

Investing in the future—identifying participants in an educational program for middle-aged and older adults

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Abstract

With the aging of societies, gerontological issues have become increasingly relevant. Within health education research, however, issues related to aging remain underrepresented. It is not yet understood whether and by what means people prepare for their aging. This article seeks to identify those who invest in the future by examining the reach of the educational program ‘In anticipation of the golden years’. We studied what motivated participants to enroll, and collected demographic, psychological and social network characteristics from the 158 individuals (mean age 61.5 years) who had signed up for the program. These data were compared with data from large-scale surveys of the aging population in order to examine the representativeness of program participants. The majority of participants’ motives corresponded very well with the aims of the program. Comparison of demographic, psychological and social characteristics revealed that, in general, participants enjoyed greater psychological resources than in the population, while they

were less advantaged with respect to their personal situation (predominantly household composition and subjective health) and social relationships. Our findings suggest that future investment in relation to aging is a well-accepted idea that appeals to individuals who exhibit a specific combination of resources and risk factors.

Introduction

The aging of societies is one of the major challenges of the 21st century. People are living longer than ever before. At present, individuals who retire have an average life expectancy of another 20–25 years or one generation. Demographic changes and a lack of widely accepted structured roles for the retired [1] may produce problems with regard to meaning and identity in late adulthood and old age. These uncertainties demand new orientations and specific competencies. One essential strategy with regard to aging might be conscious planning for the future, encompassing competencies such as realistic goal setting and goal attainment in personally relevant domains [2]. Realistic future investment could be one way to maintain control over one’s personal development and to prevent and prepare for undesired changes.

Research suggests that future investment is useful for aging people. Several studies have demonstrated that positive aspirations in old age are related to well being [3]. In addition, the ability to maintain stable and meaningful life goals has been identified as a significant predictor of life satisfaction and a stabilizing influence during life transitions [4]. Personal goal commitment has

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been shown to help create a sense of meaning in life [5, 6]. With regard to health, Wrosch *et al.* [7] reported that people's behavioral and cognitive investments toward attaining health goals significantly moderate the negative affective consequences of health threats. Moreover, longitudinal analyses have shown the predictive value of future investment over long periods with purposiveness in mid-life being highly correlated with proactive goals in old age [8].

In order to promote and stimulate future investment in aging, we designed the brief educational program 'In anticipation of the golden years'. The program is based on theories of proactive coping [9, 10, 11] and successful aging [12] and endeavors to increase proactive competencies. In the long term, the aim is to support desired developments in the process of individual aging and to prevent undesired changes. The program is a minimal intervention consisting of four 2-hour meetings for people aged between 50 and 75 years. The group intervention uses a standardized protocol and is given by experienced trainers from the same age group. During the program, group exercises and discussions are combined with individual work on the definition and attainment of participants' aging-related personal goals. The development, contents and results of proximal outcome measures of the program are reported elsewhere [13, 14, 15].

The present article addresses the question of identifying which middle-aged and older adults invest time and energy in preparing for aging through participation in the program. Information about the reach of the program and the representativeness of participants is important since it helps to estimate the generalizability of evaluation outcomes. Moreover, the self-selection of participants is instructive with regard to the acceptance of the basic idea ('Investing in the future with respect to aging is useful') in the population aged 50 years and older. Our results can also provide guidance and insight for recruitment in the clinical practice and may have implications for policy makers when deciding about the development and dissemination of preventive programs in middle and late adulthood [16].

More generally, this study increases our knowledge of older adults, a group sorely underrepresented in health education research [17].

This study examines two questions. First, we will investigate whether participants' motivations match the aims of the program. We expected people to take part as a result of their interest in preparing for aging, either because they were concerned about aging or because they wanted to explore their future possibilities. Research on future expectations suggests that concerns relating to a self-created lifestyle, continuous personal growth and autonomy remain important in the second half of life [18]. Accordingly, a program that stimulates and facilitates future investment and personal growth should be attractive to those aged 50 years and older.

Next, we compare demographic, psychological and social characteristics of program participants with those from representative samples of older people. Timmer *et al.* [18] showed that future expectations are significantly associated with socio-demographical and psychological characteristics; age, financial situation and control beliefs were primarily relevant with respect to differences in cognitive representations of the future. Ouwehand [19] examined the relationship between the spontaneous use of proactive coping and socioeconomic status and current stressors. She concluded that many people aged between 50 and 70 years have the skills necessary to engage in proactive coping, but that they need to feel at least slightly stressed in order to initiate proactive coping behavior. Originally, it was hypothesized that stress diminishes proactive coping behavior since current stressors may drain valuable resources which can no longer be invested with respect to the future. The results, however, showed that mental health stress had a positive longitudinal effect on proactive coping efforts [19]. With regard to socioeconomic resources, higher education and income were positively related to different aspects of proactive coping. Therefore, we expect those people who signed up for the program to exhibit a combination of stress and resources; stress to activate them and resources to allow them to expend attention and energy on future investment.

Methods

Recruitment and procedure

The program was delivered by two local health service institutes that offer well-being and health-related interventions. Information about the program and the research project was disseminated through a press release that was taken up by regional and national newspapers, radio broadcasts and magazines for people 50 years and older. It was also announced via leaflets in libraries, general practitioner's waiting rooms and other places frequently used by the target population. In the leaflets, people were asked to take four questions into consideration before signing up for the program (Box 1).

As shown in Box 1, the program was open to people aged between 50 and 75 years who were (to some extent) concerned about their future. There were no exclusion criteria and participation was free of charge. Those who signed up were randomly assigned to the experimental condition or the waiting control condition. Both groups received the first

For whom is this course intended?

You are between 50 and 75 years of age. If you agree with one or more of the following statements, then the course "In anticipation of the golden years" should be of interest to you.

1. I want to think about my future, but I keep putting it off
2. I would like to know how others shape their future; I might learn something from them
3. In all honesty, I am uncertain and worried about my future. I could use some support and advice
4. Preparing for the future is necessary and still relevant for the middle-aged and elderly. Although I don't have any concrete ideas yet about my future, I definitely think that a timely preparation is worthwhile

Box 1. Short self-diagnose instrument of the program "In anticipation of the golden years".

questionnaire before the start of the program. These pre-test data are used in the present study.

Sample

In total, 178 people signed up for the program; 20 of them dropped out in the period between randomization and the start of the program. These participants cited various reasons for dropping out, including 'feeling too young', 'not wanting to participate in research' or personal circumstances such as divorce or migration. A total of 158 individuals ultimately participated in the two cities that offered the program (further description, see Results).

Composition of the reference studies

Demographic, psychological and social characteristics of program participants will be compared with reference data in order to evaluate the reach of the program and the representativeness of the sample. The comparison data come from different studies, mainly from representative large-scale surveys of the aging population in the Netherlands. The demographic characteristics were compared with data from the Social and Cultural Planning Office of the Netherlands [20]. For the comparison of the psychological and social characteristics, we employed studies with a similar age range (mean age difference up to 10 years).

Instruments

Motivation

The motives for participation were only assessed in participants of the intervention group (since they immediately started with the program, $n = 75$) with one question and an open answer format 'Please describe briefly why you are participating in the program "In anticipation of the golden years"'. The answers were coded into five excluding categories. Inter-coder agreement in a randomized sample of answers (20%) between two independent coders reaches 86%; the Kappa value is 0.81 [21].

Demographic characteristics

In the pre-test questionnaire, participants in both conditions were asked to provide their age, gender, marital status, nationality, household composition, educational status and net household income. Furthermore, they were asked to evaluate their health situation in a five-point format (very good–very bad).

Psychological characteristics

The psychological characteristics were measured by various constructs that cover proactive coping, taking initiatives, investment behavior, the personal experience of aging, general self-efficacy and the tendency to worry.

A proactive orientation was measured with the subscale ‘Preventive Coping Scale’ of the Proactive Coping Inventory [10]. This scale (Cronbach’s $\alpha = 0.84$) deals with anticipation of potential stressors and the initiation of preparation before these stressors develop fully. The original scale contains 10 items; we left out the item on developing job skills in order to protect oneself from unemployment, because it was not applicable for most participants. Sample item was ‘I plan for future eventualities’. The scale was administered in a six-point frequency format (I never do so–I do so very often). Two Dutch reference studies were provided by Ouwehand [19].

Two subscales (taking initiatives, Cronbach’s $\alpha = 0.75$, and investment behavior, Cronbach’s $\alpha = 0.74$, five items each) of the Self-Management Ability Scale [22] were administered. These scales measure the amount of activities people perform in order to attain personal goals. A sample item for the subscale taking initiatives is ‘How often do you take the initiative to get in touch with people who are dear to you?’ The subscale investment behavior contains items as ‘Do you ensure that you have enough interests on a regular basis (such as a hobby) to keep you active?’ The described scales were rated on a six-point frequency response format (I never do so–I do so very often). For the comparison of the self-management ability level, we used a representative survey conducted in the north of the Netherlands [22].

The Personal Experience of Aging Scale [23, 24] gives a standardized measurement of how

individuals experience the process of aging. The scale includes three subscales (physical decline, social loss and continuous growth), each with four items and good reliabilities (Cronbach’s $\alpha = 0.78, 0.76, 0.69$, respectively). Sample items are ‘Aging means to me ... being less energetic and fit, ... that others don’t need me so much anymore, ... that I retain the ability to learn new things’ (four point format ‘completely true’–‘completely not true’). For comparison, we used representative data from the Dutch Aging Survey [25].

Perceived self-efficacy refers to the conviction that one is able to successfully employ the behavior which is required to achieve desired outcomes [26]. Global beliefs of self-efficacy were measured by means of the translated, short version of the general self-efficacy scale [27, 28]. The scale consists of 12 items (Cronbach’s $\alpha = 0.77$), such as, ‘When I set important goals for myself, I rarely achieve them’, with response categories ranging from 1 ‘I never do so’ to 6 ‘I do so very often’. For comparison, we used data from the Longitudinal Aging Study Amsterdam [29].

In order to measure participants’ tendency to worry, the ‘Penn State Worry Questionnaire’ [30] was administered. We found high reliability (Cronbach’s $\alpha = 0.94$). The 16 items of the scale (five-point format, not at all typical–very typical) assess a clinically significant tendency to worry without regard to specific topics. Items are ‘My worries overwhelm me’ and ‘I am always worrying about something’. Two American comparison studies were chosen to compare our results; one involved a non-anxious group [30] and the other studied older adults with general anxiety disorder [31].

Social network characteristics

Social network characteristics included relationships with partners, family and friends. These one-item questions were asked in the format ‘What do you think about your relationship with your partner/family/friends and acquaintances?’ The answers were indicated on a five-point format (very good–very bad) with an additional category indicating that the participant has no partner/family/friends. Furthermore, social network characteristics were

examined by two questions on potential social support and one question about conflicts with others. Formulations were: “If you have to decide something important, do you have someone you can ask for advice?” (Yes/No). “Do you have someone who comforts and encourages you if necessary?” (Yes/No). “At present, do you have arguments or conflicts with other people?” (Yes/No). For comparisons, we used data from the Dutch Aging Survey [25].

Results

Motives for participation

The majority of participants (45.9%) signed up for the program because they wanted advice on how to prepare for aging and how to give meaning to their lives as retirees (see Table I). These participants either had difficulties giving meaning to their daily life after retirement or were facing retirement in the near future.

Twenty-seven percent reported interest in the program as a motive. They had heard about the program and did not want to miss potentially useful information. Ten percent of the individuals hoped to discuss aging-related issues with other participants. Another 10.8% reported motives that were independent of the content of the program, such as the wish to participate in research, negative feelings (i.e. feeling unhappy or less self-assured) or the desire to engage in self-reflection. The smallest group (5.4%) consisted of respondents who were sent by their general practitioner, employer or friends. In comparison with the self-diagnosis instrument (Box 1), three of the reported motives fit perfectly with the intentions

Table I. *Motives of participation*

Motives	Percentage
Preparing for aging, give meaning to the coming years	45.9
Interest, curiosity	27.0
Social contacts, exchange of experiences with aging	10.8
Other motives	10.8
Sent by someone else	5.4

n = 75.

of the program, i.e. respondents who signed up since they wanted to prepare for and give meaning to their future life, individuals who were interested in thinking about the future as well as participants who wished to exchange ideas in relation to aging with peers. This group accounted for 84% of participants.

Demographic characteristics of participants compared with representative data of Dutch population

The mean age of participants was 61.5 years (*SD* = 5.5) with a range from 51 to 75 years. All participants were Dutch nationals. Below, sample characteristics are compared with data for this specific age group within the general population [20]. Women were overrepresented in the course (67% of participants versus 55% in this age group in the general population). With regard to marital status, there were less married individuals and twice as many divorcees. Furthermore, 33% of participants came from single households (20% in the population). With respect to both male and female participants, people with high educational status were clearly overrepresented (35% of the female participants and 44% of the male participants had 14 or more years of education versus 10% of women and 22% of men in the population). With regard to net income per household no differences were observed. Sixty-six percent of participants evaluated their health as (very) good, 33% as moderate and only 1% as poor. In the general population, 84% evaluate their health situation as (very) good and 16% of this age group report moderate or poor subjective health. To sum up, participants were more often female, divorced, highly educated, living alone and reported worse subjective health than could be expected from population distribution.

Psychological characteristics of participants compared with reference studies

On average, participants of this study showed less preventive coping, preparing themselves less for setbacks than persons of the same age group who participated in two reference studies on proactive coping (Table II).

Table II. Psychological characteristics of participants (intervention study and reference studies)

Measurement instrument	Scores intervention study [mean (SD), <i>n</i>]	Scores reference studies [mean (SD), <i>n</i>]	Significance*
Preventive coping	22.08 (4.1), <i>n</i> = 144	26.7 (5.0), <i>n</i> = 398 ^a 24.4 (5.3), <i>n</i> = 123 ^b	<i>P</i> < 0.001 <i>P</i> < 0.001
Personal experience of aging			
Physical decline	6.63 (2.45), <i>n</i> = 152	6.5 (2.5), <i>n</i> = 594 ^c	n.s.
Social loss	3.31 (2.53), <i>n</i> = 154	2.9 (2.3), <i>n</i> = 594 ^c	<i>P</i> = 0.027
Continuous growth	7.72 (2.05), <i>n</i> = 152	7.4 (2.2), <i>n</i> = 594 ^c	<i>P</i> = 0.053
Self-Management Ability Scale			
Investment behavior	64.26 (15.4), <i>n</i> = 154	59.5 (14.2), <i>n</i> = 1338 ^d	<i>P</i> < 0.001
Taking initiatives	60.88 (14.96), <i>n</i> = 154	54.5 (14.4), <i>n</i> = 1338 ^d	<i>P</i> < 0.001
Alcos-12	49.46 (6.69), <i>n</i> = 149	41.8 (5.4), <i>n</i> = 3107 ^e	<i>P</i> < 0.001
Worry Questionnaire	48.62 (12.05), <i>n</i> = 142	30.98 (8.13), <i>n</i> = 74 ^f 62.9 (9.8), <i>n</i> = 160 ^g	<i>P</i> < 0.001 <i>P</i> < 0.001

^aMultimethod study, age range 50–70 years of age, from [19]. ^bVignette study, age range 50–70 years of age, from [19]. ^cDutch Aging Survey, subsample of 50–75 years old, from [25]. ^dRepresentative sample from the north of the Netherlands, subsample of 65–74 years, from [22]. ^eLongitudinal Aging Study Amsterdam, mean age = 70.3 years, from [29]. ^fNon-anxious selected group (community sample), from [30]. ^gOlder adults (mean age 66 years) with general anxiety disorder, from [31]. *Significance level is *P* = 0.05, significance testing by *t*-tests for independent samples. n.s. = not significant.

When comparing the personal experience of aging, program participants were significantly more likely to see their aging as a process of social loss and marginally more as continuous growth than participants of the reference study, but not more likely to experience aging as a process of physical decline. These results indicate that participants were not necessarily ‘the happy few’ who experience aging in only a positive manner; they were also concerned about negative changes in the social domain.

Our participants clearly differed from the representative sample on self-management abilities: participants reported significantly more investment behavior and initiative. In line with this finding, the perceived self-efficacy of program participants was significantly higher than that found in the Longitudinal Aging Study Amsterdam. Finally, participants reported significantly more worry than a non-anxious group but significantly less worry than a reference group of older adults diagnosed with general anxiety disorder.

From these results, we can conclude that people who wanted to invest in their future showed many advantageous psychological characteristics, such as a relatively high self-efficacy, high self-management abilities and a positive experience of aging. On the other hand, they also showed less preventive coping

and were more likely to experience the aging process in terms of social decline.

Social network characteristics of participants compared with data of the Dutch Aging Survey

In addition to demographic and psychological characteristics, we compared core social network characteristics (quality of relationships, potential support and conflicts) of participants with the same age group from the Dutch Aging Survey (Table III).

The quality of relationships with partners did not differ from the representative sample but we did find a clear tendency for participants to evaluate relationships with their family and friends more negatively. In addition, slightly more participants were involved in conflicts with others. Program participants did not differ from the reference group with respect to potential emotional support and assistance in taking personal decisions.

Discussion

The intention of this study was to describe the reach of a preventive educational program and to compare demographic, psychological and social

Table III. Social network characteristics of participants (intervention and reference study)

Measurement instrument	Scores intervention study [mean (SD), <i>n</i>]	Scores Dutch Aging Survey ^a [mean (SD), <i>n</i>]	Significance*
Relationship with partner	1.57 (1.19), <i>n</i> = 156	1.5 (0.6), <i>n</i> = 594	n.s. ^b
Relationship with family	2.26 (0.76), <i>n</i> = 156	2.1 (0.8), <i>n</i> = 594	<i>P</i> = 0.013 ^b
Relationship with friends	2.14 (0.79), <i>n</i> = 155	1.9 (0.6), <i>n</i> = 594	<i>P</i> < 0.001 ^b
Conflicts with others	29.5%, <i>n</i> = 143	21.4%, <i>n</i> = 594	<i>P</i> = 0.054 ^c
Support personal decisions	91.0%, <i>n</i> = 156	91.6%, <i>n</i> = 594	n.s. ^c
Emotional support	85.3%, <i>n</i> = 156	90.0%, <i>n</i> = 594	n.s. ^c

^aAll reference data came from a subsample (50–75 years of age) of the Dutch Aging Survey [25]. ^b*t*-test for independent samples. ^c χ^2 tests. *Significance level is *P* = 0.05. n.s. = not significant.

characteristics of participants with representative data. The majority of participants' motives corresponded very well with the aims of the program. They signed up because they wanted to prepare for aging and wanted to give meaning to the coming years. Interest in the program and exchange of experiences with peers were other appropriate motives. Only a small proportion (15%) reported other motives. Taking into account that this program takes a new approach in the field of primary prevention, it is an encouraging finding that most of the participants had appropriate motives. This could be related to the recruitment strategy, which employed a variety of media that were apparently attractive and comprehensible to the target population. A disadvantage of the broad recruitment strategy is that we do not know how many people we reached with the press release, and we cannot therefore determine what percentage of this group participated.

When comparing demographical characteristics of participants with population data from the same age group, we found that participants were more often women, highly educated, divorced and living alone and that they reported worse subjective health. The high percentage of women and highly educated people is regularly found in intervention research with seniors [32–34]. These groups are obviously more inclined to participate in educational programs. Other ways of recruitment might reach less well-educated individuals; we intend to use home visits and recruitment via existing social networks as an alternative procedure in future stud-

ies. In addition, changes in the format and content of the program might resolve this issue. A useful alternative format might be to offer individual coaching. In terms of content, the intervention sessions could be more pre-structured so that concrete topics could be brought up by the trainer and less self-reflection would be required from the participants. Analyses of marital status, household composition and subjective health supported the assumption that people might have some sort of risk perception when entering the program. Living alone, being divorced or having poor health clearly constitute risks for age-related difficulties such as loneliness, decreasing mobility, chronic illnesses and low life satisfaction.

Comparison of psychological and social characteristics revealed a mixed pattern of resources and weaknesses. Participants reported high levels of self-efficacy and self-management abilities. This implies that they believe in their own potential to realize the behavior necessary to attain a desired outcome, while they also show a relatively high amount of activity to achieve their goals. The vivid experience of aging as personal growth in combination with some—but not pathological—worrying may be a good starting point for translating their current behaviors into future investment. Nevertheless, participants reported relatively low levels of preventive coping, i.e. the anticipation of potential stressors and the initiation of preparation before these stressors develop fully. It is likely that participants saw the program as an opportunity to improve their preventive capacities, especially in

managing the aging process. It is also interesting to note that, despite their poorer subjective health, participants were not more likely to experience aging as a process of physical decline. Instead, social relations appeared to be the main stress factor for participants: they were more likely to experience aging in terms of social losses, reported less positive relationships with family and friends and also reported slightly more conflicts with other people. We hypothesized that people who signed up for the program might have a combination of stress and resources; stress to activate them and resources to allow them to commit attention and energy to future investment. After examination and discussion of the results, we feel our prediction to be supported.

The resources of participants were related to their psychological resilience, the stress factors mainly lay in their personal situation and social relationships. In this context, it is remarkable that only 11% reported social motivation (Table I) and only 12% actually worked on their social relationships [14]. This discrepancy may indicate that the stressing factors revealed in our analyses are not that important or apparent to the respondents. Furthermore, it may indicate that participants did not work on the issues they were most concerned about or that they did not perceive these problems to be related to aging. A third interpretation is that respondents were aware of their weak points and that they chose to work on issues which compensated these, but that they did not work directly on social relationships. An example of this type of participant was a divorced woman who lived alone and had difficult relationships with both children. During the program, she worked on enjoying activities which she undertook alone in order to improve her well being and become less dependent on her children. To conclude, the analyses of participants' motives and characteristics showed that most respondents entered the program with adequate motives and that on average a potential on psychological qualities was combined with risk factors in their personal situation and social networks. These conclusions fit well with findings of Ouwehand [19], who described that people had to

feel at least slightly stressed in order to initiate proactive coping behavior. Our study additionally finds that people also have to feel competent in self-management in order to invest in their future when growing older.

The analyses are based on comparison with population data and representative samples. After excluding studies with mean ages differing >10 years from our sample and having large-scale surveys as reference studies, we think that the data basis for our investigation was very reliable and that therefore the results are robust.

The limitations of this investigation lie in the fact that we do not know how many people in total received recruitment information and therefore we cannot determine the rate of participation. Consequently, information about the non-responders is not available. This issue should be dealt with in further research. Unfortunately, comparisons with other indicators of successful aging were not possible, since for the well-being measure that we employed no representative data for this age group were available and other concepts, such as loneliness, were not investigated in this study. Nevertheless, we think that our results regarding the experience of aging are useful with respect to the concept of successful aging. Due to the selectivity of our sample (self-selected on their interest and living in the two regions where the program was offered), all evaluation results of the intervention 'In anticipation of the golden years' should be replicated with other samples; the planned implementation study will give an ideal opportunity to realize this aim.

In addition to the mentioned implications for research, our results indicate that more attention and research should be dedicated to optimal methods of recruitment within this age group. With regard to implications concerning policy, we can conclude that the basic idea ('Future investment in the context of aging is useful') is well accepted in middle and late adulthood and that the reactions of aging individuals, mental health care institutions and the media reveals the growing interest in programs that offer a positive and future-oriented approach to aging.

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Conflict of interest statement

None declared.

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