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1 **Mobility Limitation and Changes in Personal Goals among Older Women**

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1 **Mobility Limitation and Changes in Personal Goals among Older Women**

2 Abstract

3 **Objectives.** Several theoretical viewpoints suggest that older adults need to modify their
4 personal goals in the face of functional decline. The aim of this study was to investigate
5 longitudinally the association of mobility limitation with changes in personal goals among
6 older women.

7 **Methods.** Eight-year follow-up of 205 women aged 66 to 78 years at baseline.

8 **Results.** Health-related goals were the most common at both measurements. Goals related to
9 independent living almost doubled and goals related to exercise and to cultural activities
10 substantially decreased during the follow-up. Higher age decreased the likelihood for
11 engaging in new goals related to cultural activities and disengaging from goals related to
12 independent living. Women who had developed mobility limitation during the follow-up
13 were less likely to engage in new goals related to exercise and more likely to disengage from
14 goals related to cultural activities and to health and functioning.

15 **Discussion.** The results of this study support theories suggesting that age-related losses such
16 as mobility limitation may result in older adults modifying or disengaging from personal
17 goals.

18

19 **Keywords:** Personal goals, aging, goal modification, goal disengagement, mobility

1 **Mobility Limitation and Changes in Personal Goals among Older Women**

2 **Introduction**

3 Personal goals are defined as states that people strive to achieve or avoid in the future
4 (Freund & Riediger, 2006). During the life course, people constantly select and reselect
5 personal goals, act towards attaining selected goals, and abandon goals if they become futile
6 or too difficult to reach (Heckhausen, Wrosch & Schulz, 2010). Personal goals in old age
7 have been rarely studied, and thus far the most often reported goals relate to health, close
8 relationships, basic daily activities, independent living and leisure time activities (Lapierre,
9 Bouffard, & Bastin, 1992-93; Lawton, Moss, Winter, & Hoffmann, 2002; Saajanaho et al.,
10 2013). Compared to younger adults, older people focus more on striving for maintenance or
11 avoiding losses instead of aiming for growth (Ebner, Freund, & Baltes, 2006), and more often
12 have goals that support each other, and thus are easier to achieve simultaneously (Riediger,
13 Freund, & Baltes, 2005). Older adults usually have fewer goals than younger people, and they
14 often focus on goals related to the present or near future rather than longer time spans
15 (Peningroth & Scott, 2012). Some gender differences have also been found in personal goals
16 among older adults. Compared to men, women seem to focus more on goals related to close
17 relationships (Holahan & Chapman, 2002; Lapierre et al., 1992-93), safety, independent
18 living (Rapkin & Fischer, 1992), and basic daily activities, such as personal care and
19 eating/meal preparation (Lawton et al., 2002). Overall, personal goals reflect, for example,
20 personality (McAdams & Olson, 2010), life situation, and environmental features (Little,
21 2007), and thus, also older adults have diverse and individualized personal goals (Smith &
22 Freund, 2002).

23 Based on cross-sectional studies, goals related to intellectual (e.g. reading, education)
24 and recreational activities (e.g. culture, exercise, travel), and home planning goals (e.g.
25 moving, arranging the home) are less common among the oldest old people (e.g. Lapierre et

1 al., 1992-93; Lawton et al., 2002). Health-related goals (Frazier, Johnson, Gonzalez, &
2 Kafka, 2002), especially health maintenance goals (Lapierre et al., 1992-93), are more
3 common among the oldest age groups. In addition, older old people have more often goals
4 related to safe environment, independent living (Rapkin & Fischer, 1992), and spiritual
5 activities reflecting philosophy of life and religious conviction (Lawton et al., 2002), as well
6 as goals related to dying (Lapierre et al., 1992-93), than younger older people. Goals relating
7 to other people are common throughout old age (Lawton et al., 2002), in terms that goals for
8 meeting other people are more emphasized among the oldest of the population, while
9 altruistic goals (e.g. helping others) are more common among the young-old people (Lapierre
10 et al., 1992-93).

11 Only limited knowledge exists on longitudinal changes in personal goals in old age.
12 Smith and Freund (2002) studied changes in older adults' possible selves in a four-year
13 follow-up. Possible selves are hoped-for and feared images of future self, which reflect
14 similar contents and strivings as personal goals. The study found that possible selves related
15 to personal characteristics, including hopes and fears concerning personality dispositions, and
16 life events (e.g. moving, death), were more often abandoned than adopted in old age. During
17 the follow-up, health-related possible selves (e.g. maintaining current health status), were
18 more often adopted than abandoned, while possible selves concerning social relationships and
19 personal interests and activities were rather stable. For the possible hoped-for selves
20 maintenance orientation, reflecting the desire to maintain things as they are, became more
21 common over the follow-up, while an orientation towards improving the current situation
22 remained rather stable over years. The desire to avoid feared possible selves (e.g. an illness)
23 remained stable over years.

24 Besides age, diminished resources are seen as a factor that typically affects older
25 adults' goal setting (Ebner et al., 2006). There are three commonly accepted theories that

1 address goal modification due to age-related losses in resources: the model of selective
2 optimization with compensation (SOC) by Baltes and Baltes (1990), the dual-process model
3 of developmental regulation by Brandtstädter (e.g. 2009), and the motivational theory of life-
4 span development by Heckhausen et al. (2010). The SOC-model states that older adults need
5 to use coping methods to adapt to the age-related changes in, for example, biological, mental,
6 and societal resources. Selection is conceptualized as setting personal goals that are
7 compatible with the resources one has, and modifying existing goals when needed (Freund &
8 Riediger, 2006). With selection, older adults can focus on the most important goals, and
9 optimize their efforts in striving for them. When needed, compensation, such as assistive
10 devices, is used to enable goal pursuit in the selected areas of life (Baltes & Baltes, 1990).

11 The dual-process model of developmental regulation describes two coping methods
12 that people use to control their life. Assimilation (i.e. tenacious goal pursuit) includes efforts
13 to modify life situation and action for attaining current personal goals. However, when
14 resources diminish, for example with aging, and attaining current goals seems too difficult,
15 people may use accommodation (i.e. flexible goal adjustment); that is, modify goals and
16 expectations to be compatible with diminished resources (Brandtstädter, 2009). A similar
17 approach is included in the motivational theory of life-span development with primary and
18 secondary control. Primary control refers to efforts targeted to reaching one's goals by
19 modifying environment (cf. assimilation), and secondary control to inner motivational
20 processes such as goal modification and reconsideration of previous expectations and values
21 (cf. accommodation). As both the SOC- model and the dual-process model, this theory also
22 suggests that the need for goal modification (secondary control) is emphasized in old age due
23 to resource deficits (Heckhausen et al., 2010).

24 Although the need for older adults to modify their personal goals has a strong
25 theoretical foundation, and the benefits of goal modification for well-being are recognized

1 (e.g. Boerner, 2004; Dunne, Wrosch, & Miller, 2011; Garnefski et al., 2009), empirical
2 evidence on changes in older adults' personal goals is scarce and typically based on cross-
3 sectional data (e.g. Penningroth & Scott, 2012; Salmela-Aro, Nurmi, Aro, Poppius, & Riste,
4 1993). In the current study, we addressed the issue by examining the changes in older
5 women's personal goals, and the associations of these changes with mobility limitation.
6 Mobility, defined as the ability to move around independently, often declines with aging
7 (Rantakokko, Mänty, & Rantanen, 2013). Besides walking difficulties, mobility limitation
8 may refer to problems driving a car or using public transportation, all of which are important
9 elements for participation in out-of-home activities (Satariano et al., 2012). It can therefore be
10 presumed that mobility limitation may be a powerful influence on personal goal setting and
11 goal modification in old age.

12 In the current study, we aimed to study the changes in older women's personal goals
13 in an eight-year follow-up, and the associations of these changes with age and mobility
14 limitation. The above discussed theories lead to similar hypotheses on the associations of age
15 and mobility limitation with changes in personal goals. We predicted that the participants
16 would have abandoned some of their personal goals (cf. selection/goal
17 accommodation/secondary control), and that mobility limitation would be associated with
18 goal disengagement. Based on earlier literature on older adults' personal goals (Lawton et al.,
19 2002; Rapkin & Fischer, 1992), we hypothesized that older women would disengage
20 especially from goals related to different activities, but that there would be more stability in
21 goals related to close relationships. In addition, we predicted that selection would lead to an
22 increase in goals that are more prioritized with increasing age or with mobility limitation,
23 most likely related to health and independent living.

24 **Methods**

25 **Participants**

1 The present data were drawn from the Finnish Twin Study on Aging (FITSA). The
2 recruitment procedure of the study is described in detail elsewhere (Pajala et al., 2006). The
3 first FITSA data wave was implemented in 2000-2001. The baseline of the present analysis is
4 the time of the second data wave in 2003-2004, when 308 women participated in a structured
5 interview based on the Personal Project Analysis inventory (Little 1983), which was added to
6 the study protocol at that time. Only women who were able to travel to the research center for
7 the interview were included in this study. Between baseline and the follow-up in 2011, 25 of
8 the participants had died, 15 were unable or unwilling to participate and six could not be
9 reached. A further 57 women did not answer the postal questionnaire on personal goals at
10 follow-up and therefore could not be included in the study. This left 205 women, who had
11 reported their personal goals both at baseline and follow-up, and hence were included in the
12 study. Participants were slightly younger at baseline (70.9 vs. 71.8 yrs., $p=.05$) than non-
13 participants. There were no differences between the participants and non-participants in self-
14 rated health, mobility limitations or personal goals at baseline.

15 This study was approved by the Ethics Committee of the Central Finland Health Care
16 District and the participants gave their written informed consent.

17 **Procedure**

18 **Personal goals.** Personal Project Analysis (PPA), developed by Brian R. Little
19 (1983), was used to study the content of the participants' personal goals. In PPA, people are
20 asked to generate a listing of as many personal projects/goals they can think of, and rate a
21 subset of them on a set of dimensions (e.g. goal importance, control). The PPA was
22 developed as a tool to assess human personality in a social-ecological context, and as such,
23 may be used to address, for example, the contextual and personal features affecting goal
24 setting (Little 2007; Little & Gee, 2007). For the FITSA study, PPA was revised for the
25 purpose of studying older people, and only the content of four current personal goals was

1 asked. At baseline, PPA was conducted via interview, with the following question: “People
2 have many kinds of things that they think about, hope for and hope to accomplish. Think
3 about the kinds of personal goals/projects you have in your life at the moment. The
4 goals/projects may be related to any life domain, such as hobbies, work, family, friends or
5 yourself.” In the follow-up postal questionnaire, the question on personal goals was
6 introduced with similar wording. Personal goals were classified on the basis of their content
7 by two trained assessors independently. The percentage rate of agreement between the two
8 assessors was 91 % at baseline, as reported by Salmela-Aro et al. (2009), and 84% at follow-
9 up. Discrepancies between the assessors were discussed until total agreement was achieved.
10 The same coding scheme with 19 personal goal categories was used on both occasions, and
11 each personal goal category was coded on a dichotomous scale. The coding scheme was
12 developed by Salmela-Aro et al. (2009) to be similar with schemes used in earlier studies
13 (Little, 1983). A person could have goals in several different categories or several goals in
14 one category. The coding scheme and examples of personal goals in each category are
15 presented in Table 1.

16 **Age.** Participants’ date of birth was derived from a national register.

17 **Mobility limitations.** Self-reported difficulties in walking two kilometers was asked
18 with the question “Do you have difficulties in walking two kilometers due to your health or
19 physical condition?”, difficulties in climbing stairs was asked with the question “Do you have
20 difficulties in climbing one flight of stairs due to your health or physical condition?” and
21 difficulties in using public transportation with the question “Do you have difficulties in using
22 public transportation due to your health or physical condition?”. The response options for all
23 of these questions were no difficulties, minor difficulties, major difficulties and need
24 help/cannot. For further analysis, the answers were dichotomized (having at least minor

1 difficulties vs. having no difficulties). Because 52% of the participants had never had a
2 driver's license, we were not able to include driving as one of the mobility indicators.

3 **Descriptive characteristics.** We used structured questionnaires at both baseline and
4 follow-up. The information used as descriptive characteristics included years of education,
5 depressive symptoms (Center for Epidemiologic Studies Depression Scale, CES-D Score;
6 Radloff 1977), marital status (single, married, remarried, cohabiting, divorced or separated
7 and widowed; dichotomized as in a relationship vs. not in a relationship), perceived economic
8 situation (self-reported with the options very good, good, moderate, poor, very poor;
9 dichotomized as good or very good vs. moderate, poor or very poor) and self-rated health
10 (very good, good, moderate, poor, very poor; categorized as good or very good, moderate and
11 poor or very poor).

12 **Data analysis**

13 The descriptive characteristics for all the participants are reported as mean values and
14 standard deviations for continuous variables and percentage distributions for categorical
15 variables. The McNemar test was used to test the significance of changes in the total
16 proportions of participants reporting goals in each category between baseline and follow-up.
17 Logistic regression models were used to analyze the association between age, mobility
18 limitations and changes in personal goals. For each personal goal category, we first
19 formulated univariate logistic regression models for age and each baseline mobility indicator.
20 In the univariate models each variable was entered in the model separately, first with
21 “engaged in a goal” as the dependent variable (compared to “did not engage in a goal”).
22 When predicting engagement in a goal, the model only included participants who did not
23 have any goals in the goal category at baseline. Each variable was then entered in the model
24 with “disengaged from goals” as the dependent variable (compared to “maintained goals”).
25 When predicting disengagement from goals, the model included only participants who had at

1 least one goal in the goal category at baseline. Finally, we formulated similar univariate
2 models for each goal category, using the follow-up mobility indicators and adjusting these
3 models with the baseline information of the same mobility indicators. Due to small number of
4 participants, we were not able to adjust the models for other baseline characteristics.

5 The twin sample was treated as a set of individuals and the statistical interdependency
6 between twins was taken into account in all the analyses. Stata statistical software (version
7 13.0) was used in the analysis (StataCorp., College Station, TX).

8 **Results**

9 **Participant characteristics.** The characteristics for the participants are presented in
10 Table 2. Mean age was 70.9 (SD 3.2) at baseline and 78.9 (SD 3.3) at follow-up. Most rated
11 their health as moderate, good or very good at both baseline and follow-up. At baseline, 33%
12 of the participants reported having difficulties in walking two kilometers, 27% in climbing
13 stairs and 11% in using public transportation. Of those with no difficulties in the respective
14 mobility indicator at baseline, 42% developed difficulties in walking two kilometers, 29% in
15 climbing stairs and 27% in using public transportation during the follow-up (Table 3).

16 The frequencies of participants reporting at least one goal in a goal category at
17 baseline and at follow-up are presented in Table 1. The most common goal category at both
18 measurement points was health and functioning, followed by exercise, close relationships and
19 cultural activities at baseline, and independent living and close relationships at follow-up. At
20 both times, only three participants did not mention a single goal. Only five most common
21 goal categories were included in the current analysis, as for the other goal categories (others'
22 health, busying oneself around the home, social activities, memory, care of others, travel,
23 living with symptoms/illness, diet/outlook, self-development, economic issues, politics,
24 religion, work, and other) further meaningful analysis could not be carried out, because they

1 were reported by less than 40 participants both at baseline and follow-up, which did not allow
2 additional categorizations.

3 **Changes in personal goals.** Of the 152 people (74%) who reported goals related to
4 health and functioning at baseline 57 (38%, $p=.011$) disengaged from this goal, while 32
5 (60%) of those who did not report this goal at baseline reported it at follow-up. The
6 proportion of women reporting goals related to exercise and cultural activities decreased by
7 80% at follow-up ($p<.001$), which was accompanied by only few people engaging in these
8 goals over the years (6% for exercise and 9% for cultural activities). Disengagement from
9 goals related to close relationships and to independent living was also relatively common
10 (70% and 53%, respectively), although, during the follow-up years, these goals were
11 commonly adopted (27% and 40%, respectively). Independent living was the only goal
12 category to show a significant increase in the total proportion of women reporting them
13 ($p<.001$) (Table 4).

14 **The association of age with changes in personal goals.** The results of all the logistic
15 regression analyses predicting engagement in and disengagement from personal goals in
16 relation to age and to changes in mobility limitations are provided as supplementary data and
17 only statistically significant associations are reported below. Higher age decreased the
18 likelihood for engaging in new goals related to cultural activities over time (OR 0.74, 95% CI
19 0.62 – 0.87) and disengaging from goals related to independent living (OR 0.81, 95% CI 0.66
20 – 0.99).

21 **The association of mobility limitation with changes in personal goals.** Incident
22 difficulties in walking two kilometers significantly decreased the odds for engaging in new
23 goals related to exercise (OR 0.05, 95% CI 0.01 – 0.39) and increased the odds for
24 disengaging from goals related to cultural activities (OR 7.68, 95% CI 1.26 – 46.74). Incident
25 difficulties in climbing stairs increased the odds for disengaging from goals related to health

1 and functioning (OR 2.46, 95% CI 1.10 – 5.51), and incident difficulties in using public
2 transportation increased the odds for engaging in a new goal related to close relationships
3 (OR 2.79, 95% CI 1.18 – 6.58). In addition, we noticed a trend for incident difficulties in
4 walking two kilometers to decrease the odds for engaging in goals related to cultural
5 activities and for disengaging from goals related to independent living. Incident difficulties in
6 climbing stairs seemed to decrease the odds for engaging in goals related to exercise and to
7 cultural activities and to increase the odds for disengaging from goals related to cultural
8 activities.

9 **Discussion**

10 Based on three acknowledged theories – the model of selective optimization with
11 compensation (SOC; Baltes & Baltes, 1990), the dual-process model of developmental
12 regulation (Brandtstädter, 2009), and the motivational theory of life-span development
13 (Heckhausen et al., 2010), we predicted to find associations between mobility limitation and
14 changes in personal goals among older women. As predicted, the results of this study suggest
15 that mobility limitation may restrain older adults from engaging in goals related to exercise
16 and lead to disengaging from goals related to cultural activities. The decrease in the total
17 proportion of women reporting goals related to exercise and cultural activities during the
18 follow-up was substantial, as was the increase in women reporting goals related to
19 independent living. Higher age was associated with not engaging in goals related to cultural
20 activities and with maintaining goals related to independent living. Health and relationship
21 goals were both abandoned and adopted over years, but remained rather common throughout
22 the follow-up time.

23 In line with our hypotheses, the current results showed that walking difficulties may
24 inhibit older people from setting goals for activities such as exercise or cultural interests, and
25 lead to goal disengagement. Women who had developed mobility limitation during the

1 follow-up were less likely to engage in new goals related to exercise and more likely to
2 disengage from goals related to cultural activities. This finding supports the theoretical
3 reasoning that age-related losses may lead to goal modification (Baltes & Baltes, 1990;
4 Brandtstädter, 2009; Heckhausen et al., 2010). The result is in line with previous studies
5 indicating that when functioning declines, people focus on more pressing things in life
6 instead of leisure time activities (Schindler & Staudinger, 2008), and select activities that are
7 compatible with their current capabilities (Rush, Watts, & Stanbury, 2011). Participating in
8 many cultural and exercise activities requires the ability to access outdoors (Rantanen, 2013),
9 which makes it understandable that walking difficulties may lead to not striving for goals
10 requiring venturing outside the home. With increasing age, disengagement from goals related
11 to leisure-time activities seems to be common among older women, as the decrease in the
12 proportion of women reporting goals related to exercise and cultural activities from baseline
13 to follow-up was substantial. This result was expected, and similar to previous cross-sectional
14 research indicating fewer activity goals with increasing age among older adults (Lawton et
15 al., 2002). As predicted by the dual-process model of developmental regulation, people often
16 abandon goals that seem too difficult to attain (Brandtstädter 2009), and it is reasonable to
17 assume that, during the follow-up, these women experienced obstacles in realizing some of
18 their goals. The result is also in line with disengagement theory, which suggests that aging
19 leads to withdrawal from social participation, which is presumed to be an inevitable, but
20 adaptive process related to aging (Cumming & Henry, 1961). Also abandoning goals that are
21 too difficult to reach is considered as an important strategy for adjusting to age-related
22 changes (Freund, Nikitin, & Ritter, 2009), and the ability to modify goals when encountering
23 functional decline is an adaptive process, which may promote the well-being of older adults
24 (Baltes & Baltes 1990; Brandtstädter 2009; Freund et al., 2009).

1 We expected to see an increase in goals related to health and independent living
2 during the follow-up, but independent living was the only goal category that became more
3 frequent over time. This might be due to increasing age, which causes the need to ponder the
4 choices one has as functioning declines. Striving for independent living has previously been
5 associated with higher age (Rapkin & Fischer, 1992), as was also the case in the present
6 study, where higher age decreased the odds for disengaging from these goals. It seems that
7 with age, independent living is prioritized, and older people select more goals related to it, as
8 we hypothesized based on the SOC-model. Maintaining an independent lifestyle is even more
9 important for older adults in present-day society, when families and public services do not
10 support them as strongly as before (Denton et al. 2004). Problems related to institutional care
11 are often discussed in the media, which may also induce hopes on being able to live on at
12 home for as long as possible.

13 Previously health-related goals have been found to be more common among the
14 oldest age groups (Frazier et al., 2002), whereas in the present study, against our hypothesis,
15 the prevalence of health-related goals among older women diminished over time, while
16 nevertheless remaining high. The high prevalence of health-related goals among older adults
17 is typically explained by the fact that on the one hand health declines in old age, and on the
18 other hand, that sufficient health is a prerequisite for pursuing other meaningful life goals
19 (Boersma, Maes, & Joeke, 2005; Martos, Thege, & Kopp, 2010). As health-related goals
20 may relate more to rumination over health issues than striving for better health (Smith &
21 Freund, 2002), their high prevalence in older adults may also result simply from health
22 problems (Frazier et al., 2002). However, in the present study, difficulties in climbing stairs
23 at follow-up increased the likelihood for disengaging from health-related goals during the
24 study period. The women who reported health-related goals at follow-up also rated their
25 health as good or very good more often than women who did not report these goals (31% vs.

1 18%, $p=.053$). It may be that more emphasis is placed on health-related goals when no severe
2 health problems are present and striving to maintain the current health status is perceived as
3 satisfactory.

4 Difficulties in using public transportation increased the odds for engaging in goals
5 related to close relationships. This may indicate a tendency for striving towards closeness
6 when encountering difficulties, such as functional problems. The finding that relationship
7 goals were rather common at both measurements is in line with our hypothesis, and with the
8 socioemotional selectivity theory, which states that in old age, when the future time
9 perspective is limited, people typically strive for emotional closeness (Fung & Carstensen,
10 2006). This also emerged in a study by Lawton et al. (2002), where family and friends were
11 the most common goal categories among older people. Helping other people is important for
12 many older adults (Beadle, Sheehan, Dahlben, & Gutchess, 2013), which may contribute to
13 setting goals related to close relationships. Striving for intimacy is central across the whole
14 human life span, and the importance of emotionally meaningful relationships does not vanish
15 with aging (Sheldon & Kasser, 2001) or with health problems. The present results support
16 this, as mobility limitations did not lead to disengagement from relationship goals.
17 Maintaining relationship goals even with functional decline is important, as especially
18 relations with friends are important for the well-being of older people (Huxhold, Miche, &
19 Schüz, 2014).

20 The strengths of this study include a longitudinal design, which provided new
21 information on changes in older women's personal goals. Age-related losses have been
22 suggested to affect older people's goal setting in three acknowledged theories (Baltes &
23 Baltes, 1990; Brandtstädter 2009; Heckhausen et al., 2010), but there has been little empirical
24 evidence on the changes in personal goals in old age. The present study supports these
25 theories, as we found that goal disengagement occurs with aging and may be related to

1 problems in functioning. We were able to detect associations between mobility limitation and
2 changes in personal goals, despite the fact that our sample consisted of high-functioning older
3 women of whom only a few reported more than minor difficulties in walking two kilometers,
4 that is, in a relatively demanding mobility task (Rantanen, 2013). This shows that even minor
5 mobility limitation may affect older women's goal setting and prevent striving for exercise or
6 cultural activities. The measures of mobility limitations in this study were self-reported, and
7 thus, reflect the participants' own evaluation of their problems in a specific environment and
8 in activities that are relevant for them (Rantanen, 2013).

9 This study has also some important limitations. Due to the FITSA study protocol, the
10 participants represent the healthiest women in their age group, as they needed to be able to
11 travel to the research center, even from a considerable distance. Although twins do not differ
12 from other members of the population in e.g. health habits or mortality, they may benefit
13 from having support from a twin sibling throughout their lives. The fact that the present
14 participants were twins was statistically taken into account in the analysis. This study
15 addressed only the personal goals of older women, which restricts the generalization of the
16 results to the whole aging population. Older women's goals often differ from men's goals
17 (e.g. Rapkin & Fischer, 1992), and women also have more mobility limitations from midlife
18 to old age (Rohlfen, & Kronenfeld, 2014), which may have affected the results of this study.
19 The Personal Project Analysis inventory was conducted as a face-to-face interview at
20 baseline and via a postal questionnaire at follow-up, which may have had an effect on the
21 participants' answers. Some participants did not answer the question at follow-up, which may
22 be due to it being the last question on a long postal questionnaire. Even though the same
23 coding scheme was used, the personal goals reported by the participants were classified at
24 baseline and follow-up by different raters, which may have caused some differences in the
25 content of each goal category. The goal category of health and functioning was large and

1 included all kinds of goals related to health, whether they indicated striving for better health,
2 avoiding illnesses or just maintaining health as it is. Some intuitively important goals were
3 reported by so few people that we were unable to analyze them in a meaningful way, and,
4 consequently, only five goal categories were analyzed relative to mobility limitations. Due to
5 small number of participants in the current analysis, we need to confirm the results in the
6 future with a larger study population. Further, the follow-up time of this study was perhaps
7 too long, and does not allow us to make conclusions about the cause and effect relationships
8 between mobility limitation and changes in personal goals.

9 The personal goals of older adults reflect the most pressing concerns in old age, and
10 most often include striving for health. Based on this study it seems that, in old age,
11 developing mobility limitation may result in goal disengagement and not engaging in new
12 goals related to activities such as exercise. Goal accommodation is associated with well-being
13 in old age (Heyl, Wahl, & Mollenkopf, 2007), and by modifying their personal goals older
14 adults may continue striving for meaningful activities even in the face of functional decline.
15 Physical functioning has a strong effect on well-being in old age (Windsor, Burns, & Byles,
16 2013), but the ability to modify personal goals may adjust the negative effect of poor
17 functioning, and improve older people's well-being (e.g. Boerner, 2004). By decreasing
18 motivation, declining health may also result in less activity participation (Hess, Emery, &
19 Neupert, 2012), but with other helpful resources, and with more tenacious goal pursuit (Heyl
20 et al., 2007) older adults could continue participation in chosen activities, even with mobility
21 limitation (Morrow-Howell et al., 2014). This is important, as striving for engagement in e.g.
22 exercise goals might help prevent further mobility decline (Rantanen, 2013). In line with the
23 United Nations Principles for Older People, the policy framework of World Health
24 Organization states that active aging may be enhanced by diverse participation in community
25 life, which enables self-fulfillment in activities according to a person's capabilities and

1 preferences (World Health Organization, 2002). This may be reached when older adults are
2 supported in striving for meaningful personal goals throughout their later years of life.

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4 The authors declare that there are no potential conflicts of interest with respect to the
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13

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1 **Table 1.** *The coding scheme for personal goals, frequencies of women reporting at least one*
 2 *goal in a category both at baseline and follow-up, and examples of the content of goal*
 3 *categories (n=205)*

<i>Personal goal category</i>	% (n) endorsing		<i>Example</i>
	At baseline	At follow-up	
Health and functioning	74 (152)	62 (127)	<i>"To stay healthy" / "To maintain functioning"</i>
Exercise	38 (78)	11 (22)	<i>"To exercise more"</i>
Close relationships	36 (74)	28 (57)	<i>"Good relationships with close ones"</i>
Cultural activities	28 (57)	12 (24)	<i>"To learn to play an instrument"</i>
Independent living	24 (49)	42 (86)	<i>"To be able to live at home as long as possible"</i>
Others' health	17 (34)	11 (23)	<i>"That children and their families would stay healthy"</i>
Busying oneself around the home	14 (29)	10 (21)	<i>"Do the housework without help from others"</i>
Social activities	13 (27)	3 (6)	<i>"To participate in activities at the sheltered home"</i>
Memory	7 (14)	9 (19)	<i>"Not to lose memory"</i>
Care of others	6 (12)	3 (7)	<i>"To be able to take care of my husband"</i>
Travel	6 (13)	5 (11)	<i>"Travelling to some place warm"</i>
Living with symptoms/illness	6 (12)	9 (18)	<i>"To get a hearing aid"</i>
Diet/outlook	5 (11)	2 (3)	<i>"To lose a little weight"</i>
Self-development	4 (8)	6 (13)	<i>"To be able to give up things when needed"</i>
Economic issues	3 (6)	4 (9)	<i>"To improve own economic situation"</i>
Politics	1 (2)	5 (11)	<i>"Peace"</i>
Religion	1(2)	2 (3)	<i>"To believe in Jesus"</i>
Other	1 (2)	2 (3)	<i>"Christmas preparations"</i>
Work	0 (0)	0 (0)	--

1 **Table 2:** *Descriptive statistics of the study participants at baseline and follow-up (n=205)*

	Baseline	Follow-up
	(mean, SD)	(mean, SD)
Age	70.9 (3.2)	78.9 (3.3)
Years of education	9.0 (3.2)	Not asked
CES-D score	11.1 (7.2)	14.1 (7.6)
	(%)	(%)
In a relationship	47	38
Good economic situation	27	30
Self-rated health		
Good or very good	31	29
Moderate	65	64
Bad or very bad	4	7

2 *Note.* Years of education, n=202; Economic situation and in a relationship at follow-up,

3 n=202; Self-rated health at follow-up, n=203; CES-D at follow-up, n=194.

1 **Table 3:** *Frequencies of mobility limitation among older women at baseline and follow-up*
 2 *(n=205)*

	Baseline	Follow-up	
		No difficulties	Difficulties
	% (n)	% (n)	% (n)
Walking 2 km			
No difficulties	67 (137)	58 (76)*	42 (56)*
Difficulties	33 (68)	9 (6) [#]	91 (62) [#]
Climbing stairs			
No difficulties	73 (149)	71 (103)*	29 (43)*
Difficulties	27 (56)	26 (14) [#]	74 (39) [#]
Using public transportation			
No difficulties	89 (183)	73 (130)*	27 (47)*
Difficulties	11 (22)	27 (6) [#]	73 (16) [#]

3 * Proportion of those with no difficulties at baseline

4 [#] Proportion of those with difficulties at baseline

5 *Note.* Walking 2 km at follow-up, n=200; Climbing stairs at follow-up and using public

6 transportation at follow-up, n=199.

1 **Table 4:** *Frequencies of older women’s personal goals at baseline, at follow-up and by changes in personal goals (n=205)*

<i>Personal goal category</i>	Baseline % (n)	Follow-up % (n)	Engaged in a goal % (n)*	Did not engage in a goal % (n)*	Disengaged from goals % (n)#	Maintained goals % (n)#	p- value α
Health and functioning	74 (152)	62 (127)	60 (32)	40 (21)	38 (57)	63 (95)	.011
Exercise	38 (78)	11 (22)	6 (8)	94 (119)	82 (64)	18 (14)	<.001
Close relationships	36 (74)	28 (57)	27 (35)	73 (96)	70 (52)	30 (22)	.086
Cultural activities	28 (57)	12 (24)	9 (13)	91 (135)	81 (46)	19 (11)	<.001
Independent living	24 (49)	42 (86)	40 (63)	60 (93)	53 (26)	47 (23)	<.001

2 * Percentage of those who did not have goals in the category at baseline

3 # Percentage of those who had at least one goal in the category at baseline

4 α McNemar test for the significance of change in the total proportion of participants reporting personal goals in a category

5 *Note:* Engaged in a goal, meaning those who did not have a goal in the category at baseline but did have at least one goal in the category at
 6 follow-up; did not engage in a goal, meaning those who did not have a goal in the category at either baseline or follow-up; disengaged from
 7 goals, meaning those who had a goal in the category at baseline but did not at follow-up; maintained goals, meaning those who had a goal in the
 8 category at both baseline and follow-up.