD student (P.C.C., MS). There was no prior relationship with any participant. Participants only knew that the interviewers were clinical psychologists and their affiliations. Furthermore, the purpose of the study was explained to them. The groups were formed considering the availability of the participants and their location preferences. We conducted four focus groups (Table 1; an adequate sample size to data saturation [33]) at UNINPSI Clinical Psychology Center and Hospital Universitario Ramón y Cajal in March 2022. In both cases, we used a room with natural light, ventilation, and with chairs arranged in a circle.

Table 1 Demographic characteristics of participants

ID	Group	Job status	Profession
P1	1	Retired	Homemaker
P2	1	Working	Healthcare
P3	1	Retired	Healthcare
P4	1	Retired	Administration
P5	1	Retired	Administration
P6	2	Working	Transport
P7	2	Working	Administration
P8	2	Working	Domestic work
P9	2	Working	Social work
P10	2	Working	Security
P11	2	Working	Healthcare
P12	3	Working	Administration
P13	3	Working	Healthcare
P14	3	Retired	Healthcare
P15	3	Working	Administration
P16	3	Working	Healthcare
P17	4	Working	Healthcare
P18	4	Working	Research
P19	4	Working	Healthcare

Data collection

An interview guide (additional file 1) led the focus group interviews; the questions were designed to elicit discussion between participants. In all groups, we asked for and received permission to record the audio from all participants. Participants did not check the later transcription or results. We took field notes for some interactions among participants and context-related cues. The duration in all cases was between an hour and a half and two hours.

Data analysis

Coding and data analysis was supported with the software ATLAS.ti Scientific Software Development GmbH (https://atlasti.com). We conducted content analysis using both deductive and inductive approaches. As deductive coding is at risk of leaving out information that does not fit within the theory or pre-established codes [34], it is important to also follow an inductive approach and iterative coding process. However, when previous qualitative studies have aimed to identify motivators inductively, these were not precisely defined [13, 14, 30]. Thus, an additional deductive approach following a sound theoretical background could improve the quality of the findings. Nevertheless, these were not mutually exclusive, as all the data was coded and analyzed following both approaches. The inductive approach was used to identify facilitators and barriers (i.e., anything that was perceived by participants as helpful or challenging towards the acquisition and/or maintenance of a health behavior) following an iterative coding process. First, the data was read until familiarized; second, a general coding scheme with descriptions was used (facilitators, barriers, general, diet, physical activity); third, subcategories for general codes were identified (e.g., social support/network, mental health, etc.). For goals and motivations, we followed a deductive approach using Self-Determination Theory [16] with pre-established codes (a code for each goal and motivation type; e.g., goal-health-management, motivation-intrinsic). For coding, three persons participated: the two moderators (M.S.I. and P.C.C.) and an external researcher who was not present in the focus groups (G.D.) to cross-control the coding strategy. Krippendorff C-Alpha binary was calculated to measure intercoder agreement, obtaining an appropriate overall value (*ca-binary* = 0.997). Participants did not provide feedback on these findings.

Reporting

Participants' quotes with appropriate identification were used to illustrate findings and themes. They have been referred to throughout the manuscript and in additional file 2, providing the original Spanish version and the translation to English. Limited data regarding participant's characteristics is reported to protect their anonymity. Furthermore, visual aiding as diagrams (created by ATLAS.ti; Fig. 2, additional file 3) is provided in which the cooccurrence of different codes are shown (i.e., higher thickness in bars represents a higher proportion of quotes that share two different codes. For example, to which extent "health management" is coded in quotes that are also coded with "autonomous motivation"). The data were displayed to represent the findings and the diverse cases appropriately; however, the present paper only focused on the major topics of facilitators, goals, motivation, and barriers. We followed COREQ guidelines for reporting this qualitative study (additional file 4) [35].

Ethics statement

The study addresses international ethical guidelines such as the Declaration of Helsinki [36]. The Comillas Pontifical University's ethics committee approved the study (10/22–23). When registering to participate in the study through Microsoft Forms, participants gave informed consent electronically, it also provided researchers' contact information for potential inquiries. Additionally, prior to starting each focus group, moderators reminded the study goals, confidentiality, and that participating was voluntary, being able to leave the study at any time; all participants gave consent. Furthermore, we asked for permission to record the audio in the groups before they began and was granted. There was no compensation provided for study participation.

Results

Facilitators and barriers

Participants identified various facilitators and barriers for a healthy lifestyle in general, most of them observed for both diet and physical activity, but some were specific to each. Usually, facilitators and barriers overlapped. For example, participants identified having more time as an expected facilitator, and lack of time as a barrier (additional file 3). Thus, general factors influencing diet and physical activity as facilitators or barriers are reported first (such as presence or absence of social support; additional file 3). Second, participants described the facilitators and barriers specific to exercise (e.g., having access to an attractive environment to go for a walk as a facilitator) and diet (e.g., having access to unhealthy snacks as a barrier). For a summary and overview, see Table 2.

General barriers and facilitators

Social support and/or network

Participants described social networks as a factor that can act as both a facilitator and a barrier. Specifically,

Table 2 General and specific facilitators and barriers of physical activity and diet, and the number of participants that mentioned each

	Component	n	Barriers	n	Facilitators
General	Social	3	Lack of social support and/or network	5	Social support and/or network
	Emotional	3	Emotional and family issues	2	Mental health
	Will power	2	Lack of willpower	4	Will power
	Time	4	Lack of time	1	Having more time
	Self-conviction	1	Lack of motivation and self-conviction	3	Self-conviction
				4	Retirement
				3	Well-being
				2	Trigger
Physical activity		2	Boredom	3	Attractive environment and proximity
		2	Getting out of one's home	3	Organized and group activities
		1	Lack of discipline		
Diet		5	Access to unhealthy snacks	2	Having healthier substitutes
		2	Eating out	2	Avoid buying unhealthy food
		1	Difficulty in healthy recipes	1	Self-monitoring
		1	Emotional eating	1	Time and calm

not having a romantic partner or lacking his/her support for engaging in health behaviors emerged as a barrier: "*I have been a widow for 5 years and it is true that now it has been difficult for me to go out... before, you always counted on that person*" (P11), "*I am divorced [...] on the contrary, it slowed me down and I always wanted to move forward*" (P2). On the other hand, having a partner with whom health-related activities were carried out together was frequently identified as a facilitator "*It helps me a lot that it is both of us [...] it seems that if you don't do it, the other one seems to fail. It's easier to do it between two people than between one*" (P6). Furthermore, having a social network beyond romantic relationships, with whom these activities can be shared, was also mentioned as a facilitator "*this is what has helped me to go out and sometimes to go to the pool, that is, to count on someone, whoever, a friend, your son, your...*" (P11).

Emotional aspects

Participants discussed the role of emotional well-being both as a facilitator and a barrier. On one hand, this was reported as a barrier: when one is emotionally unwell or experiencing concerns that cause emotional distress, engaging in healthy activities becomes a non-priority "*obviously it's good to do so many sit-ups, but if I'm depressed I don't do any sit-ups because I don't see the point*" (P18), "*I do my Tai Chi, but now I haven't been doing it for a long time because I don't focus. Also, family things come up and you have to pay a little more attention somewhere else*" (P19). On the other hand, feeling well emotionally was identified as a facilitator, acting as a driving force and motivator to engage in health behaviors "*If you are emotionally well, you are going to do things with enthusiasm, you are going to take care of yourself with your diet, you are going to go for a walk...*" (P13).

Willpower

Participants defined a third component, which they referred to as "willpower", understood as the ability to regulate one's behavior, resist temptations, and exert self-control to pursue and achieve goals. In other words, the strength one has to drive their will into doing health behaviors. However, they did not define this term further. They mentioned having willpower as a facilitator, while its absence was seen as a barrier "*sometimes you don't have willpower, I don't always have the ability to say 'I shouldn't eat more than 2 plates of this today' or 8 chocolates*" (P9).

Time

Participants identified lack of time as a barrier, mainly due to high work commitments. In fact, working participants identified it, but not retirees. Additionally, participants said they saw it as an expected facilitator; they said they expected that increased free time would lead to a greater engagement in physical activity or to cooking healthier and more elaborate meals. Participants said they expected the anticipated increase in leisure time upon retirement to be a general facilitator.

Motivation and self-conviction

This facilitator is the idea that, to adopt and maintain a behavior, motivation must come from within, with a strong personal conviction. In this regard, it outlines the

importance of being oneself who wants to do the behavior rather than other people or external pressures. "*It has to be a self-conviction, because if not, it is useless for you to tell me the properties of this product this is fantastic and such, very well, I don't care, I do not motivate myself [...] I am aware that there were things that I could improve and surely for my physical well-being it would be much healthier, but like what we say, I do not have the motivation now to be so... to give up certain things that now give me pleasure*" (P9).

Other general facilitators

In addition to the above domains, participants identified other general facilitators. For example, the facilitator of generativity emerges, which involves being a role model for others.

Participants also identified "attitude" as a facilitator, suggesting that one could engage in the necessary activities with the right attitude.

Participants recognized different facilitators related to initiating and maintaining habit acquisition. For example, they discussed the role of a trigger, such as a doctor, friend, or family member telling them to change, as something that could make one realize the need for a change. However, in terms of maintenance, they identified other facilitators, such as recognizing the rewards of the activity "*maybe it has to do with the reward, after seeing that you feel better and you don't feel bad that you didn't go*" (P15). They also called progression, patience, and flexibility with mistakes facilitators "*I don't want to rush because I don't think that anything that causes me to have an obligation to go further is going to fail*" (P9). Additionally, they identified the retirement transition itself as an expected facilitator. Some participants who had not yet retired placed their expectations on achieving a healthy lifestyle in this upcoming phase.

Barriers and facilitators to physical activity

In addition to the previously mentioned domains, participants identified specific facilitators and barriers to physical activity ranging from walking to specific exercises.

The main barriers participants expressed were boredom associated with the activity, not enjoying it, and the "laziness" they attributed to leaving the house once they were at home. Another barrier participants identified was how the activity is conducted. For example, P10 enjoys playing tennis and competing with younger people, but he does not like it when a teacher corrects him "*we have a teacher and sometimes, why do I need him yelling at me? well, yelling in quotation marks, he is correcting me, let's say, this gentleman, I am not going to be Nadal, I come here to have a good time*" (P10).

Regarding specific facilitators of physical activity, the importance of the environment and geographic area was discussed, especially for walking. For example, participants identified living in a city like Madrid – which they described as "*spectacular*" (P16) or where "There is always life" (P10) –as a facilitator for walking. They also mentioned accessibility and proximity to places that facilitated physical activity such as the gym and workplace activities. Additionally, participants discussed engaging in organized activities as a facilitator because it implied commitment and enhanced adherence.

Another facilitator was recognizing the physical "rewards," meaning that engaging in sports leads to favorable physical conditions. For example, P3 commented that, while he used to experience muscle soreness when skiing in the past, now that he was older but in better physical condition due to being more physically active, it no longer caused him soreness.

Barriers and facilitators to a healthy diet

The barrier participants mentioned the most to maintaining a healthy diet was increased accessibility to food and time for snacking. Participants reported no difficulty in preparing healthy and balanced main meals. However, throughout the day, they reported that they tended to eat unhealthy snacks such as potato chips and processed meats. They mentioned that having more free time and spending more time at home facilitated access to these snacks. Both working and retired participants reported that they perceived retirement as a moment in which this can happen to a greater extent by both, "*fear of what you're going to do next.... (when you retire) it's true that when I'm at home, I'm always snacking all day long and so on*" (P11), and "*One of the problems is that you have a lot of time for snacking, that is, when you are working you have no chance to go to the fridge to get a piece of cheese [...] and when you are at home, you go to the fridge 50,000 times*" (P3).

Another barrier people mentioned was eating out, as it was more challenging to eat healthily. On the one hand, P10 mentioned the need to eat out for work-related reasons and that he was looking forward to retirement, hoping that by changing this, he could improve his diet. On the other hand, P11 referred to eating out as a social event that hindered following a balanced diet, "*What makes the story unbalanced is that we go out with friends, which I like, I have a sweet tooth and we like to go out and alternate*" (P11).

Only one participant mentioned as a barrier the difficulty and complexity of ingredients in healthy and sophisticated recipes "*There are times when you see some recipe in a magazine, we have avocados, but they put things there and I have to go buy this specifically to make the dish*" (P7).

Lastly, related to the emotional domain, eating was identified as a strategy for emotional regulation, which hindered maintaining a healthy diet "*There are times, especially when I have family issues, but it's like I can only do a little bit, I can't solve them and it's like suddenly I have to eat chocolate [...] because chocolate consoles me quite a bit*" (P19).

Participants also referred to strategies that allowed them to better control the foods they consumed. On the one hand, having healthy substitutes in mind for unhealthy snacks. For example, in the case of emotional eating, a healthier cereal with a lower proportion of chocolate instead of chocolate. On the other hand, some participants decided not to buy foods that tempted them but were unhealthy. Lastly, P19 mentioned that keeping a daily record of the amount of chocolate she consumed helped her identify when she exceeded her limits and facilitated behavior self-regulation.

One participant suggested that having time and peace to enjoy cooking facilitated preparing more complex and healthier dishes.

Goals and motivation

As mentioned earlier, this section is based on Self-Determination Theory (Deci & Ryan, 2000). Regarding the type of motivation, participants discussed autonomous motivation to a greater extent (52 participants' mentions) than controlled motivation (28 mentions). The proportion of controlled and autonomous motivation participants mentioned was similar for general healthy lifestyle and diet, whereas, for physical activity, they identified autonomous motivation more frequently.

The most prevalent identified goal was health management, regulated by controlled and autonomous motivation. Skills development and social affiliation were fully regulated autonomously. Appearance and social recognition were only identified within controlled motivation. Thus, except for health management, intrinsic goals were associated with autonomous motivation and extrinsic ones with controlled motivation (Fig. 2). Specific examples were given for the specific behaviors.

General goals and motivation

Participants pointed out different goals that made them want to have a healthy lifestyle. These goals were regulated by different forms of motivation: autonomous and controlled motivation and their subtypes (see Fig. 1).

Regarding autonomous motivation, participants expressed different subtypes: identified (the behavior was considered something personally relevant), integrated (the behavior was considered necessary and in line with one's values), and intrinsic (the source of motivation was the enjoyment of the behavior itself). First, participants showed identified and integrated motivation, indicating that pursuing a healthy lifestyle was personally relevant for them and fit within their values. More specifically, they outlined the personal value of independence as a reason to be healthy "*I try to live a full life physically and mentally, as well as possible, because if not, I will be a burden for my children, and I am not going to be happy with myself, it is that, first of all, I am not going to be happy with myself"* (P4). In addition, participants discussed different goals within this type of motivation. For example, regarding the goal of health management, they outlined the value of being in charge of and owning one's health as well as experiencing well-being and personal satisfaction as a consequence of their health behaviors "*A long time ago they tested my sugar, Type 2 diabetes, and thanks to that I have picked up some habits over the years and the truth is that I feel great. Between the analysis that*

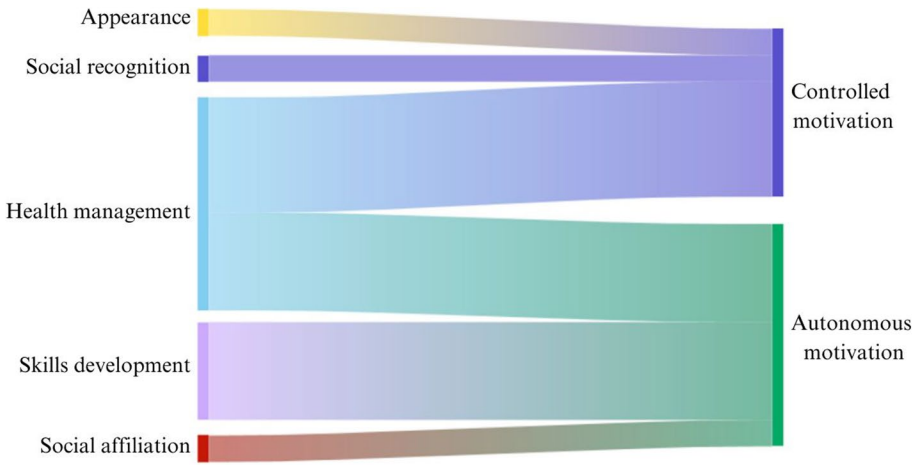

Fig. 2 Distribution of goals according to the motivation type

confirms it and a series of things, little by little you create your own needs and you recognize what really suits you" (P6). Participants also mentioned the goal of skills development in a general way, in which being able to accomplish one's goals whenever it was challenging led to a self-satisfaction feeling that served as motivation to persevere. Last, participants referred to intrinsic motivation in enjoyment and well-being from doing health behaviors. We give examples in the following sections.

On the other hand, participants identified introjected motivation within controlled motivation. This referred to the anticipated discomfort when considering being dependent on another person or "*hassle my children*" (P4), which motivated participants to pursue health behaviors. Focusing on goals that were regulated from controlled motivation, however unclear which subtype, they mentioned the goals of social recognition and appearance. Regarding the former, a participant said she would not like to be seen as dependent or in pain but rather as someone capable of managing everything independently. Focusing on the latter, appearance, participants mentioned the goal of losing weight and looking differently; however, participants did not specify if this was due to external or social pressure (external motivation) or if it was more internalized (introjected motivation).

Goals and motivation mentioned for physical activity

Regarding the type of motivation, participants referred to autonomous motivation, such as intrinsic enjoyment. In this regard, they outlined the enjoyment of a particular physical activity such as Tai Chi, tennis, walking, or Tao Yin, for example, "*the slow movements (of Tai Chi) give me such peace of mind*" (P19). Participants said they appreciated other outcomes experienced directly from the activity, such as feeling focused, relief of stress (e.g., "*I have a lot of work, a certain level of stress and when I get home I would have two options, the days I don't have tennis and my need to calm that possible stress can be to have a beer with fries, which is not healthy at all*" P10).

Specifically for walking, participants discussed the enjoyment of the environment, mentioning that going for a walk in a city like Madrid, which one participant called "full of life," motivated participants to get to know other areas and neighborhoods.

One participant pointed out the importance of other goals rather than just walking more, like social affiliation "*I am interested in seeing new places, spending a day in the countryside. I'm not interested in doing so many steps, I don't care about that. I'm willing to die of what people die of… because it's not something that motivates me, but I am motivated by strolling, by being able to see something different, by being with other people, by giving myself a bit of my own choice*" (P18). In addition, another participant also referred to social affiliation as a goal in playing tennis, because they enjoyed the social interaction derived from it.

Participants mentioned the goal of health management, also referring to targets such as feeling fit, agile, and in balance through physical activity. Skills development was also a mentioned goal, in which participants valued the improvement at an activity such as tennis or swimming (e.g., "*I didn't know how to swim […] and I overtook my son in level one. I dive headfirst, I swim underwater, I swim all the strokes*" P12).

As mentioned earlier, some behaviors seemed to begin from a controlled form of motivation and through an internalization process ended up being autonomously motivated. For example, after developing a healthy habit, it ended up being enjoyed; this would be the case of P10, who started walking due to medical advice after undergoing surgery but maintained this as a habit because of its enjoyment. Similarly, P14 stated "*I never liked walking much, but now I walk and if I don't walk I miss it […] you get dressed, you go to the street, I at least take a walk and I am delighted and I go home happy*."

One participant aiming to lose weight identified the controlled motivation goal related to appearance. Participants also identified health management within controlled motivation for cases with no sign of internalization but rather from the external pressure of avoiding health issues. Participants identified introjected motivation such as feeling guilt whenever not fulfilling their objectives, for example, "*The day I don't exercise, it's as if I had committed a sin. And besides, I feel bad*" (P4). Lastly, they alluded to social recognition in terms of social comparison, appreciating being fitter, more agile, and more balanced than people of their age.

Goals and motivation mentioned for a healthy diet

Regarding the goals explicitly identified for eating healthy and considering the activity of cooking, participants only identified health management and skills development.

Focusing on the type of motivation, participants identified autonomous forms. Starting with intrinsic motivation, participants identified cooking as an activity that generated pleasure, enjoyment, and stress relief. In addition, and relating to the goal of skills development, some participants referred they liked improving at cooking. Some enjoyed the satisfaction they felt when some dishes came out tasty "*considering the little I do, sometimes the only thing I say is 'that came out really tasty.' Then I get motivated and I say, 'Damn, and that's without doing much, if I cooked more, maybe I would…*" (P9).

Regarding the goal of health management, the participants' motivation that regulated these seemed to have

gone through internalization and become identified or integrated: *"I had a hiatal hernia and..., well, I have a hiatal hernia, so when I was very young I had an ulcer and since then I have monitored my diet a lot [...] I eat this way because... for my diet, for my stomach, because why am I going to eat something if it's going to make me feel bad later?"* (P2).

Regarding controlled motivation, health management was also identified here, outlining the goal of avoiding future health issues. This goal has also been externally regulated such as a family member's pressures to avoid consuming fried products (P10).

Discussion and conclusions

While there has been extensive work on interventions to adopt and/or maintain health behaviors throughout life, research on people's perceptions around retirement age is more limited [31]. However, it has grown in the past years [30]. Nonetheless, the adequate distinction between motivators and facilitators is still lacking [30]. This is especially relevant considering that what motivates this population can be significantly different than younger people, according to the Socioemotional Selectivity Theory [15]. Thus, this focus group study aimed to deeply understand how people around this life transition experience barriers, facilitators, goals, and motivation to adopt and maintain it.

Facilitators and barriers

Participants mentioned multiple aspects as either facilitating or hindering health behaviors. The most-mentioned aspect was the role of perceived social support (e.g., from a romantic partner) or one's social network (e.g., having someone in your network with whom to do physical activities) as a critical facilitator and its absence as a barrier, which is consistent with multiple other qualitative studies [9, 37]. Furthermore, previous literature has identified the positive influence of social contact on engaging in health behaviors [38].

Participants also identified different emotional aspects as barriers. For example, when they suffered mental health problems or other emotional issues, health behaviors were no longer a priority. This is also consistent with previous literature pointing out that poor mental health and depression were linked with sedentarism [39] and unhealthy diet [40], among others. Previous qualitative studies have not often reported these emotional aspects and mental health issues as facilitators or barriers, however these have been identified in cross-sectional studies [6, 41]. It is possible that the time and context in which we conducted our focus groups influenced the result, as the COVID-19 pandemic was still ongoing. This pandemic has had a severe impact on mental health [42], and become a popular topic of discussion [43] and a reason for protests in Spain [44].

Participants mentioned other aspects, such as the presence or absence of willpower, time, motivation, and self-conviction. These seemed to be cross-cutting factors as they have been consistently identified in previous literature, as well as in other qualitative studies [10, 45].

We found specific behavior-related facilitators and barriers for a healthy lifestyle. Regarding physical activity, we recorded common and previously reported factors, such as enjoyment or lack of enjoyment as a facilitator or barrier, respectively [3]; organized and group exercise activities as facilitators [37]; and laziness about leaving the house and lack of discipline as barriers [10]. Participants also outlined the importance of the environment and the geographic area and mentioned the enjoyment of walking in the city. This is consistent with previous literature that identified environmental factors such as access to facilities and appropriate climate [46]. These focus groups did not mention climate, unlike in other studies [41]. This might have to do with the fact that the focus groups took place in March, when the climate in Madrid, Spain, is relatively mild, whereas in other northern countries this was an important factor because winter limits many people's willingness to exercise outdoors [14, 47].

Regarding barriers for healthy eating, the most-mentioned one was having access and free time at home for snacking, defined by participants as eating specific unhealthy foods between meals. Previous studies have shown that snacking can be influenced by social culture, food culture, and socioeconomic status [48]. National dietary guidelines differ in their recommendation on snacks [48]. Other diet-related barriers were going out to eat, the difficulty of preparing healthy recipes, and the use of food to cope with emotional difficulties. Other qualitative studies also identified the first two [49]. Regarding the latter, this referred to emotional eating, and it is a relevant risk factor for obesity and other eating disorders [6].

Regarding facilitators for eating healthy, we identified different strategies such as having substitutes for unhealthy snacking, avoiding buying unhealthy food, recording what they eat, and lastly, making enough time to have a quiet and calm moment to enjoy cooking. Many of these strategies are used in interventions for behavior change. For example, following the Behavior Change Technique Taxonomy (v1) [50], the substitution of unhealthy snacks for healthy ones could be considered "behavior substitution," while not buying the food to avoid this is "restructuring the physical environment," and lastly recording what they eat would be "self-monitoring of behavior."

Retirement was an aspect participants referred to for both physical activity and healthy eating, sometimes as an expected facilitator and sometimes as a barrier. As a facilitator, participants expected to have more free time, and they would like to use it to be more physically active. Previous studies have found that an increase in leisure physical activity occurs upon retirement, but that this increase does not necessarily compensate for the loss of activity associated with going to work [51]. Thus, it appears to be important to prepare for retirement as people's expectations may be unrealistic [52]. On the other hand, participants also described retirement as a barrier: they reported expecting to spend the same estimated increase in free time at home, making it more likely that they would eat unhealthy snacks throughout the day. The effect retirement has over one's diet remains unclear; however, some studies found that retirees eat healthier foods than did workers [51]. Nevertheless, it is important to differentiate between the consumption of healthy foods and avoidance of unhealthy ones. This latter case would be the problem our participants identified, as the main meals are healthy, but snacks are not. Different reasons for snacking appear in the literature, including hunger, distraction, boredom, hedonic eating, etc. [48]. However, further research would deepen this knowledge for this population. Interventions that promote dietary changes in retired adults need to consider this, along with the techniques mentioned as facilitators (self-monitoring, restructuring the physical environment, and substitution) as well as other previously reported guidelines and interventions [53].

Goals and motivation

Drawing on Self-Determination Theory [16], one of our aims was to better understand what goals people are pursuing when engaging in health behaviors, and what motivations regulate these behaviors (see Fig. 1).

Focusing first on the type of motivation, participants mentioned autonomous motivation to a greater extent than controlled motivation, especially for physical activity. Specifically, we found autonomous motivation in the intrinsic enjoyment of the activity (for cooking and different exercises; intrinsic motivation) and in personal values considered relevant (like being healthy or independent; identified/integrated motivation). Regarding controlled motivation, we identified introjected motivation (like feeling guilty when not exercising or fearing becoming dependent) and external pressure (like being told to change behaviors by a physician or family members). Researchers have previously identified all these forms of motivations in different populations for healthy eating and exercising, however, their qualitative study is scarce [9, 54–56]. It is crucial to consider the type of motivation since autonomous motivation is related to higher adherence to a behavior [11]. Regarding the different types of autonomous motivation, intrinsic motivation has the greatest level of autonomy [17], and it has been related to the performance of health behaviors in older adults, such as walking and its duration [57]. Furthermore, not only did our coders identify the importance of intrinsic enjoyment as a source of motivation; participants themselves did too, expressing that boredom, or a lack of enjoyment, was a barrier to physical activity, whereas enjoying the activity was a facilitator. Nevertheless, some studies have found that identified motivation has at least the same or more prediction power over adherence compared to intrinsic motivation [58–60]. This would be consistent with the importance of setting meaningful goals as we grow older [15]. There are other factors, such as habit formation, that can also appear to be important predictors [61]. Thus, those who do not enjoy the promoted behavior can still adhere to it if it becomes valuable to them, becoming a potential interventional target.

Focusing on the identified goals, the most prevalent were health management and skills development for physical activity and a healthy diet. Regarding physical activity, we recognized three more goals: social recognition, physical appearance, and social affiliation. However, for a healthy diet, we identified no other goals. The study of goals from Self-Determination Theory is still poor in contrast with motivation; however, different goals for exercising in retirement age do appear in previous literature under different conceptualizations, such as obtaining health benefits, well-being, social interaction, and improving one's skills [3, 5]. Regarding diet, some of the goals behind food choices that have been found in previous studies are related to health, sensory appeal, and to regulate mood [62, 63]. All the above is consistent with our results.

Participants used autonomous motivation to regulate their intrinsic goals, and controlled motivation to regulate extrinsic ones, which is consistent with Self-Determination Theory and previous literature [16, 25, 26]. However, there was an exception for the goal of health management, for which participants cited both types of motivations. This might have to do with the fact that autonomy in motivation is a continuous and dynamic dimension rather than a fixed and permanent category [17]. First, fixed categories of motivation can still have different levels of autonomy, meaning that, for example, the difference between introjected (controlled) and identified (autonomous) motivation might be subtle and changing. In fact, D. S. Teixeira et al. [56] found that correlations between the subscales of autonomous and controlled motivation were high. This is congruent with our results, for example when a participant said that she

wanted to be healthy so that she could be independent: on the one hand, she feared being a burden (introjected motivation, which is a form of controlled motivation), on the other hand, she seemed to identify as independent, which is a relevant personal value (identified-integrated, autonomous motivation). Second, an initial external source of motivation can explain the start of a certain behavior, but internalization can increase autonomous motivation and the behavior would no longer be controlled motivated. Participants offered different examples of this process: Some participants referred to start engaging in health behaviors such as exercising or eating healthier due to a health issue as an initial external pressure: being diagnosed with diabetes, hiatal hernia, undergoing surgery, or being told to change by their physician (external motivation). However, these participants discussed that they maintained these habits because they ended up enjoying (intrinsic motivation) or valuing them (integrated motivation), through an internalization process. This is consistent with previous literature; a systematic review found that the different types of motivation relate differently to the initiation and maintenance of a behavior [12]. People in the maintenance stage showed greater autonomous motivation than those in the preparation and action stages, per The Transtheoretical Model [60, 64]. Furthermore, our study supports the idea that it is more likely for a person to sustain a behavior over time when they are autonomously motivated [11]. Additionally, our findings align with the Socioemotional Selectivity Theory, which posits that as people age, they prioritize emotionally meaningful goals and activities. This theory suggests that with age, individuals are more likely to internalize health behaviors that contribute to their overall well-being and emotional satisfaction, thus sustaining these behaviors in the long term [65, 66]. Thus, by focusing on intrinsic and integrated motivation, older adults might be more inclined to maintain health behaviors because they align with their emotionally significant goals and values.

We find some similarities comparing these findings, derived from the Self-Determination Theory, with the facilitators and barriers inductively identified in this study. For example, participants also explicitly mentioned the process we described of internalizing the source of motivation. They said that there is value in having an external trigger that pushes you to change a behavior. However, to sustain it, you need "self-conviction", that is, motivation coming from within, such as autonomous motivation.

The study of motivation and goals from the Self-Determination Theory in the field of health behaviors has been scarcely studied from a qualitative methodology. Thus, the current study contrasts and supports previous findings from different study designs. Furthermore, when qualitative studies aimed to assess motivation along with facilitators and barriers, these variables have not been distinguished adequately. Future studies need to consider the interplay between goals, motivation, facilitators, and barriers as distinct variables that influence behavior change and adherence differently.

Strengths and limitations

This study offers qualitative information, deepening the understanding of the perspective of retirement-age Spanish adults on adopting health behaviors. The main strength of this study is its mixed inductive and deductive approach, which considers different aspects of establishing and maintaining health behaviors: goals, motivation, facilitators, and barriers. However, it has limitations. First, types of motivation according to the level of autonomy are assessed in categories when autonomy is not a fixed and stable category, but a continuum. Second, when studying the motivation for healthy eating, the focus is on the activity of cooking rather than eating.

Regarding the sample, we obtained diversity in terms of socioeconomic and employment characteristics. However, there was a limited representation of males. One potential reason could be that males appear to be less willing to participate in research [67]. Additionally, we must consider that the focus groups only took place in Madrid, a big city, which can present differences compared to smaller urban regions and/or rural areas. Furthermore, one of the groups only had three participants, however, it still allowed for discussion between the participants.

Implications

These findings can help decipher and promote more effective behavior changes toward health behaviors in people of retirement age. Researchers and practitioners must consider that facilitators and barriers can make a behavior more or less likely to occur. However, facilitators and barriers differ from the goals that make people do something (what the person is trying to achieve) and the motivation for the action (why people do or don't do it). Thus, it is important to consider all these aspects in both research and clinical practice.

A behavior can start with external pressure or triggers, as discussed, but people need to internalize the source of motivation to sustain the behavior change. Our findings can help clinicians better understand how to facilitate this internalization process in clinical settings, so lifestyle interventions can motivate enduring health behaviors. There are some techniques and ways to deliver an intervention that promote autonomous motivation and the satisfaction of basic needs, such as

avoiding controlling language and providing a rationale [68]. Furthermore, it would be crucial to outline intrinsic goals (e.g., social affiliation), rather than extrinsic ones in order to obtain a higher adherence [12, 22–24].

We may derive some recommendations from the results on facilitators and barriers. For physical activity, 1) facilitating commitment and social connections with organized group classes, and 2) facilitating access to a pleasant environment in which outdoor activities (e.g., walking) can be enjoyed. For healthy diet, 1) instructing patients to implement techniques such as self-monitoring, behavior substitution, and restructuring physical environment, and 2) addressing emotional eating.

It is also important to address how retirement is expected to influence over these behaviors. For example, participants expected an increase in leisure time when they retired, which they thought would lead to being more physically active. However, this is not always the case, as physical activity sometimes decreases after retirement [51, 69, 70]. Thus, preparing for this life transition is crucial. Participants also expected an increase of unhealthy snacking after retirement, and some retirees also find this as a barrier. Preventing this known issue would be an appropriate target for healthy diet interventions in this population. Last, as participants identified the social component in all categories: as part of a healthy lifestyle, as a facilitator/barrier, and as a goal to pursue, it is important to develop strategies to maintain one's social connections when going through retirement, as these usually decrease after leaving one's working environment [71, 72].

Supplementary Information

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Supplementary Material 1.

Supplementary Material 2.

Supplementary Material 3.

Supplementary Material 4.

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Authors' contributions
Conceptualization: A.C.J., M.S.I., P.C.C.; Data curation: M.S.I., P.C.C., G.D.; Formal analysis: P.C.C.; Funding acquisition: A.C.J.; Investigation: M.S.I., P.C.C.; Methodology: M.S.I., P.C.C.; Project administration: A.C.J., M.S.I.; Supervision: A.C.J., M.S.I.; Visualization: P.C.C.; Roles/Writing—original draft: M.S.I., P.C.C., R.R.R., G.D.; Writing—review & editing: P.C.C., R.R.R., G.D., A.C.J., E.T., P.W., J.D., M.S.I.

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Data availability
The data that support this study is available upon reasonable request from the corresponding author (P.C.C). The data is not publicly available due to containing information that could compromise the privacy of research participants.

Declarations

Ethics approval and consent to participate
The Comillas Pontifical University's ethics committee approved the study (10/22–23). When registering to participate in the study through Microsoft Forms, participants gave informed consent electronically. Additionally, prior to the beginning of the groups, the study was explained again, and they were reminded that they could leave the study at any time; furthermore, permission to record the audio was asked and granted prior to the beginning of the groups.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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