Life resources and personal goals in old age

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Abstract It has been theorized that life resources influence goal engagement. The aim of the present study was to examine whether personal characteristics, and socio-economic, social and health resources are associated with personal goal content in old age. The participants were 824 community-dwelling people aged 75–90 from the Life-Space Mobility in Old Age project. Personal goals were elicited using a revised version of the Personal Project Analysis in a structured interview. Cross-sectional bi- and multivariate analyses using logistic regression modelling were conducted. The results showed that the most commonly reported goals were health maintenance related. People with better health resources were more likely to report goals related to leisure-time, social and physical activities and less likely to report goals related to recovery of health. Those with poor social resources were at risk for having no personal goals in their lives. The results are in line with theorizing on the influence of life resources on goal setting in old age. Further longitudinal studies are needed on whether resource loss precedes goal modification, and how goal setting strategies influence both mental and physical well-being in old age.

Keywords Personal goals · Ageing · Life-span development · Life resources · Health · Functioning

Introduction

Throughout the life course, people plan their lives and anticipate their future with personalized intentions. These intentions, which describe motivational features behind people's actions, have been conceptualized as, for example, current concerns (Klinger 1975), personal strivings (Emmons 1986), possible selves (Markus and Nurius 1986), personal projects (Lawton et al. 2002; Little 1983), and personal goals (Freund and Riediger 2006; Lapierre et al. 1997; Rapkin and Fischer 1992). In the present study, we use the concept of personal goals, which has been defined as states that people strive to achieve or avoid in the future (Freund and Riediger 2006). Personal goals range from minor everyday strivings to major endeavours lasting a life time (Little and Gee 2007). They are dynamic constructs influenced by various personal and contextual factors, as described in Little's (2007, 2014) *social ecological model of human flourishing*. The model proposes that human flourishing is influenced—both directly and indirectly through personal goal pursuit—by stable and dynamic personal and contextual features. These features can be seen reflective of life resources, i.e. objects, personal characteristics, conditions and energies in people's lives (Hobfoll 1989). Such resources, which also function as means for goal pursuit (Freund and Riediger 2001), form the basis on which people construct their lives and their personal goals.

The assumption that life resources affect goal setting is also discussed in life-span developmental theories, which see old age as a time of many resource losses, which, in

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turn, affect goal setting. *The model of selective optimization with compensation* (SOC; Baltes and Baltes 1990) states that individuals may compensate for lack of resources by applying the coping methods of loss-based selection and compensation. In the model, elective selection refers to specifying one's personal goals and loss-based selection to disengaging from unachievable goals and replacing them with new goals (Baltes 1997; Boerner and Jopp 2007; Freund and Baltes 1998). Optimization is used when efforts and resources are targeted at goal attainment and compensation when extra resources are needed to continue goal pursuit (Baltes and Baltes 1990) or, for example, to achieve earlier functional status (Ebner et al. 2006). In line with the SOC model, *the dual-process model of developmental regulation* by Brandstädter (e.g. 2009) implies that, because of diminishing resources, accommodative efforts at flexible goal adjustment are emphasized in old age over assimilative strivings for tenacious goal pursuit. For the same reason, *the motivational theory of life-span development* sees secondary control, which is aimed at adjusting the self to the environment, as more typical in old than in young age. Secondary control serves to support primary control, which refers to efforts to change the environment according to one's goals (Heckhausen et al. 2010). The ability to engage in goal modification has been considered important in successfully adjusting to age-related losses, since goal modification and the selection of more feasible goals may compensate for lack of resources (Boerner and Jopp 2007). Despite these theoretical considerations, empirical evidence on the relationship between resource loss and goal setting in old age is largely lacking. Previous studies have focused more on the general tendency towards goal accommodation (e.g. Bailly et al. 2014; Boerner 2004; Dunne et al. 2011) rather than goal content. Our recent study suggested that onset of walking difficulty may lead to fewer goals related to exercise and cultural activities in old age (Saajanaho et al. 2014a).

In earlier studies, the most common personal goals reported by older people have consistently been related to health, family and other close relationships, basic daily activities, independent living and leisure-time activities (Lapierre et al. 1992–1993; Lawton et al. 2002; Saajanaho et al. 2014a; Smith and Freund 2002). Among older people, higher age has been associated with fewer personal goals in total (Lawton et al. 2002; Smith and Freund 2002) and less goal striving, especially in relation to leisure-time activities (Lawton et al. 2002), an energetic lifestyle (Rapkin and Fischer 1992) and personal characteristics (Smith and Freund 2002). Spiritual goals (Lapierre et al. 1992–1993; Lawton et al. 2002), health goals (Frazier et al. 2002; Lapierre et al. 1992–1993; Smith and Freund 2002) and goals related to independence and public services (Rapkin and Fischer 1992) have been reported to be more common

among the oldest old. According to socio-emotional selectivity theory, goals reflecting the need for emotional closeness tend to be emphasized in old age (Carstensen et al. 2003). In line with this notion, goals related to other people are common throughout aging (Lawton et al. 2002; Saajanaho et al. 2014a). However, it has also been reported that relationship goals may be less endorsed by the oldest old (Smith and Freund 2002), possibly because emotionally meaningful goals are valued in old age, and thus, strivings for more shallow relationships may be abandoned (Carstensen et al. 2003).

Among older people, higher education has been associated with having more personal goals, and, more specifically, with having more goals related to leisure-time activities and relationships (Lawton et al. 2002; Rapkin and Fischer 1992). Those with lower education have reported more goals related to health maintenance (Lapierre et al. 1992–1993) and independence (Rapkin and Fischer 1992). Living alone has been associated with more relationship goals (Holahan 1988; Lapierre et al. 1992–1993) and goals related to leisure-time activities (Holahan 1988). Health problems promote engagement in health goals (Smith and Freund 2002) and in goals related to basic daily activities, independence, public services and safety (Lawton et al. 2002; Rapkin and Fischer 1992), and decrease motivation to participate in social and intellectual activities (Hess et al. 2012; Lawton et al. 2002). In one study, older people with poor cognitive functioning reported fewer personal goals in total and fewer goals related to other people and different leisure-time activities than those with good cognitive ability (Lawton et al. 2002).

In the present study, we examined the associations of personal characteristics (age, sex), and socio-economic (education, economic situation), social (living status, meetings with relatives and friends) and health resources (cognitive ability, self-rated health, walking ability) with the content of personal goals in old age. We selected resource variables that cover some of the main resources affecting older people's ability to perform activities in everyday life. It has been theorized that the possibilities for goal engagement depend on many individual and environmental features, i.e. resources (Freund and Riediger 2001; Haase et al. 2013; Little 2014), but little empirical evidence has been reported on how different life resources relate to personal goals in old age. The results of previous studies are partially conflicting and based on different categorizations of goals. In the present study, we formulated seven goal dimensions to describe the general motivational strivings of our study population. The theories on life-span development discussed above share the idea that life resources influence the possibilities for goal selection in old age. Based on this theoretical background and the previous research, we hypothesized that older people with better resources (e.g. younger age, more education, better

health and cognitive ability) would have more personal goals related to different activities. Specifically, good health resources were expected to be related to more leisure-time activity and physical activity goals. In contrast, people with fewer resources were expected to report more health maintenance, recovery and daily life goals.

Methods

Participants

The present data form part of the Life-Space Mobility in Old Age (LISPE) study among community-dwelling older people aged 75–90. Details of the LISPE recruitment procedure are given elsewhere (Rantanen et al. 2012). A random sample of 2 550 people was drawn from a national register and asked whether they would be interested in taking part in the study. Those who were willing to take part, lived independently in their own homes and had no severe memory or communication problems were included. Finally, 848 people (62 % female) participated in a structured home interview conducted between January and June 2012. The analyses reported here comprised 824 older adults who had answered the question on personal goals. The descriptive characteristics of all the participants and according to reporting versus not reporting at least one personal goal in each of the goal dimensions are presented in Table 1. The mean age of the participants was 80.1 (SD = 4.2) and mean length of education 9.6 years (SD = 4.2). Almost half of the participants were living with someone and most rated their health as moderate and had no difficulties in walking two kilometres. Those who did not answer the goal question, and were left out from this study, more often rated their health as moderate or bad/very bad (96 vs. 63 %, $p = .001$) and had more difficulties in walking two kilometres (63 vs. 41 %, $p = .039$) than those who answered. No differences in the other study variables were observed between the groups. This study was approved by the Ethical Committee of the University of Jyväskylä, Finland, and the participants gave their written informed consent.

Procedure

Personal goals

As part of the LISPE baseline home interview, the content of personal goals was elicited with a revised version of the Personal Project Analysis (PPA; Little 1983). In the PPA, people are asked to list as many personal projects/goals as they can think of, and rate a subset of them on a set of dimensions (e.g. goal importance, control). The PPA was developed as a tool to assess human personality in a social-

ecological context, and as such may be used to address, for example, the personal and contextual features affecting goal setting (Little 2007; Little and Gee 2007). In the LISPE study, the PPA was revised for the purpose of studying older people and only the content of current personal goals was asked. The goal question was introduced as follows: “We all have different personal goals that we strive to realize in our daily lives or attain in the future. The goals may be related to any life domain, such as hobbies, daily life, health, family or friends. Think about the goals you have at the moment. The goals can be big or small; the main thing is that they are important to you”. The participants reported from zero to seven personal goals. A coding scheme with 25 goal categories was designed for the purpose of classifying the goals by their content. The categories were based on a coding scheme developed by Salmela-Aro et al. (2009), which was further developed to better distinguish the goals of older people. For example, health-related goals were divided into six different categories, and hobbies were differentiated according to whether they were performed at home or outside the home. The goals reported by the respondents were classified into the categories independently by two trained raters. Each goal was assigned to one goal category. The kappa-value for inter-rater reliability was 0.89 ($p < .001$). Discrepancies between the raters were discussed until total agreement was achieved. Each of the 25 personal goal categories was coded on a dichotomous scale with 1 indicating at least one goal in the category and 0 no goals in the category. A person could have goals in several different categories and/or several goals in one category. We added a separate category of “no goals”, in which 1 indicated no personal goals and 0 at least one goal in any of the 25 goal categories. The personal goal categories, combined into thematic goal dimensions, along with examples of their content are presented in Table 2.

Personal characteristics and socio-economic resources

Data on the participants’ sex and date of birth were derived from national registers. The participants reported how many years of education they had received and rated their economic situation as either 1 = very good or 2 = good or 3 = moderate or 4 = poor or 5 = very poor. As very few people reported having a poor or very poor economic situation (1.8 %), the answers were dichotomized as good or very good versus moderate, poor or very poor.

Social resources

Living situation was asked with the question “Who do you live with”? The answer options were 1 = alone, 2 = with a spouse/partner, 3 = with own children or grandchildren,

Table 1 Descriptive characteristics of all participants and by reporting versus not reporting goals in the thematic goal dimensions ($n = 824$)

	All				Reporting at least one personal goal				p^a				Health maintenance				p^a				Recovery				Social goals				p^a
					Yes		No		Yes		No		Yes		No		Yes		No		Yes		No		Yes		No		
	(n = 824)		(n = 773)		(n = 51)				(n = 427)		(n = 397)				(n = 69)		(n = 755)				(n = 55)		(n = 769)				(n = 552)		
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
Age in years	80.1	4.2	79.9	4.2	81.9	4.2	.001	.001	79.6	4.2	80.6	4.2	<.001	79.0	3.9	80.2	4.2	.032	80.0	4.3	80.1	4.2	.767						
Years of education	9.6	4.2	9.7	4.2	8.6	4.1	.066	.066	9.9	4.4	9.3	3.8	.038	10.8	4.4	9.5	4.1	.020	10.2	4.4	9.3	4.0	.005						
MMSE score	26.2	2.8	26.3	2.7	25.1	3.7	.030	.030	26.4	2.6	26.0	3.0	.059	26.4	2.7	26.2	2.8	.467	26.4	2.8	26.1	2.8	.218						
	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	
Women	62	513	63	484	57	29	.412	.412	62	264	63	249	.791	71	49	62	464	.117	70	189	59	324	.003						
Economic situation (good or very good)	51	417	51	391	51	26	.971	.971	47	201	55	216	.029	61	42	50	375	.078	52	141	50	276	.655						
Living with someone	47	388	48	372	32	16	.027	.027	49	211	45	177	.176	51	35	47	353	.534	50	135	46	253	.315						
Frequent meetings with relatives	66	547	66	511	71	36	.512	.512	67	286	66	261	.707	59	41	67	506	.201	62	168	69	379	.049						
Frequent meetings with friends	60	497	60	466	61	31	.952	.952	61	259	60	238	.804	61	42	60	455	.932	62	168	60	329	.571						
Self-rated health							.354						.004					<.001					.130						
Good/very good	37	302	37	288	27	14			42	177	32	125		14	10	39	292		39	106	35	196							
Moderate	54	443	53	411	63	32			51	219	57	224		70	48	52	395		54	147	54	296							
Poor/very poor	9	78	10	73	10	5			7	31	12	47		16	11	9	67		7	18	11	60							
Difficulties in walking 2 km							.065						<.001					<.001					.001						
No difficulties	59	483	59	461	43	22			64	272	53	21		39	27	61	456		68	184	54	299							
Minor difficulties	20	168	20	153	29	15			20	88	20	80		22	15	20	153		16	44	23	124							
Major difficulties/unable	21	173	21	159	28	14			16	67	27	106		39	27	19	146		16	44	23	129							
Leisure-time activities																													
	p^a				Physical activity				p^a				Daily life				p^a				Ideological goals				p^a				
					Yes		No		Yes		No		Yes		No		Yes		No		Yes		No		Yes		No		
	(n = 259)		(n = 565)		(n = 196)		(n = 628)		(n = 246)		(n = 578)		(n = 769)		(n = 55)		(n = 769)		(n = 55)		(n = 769)		(n = 55)		(n = 769)		(n = 55)		
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
Age in years	79.5	4.1	80.3	4.2	.008	.008	79.6	4.1	80.2	4.2	.055	.055	80.3	4.3	80.0	4.2	.391	81.2	4.3	80.5	4.2	.047							
Years of education	10.3	4.5	9.3	4.0	.001	.001	10.4	4.6	9.4	4.0	.007	.007	9.9	4.1	9.5	4.2	.267	10.6	4.5	9.5	4.1	.079							
MMSE score	26.6	2.6	26.0	2.8	.001	.001	26.5	2.6	26.1	2.8	.049	.049	26.5	2.6	26.1	2.9	.030	26.7	2.6	26.1	2.8	.167							
	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	
Women	62	161	62	352	.970	.970	58	113	64	400	.128	.128	65	160	61	353	.282	75	41	61	472	.052							
Economic situation (good or very good)	53	136	50	281	.442	.442	52	102	50	315	.674	.674	51	124	51	293	.965	55	30	51	387	.558							
Living with someone	51	133	45	255	.101	.101	52	101	46	287	.159	.159	46	112	48	276	.544	36	20	48	368	.097							
Frequent meetings with relatives	61	157	69	390	.018	.018	65	128	67	419	.715	.715	63	156	68	391	.239	66	36	66	511	.880							
Frequent meetings with friends	61	159	60	338	.691	.691	62	121	60	376	.659	.659	59	144	61	353	.538	75	41	59	456	.026							

Table 1 continued

	Leisure-time activities				p^a				Physical activity				p^a				Daily life				p^a				Ideological goals				p^a																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
	Yes ($n = 259$)		No ($n = 565$)		Yes ($n = 196$)		No ($n = 628$)		Yes ($n = 246$)		No ($n = 578$)		Yes ($n = 55$)		No ($n = 769$)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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Years of education $n = 817$; Economic situation $n = 822$; Frequent meetings with friends $n = 823$

M = mean, SD = standard deviation

^a p value; independent samples t test for the continuous variables and Chi-square test for the categorized variables

and 4 = with relatives, siblings or other people. For further analysis, the answers were dichotomized as living with someone versus living alone. *Meetings with relatives* were asked with the question “How often do you meet your children or other relatives”? The answer options were 1 = daily, 2 = weekly, 3 = monthly, 4 = a few times a year, 5 = seldom or not at all, and 6 = do not have any children/relatives. Meetings occurring at least weekly were defined as frequent, whereas meetings less often than weekly/do not have any children or relatives represented the reference group. *Meetings with friends* were asked with a similar question and answer options, and the answers were dichotomized correspondingly.

Health resources

Cognitive ability was assessed with the Mini-Mental State Examination (MMSE; Folstein et al. 1975). The MMSE score ranges from 0 to 30 with higher scores indicating better cognitive ability. The participants rated their health as either 1 = very good or 2 = good or 3 = moderate or 4 = poor or 5 = very poor. Since very few people reported having very good (34) or very poor (4) health, the answers were categorized as good/very good, moderate and poor/very poor. In the analyses, ‘poor/very poor’ was used as a contrast for both ‘good/very good’ and ‘moderate’. *Walking ability* was assessed with self-reported difficulties in walking two kilometres, asked with the question “Are you able to walk two kilometres”? The response options were 1 = yes, without difficulties; 2 = yes, with minor difficulties; 3 = yes, with major difficulties; 4 = unable without assistance from another person and 5 = unable even with assistance. Owing to the low number (20) of people reporting they could not walk 2 km without assistance from another person, the answers were categorized as having no difficulties, having minor difficulties and having major difficulties/needs help/unable. In the analyses, ‘having major difficulties/needs help/unable’ was used as a contrast for both ‘yes, without difficulties’ and ‘yes, with minor difficulties’.

Data analysis

The goal categories were combined thematically by a panel of four researchers based on earlier categorizations of goal content. Because the correlations between the goal categories were low (range from $-.131$ to $.194$), statistical methods for combining the categories (factor analysis, multidimensional scaling and cluster analysis), which are based on the similarity/dissimilarity of item responses, did not produce meaningful results. Thematic categorization resulted in seven goal dimensions, which are presented in Table 2, followed by the original goal categories from

Table 2 The personal goal categories combined in thematic goal dimensions, examples of their content and number of participants reporting at least one goal in a category ($n = 824$)

Personal goal dimension	Example	Reporting	
		%	<i>n</i>
Personal goal category			
Health maintenance		52	427
Maintaining health	“to stay healthy”	32	263
Maintaining functioning	“to maintain functional ability”	20	165
Healthy lifestyle	“to live a healthy life”	8	68
Mental health	“to stay mentally alert”	5	38
Recovery		8	69
Recovery/Managing illnesses	“that the cancer treatment would work”	5	38
Improving functioning	“to be able to move normally, as before”	4	34
Social goals		33	272
Family	“to visit children”	14	119
Meeting other people	“to spend time with friends”	13	107
Helping others	“to support the children in their lives”	6	48
Other’s health and well-being	“a good future for our grandchildren”	6	45
Leisure-time activities		31	259
Travel/summer cottage	“to travel to some place warm”	15	124
Hobbies at home	“to do handicrafts”/“to read the newspaper every day”	14	111
Participation in social events	“to participate in war veterans’ events”	6	48
Hobbies outside home	“to continue going to concerts”	4	33
Physical activity		24	196
Activeness in daily life	“gardening”	16	133
Exercise	“to exercise more”	10	85
Daily life		30	246
Independent living	“to be able to take care of myself and my home”	15	124
Life as it is	“that life would stay as it is”	9	76
Living arrangements	“to move to the city centre”	4	32
Economic issues	“to save money”	4	32
Ideological goals		7	55
Character	“to be as good a person as possible”	2	20
Common good	“to participate in the development of society”	2	14
End-of-life issues	“I have lost all interest in life, I’m waiting for death”	2	13
Philosophy of life/religion	“to live according to God’s will”	2	12
Other	“to have a dog”	1	11
No goals	“I have no goals anymore”/“All my goals have been attained”	6	51

which they were derived. *Health maintenance* goals included strivings towards maintaining current, mental and physical, health and functional status. The most typically mentioned health maintenance goals were rather unspecified statements of wanting to stay healthy or maintain functioning. *Recovery* goals included goals related to improving current functional status and to recovering from illnesses or managing life with them. Goals in this dimension ranged from strivings to reach an earlier state of functional ability to rehabilitation after

surgery, and living as healthy as possible despite illnesses. *Social goals* comprised goals related to other people—either to family members or to other relations. Goals indicating concerns over other people’s well-being or concretely helping others were also included in this dimension. Goals in the *leisure-time activities* dimension were typically related to recreation, either at home (e.g. reading, handicrafts) or outside the home (e.g. going to the theatre, attending lectures). Goals related to participation in social events or group meetings, as well as to

travelling or spending time at the summer cottage, were also included in this dimension. *Physical activity* goals were either exercise goals, or other goals that included a clear physical activity component, such as busying oneself around the home doing, for example, heavier household chores or gardening. The element linking the goals in the *daily life* dimension was that they were related to the wish that everyday life continue as it is at present and living independently in one's own home. Goals related to living arrangements and economic issues were also included in this dimension. *Ideological goals* included goals related to one's character, the common good, end-of-life issues, and philosophy of life or religion. The element shared by these goals was that they reflected inner thoughts and pondering instead of strivings linked to some kind of activity. The thematic goal dimensions were dichotomized into at least one reported goal in a dimension versus no goals in a dimension.

Independent samples *t* tests and Chi-square tests were used to analyse the differences in baseline characteristics between those who reported at least one personal goal in each of the goal dimensions and those who did not report any personal goals in a given dimension. We used logistic regression modelling to examine the associations between the different life resources and personal goal content. First, we conducted bivariate models for each of the goal dimensions with each of the life resource variables as separate predictors. Second, we conducted a separate multivariate logistic regression model for each goal dimension with all the life resource predictor variables included in the models simultaneously. The analyses were conducted using SPSS 22.0 for Windows (IBM SPSS Inc.).

Results

Descriptive results

The average number of goals reported was 2.4 (SD = 1.5). 24 % of the participants reported having one personal goal, 28 % two, 21 % three and 21 % four or more goals. Six percent of the participants did not have any goals or said that their goals had already been attained. Those who reported at least one personal goal in any of the goal categories were younger, had a higher MMSE score and more often lived with another person than those who did not report any personal goals. About half of the study population reported at least one goal in the health maintenance dimension, 33 % reported social goals, 31 % goals related to leisure-time activities, 30 % daily life goals, 24 % physical activity goals, 8 % recovery goals and 7 % reported at least one ideological goal (Table 2).

Associations between life resources and personal goals

Reporting any personal goals

Participants who were living with someone were twice more likely to report at least one personal goal in any of the goal dimensions than those living alone. This association was evident in both the bi- and multivariate models. Higher age decreased, and a higher MMSE score increased, the likelihood for reporting at least one personal goal only in the bivariate model. In the multivariate model, women were twice as likely to report at least one personal goal when compared to men (Table 3).

Health maintenance goals

In both the bi- and multivariate models, better economic situation decreased the odds for reporting health maintenance goals. More years of education, better self-rated health and having less difficulty in walking two kilometres increased the odds for reporting health maintenance goals, but only the association between less walking difficulty and health maintenance goals remained significant in the multivariate model (Table 3).

Recovery goals

Good health resources were strongly associated with not reporting recovery goals. Those who rated their health as good/very good were less likely to report recovery goals when compared to those who reported their health as poor/very poor. Moreover, having less walking difficulty decreased the odds for reporting recovery goals. These associations remained strong in the multivariate model. In both models, higher age decreased, and more years of education increased the odds for reporting recovery goals. Female sex and good economic situation increased the odds for recovery goals only in the multivariate model (Table 3).

Social goals

Participants who did not report any walking difficulties were almost twice more likely to report social goals than those with major walking difficulties in both the bi- and multivariate models. In the bivariate model, female sex and more years of education increased, while frequent meetings with relatives decreased the odds for reporting social goals, and the associations remained significant in the multivariate model. In the bivariate model, those with good or very good self-rated health were more likely to report social goals than those with poor or very poor self-rated health,

Table 3 The associations of personal characteristics, and socio-economic, social and health resources with personal goal content

Life resources	At least one goal OR (95 % CI)		Health maintenance OR (95 % CI)		Recovery OR (95 % CI)		Social goals OR (95 % CI)	
	Bivariate	Multivariate	Bivariate	Multivariate	Bivariate	Multivariate	Bivariate	Multivariate
<i>Personal characteristics</i>								
Sex (female)	1.27 (0.72–2.25)	2.19 (1.12–4.30)	0.96 (0.73–1.28)	1.09 (0.78–1.51)	1.54 (0.90–2.64)	2.11 (1.11–3.99)	1.60 (1.18–2.18)	2.36 (1.65–3.39)
Age (per year)	0.90 (0.84–0.96)	0.94 (0.87–1.02)	0.94 (0.91–0.98)	0.97 (0.93–1.00)	0.94 (0.88–1.00)	0.89 (0.82–0.96)	1.00 (0.96–1.03)	1.04 (1.00–1.08)
<i>Socio-economic resources</i>								
Education (per year)	1.08 (1.00–1.17)	1.04 (0.95–1.13)	1.04 (1.00–1.07)	1.03 (0.99–1.07)	1.07 (1.01–1.12)	1.09 (1.02–1.16)	1.05 (1.02–1.09)	1.06 (1.02–1.11)
Economic situation (good or very good vs. poor)	0.99 (0.56–1.74)	0.76 (0.41–1.40)	0.74 (0.56–0.97)	0.63 (0.47–0.85)	1.57 (0.95–2.60)	1.88 (1.08–3.27)	1.07 (0.80–1.43)	0.97 (0.71–1.33)
<i>Social resources</i>								
Living with someone versus living alone	1.97 (1.07–3.63)	2.17 (1.06–4.42)	1.21 (0.92–1.59)	1.03 (0.75–1.43)	1.17 (0.71–1.92)	1.53 (0.85–2.75)	1.16 (0.87–1.55)	1.55 (1.09–2.19)
Frequent meetings with relatives ^a	0.81 (0.44–1.51)	0.83 (0.43–1.60)	1.06 (0.79–1.41)	1.11 (0.82–1.50)	0.72 (0.44–1.19)	0.74 (0.43–1.27)	0.74 (0.54–1.00)	0.70 (0.51–0.97)
Frequent meetings with friends ^a	0.98 (0.55–1.76)	0.92 (0.50–1.71)	1.04 (0.78–1.37)	0.91 (0.68–1.23)	1.02 (0.62–1.69)	1.39 (0.80–2.41)	1.09 (0.81–1.47)	1.06 (0.77–1.45)
<i>Health resources</i>								
MMSE score (per point)	1.14 (1.05–1.25)	1.09 (0.99–1.21)	1.05 (1.00–1.10)	1.03 (0.97–1.08)	1.03 (0.94–1.13)	0.96 (0.87–1.06)	1.03 (0.98–1.09)	0.99 (0.93–1.05)
Self-rated health								
Good or very good ^b	1.41 (0.49–4.04)	0.91 (0.27–3.08)	2.15 (1.29–3.57)	1.61 (0.88–2.93)	0.21 (0.09–0.51)	0.30 (0.11–0.85)	1.80 (1.01–3.21)	1.26 (0.64–2.47)
Moderate ^b	0.88 (0.33–2.33)	0.81 (0.28–2.35)	1.48 (0.91–2.42)	1.21 (0.70–2.07)	0.74 (0.37–1.50)	1.19 (0.54–2.59)	1.66 (0.94–2.91)	1.46 (0.79–2.70)
Poor or very poor	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Difficulties in walking 2 km								
No difficulties ^c	1.85 (0.92–3.69)	1.47 (0.63–3.44)	2.04 (1.43–2.91)	1.58 (1.02–2.45)	0.32 (0.18–0.56)	0.25 (0.12–0.51)	1.80 (1.22–2.66)	1.79 (1.11–2.88)
Minor difficulties ^c	0.90 (0.42–1.92)	0.81 (0.35–1.88)	1.74 (1.13–2.68)	1.58 (1.00–2.50)	0.53 (0.27–1.04)	0.39 (0.18–0.81)	1.04 (0.64–1.69)	0.99 (0.59–1.65)
Major difficulties/unable	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.

Table 3 continued

Life resources	Leisure-time activities OR (95 % CI)		Physical activity OR (95 % CI)		Daily life OR (95 % CI)		Ideological goals OR (95 % CI)	
	Bivariate	Multivariate	Bivariate	Multivariate	Bivariate	Multivariate	Bivariate	Multivariate
<i>Personal characteristics</i>								
Sex (female)	0.99 (0.73–1.35)	1.26 (0.88–1.78)	0.78 (0.56–1.08)	0.87 (0.60–1.26)	1.19 (0.87–1.62)	1.22 (0.85–1.74)	1.84 (0.99–3.44)	1.81 (0.89–3.68)
Age (per year)	0.95 (0.92–0.99)	0.99 (0.96–1.04)	0.96 (0.93–1.00)	1.00 (0.96–1.05)	1.02 (0.98–1.05)	1.02 (0.98–1.06)	1.07 (1.00–1.14)	1.09 (1.01–1.17)
<i>Socio-economic resources</i>								
Education (per year)	1.06 (1.02–1.10)	1.04 (1.00–1.08)	1.06 (1.02–1.10)	1.05 (1.00–1.09)	1.02 (0.99–1.06)	1.01 (0.97–1.06)	1.06 (0.99–1.12)	1.07 (1.00–1.14)
Economic situation (good or very good vs. poor)	1.12 (0.84–1.51)	0.97 (0.71–1.33)	1.07 (0.78–1.48)	0.95 (0.67–1.34)	0.99 (0.74–1.34)	0.94 (0.68–1.29)	1.18 (0.68–2.04)	1.09 (0.60–1.96)
<i>Social resources</i>								
Living with someone versus living alone	1.28 (0.95–1.72)	1.21 (0.86–1.72)	1.26 (0.91–1.74)	1.05 (0.72–1.53)	0.91 (0.68–1.23)	0.98 (0.69–1.39)	0.62 (0.35–1.10)	0.98 (0.50–1.91)
Frequent meetings with relatives ^a	0.69 (0.51–0.94)	0.73 (0.53–1.00)	0.94 (0.67–1.32)	1.03 (0.72–1.46)	0.83 (0.61–1.13)	0.81 (0.59–1.12)	0.96 (0.54–1.70)	0.85 (0.47–1.53)
Frequent meetings with friends ^a	1.06 (0.79–1.44)	0.98 (0.71–1.35)	1.08 (0.78–1.50)	0.93 (0.66–1.32)	0.91 (0.67–1.23)	0.91 (0.66–1.25)	2.00 (1.07–3.74)	2.54 (1.31–4.93)
<i>Health resources</i>								
MMSE score (per point)	1.10 (1.04–1.16)	1.05 (0.99–1.12)	1.06 (1.00–1.13)	1.03 (0.96–1.10)	1.06 (1.00–1.12)	1.06 (1.00–1.13)	1.08 (0.97–1.20)	1.06 (0.94–1.19)
Self-rated health								
Good or very good ^b	2.67 (1.40–5.06)	1.72 (0.83–3.56)	4.91 (1.91–12.60)	2.84 (1.03–7.83)	0.68 (0.40–1.13)	0.73 (0.39–1.35)	0.54 (0.24–1.25)	0.83 (0.29–2.35)
Moderate ^b	2.31 (1.23–4.33)	1.85 (0.94–3.63)	5.06 (2.00–12.83)	3.72 (1.40–9.84)	0.58 (0.35–0.95)	0.63 (0.36–1.09)	0.48 (0.22–1.06)	0.62 (0.25–1.52)
Poor or very poor	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Difficulties in walking 2 km								
No difficulties ^c	2.11 (1.40–3.17)	1.68 (1.03–2.74)	2.72 (1.67–4.43)	2.18 (1.24–3.84)	0.79 (0.55–1.15)	0.90 (0.56–1.43)	0.57 (0.30–1.06)	0.58 (0.25–1.35)
Minor difficulties ^c	1.39 (0.84–2.28)	1.17 (0.69–1.99)	1.94 (1.09–3.45)	1.67 (0.91–3.05)	0.65 (0.41–1.03)	0.75 (0.45–1.23)	0.58 (0.26–1.31)	0.63 (0.26–1.54)
Major difficulties/unable	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.

The bivariate models were unadjusted; the multivariate logistic regression models were conducted separately for each goal dimension; all the predictor variables were included in the models simultaneously; statistically significant associations are in bold ($p < .05$)

ref. reference group

^a At least once a week versus less than once a week

^b Contrasted to 'poor or very poor'

^c Contrasted to 'major difficulties/unable'

but in the multivariate model, however, the association was attenuated. Living with someone increased the odds for reporting social goals only in the multivariate model (Table 3).

Leisure-time activity goals

Those with no difficulties in walking two kilometres were about twice more likely to report leisure-time activity goals than those with major walking difficulties in both the bi- and multivariate models. Similarly, more years of education increased the odds for reporting leisure-time activity goals in both models. In the bivariate model, higher age and frequent meetings with relatives decreased, while higher MMSE score increased, the odds for reporting goals related to leisure-time activities, but the associations were attenuated in the multivariate model. In the bivariate model, good self-rated health more than doubled the odds for reporting leisure-time activity goals, but this association was attenuated in the multivariate model (Table 3).

Physical activity goals

Good health resources were most evidently associated with physical activity goals. In the bivariate model, those who rated their health as good/very good or moderate were about five times more likely to report physical activity goals than those who rated their health as poor/very poor, and the associations remained strong in the multivariate model. Having no or minor walking difficulties was associated with reporting physical activity goals in the bivariate model, and the association remained in the multivariate model for those who reported no walking difficulties. In the bivariate model, a higher MMSE score increased the odds for reporting physical activity goals, but in the multivariate model, however, this association was attenuated. More years of education was associated with reporting physical activity goals in both models (Table 3).

Daily life goals

A higher MMSE score increased the odds for reporting daily life goals in the bivariate model, but this association was marginally attenuated in the multivariate model. In the bivariate model, those with moderate self-rated health were less likely to report daily life goals than those with poor/very poor self-rated health, but the association was attenuated in the multivariate model (Table 3).

Ideological goals

Higher age increased the odds for reporting ideological goals in both the bi- and multivariate models. Those who

frequently met their friends were twice more likely to report ideological goals than those who seldom met their friends, and the association remained strong in the multivariate model (Table 3).

Discussion

As hypothesized, we found several associations between life resources and personal goal content among older people. These results can be interpreted in light of life-span developmental theories, i.e. SOC by Baltes and Baltes (1990), the dual-process model of developmental regulation by Brandtstädter (e.g. 2009), and the motivational theory of life-span development by Heckhausen et al. (2010). For example, better health resources coincided with more goal setting related to health maintenance, social relations, leisure-time activity and physical activity. This can be seen as an example of selection; those with better health resources are able to set themselves activity-related goals (i.e. elective selection), whereas such goals may be hard to attain for people with diminished health and mobility (i.e. loss-based selection) (Freund and Baltes 1998). According to the dual-process model of developmental regulation, people often abandon goals that seem too difficult to realize (Brandtstädter 2009), and it is understandable that engaging in physical activity or leisure-time activities may require too much effort from older people with major functional limitations. Instead, those with fewer health resources more often reported recovery goals, a finding that can be interpreted as a compensatory effort to regain an earlier state of functioning (Ebner et al. 2006). However, it should be noted that the associations between resources and goal content are reciprocal, and thus, for example, good health and functional ability may be an outcome of the pursuit of health and activity-related goals. Nevertheless, the present results indicate that goal setting in old age is related to different personal and contextual resources, as noted in Little's (2007, 2014) *social ecological model of human flourishing*.

The present observation that better self-rated health and intact mobility were associated with having goals related to leisure-time and physical activities is in line with our previous findings, which showed that mobility limitation may result in less goal setting related to cultural activities and exercise (Saajanaho et al. 2014a), and with another study in which health problems decreased the motivation for activity participation (Hess et al. 2012). Moreover, prioritizing other life goals, such as those related to one's health, may decrease physical activity-related goal setting (Saajanaho et al. 2014b). When health and functioning decline, people's interest in leisure-time activities typically declines and they redirect their focus to matters that are

crucial for managing daily life (Schindler and Staudinger 2008). However, since physical activity benefits health and functioning in old age (Cress et al. 2006), it would be important to support older people in setting appropriate physical activity goals. We reported earlier that physical activity goals correlate with a higher level of physical activity in old age even after adjustment for differences in health (Saajanaho et al. 2014b). Previously, it has been emphasized that goal disengagement may help people adjust to age-related changes (Freund et al. 2009) and so benefit psychological well-being in old age (Boerner 2004; Heyl et al. 2007). The present cross-sectional results warrant future study on whether maintaining goals for physical and leisure-time activities, regardless of diminished health resources, might lead to better outcomes in terms of physical functioning.

The need for intimacy and close relationships lasts throughout the life span (Sheldon and Kasser 2001), as the high prevalence of social goals among the participants of this study testifies. Both the socio-emotional selectivity theory (Carstensen et al. 2003) and disengagement theory (Cumming and Henry 1961) suggest that older people focus more on emotionally meaningful relationships than unnecessary social contacts. This tendency to reduce participation in social life may be reflected in the result that those with mobility limitation reported fewer social goals. Those living with another person were more likely to report social goals, and overall any personal goals, than those living alone. This puts older people living alone at risk for having no meaningful goals in their lives. It has been reported that while living alone does not necessarily increase psychological distress in old age (Stone et al. 2013), the lack of goals related to activities or relationships could well do so (Lou and Ng 2012). The absence of meaningful social goals might also increase the risk for loneliness among people living alone (Zebhauser et al. 2015). Thus, the possibilities for goal setting among older people living alone merit further consideration.

Personal goals related to health maintenance were the most typical goals reported by the participants of this study. This result accords with several previous findings (e.g. Frazier et al. 2002; Lapierre et al. 1992–1993; Saajanaho et al. 2014a). In old age, health decline becomes a more imminent threat, and goals related to maintaining health and functional status as long as possible become topical. Previously, it has been suggested that health problems in old age may lead to the setting of health-related goals (Frazier et al. 2002; Lapierre et al. 1997). In this study, better health resources increased the likelihood for reporting health maintenance goals and decreased the likelihood for recovery goals. Strivings for recovery were more common among those who were younger and had better socio-economic resources. It may be that very high

age and lack of socio-economic resources put older people in a disadvantageous position, inducing a pessimistic future orientation. In such a situation, they may not see it as realistic to strive for recovery when faced with health decline, and instead, turn to loss-based selection (Freund and Baltes 1998). This also exemplifies the notion that to compensate for losses in, for example, functioning, older people need additional resources (Ebner et al. 2006).

The result that higher age increased the likelihood for reporting ideological goals is in line with the study by Lawton et al. (2002), in which higher age was associated with spiritual goals. These goals of inner reflections may signify the rise of gerotranscendence, a phase in the progression of old age during which people are assumed to focus more on inner reflections than the external world (Tornstam 2011). Ideological goals were also more common among those who more often met their friends, possibly indicating better opportunities to discuss ideological issues in social gatherings. However, this association is difficult to interpret. A reduced focus on activity goals might also be a sign of gerotranscendence among the oldest olds (Tornstam 2011). However, the multivariate modelling showed that other resources attenuated the relationship between age and activity-related goals. Therefore, as noted earlier by Ebner et al. (2006), we suggest that the possibilities for setting activity-related goals in old age may derive from differences in resources other than age, mainly from differences in health and functional status. It is also possible that the present study underestimated age differences, as, to be included in this study, the participants needed to be living independently in their own homes. Similarly, the lack of associations between cognitive ability and goal setting in the multivariate models may be explained by other health differences coinciding with cognitive decline or by the fact that the sample did not include highly disabled individuals. A higher MMSE score seemed to increase the likelihood for reporting daily life goals. It may be that when cognitive abilities decline, strivings for independent living and daily life continuing as it is no longer seem relevant. Other resources were not associated with daily life goals, indicating that such goals are endorsed irrespective of the individual's resources.

The strength of this study is that it is one of the few studies to explore the content of older people's personal goals and their associations with different life resources. We invested considerable effort in constructing the seven goal dimensions on the basis of the original goal categorizations. The intuitively logical, larger goal dimensions enabled meaningful multivariate modelling, in which the associations between different life resources could be accounted for. For example, we observed that the age differences in older people's goals resulted partly from resources other than age per se. In this study, we were able

to investigate the associations of several different life resources with goal setting in the same study sample, which increased knowledge on the personal and contextual factors related to personal goal setting in old age. The participants were a random sample drawn from a national register and they represented both sexes and a wide age range of community-dwelling older people, which adds to the generalizability of the study.

The limitations of this study include the use of a cross-sectional design, which does not allow conclusions to be drawn on the causal relationships between life resources and goal setting. Also, older people with very reduced resources were not included in the study, because they were either living in institutions or in too poor health to participate. We selected a set of essential life resource variables for this study but could not include all the relevant resources, such as services and the living environment, which might also frame the possibilities for goal setting in old age. Personal goals were elicited with an open question, which gave the participants the freedom to list all the goals they had. It is nevertheless possible that the participants did not report all the goals they had at the time of the interview. Most of the participants reported only a few goals, possibly because the question on goals was asked towards the end of a long interview, which constrained the amount of time that could reasonably be spent probing for the participants' personal goals. However, the number of personal goals reported by older people has been relatively low also in previous studies (e.g. Lawton et al. 2002). Some of the goals reported might have fitted into more than one goal category. However, total agreement in categorizing the goals, and in formulating the larger goal dimensions, was achieved with discussions between the goal raters and the panel which combined the categories. Because we combined the goal categories into larger thematic goal dimensions, we do not know which specific goals were associated with life resources. We used dichotomized goal dimension variables and thus could not take the number of goals in each dimension into account.

This study is in line with previous theorizations on life resources influencing developmental regulation, such as goal setting (Ebner et al. 2006; Haase et al. 2013; Little 2007, 2014). Since personal goals are important in living a meaningful life (Betzler 2013), more consideration should be given to how older people with fewer resources might be enabled to continue striving for valued goals in their lives. As resources decline, goal pursuit in preferred activities could be continued via other supportive resources, or by compensatory means (Baltes and Baltes 1990; Heyl et al. 2007; Morrow-Howell et al. 2014). Older people with poor health and functional problems should also be supported in setting goals for physical activity, since this would help prevent further functional decline (Rantanen

2013). This study strengthened the notion that health-related goals are emphasized in old age and, moreover, indicated that health maintenance goals are typically endorsed by older people with good health resources, whereas those with poor health resources emphasize recovery goals. Therefore, we can conclude that when studying health-related goals in old age, it would be important to distinguish between maintenance and recovery goals, since they reflect different situations. Moreover, age differences in older people's goal setting are, at least in part, explained by differences in life resources, most notably in health and functioning. A well-balanced whole of personal goals, as well as goal modification when needed, may have positive influences on mental well-being in old age (Boerner 2004; Dunne et al. 2011; Smith and Freund 2002). This study raises the question of what will be the consequences for the physical functioning of older people, if they disengage from activity goals when faced with functional decline. Future longitudinal studies are needed to consider the balance between life resources, goal setting, goal modification, and both physical and mental well-being in old age.

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Compliance with ethical standards

Conflicts of interest The authors declare that there are no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

References

- Bailly N, Joulain M, Hervé C, Alaphilippe D (2014) Coping with negative life events in old age: the role of tenacious goal pursuit and flexible goal adjustment. *Aging Ment Health* 16:431–437. doi:[10.1080/13607863.2011.630374](https://doi.org/10.1080/13607863.2011.630374)
- Baltes PB (1997) On the incomplete architecture of human ontogeny. Selection, optimization, and compensation as foundation of developmental theory. *Am Psychol* 52:366–380. doi:[10.1037/0003-066X.52.4.366](https://doi.org/10.1037/0003-066X.52.4.366)
- Baltes PB, Baltes MM (1990) Psychological perspectives on successful aging: the model of selective optimization with compensation. In: Baltes PB, Baltes MM (eds) *Successful aging. Perspectives from the behavioral sciences*. Cambridge University Press, NY, pp 1–34
- Betzler M (2013) The normative significance of personal projects. In: Kühler M, Jelinek N (eds) *Autonomy and the self.*, Philosophical studies series 118Springer Science + Business Media Dordrecht, Dordrecht, pp 101–126
- Boerner K (2004) Adaptation to disability among middle-aged and older adults: the role of assimilative and accommodative coping. *J Gerontol B Psychol* 59B:35–42. doi:[10.1093/geronb/59.1.P35](https://doi.org/10.1093/geronb/59.1.P35)
- Boerner K, Jopp D (2007) Improvement/maintenance and reorientation as central features of coping with major life change and loss:

- contributions of three life-span theories. *Hum Dev* 50:171–195. doi:[10.1159/000103358](https://doi.org/10.1159/000103358)
- Brandtstädter J (2009) Goal pursuit and goal adjustment: self-regulation and intentional self-development in changing developmental contexts. *Adv Life Course Res* 14:52–62. doi:[10.1016/j.alcr.2009.03.002](https://doi.org/10.1016/j.alcr.2009.03.002)
- Carstensen LL, Fung HH, Charles ST (2003) Socioemotional selectivity theory and the regulation of emotion in the second half of life. *Motiv Emot* 27:103–123. doi:[10.1023/A:1024569803230](https://doi.org/10.1023/A:1024569803230)
- Cress ME, Buchner DM, Prohaska T et al (2006) Best practices for physical activity programs and behavior counseling in older adult populations. *Eur Rev Aging Phys A* 3:34–42. doi:[10.1007/s11556-006-0003-9](https://doi.org/10.1007/s11556-006-0003-9)
- Cumming E, Henry WE (1961) Growing old. The process of disengagement. Basic Books Publishing Co. Inc, NY
- Dunne E, Wrosch C, Miller GE (2011) Goal disengagement, functional disability, and depressive symptoms in old age. *Health Psychol* 30:763–770. doi:[10.1037/a0024019](https://doi.org/10.1037/a0024019)
- Ebner NC, Freund AM, Baltes PB (2006) Developmental changes in personal goal orientation from young to late adulthood: from striving for gains to maintenance and prevention of losses. *Psychol Aging* 21:664–678
- Emmons RA (1986) Personal strivings: an approach to personality and subjective well-being. *J Pers Soc Psychol* 51:1058–1068. doi:[10.1037/0022-3514.51.5.1058](https://doi.org/10.1037/0022-3514.51.5.1058)
- Folstein MF, Folstein SE, McHugh PR (1975) Mini-mental state. A practical method for grading the cognitive state of patients for the clinician. *J Psychiatr Res* 12:189–198. doi:[10.1016/0022-3956\(75\)90026-6](https://doi.org/10.1016/0022-3956(75)90026-6)
- Frazier LD, Johnson PM, Gonzalez GK, Kafka CL (2002) Psychosocial influences on possible selves: a comparison of three cohorts of older adults. *Int J Behav Dev* 26:308–317. doi:[10.1080/01650250143000184](https://doi.org/10.1080/01650250143000184)
- Freund AM, Baltes PB (1998) Selection, optimization, and compensation as strategies of life management: correlations with subjective indicators of successful aging. *Psychol Aging* 13:531–543
- Freund AM, Riediger M (2001) What I have and what I do—the role of resource loss and gain throughout life. *Appl Psychol Int Rev* 50:370–380
- Freund AM, Riediger M (2006) Goals as building blocks of personality and development in adulthood. In: Mroczek DK, Little TD (eds) *Handbook of personality development*. Lawrence Erlbaum Associates, Mahwah, pp 353–372
- Freund AM, Nikitin J, Ritter JO (2009) Psychological consequences of longevity. The increasing importance of self-regulation in old age. *Hum Dev* 52:1–37. doi:[10.1159/000189213](https://doi.org/10.1159/000189213)
- Haase CM, Heckhausen J, Wrosch C (2013) Developmental regulation across the life span: towards a new synthesis. *Dev Psychol* 49:964–972. doi:[10.1037/a0029231](https://doi.org/10.1037/a0029231)
- Heckhausen J, Wrosch C, Schulz R (2010) A motivational theory of life-span development. *Psychol Rev* 117:32–60. doi:[10.1037/a0017668](https://doi.org/10.1037/a0017668)
- Hess TM, Emery L, Neupert SD (2012) Longitudinal relationships between resources, motivation, and functioning. *J Gerontol B Psychol* 67:299–308. doi:[10.1093/geronb/gbr100](https://doi.org/10.1093/geronb/gbr100)
- Heyl V, Wahl H-W, Mollenkopf H (2007) Affective well-being in old age. The role of tenacious goal pursuit and flexible goal adjustment. *Eur Psychol* 12:119–129. doi:[10.1027/1016-9040.12.2.119](https://doi.org/10.1027/1016-9040.12.2.119)
- Hobfoll ST (1989) Conservation of resources. A new attempt at conceptualizing stress. *Am Psychol* 44:513–524. doi:[10.1037/0003-066X.44.3.513](https://doi.org/10.1037/0003-066X.44.3.513)
- Holahan CK (1988) Relation of life goals at age 70 to activity participation and health and psychological well-being among Terman's gifted men and women. *Psychol Aging* 3:286–291. doi:[10.1037/0882-7974.3.3.286](https://doi.org/10.1037/0882-7974.3.3.286)
- Klinger E (1975) Consequences of commitment to and disengagement from incentives. *Psychol Rev* 82:1–25. doi:[10.1037/h0076171](https://doi.org/10.1037/h0076171)
- Lapierre SL, Bouffard L, Bastin E (1992–1993) Motivational goal objects in later life. *Int J Aging Hum Dev* 36:279–292. doi:[10.2190/N2XP-4KT1-1WCB-Y1QX](https://doi.org/10.2190/N2XP-4KT1-1WCB-Y1QX)
- Lapierre SL, Bouffard L, Bastin E (1997) Personal goals and subjective well-being in later life. *Int J Aging Hum Dev* 45:287–303
- Lawton MP, Moss MS, Winter L, Hoffmann C (2002) Motivation in later life: personal projects and well-being. *Psychol Aging* 17:539–547. doi:[10.1037//0882-7974.17.4.539](https://doi.org/10.1037//0882-7974.17.4.539)
- Little BR (1983) Personal projects. A rationale and method for investigation. *Environ Behav* 15:273–309. doi:[10.1177/0013916583153002](https://doi.org/10.1177/0013916583153002)
- Little BR (2007) Prompt and circumstance: the generative contexts of personal project analysis. In: Little BR, Salmela-Aro K, Philips SD (eds) *Personal project pursuit. Goals, action, and human flourishing*. Lawrence Erlbaum Associates, New Jersey, pp 3–49
- Little BR (2014) Well-doing: personal projects and the quality of lives. *Theory Res Educ* 12:329–346. doi:[10.1177/1477878514545847](https://doi.org/10.1177/1477878514545847)
- Little BR, Gee TL (2007) The methodology of personal project analysis: four modules and a funnel. In: Little BR, Salmela-Aro K, Philips SD (eds) *Personal project pursuit. Goals, action, and human flourishing*. Lawrence Erlbaum Associates, New Jersey, pp 51–93
- Lou VWQ, Ng JW (2012) Chinese older adults' resilience to the loneliness of living alone: a qualitative study. *Aging Ment Health* 16:1039–1046. doi:[10.1080/13607863.2012.692764](https://doi.org/10.1080/13607863.2012.692764)
- Markus H, Nurius P (1986) Possible selves. *Am Psychol* 41:954–969. doi:[10.1037/0003-066X.41.9.954](https://doi.org/10.1037/0003-066X.41.9.954)
- Morrow-Howell N, Putnam M, Lee YS, Greenfield JC, Inoue M, Chen H (2014) An investigation of activity profiles of older adults. *J Gerontol B Psychol* 69:809–821. doi:[10.1093/geronb/gbu002](https://doi.org/10.1093/geronb/gbu002)
- Rantanen T (2013) Promoting mobility in older people. *J Prev Med Public Health* 46:550–554. doi:[10.3961/jpmph.2013.46.S.S50](https://doi.org/10.3961/jpmph.2013.46.S.S50)
- Rantanen T, Portegijs E, Viljanen A et al (2012) Individual and environmental factors underlying life space of older people—study protocol and design of a cohort study on life-space mobility in old age (LISPE). *BMC Public Health* 12:1018. doi:[10.1186/1471-2458-12-1018](https://doi.org/10.1186/1471-2458-12-1018)
- Rapkin BD, Fischer K (1992) Framing the construct of life satisfaction in terms of older adults' personal goals. *Psychol Aging* 7:138–149. doi:[10.1037/0882-7974.7.1.138](https://doi.org/10.1037/0882-7974.7.1.138)
- Saajanaho M, Viljanen A, Read S, Eronen J, Kaprio J, Jylhä M, Rantanen T (2014a) Mobility limitation and changes in personal goals among older women. *J Gerontol B Psychol*. Advance access published in August 2014. doi:[10.1093/geronb/gbu094](https://doi.org/10.1093/geronb/gbu094)
- Saajanaho M, Viljanen A, Read S, Rantakokko M, Tsai L-T, Kaprio J, Jylhä M, Rantanen T (2014b) Older women's personal goals and exercise activity: an 8-year follow-up. *J Aging Phys Activ* 22:386–392. doi:[10.1123/JAPA.2012-0339](https://doi.org/10.1123/JAPA.2012-0339)
- Salmela-Aro K, Read S, Nurmi J-E, Koskenvuo M, Kaprio J, Rantanen T (2009) Personal goals of older female twins. *Genet Environ Eff Eur Psychol* 14:160–167. doi:[10.1027/1016-9040.14.2.160](https://doi.org/10.1027/1016-9040.14.2.160)
- Schindler I, Staudinger UM (2008) Obligatory and optional personal life investments in old and very old age: validation and functional relations. *Motiv Emot* 32:23–36. doi:[10.1007/s11031-007-9078-5](https://doi.org/10.1007/s11031-007-9078-5)
- Sheldon KM, Kasser T (2001) Getting older, getting better? Personal strivings and psychological maturity across the life span. *Dev Psychol* 37:491–501. doi:[10.1037/0012-1649.37.4.491](https://doi.org/10.1037/0012-1649.37.4.491)

- Smith J, Freund AM (2002) The dynamics of possible selves in old age. *J Gerontol B Psychol* 57B:492–500. doi:[10.1093/geronb/57.6.P492](https://doi.org/10.1093/geronb/57.6.P492)
- Stone J, Evandrou M, Falkingham J (2013) The transition to living alone and psychological distress in later life. *Age Ageing* 42:366–372. doi:[10.1093/ageing/aft006](https://doi.org/10.1093/ageing/aft006)
- Tornstam L (2011) Maturing into gerotranscendence. *J Transpers Psychol* 43:166–180
- Zebhauser A, Baumert J, Emeny RT, Ronel J, Peters A, Ladwig KH (2015) What prevents older people living alone from feeling lonely? Findings from the KORA-Age-study. *Aging Ment Health* 19:773–780. doi:[10.1080/13607863.2014.977769](https://doi.org/10.1080/13607863.2014.977769)