



Well-Being Trajectories Following Retirement: A Compensatory Role of Self-Enhancement Values in Disadvantaged Women

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Published online: 20 March 2019
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Abstract

The aim of the study was to explore the well-being trajectories of adaptation to retirement in relation to individual and cultural differences, with a particular focus on gender. The sample consisted of 596 retirees (330 German, 266 Polish, 59% female) assessed four times within 12 months. Subjective well-being was evaluated with a multivariate approach that accounted for satisfaction with life, depression and subjective health. As potential correlates of well-being trajectories, age- and context-relevant psychological resources were examined, specifically, generalized self-efficacy, meaning in life, autonomy, religiousness and Schwartz's values. Latent class growth curve modelling revealed four trajectories per well-being domain. After cross-tabulation, two groups that constantly had the best and worst well-being profiles were identified. One group mainly comprised German men, and another mainly comprised Polish women, who additionally reported the least pronounced socioeconomic and psychological resources. The main predictors of group membership were self-enhancement values (power and achievement), which were higher for the worst well-being group. These values may compensate for a lack of relevant psychological and social resources. Further studies are needed to examine whether this effect is observable in other socially disadvantaged groups.

Keywords Retirement · Self-enhancement · Women · Well-being · Latent class growth modeling

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1 Introduction

The world's population is growing older and as women outlive men, they account for around 54% of the global population aged 60 years or over (United Nations 2015). However, a longer life does not mean a better life. After midlife, a gender gap in subjective well-being (SWB) becomes more pronounced and clearly favors one gender (Meisenberg and Woodley 2015; Senik et al. 2015). Accordingly, older women have significantly lower satisfaction with life (Pinquart and Sörensen 2000), higher depression (Barry et al. 2008) and worse subjective health (Crimmins et al. 2011). Complex mechanisms may explain these differences, and some of them have previously been recognized in the literature. SWB has been found to be associated with personality dispositions (Diener and Lucas 1999; Steel et al. 2008) and, to a smaller degree, with socioeconomic resources, such as income and education (Pinquart and Sörensen 2000). Since there are no significant gender differences with regard to the majority of personality traits (Hyde 2005) and how they change with age (Specht et al. 2014), the social contexts in which these individual resources are used may be crucial for understanding the discrepancies between the SWB of older women and men (Tesch-Römer et al. 2008). Specifically, cross-cultural analyses make these culture-related processes more visible as they are less detectable within than between cultures (Meisenberg and Woodley 2015).

From this perspective, the same critical life event may lead to different adaptation outcomes not only between individuals but also between different cultures. Retirement may represent an event that reveals those differences. Retirement is a normative event for most developed countries (Shultz and Wang 2011). The transition from work life to retirement poses major developmental challenges, and psychological resources are strongly needed to cope with these demands. People often idealize this period as a time of freedom and recreation, and it can have positive effects on health and well-being for some individuals (Reitzes et al. 1996); however, new retirees may also experience disillusion and depressive symptoms if their psychological resources are low (Gill et al. 2006). There are striking differences in how well older adults adapt to retirement (Börsch-Supan et al. 2008; Burr et al. 2011; Kim and Moen 2001); it can be a step into successful aging, but it can also magnify pre-existing differences in well-being, including those related to gender (Kubicek et al. 2011).

A good framework for studying the importance of psychological resources for successful aging is Ryan and Deci's self-determination theory (Ryan and Deci 2000). This theory proposes that people need to feel competent, autonomous, and related in order to adapt to any given challenge in their lives. The fulfilment of these three basic needs is also assumed to make a difference in how people transition to retirement (Henning et al. 2016). Personal values and other psychological resources may play a crucial role in this process.

Personal values are defined as desirable, trans-situational goals that vary in importance and serve as guiding principles in people's lives (Schwartz 2012). Research on the relation between personal values and well-being suggests that some values may be 'more adaptive' or 'healthier' than others. Bobowik and colleagues, for example, found that openness to change, self-transcendence and hedonism were positively and conservation and self-enhancement were negatively associated with satisfaction with life across Europe (Bobowik et al. 2011). Additionally, Schwartz and Rubel-Lifschitz (2005, 2009) showed that small gender differences in values exist but are related to between-country gender equality levels and that in countries with greater gender equality, the importance of power, achievement, security, and tradition values decreases. However,

whether values are an underlying psychological entity to motivate older adults' well-being trajectories into retirement remains an open research question.

Values differ from personal resources, just as goal setting differs from the ability to perform goal-oriented actions; thus, they are related but not the same (Sousa et al. 2012). To live in agreement with their own values, older adults need a sense of personal control, autonomy, and meaning in life. The personal resource of feeling in control is referred to as generalized self-efficacy—that is, people's beliefs in their capabilities to produce certain effects through their actions (Bandura 1997). Self-efficacy beliefs have been found to help older adults maintain their quality of life and prevent depression, and they correlate with high life satisfaction (Bandura 1997; Warner et al. 2010, 2011). Feelings of control have been found to enable adjustment to retirement (Donaldson et al. 2010; Kim and Moen 2002). Another important personal resource is the belief in being able to make free choices in life—that is, perceived autonomy. When people age and develop certain health impairments, this resource becomes more important (Knoll et al. 2014; Warner et al. 2011). Additionally, since the beginning of retirement is usually characterized at least by a temporary loss of a productive role within society, this transition threatens the basic need of feeling competent and related (Pinquart 2002). Finding personally purposeful activities in retirement is therefore one developmental task necessary for successful adaptation to this life phase. As such, individual perceptions of meaning in life have been linked to physical and mental health in old age (James et al. 2016; Pinquart 2002). Finally, religiosity is an important aspect of feeling related, and its importance appears to increase with age. It has been found to be associated with well-being and life satisfaction (Tay et al. 2014), although the results can hardly be regarded as consistent. Recent findings have shown that higher religiosity correlates with lower SWB (Cohen and Johnson 2016; Leurent et al. 2013). Thus, it may be a protective resource but could also be a manifestation of deficits in other coping resources.

The complexity of the interrelations among gender, individual values, personal resources, and well-being among older adults can be illustrated by Polish–German divergences. Although they are geographically neighbouring countries, there are crucial differences between them in terms of values (Schwartz 2004). German culture strongly values egalitarianism, autonomy, and harmony, and it is low on hierarchy, mastery and embeddedness. Polish culture emphasizes embeddedness and attributes less importance to autonomy. It also values hierarchy over egalitarianism and harmony over mastery. Religion is valued higher in Poland; whereas only 2% of the Polish population identify themselves as atheists or not belonging to any church to any church (Central Statistical Office 2013), this is the case for 39% of the German population (Zensus 2011). Therefore, in agreement with a person-culture fit approach, self-identification as an autonomous or egalitarian or religious person might have a different value in each nation and differ in its impact on well-being (Diener et al. 2011). In a comparison of 14 European countries from 2004 to 2007, older Polish women reported the highest level of depressive symptoms among all countries surveyed (Börsch-Supan et al. 2008). However, Polish women's life expectancy is significantly higher than that of Polish men (Central Statistical Office 2016) and is comparable to that of the German population (Eurostat 2015). Hence, Polish women are a perfect example of people who live longer but less happy. This phenomenon may be attributed to the lack of sufficient financial resources because in Poland, women's pensions are about 30% lower than men's pensions despite their general better education (World Bank 2004). However, studies have not considered individual differences that may compensate for the impact of social disadvantage.

The current study therefore aimed to elaborate on the well-being trajectories of new retirees. The majority of longitudinal studies on retirement have used approaches based on an assumption of homogenous change within their sample (Henning et al. 2016 for review). Our study may add to this knowledge by examining a heterogenous change in well-being. In this sense, retirement serves as a convenient context to explore how the adaptation process differs between individuals and whether it is related to their personal and country-related resources. It can be hypothesized that if the process is mainly driven by individual and gender-free resources, then people from Germany and Poland should be equally distributed between trajectories, regardless of gender. Over- or underrepresentation in terms of country or/and gender would weaken the assumption of the mainly individualistic character of this adaptation (Luhmann et al. 2015).

2 Method

2.1 Participants and Procedure

Participants were 596 older adults ($M=63.5 \pm 2.9$ years), of whom 266 were Polish and 330 German. Women accounted for 59% of the sample. A majority of participants were in a stable relationship and had a university degree. The mean time that had passed since the beginning of their retirement was around 9 months. On average, participants reported having one chronic disease, with a range from 0 to 7. Table 1 summarizes the descriptive and sociodemographic variables.

Table 1 Sample sociodemographic characteristics

Variable	N (%)
Country	
Germany	330 (55.4)
Poland	266 (44.6)
Gender	
Female	350 (58.7)
Male	246 (41.3)
Age in years ($M \pm SD$)	63.50 ± 2.54
Time since retirement in months ($M \pm SD$)	9.1 ± 8.7
Marital status	
In relationship	386 (64.8)
Single	202 (33.9)
Missing	8 (1.3)
Education	
Elementary	13 (2.2)
Secondary	254 (42.6)
University degree	325 (54.5)
Missing	4 (.7)
Income (converted to Power Purchasing Parity; $M \pm SD$)	1828.1 ± 920.2
Number of chronic diseases ($M \pm SD$)	$.82 \pm 1.0$

The eligibility criteria were as follows: (1) retired within the past 12 months, (2) at least 8 years of education, (3) previously employed full time or self-employed, (4) no privileged pension, (5) no disability pension, now or in the past, (6) no current diagnosis of mental illness, (7) not living in institutions of social care and welfare, and (8) not currently working for pay more than 10 h per week. The aim was to obtain similar samples of early retirees in the two countries.

The study was longitudinal and had four measurement points: up to 1 year after the official date of retirement (T1) and then 3 (T2), 6 (T3) and 12 (T4) months after the first measurement. The recruitment process was the same in both countries. A random sampling of relevant national identification numbers of people who had reached retirement age was used (5000 addresses in each country). They were sent an invitation letter via postal mail. If the response was positive and written informed consent was obtained, participants received paper–pencil questionnaires in their national language with a prestamped return-envelope in each wave. It turned out that in Poland, due to details of legal regulations, the retirement age differed significantly between individuals; therefore, a professional agency was hired to support recruitment. The study was approved by institutional ethics committees in Poland and Germany.

3 Measures

3.1 Well-Being Dimensions

Satisfaction with life was measured with the Satisfaction with Life Scale (Pavot and Diener 2009). It consists of 5 items, and respondents evaluate each item on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). A higher total score indicates a higher level of life satisfaction (Cronbach's α from .86 at T1 to .89 at T4).

Depressive symptoms were assessed with an 8-item version of the Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff 1977). Its validation in a large European sample of older adults provided support for a single-factor structure and confirmed measurement invariance across genders (Karim et al. 2015). The response format refers to the frequency of depression-related emotional, cognitive, and behavioral symptoms during the past week, ranging from 1, *none or almost none of the time (less than 1 day)*, to 4, *all or almost all of the time (5–7 days)*. Higher values represent higher levels of depressive symptoms (Cronbach's α from .85 to .88).

Subjective health was assessed with the first item of the World Health Organization Disability Assessment Schedule (WHODAS 2.0) (World Health Organization 2001): “*Overall, how would you rate your health during the past 4 weeks?*” The answer was provided on a 5-point scale ranging from 0 (*very poor*) to 4 (*very good*).

3.2 Resources

All scales described in this section have a response format of a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). All scales are unidimensional, so higher scores indicate higher values of a given variable. Whenever possible, short versions of the questionnaires were applied to reduce participants' burden caused by extensive multivariate evaluation.

Generalized self-efficacy was assessed with the validated short 5-item version (Warner et al. 2011) of the Generalized Self-efficacy Scale by Schwarzer and Jerusalem (1995); Cronbach's $\alpha = .86$.

Meaning in life was evaluated with the validated 6-item scale developed by Krause (2007). The scale captures age-relevant characteristics of this construct. It assesses a sense of purpose and goals and involves reflecting on the past to reconcile one's accomplishments with one's goals (Cronbach's $\alpha = .84$).

Perceived autonomy in old age was measured with a 4-item short version (Warner et al. 2011) of the scale developed by Schwarzer (2008); Cronbach's $\alpha = .89$.

Finally, two items were used to assess *religiousness*. The first one regarded self-evaluation as a spiritual person (Prest et al. 1999), whereas the second one regarded living according to religious principles (Andorfer and Otte 2013). Despite its short form, the scale has good internal consistency (Cronbach's $\alpha = .82$).

Values The 21-item Portraits Values Questionnaire (PVQ) was developed for the European Social Survey (ESS) to measure the 10 basic values proposed by Schwartz's model (Schwartz 1994, 2002). Each value is operationalized by two items (with the exception of universalism, measured with three items). They contain a short portrait of a person whose goals, aspirations, or wishes are related to a given value. For each item, respondents evaluate on a 6-point scale the similarity between the person described and themselves (1 = *not like me at all*; 6 = *very much like me*). The scores indicate the subjective importance of values; they do not reflect that respondents manifest this value themselves but that this value is important to them such that they *value* it highly (see: being rich vs. valuing richness). Two orthogonal dimensions summarize the value structure: self-enhancement (power and achievement) vs. self-transcendence (universalism and benevolence) and openness to change (self-direction and stimulation) vs. conservatism (security, conformity, and tradition). Hedonism constitutes a separate indicator as it shares elements of openness and self-enhancement. Thus, five indicators of values were obtained in the study and the summarized scores were averaged. Cronbach's α ranged from .50 for hedonism to .74 for self-transcendence (Schwartz 2002).

Sociodemographic variables As previous research on the beginning of retirement as a critical life event has shown the importance of several sociodemographic variables, all analyses in the current study also investigated participants' age, gender, time since the beginning of retirement, marital status and education (Luhmann et al. 2012; Wetzel et al. 2016).

3.3 Statistical Analysis

Latent class growth modeling was used to examine the heterogeneity of well-being changes. The method allows identifying subgroups of people within a sample, so-called classes, characterized by a high internal similarity of intercept and slope but significant differences between subgroups regarding these two parameters (Raudenbush 2001).

To identify the model with the optimal number of classes, several indicators were used. The most popular information-theoretic methods are the Akaike information criterion (AIC) and the Bayesian information criterion (BIC) as well as the sample-size-adjusted BIC (SABIC), where the lowest values in a given set of competing models indicate a model with the best fit (Tofghi and Enders 2007). Regarding entropy, higher values indicated a more valid classification, where a value of 1 evidences a perfect classification. The parametric bootstrapped likelihood ratio test (BLRT), recommended by McLachlan and Peel

(2000), allows for direct comparisons between models, where a significant value of the difference indicates a better fit of the model with a larger number of classes ($k - 1$ vs. k). An important practical criterion related to the replicability of the obtained classes is also their size: a small size suggests potential difficulties with identifying an analogical class in another sample.

The analyses listed above were conducted for each well-being dimension separately. Next, the obtained classes were cross-tabulated to identify two groups of participants: one with the highest and one with the lowest well-being in each domain. Finally, a binary hierarchical logistic regression was used to compare these groups in terms of sociodemographic characteristics, psychological resources and Schwartz's values.

The calculations were performed using Latent GOLD 5.1 and IBM SPSS Statistics version 24. Missing values were imputed using the imputation procedure of Latent GOLD to account for longitudinal sample attrition, using all available data in the model estimation (Vermunt and Magidson 2016).

4 Results

4.1 Descriptive Statistics and Missing Data Analysis

Table 2 displays the descriptive statistics and a correlation matrix for all variables analyzed in this article. For all variables, the absolute values of both skewness and kurtosis were below 1, which is considered satisfactory to assume a normal distribution (Gravetter and Wallnau 2013). All correlations were within the range of 0–.60. The mean values for auto-correlation (T1–T2–T3–T4) were .71, .57 and .50 for satisfaction with life, depression and subjective health, respectively.

At T4, data of 521 participants were assessed, which corresponds to an attrition rate of about 13%. The 76 participants who dropped out from T1 to T4 were compared with participants with complete data to identify differences in terms of sociodemographic characteristics, well-being, psychological resources, and Schwartz's values. They were found to be slightly older (63.65 vs. 62.77, $t = -2.09$, $p = .04$) and to have significantly lower income (1487.09 vs. 1880.35; $t = -4.04$, $p < .001$). They also reported lower satisfaction with life (16.11 vs. 17.43, $t = -2.67$, $p = .008$), lower generalized self-efficacy (14.55 vs. 15.31, $t = -2.51$, $p = .01$) and higher religiousness (6.16 vs. 4.61, $t = 2.49$, $p = .02$). Finally, the attrition rate was larger for the Polish than for the German sample (21% vs. 6%; $\chi^2[1] = 32.34$, $p < .001$).

4.2 Well-Being Trajectories

Latent class growth analyses were performed separately for satisfaction with life, depression and subjective health. The results are presented in Table 3. As observed for SWLS and depression, a 4-class model provided the best solution. Although the information criteria and the bootstrap likelihood ratio test suggested models with the highest number of classes, the decreasing entropy and size of the smallest class suggested a 4-class solution. For subjective health, a 5-class model appeared to be the best option. Further inspection of the fifth class revealed that it contained a small group of participants who reported a stable value of 2 (on a 4-point scale), retrieved from the previous classes 2, 3 and 4. Thus, a 4-class model, as a more parsimonious solution, was chosen.

Table 2 Descriptive statistics and Pearson's correlations among studied variables (T1, N=596)

	Mean	SD	Skewness	Kurtosis	1	2	3	4	5	6	7	8	9	10	11
1. Satisfaction with Life	17.25	4.02	-.34	-.38	1										
2. Depression	13.70	4.32	1.12	1.12	-.60	1									
3. Subjective Health	2.77	.86	-.71	.81	.48	-.48	1								
4. Self-Transcendence	11.60	1.95	-.72	.86	.16	-.12	.14	1							
5. Openness	7.96	1.71	-.09	-.25	.12	-.16	.18	.35	1						
6. Self-Enhancement	6.62	1.87	.02	-.24	-.06	.03	-.03	.15	.40	1					
7. Conservation	7.70	1.72	-.30	-.11	-.06	.04	-.07	.41	.07	.31	1				
8. Hedonism	7.67	2.06	-.20	-.12	.08	-.12	.04	.18	.51	.37	.18	1			
9. Generalized Self-efficacy	15.22	2.44	.01	.32	.36	-.40	.23	.16	.29	.08	-.05	.17	1		
10. Meaning in Life	18.39	3.04	-.14	-.07	.53	-.51	.29	.29	.20	.05	.00	.18	.57	1	
11. Religiosity	4.68	1.87	-.06	-1.01	-.13	.08	-.12	.12	.06	.11	.23	.09	-.12	.05	1
12. Autonomy	12.50	2.12	-.06	-.23	.38	-.30	.26	.13	.26	.05	-.09	.12	.54	.44	-.08

All correlations of absolute value higher than .07 are significant at $p < .05$

Table 3 Fit indices for latent class growth models with different numbers of classes

Model	BIC	SABIC	AIC	Entropy	BLRT		Smallest class	
					Value	<i>p</i>	Proportion of N	Frequency
Satisfaction with Life								
1-Class	11,981.7	11,969.01	11,964.14					
2-Class	10,867.58	10,813.61	10,792.92	.83	1197.22	<.001	48.0	286
3-Class	10,542.38	10,447.14	10,410.62	.83	408.29	<.001	19.5	116
4-Class	10,430.87	10,294.35	10,242.01	.81	194.61	<.001	16.8	100
5-Class	10,422.75	10,244.97	10,176.81	.79	91.21	<.001	7.0	42
Depression								
1-Class	12,511.75	12,499.06	12,494.19					
2-Class	11,300.26	11,243.12	11,221.21	.85	1300.98	<.001	49.5	295
3-Class	11,130.08	11,028.49	10,989.54	.84	259.67	<.001	24.7	147
4-Class	11,058.19	10,912.15	10,856.16	.76	161.38	<.001	12.4	74
5-Class	11,086.83	10,896.35	10,823.31	.74	60.85	<.001	10.9	65
Subjective Health								
1-Class	5457.17	5444.47	5439.60					
2-Class	3992.58	3941.78	3922.31	.67	1541.29	<.001	48.3	288
3-Class	1499.47	1410.58	1376.50	.89	2569.81	<.001	27.3	163
4-Class	1361.24	1234.25	1185.56	.83	214.93	<.001	21.8	130
5-Class	727.23	562.14	498.85	.87	710.71	<.001	7.0	42

BIC—Bayesian Information Criterion; SABIC—Sample-Size Adjusted BIC; AIC—Akaike’s Information Criterion; BLRT—Bootstrap Likelihood Ratio Test

Both linear and quadratic trajectories were examined. A significant linear effect was obtained for class 2 of SWLS trajectories ($n_2 = 142$, intercept = 19.34, slope = .03, $z = 2.27$, $p < .05$) and class 2 of subjective health trajectories ($n_2 = 130$, intercept = 2.99, slope = $-.069$, $z = -3.14$, $p < .05$). The significant quadratic and linear effects were noted only for class 4 of subjective health trajectories ($n_4 = 161$, intercept = 3.61, quadratic slope = .0045, $z = 2.72$, $p < .05$, linear slope = $-.072$, $z = -3.41$, $p < .05$). For SWLS, the positive slope value in class 2 revealed an increase with time, whereas for subjective health, regardless of trajectory shape, a decrease in both classes 2 and 4 was observed. All obtained trajectories are plotted at Fig. 1.

A cross-tabulation of the “extreme” classes was used to identify groups of participants with the best and worst well-being during the time of the study. The group with the lowest well-being in each domain (class 4 of SWLS \times class 1 of depression \times class 3 of subjective health) consisted of 50 participants, whereas the group with the highest well-being (class 3 of SWLS \times class 3 of depression \times class 1 of subjective health) consisted of 28 participants. These groups accounted for 8.4% and 4.7% of the sample size, respectively.

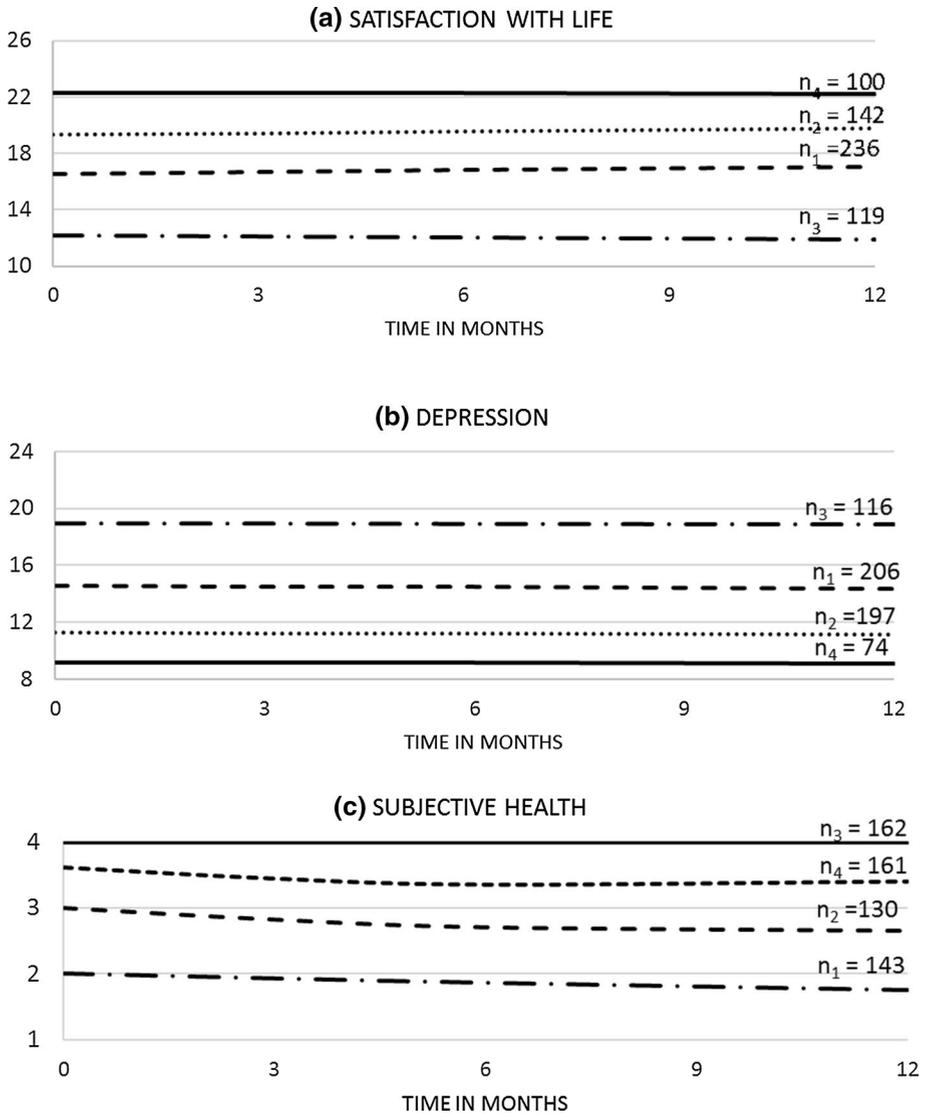


Fig. 1 Well-being trajectories in the studied sample: **a** satisfaction with life, **b** depression, and **c** subjective health, separately. Note: n denotes number of participants in each trajectory, subscript indicates an ordinal number of trajectory, according to the results of latent class growth curve analysis results

4.3 Correlates of Well-Being Subgroups

The preliminary analyses accounted for sociodemographic characteristics and performed mean comparisons of resource and value variables between well-being groups. As observed in Table 4, the lowest well-being group mainly comprised Polish single women with a secondary education, whereas the highest well-being group mainly comprised German men who were in a relationship and had a university degree. The two groups differed

Table 4 Comparison between the lowest and highest well-being groups: χ^2 and *t*-tests

Variable	Well-being groups				<i>t</i>	<i>p</i>
	Lowest <i>n</i> ₁ = 50		Highest <i>n</i> ₂ = 28			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Age	62.94	3.66	63.74	2.54	-1.01	.315
Income	1072.68	508.16	2731.15	806.73	-9.84	<.001
Number of diseases	1.08	1.31	.61	.69	2.10	.039
Self-transcendence	10.9	2.30	12.04	2.32	-2.09	.040
Self-enhancement	7.06	1.67	6.2	2.10	1.99	.050
Openness	7.49	1.91	8.27	1.53	-1.85	.069
Conservation	7.99	1.61	7.31	1.76	1.72	.089
Hedonism	7.54	1.92	7.82	2.60	-.55	.587
Generalized self-efficacy	13.99	2.24	16.82	2.29	-5.27	<.001
Meaning in life	15.84	2.37	21.41	2.17	-10.08	<.001
Religiousness	5.26	1.71	3.81	2.00	.79	.001
Perceived autonomy	11.1	1.90	13.68	2.04	-5.61	<.001
		<i>n</i> ₁	<i>n</i> ₂	χ^2	<i>p</i>	
Country (Germany/Poland)		1/49	28/0	73.80	<.001	
Gender (female/male)		41/9	5/23	30.52	<.001	
Marital status (in relationship/single)		19/31	27/1	24.62	<.001	
Education (elementary/secondary/university degree)		1/40/9	0/9/19	19.01	<.001	

significantly in terms of income, the number of chronic diseases and all resource variables: in each case, less advantageous mean values were found in the lowest well-being group. The lowest well-being group reported lower transcendence but higher self-enhancement on Schwartz's values scale.

Furthermore, a hierarchical logistic regression analysis with a backward stepwise selection based on the Wald test was used to establish the correlates of group membership from the aforementioned variable set. Due to its almost perfect overlap with the explanatory variables, country was not included in the analysis. The final model is presented in Table 5. Being female, having lower personal income and reporting higher self-enhancement values

Table 5 Results of the hierarchical logistic regression with belonging to well-being groups as an explanatory variable (lowest well-being = 0, highest well-being = 1)

Predictors	<i>B</i>	<i>SE</i>	Wald	<i>p</i>	Exp(<i>B</i>)	95% CI Exp(<i>B</i>)
Gender	-5.240	2.332	5.05	.025	.005	.001 .512
Income	.006	.002	6.65	.010	1.006	1.001 1.010
Self-Enhancement	-1.602	.707	5.142	.023	.201	.050 .805

-2LL = 15.6; χ^2 (3, 78) = 69.7. *p* < .001; *R*² Nagelkerke = .90; *R*² Cox and Snell = .65; correct classifications 95.5%; VIF < 5.0

Gender: 0—female, 1—male

were significant predictors of belonging to the lowest well-being group. Because of the aforementioned perfect separation by country between these groups, the obtained results can be referred directly to this category as well. Thus, it may be concluded that Polish women, with lower income and higher reported power and achievement have a higher probability of belonging to the group with worse subjective health, higher depression and lower satisfaction with life.

5 Discussion

The aim of the study was to identify trajectories of well-being among newly retired women and men from Poland and Germany. Well-being was operationalized in a multidimensional approach, including satisfaction with life, depression and subjective health. In addition, retirees with the best and worst well-being values on each dimension were compared in terms of their sociodemographic characteristics, resources (self-efficacy, meaning in life, perceived autonomy, religiousness) and Schwartz's values (self-transcendence, self-enhancement, openness, conservation, hedonism).

The study revealed sample heterogeneity in terms of well-being. However, only small changes over time were observed, so the major source of sample variability was the baseline level of well-being: people differed in their starting SWB level but maintained that level for the next 12 months. This supports previous findings that SWB is a stable disposition (Costa et al. 1987; Eid and Diener 2004; Fujita and Diener 2005). Perhaps only critical events that are perceived as very stressful are likely to modify it, and they usually do so only in the short term (Suh et al. 1996). Retirement, as a normative and expected life event, is a source of very low distress for the majority of retirees (Bossé et al. 1991) and in a long-term is relatively benign for SWB (Horner 2014). However, since we do not have pre-retirement data, the possibility that we observed a post-adaptation plateau instead of an adaptation process cannot be excluded (Luhmann et al. 2012).

Another finding is that when cross-tabulated, the subgroups were relatively small and consequently had high or low trajectories for each well-being dimension. This indicates that the trajectories within each domain were quite independent, and well-being is indeed a multidimensional construct. However, the group with the worst well-being was almost twice as large as the group with the best well-being. This finding may suggest that it is more difficult to maintain the most advantageous than the most disadvantageous trajectories in each domain (or a biased sample, see limitations). Thus, the relationship between well-being domains and time appears asymmetrical. Similar results were noted in a previous study (Kunzmann et al. 2000).

An analysis of group membership further showed that the lowest well-being group contained an overrepresentation of Polish women with lower income and higher self-enhancement values than the highest well-being group. The latter consisted of German men, who had the highest income and significantly lower self-enhancement values. This finding suggests that adaptation may rely not only on individual resources but also on a complex interplay between them and the social context (Luhmann et al. 2015).

Our study confirms the low well-being of Polish women, as previously reported in a few studies with representative national samples (Börsch-Supan et al. 2008; HelpAge International 2013, 2015). The novelty of our study lies in the fact that it may provide insight into the processes underlying this outcome. The motivational character of Schwartz's values has been well recognized in the literature (Schwartz 1994, 2002, 2012). People tend to

invest their resources to achieve what is important to them. Additionally, there is a clear difference between manifesting a value and valuing something (see: being rich vs. valuing richness). However, in our study, Polish women with the least pronounced socioeconomic and psychological resources valued power and achievement (i.e., self-enhancement values) more highly than German men, who can be regarded as objectively manifesting these values more strongly due to their social status and personal resources. Thus, we observed the compensatory character of these values: *Polish women highly valued something they do not have and are not likely to achieve.*

According to Ryan and Deci's (2000) theory, Polish women may experience unmet needs for competence and autonomy. A few processes may cause this frustration to grow over the lifetime. First, it could be especially difficult for Polish women to express their needs for power and achievement due to social norms that value family and the sacrifice of motherhood (O'Reilly 2010). Thus, even if personally desired, such goals may never be openly formulated. Second, even if they were formulated, there may be numerous barriers to realizing them at both the individual (role conflict and role centrality) and social levels (gender stereotypes). Finally, due to life-span changes, retirement age may bring about the realization that some options have been lost forever and that resources heavily invested in family-related social roles have not brought the expected gains. This realization may itself be a source of psychological stress (Hobfoll 2002).

Ryan and Deci (2000) empirically illustrated that extrinsic aspirations, similar to wealth, fame and attractiveness, are not related to the satisfaction of basic psychological needs, even when attained. Hence, we observe a paradox here: those Polish women that are disadvantaged in terms of psychological and socioeconomic resources strive for values, which are not likely to improve their individual well-being but are symbols of position in the society. Thus, the hypothesis of a social context of frustration of older Polish women following retirement can be regarded as supported in our sample, particularly because this effect could not be found in German women. Another question is whether this relation between high self-enhancement values and unmet needs for autonomy and competence is more universal, that is, whether it may be observed in other disadvantaged groups (see e.g., Nelson et al. 2016).

Interestingly, very similar results with regard to negative affect in the cross-sectional analyses of Canadian retirees were obtained by Burr et al. (2011): higher negative affect was related to female gender, lower finances, more illnesses, higher self-enhancement values and lower openness to change. However, in the same study female gender as well as better finances, fewer illnesses, higher self-transcendence, openness to change and conservatism were associated with higher positive affect. This suggests that when it comes to self-descriptive measures of affect, women may report a stronger intensity and a greater variety of emotions than men. Thus, these results do not allow for interpretation in terms of lower of higher well-being among women and as such differ substantially from the more complex conceptualization of subjective well-being in our study.

Although the study is the first to show the compensatory character of what people may value in the context of well-being, this finding should be treated with caution due to certain study limitations. First, the final groups were small relative to the initial sample size. Additionally, recruitment was based on convenience sampling in both countries and the fact, that the evaluation of individual resources is often based on changeable ranking of different well-being domains driven by peer-comparison, was not taken into account (Charles et al. 2018). However, available data indicate that our samples are very similar in terms of values to those obtained at random from national surveys (European Values Study 2016). The pattern of results indicating that older Polish women report a very low quality of life

has also been well recognized in prior aging literature (Börsch-Supan et al. 2008; HelpAge International 2013, 2015). Still, the inter-measurement intervals in this study may have been sub-optimal, in that the first may have been too long, whereas the last may have been too short. For the majority of people the time that passed since the beginning of the retirement—on average 9 months—might have been enough to finish their adjustment process (Diener et al. 2006). In turn, the 12-month interval between the first and the last measurement does not allow to predict how the level of resources, relatively stable during this time, will change in the future, which will be related to ageing processes as well (Steptoe et al. 2015). On the other hand, the study's longitudinal design and its inclusion of two countries is a strength. Both, retirement studies and gender differences studies usually rely only on national samples or samples with different study protocols between countries, which may be a source of bias when generalized for universal processes.

In sum, retirement did not strongly affect the well-being of new retirees. However, significant heterogeneity was found between people, which appeared to be related to their baseline level, not changes over time. Past well-being is the best predictor of future well-being, especially within a relatively short period of time. Groups that are disadvantaged in terms of well-being may compensate for this deficit by searching for values that symbolize power and achievement.

Acknowledgements This research was supported by a Grant from the Polish–German Fund for Science (Project No. PNFN 2013-10).

Compliance with Ethical Standards

Conflict of interest The authors declare no conflict of interest of any kind.

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References

- Andorfer, V. A., & Otte, G. (2013). Do contexts matter for willingness to donate to natural disaster relief? An application of the factorial survey. *Nonprofit and Voluntary Sector Quarterly*, 42(4), 657–688. <https://doi.org/10.1177/08997640124440180>.
- Bandura, A. (1997). *Self-efficacy: The exercise of control* (1st ed.). New York: Worth Publishers.
- Barry, L. C., Allore, H. G., Guo, Z., Bruce, M. L., & Gill, T. M. (2008). Higher burden of depression among older women: The effect of onset, persistence, and mortality over time. *Archives of General Psychiatry*, 65(2), 172–178. <https://doi.org/10.1001/archgenpsychiatry.2007.17>.
- Bobowik, M., Basabe, N., Páez, D., Jiménez, A., & Bilbao, M. Á. (2011). Personal values and well-being among europeans, spanish natives and immigrants to Spain: Does the culture matter? *Journal of Happiness Studies*, 12(3), 401–419. <https://doi.org/10.1007/s10902-010-9202-1>.
- Börsch-Supan, A., Brügiavini, A., Jürges, H., Kapteyn, A., Mackenbach, J., Siegrist, J., et al. (2008). *First results from the survey of health, ageing and retirement in Europe (2004–2007). Starting the longitudinal dimension*. Mannheim: Mannheim Research Institute for the Economics of Aging.
- Bossé, R., Aldwin, C. M., Levenson, M. R., & Workman-Daniels, K. (1991). How stressful is retirement? Findings from the normative aging study. *Journal of Gerontology*, 46(1), 9–14.
- Burr, A., Santo, J. B., & Pushkar, D. (2011). Affective well-being in retirement: The influence of values, money, and health across three years. *Journal of Happiness Studies*, 12(1), 17–40. <https://doi.org/10.1007/s10902-009-9173-2>.
- Central Statistical Office. (2013). *National census of population and housing 2011*. Warsaw, Poland: Zakład Wydawnictw Statystycznych.

- Central Statistical Office. (2016). *Life expectancy tables of Poland 2015*. Warsaw, Poland: Zakład Wydawnictw Statystycznych.
- Charles, A., Wu, D., & Wu, Z. (2018). Economic shocks on subjective well-being: Re-assessing the determinants of life-satisfaction after the 2008 financial crisis. *Journal of Happiness Studies*. <https://doi.org/10.1007/s10902-018-9986-y>.
- Cohen, A. B., & Johnson, K. A. (2016). The relation between religion and well-being. *Applied Research in Quality of Life*. <https://doi.org/10.1007/s11482-016-9475-6>.
- Costa, P. T., Zonderman, A. B., McCrae, R. R., Cornoni-Huntley, J., Locke, B. Z., & Barbano, H. E. (1987). Longitudinal analyses of psychological well-being in a national sample: Stability of mean levels. *Journal of Gerontology*, 42(1), 50–55.
- Crimmins, E. M., Kim, J. K., & Solé-Auró, A. (2011). Gender differences in health: Results from SHARE, ELSA and HRS. *European Journal of Public Health*, 21(1), 81–91. <https://doi.org/10.1093/eurpub/ckq022>.
- Diener, E., & Lucas, R. E. (1999). Personality and subjective well-being. In E. Kahneman, E. Diener, & N. Schwartz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 213–229). New York: Russell Sage Foundation.
- Diener, E., Lucas, R. E., & Scollon, C. N. (2006). Beyond the hedonic treadmill: Revising the adaptation theory of well-being. *The American Psychologist*, 61(4), 305–314. <https://doi.org/10.1037/0003-066x.61.4.305>.
- Diener, E., Tay, L., & Myers, D. G. (2011). The religion paradox: If religion makes people happy, why are so many dropping out? *Journal of Personality and Social Psychology*, 101(6), 1278–1290. <https://doi.org/10.1037/a0024402>.
- Donaldson, T., Earl, J. K., & Muratore, A. M. (2010). Extending the integrated model of retirement adjustment: Incorporating mastery and retirement planning. *Journal of Vocational Behavior*, 77(2), 279–289. <https://doi.org/10.1016/j.jvb.2010.03.003>.
- Eid, M., & Diener, E. (2004). Global judgments of subjective well-being: Situational variability and long-term stability. *Social Indicators Research*, 65(3), 245–277. <https://doi.org/10.1023/b:soci.0000003801.89195.bc>.
- European Values Study. (2016). *EVS 2008—Variable report. Integrated dataset*. Köln, Germany: GESIS—Leibniz Institute for the Social Sciences.
- Eurostat. (2015). Demography report. <http://ec.europa.eu/eurostat/eurostat/web/ess/-/demography-report-2015-edition>. Accessed March 28, 2017.
- Fujita, F., & Diener, E. (2005). Life satisfaction set point: Stability and change. *Journal of Personality and Social Psychology*, 88(1), 158–164. <https://doi.org/10.1037/0022-3514.88.1.158>.
- Gill, S. C., Butterworth, P., Rodgers, B., Anstey, K. J., Villamil, E., & Melzer, D. (2006). Mental health and the timing of men's retirement. *Social Psychiatry and Psychiatric Epidemiology*, 41(7), 515–522. <https://doi.org/10.1007/s00127-006-0064-0>.
- Gravetter, F. J., & Wallnau, L. B. (2013). *Essentials of statistics for the behavioral sciences* (8th ed.). Belmont, CA: Wadsworth Publishing.
- HelpAge International. (2013). Global AgeWatch Index 2013: Insight report, summary and methodology. <http://www.helpage.org/global-agewatch/reports/global-agewatch-index-2013-insight-report-summary-and-methodology/>. Accessed March 12, 2017.
- HelpAge International. (2015). Global AgeWatch Index 2015: Insight report, summary and methodology. <http://www.helpage.org/global-agewatch/reports/global-agewatch-index-2015-insight-report-summary-and-methodology/>. Accessed March 12, 2017.
- Henning, G., Lindwall, M., & Johansson, B. (2016). Continuity in well-being in the transition to retirement. *GeroPsych*, 29(4), 225–237. <https://doi.org/10.1024/1662-9647/a000155>.
- Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of General Psychology*, 6(4), 307–324. <https://doi.org/10.1037/1089-2680.6.4.307>.
- Horner, E. M. (2014). Subjective well-being and retirement: Analysis and policy recommendations. *Journal of Happiness Studies*, 15(1), 125–144. <https://doi.org/10.1007/s10902-012-9399-2>.
- Hyde, J. S. (2005). The gender similarities hypothesis. *The American Psychologist*, 60(6), 581–592. <https://doi.org/10.1037/0003-066x.60.6.581>.
- James, J. B., Matz-Costa, C., & Smyer, M. A. (2016). Retirement security: It's not just about the money. *The American Psychologist*, 71(4), 334–344. <https://doi.org/10.1037/a0040220>.
- Karim, J., Weisz, R., Bibi, Z., & ur Rehman, S. (2015). Validation of the eight-item center for epidemiologic studies depression scale (CES-D) among older adults. *Current Psychology*, 34(4), 681–692. <https://doi.org/10.1007/s12144-014-9281-y>.
- Kim, J. E., & Moen, P. (2001). Is retirement good or bad for subjective well-being? *Current Directions in Psychological Science*, 10(3), 83–86. <https://doi.org/10.1111/1467-8721.00121>.

- Kim, J. E., & Moen, P. (2002). Retirement transitions, gender, and psychological well-being: A life-course, ecological model. *The Journals of Gerontology*, *57*(3), P212–P222.
- Knoll, N., Wiedemann, A. U., Schultze, M., Schrader, M., & Heckhausen, J. (2014). Prostate cancer patients gradually advance goals for rehabilitation after radical prostatectomy: Applying a lines-of-defense model to rehabilitation. *Psychology and Aging*, *29*(4), 787–792. <https://doi.org/10.1037/a0038311>.
- Krause, N. (2007). Longitudinal study of social support and meaning in life. *Psychology and Aging*, *22*(3), 456–469. <https://doi.org/10.1037/0882-7974.22.3.456>.
- Kubicek, B., Korunka, C., Raymo, J. M., & Hoonakker, P. (2011). Psychological well-being in retirement: The effects of personal and gendered contextual resources. *Journal of Occupational Health Psychology*, *16*(2), 230–246. <https://doi.org/10.1037/a0022334>.
- Kunzmann, U., Little, T. D., & Smith, J. (2000). Is age-related stability of subjective well-being a paradox? Cross-sectional and longitudinal evidence from the Berlin aging study. *Psychology and Aging*, *15*(3), 511–526.
- Leurent, B., Nazareth, I., Bellón-Saameño, J., Geerlings, M.-I., Maarros, H., Saldivia, S., et al. (2013). Spiritual and religious beliefs as risk factors for the onset of major depression: An international cohort study. *Psychological Medicine*, *43*(10), 2109–2120. <https://doi.org/10.1017/s0033291712003066>.
- Luhmann, M., Hofmann, W., Eid, M., & Lucas, R. E. (2012). Subjective well-being and adaptation to life events: A meta-analysis. *Journal of Personality and Social Psychology*, *102*(3), 592–615. <https://doi.org/10.1037/a0025948>.
- Luhmann, M., Murdoch, J. C., & Hawkey, L. C. (2015). Subjective well-being in context: County- and state-level socioeconomic factors and individual moderators. *Social Psychological and Personality Science*, *6*(2), 148–156. <https://doi.org/10.1177/1948550614548075>.
- McLachlan, G., & Peel, D. (2000). *Finite mixture models* (1st ed.). New York: Wiley.
- Meisenberg, G., & Woodley, M. A. (2015). Gender differences in subjective well-being and their relationships with gender equality. *Journal of Happiness Studies*, *16*(6), 1539–1555. <https://doi.org/10.1007/s10902-014-9577-5>.
- Nelson, T., Cardemil, E. V., & Adeoye, C. T. (2016). Rethinking strength: Black women's perceptions of the "strong black woman" role. *Psychology of Women Quarterly*, *40*(4), 551–563. <https://doi.org/10.1177/0361684316646716>.
- O'Reilly, A. (Ed.). (2010). *Encyclopedia of motherhood* (1st ed.). Thousand Oaks, Calif: SAGE Publications Inc.
- Pavot, W., & Diener, E. (2009). Review of the satisfaction with life scale. In P. E. Diener (Ed.), *Assessing well-being* (pp. 101–117). Amsterdam, The Netherlands: Springer. https://doi.org/10.1007/978-90-481-2354-4_5.
- Pinquart, M. (2002). Creating and maintaining purpose in life in old age: A meta-analysis. *Ageing International*, *27*(2), 90–114. <https://doi.org/10.1007/s12126-002-1004-2>.
- Pinquart, M., & Sörensen, S. (2000). Influences of socioeconomic status, social network, and competence on subjective well-being in later life: A meta-analysis. *Psychology and Aging*, *15*(2), 187–224.
- Prest, L. A., Russel, R., & D'Souza, H. (1999). Spirituality and religion in training, practice and personal development. *Journal of Family Therapy*, *21*(1), 60–77. <https://doi.org/10.1111/1467-6427.00104>.
- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, *1*(3), 385–401. <https://doi.org/10.1177/014662167700100306>.
- Raudenbush, S. W. (2001). Comparing personal trajectories and drawing causal inferences from longitudinal data. *Annual Review of Psychology*, *52*, 501–525. <https://doi.org/10.1146/annurev.psych.52.1.501>.
- Reitzes, D. C., Mutran, E. J., & Fernandez, M. E. (1996). Does retirement hurt well-being? Factors influencing self-esteem and depression among retirees and workers. *The Gerontologist*, *36*(5), 649–656.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *The American Psychologist*, *55*(1), 68–78.
- Schwartz, S. H. (1994). Are there universal aspects in the structure and contents of human values? *Journal of Social Issues*, *50*(4), 19–45. <https://doi.org/10.1111/j.1540-4560.1994.tb01196.x>.
- Schwartz, S. H. (2002). A proposal for measuring value orientations across nations. ESS. Retrieved October 8, 2018, from <http://naticent02.uuhost.uk.uu.net/questionnaire/index.htm>.
- Schwartz, S. H. (2004). Mapping and interpreting cultural differences around the world. In H. Vinken, J. Soeters, & P. Ester (Eds.), *Comparing cultures, dimensions of culture in a comparative perspective* (pp. 43–73). Leiden, The Netherlands: Brill.
- Schwartz, S. H. (2012). An overview of the Schwartz theory of basic values. *Online Readings in Psychology and Culture*. <https://doi.org/10.9707/2307-0919.1116>.
- Schwartz, S. H., & Rubel, T. (2005). Sex differences in value priorities: Cross-cultural and multi-method studies. *Journal of Personality and Social Psychology*, *89*(6), 1010–1028. <https://doi.org/10.1037/0022-3514.89.6.1010>.

- Schwartz, S. H., & Rubel-Lifschitz, T. (2009). Cross-national variation in the size of sex differences in values: Effects of gender equality. *Journal of Personality and Social Psychology*, 97(1), 171–185. <https://doi.org/10.1037/a0015546>.
- Schwarzer, R. (2008). Perceived autonomy in old age. Retrieved October 08, 2018, from <http://userpage.fu-berlin.de/~health/autonomy.htm>.
- Schwarzer, R., & Jerusalem, M. (1995). General self-efficacy scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), *Measures in health psychology: A user's portfolio causal and control beliefs* (pp. 35–37). Windsor, England: NFER-Nelson.
- Senik, C., European Commission, Directorate-General for Justice and Consumers, Fondazione Giacomo Brodolini, Istituto per la Ricerca Sociale, & Executiva Nacional dos Estudantes de Geologia (Brazil). (2015). *Gender gaps in subjective wellbeing*. Luxembourg: Publications Office. <http://dx.publications.europa.eu/10.2838/670788>. Accessed March 28, 2017.
- Shultz, K. S., & Wang, M. (2011). Psychological perspectives on the changing nature of retirement. *The American Psychologist*, 66(3), 170–179. <https://doi.org/10.1037/a0022411>.
- Sousa, C. M. P., Coelho, F., & Guillaumon-Saorin, E. (2012). Personal values, autonomy, and self-efficacy: Evidence from frontline service employees. *International Journal of Selection and Assessment*, 20(2), 159–170. <https://doi.org/10.1111/j.1468-2389.2012.00589.x>.
- Specht, J., Luhmann, M., & Geiser, C. (2014). On the consistency of personality types across adulthood: Latent profile analyses in two large-scale panel studies. *Journal of Personality and Social Psychology*, 107(3), 540–556. <https://doi.org/10.1037/a0036863>.
- Steel, P., Schmidt, J., & Shultz, J. (2008). Refining the relationship between personality and subjective well-being. *Psychological Bulletin*, 134(1), 138–161. <https://doi.org/10.1037/0033-2909.134.1.138>.
- Stepoe, A., Deaton, A., & Stone, A. A. (2015). Psychological wellbeing, health and ageing. *Lancet*, 385(9968), 640–648. [https://doi.org/10.1016/s0140-6736\(13\)61489-0](https://doi.org/10.1016/s0140-6736(13)61489-0).
- Suh, E., Diener, E., & Fujita, F. (1996). Events and subjective well-being: Only recent events matter. *Journal of Personality and Social Psychology*, 70(5), 1091–1102.
- Tay, L., Li, M., Myers, D. G., & Diener, E. (2014). Religiosity and subjective well-being: An international perspective. In C. Kim-Prieto (Ed.), *Religion and spirituality across cultures* (pp. 163–175). The Netherlands: Springer, Netherlands.
- Tesch-Römer, C., Motel-Klingebiel, A., & Tomasik, M. J. (2008). Gender differences in subjective well-being: Comparing societies with respect to gender equality. *Social Indicators Research*, 85(2), 329–349. <https://doi.org/10.1007/s11205-007-9133-3>.
- Tofghi, D., & Enders, C. K. (2007). Identifying the correct number of classes in growth mixture models. In G. Hancock & K. M. Samulelsen (Eds.), *Advances in latent variable mixture models* (pp. 317–341). Greenwich, CT: Information Age.
- United Nations. (2015). *World population aging*. New York: United Nations.
- Vermunt, J. K., & Magidson, J. (2016). *Upgrade manual for Latent GOLD 5.1*. Belmont, Massachusetts: Statistical Innovations Inc.
- Warner, L. M., Schuz, B., Wurm, S., Ziegelmann, J. P., & Tesch-Römer, C. (2010). Giving and taking—Differential effects of providing, receiving and anticipating emotional support on quality of life in adults with multiple illnesses. *Journal of Health Psychology*, 15(5), 660–670. <https://doi.org/10.1177/1359105310368186>.
- Warner, L. M., Ziegelmann, J. P., Schüz, B., Wurm, S., Tesch-Römer, C., & Schwarzer, R. (2011). Maintaining autonomy despite multimorbidity: Self-efficacy and the two faces of social support. *European Journal of Ageing*, 8(1), 3–12. <https://doi.org/10.1007/s10433-011-0176-6>.
- Wetzel, M., Huxhold, O., & Tesch-Römer, C. (2016). Transition into retirement affects life satisfaction: Short- and long-term development depends on last labor market status and education. *Social Indicators Research*, 125(3), 991–1009. <https://doi.org/10.1007/s11205-015-0862-4>.
- World Bank. (2004). *World development report 2004*. World Bank. <https://openknowledge.worldbank.org/handle/10986/5986>. Accessed March 28, 2017.
- World Health Organization. (2001). International classification of functioning, disability and health (ICF). World Health Organization. <http://www.who.int/classifications/icf/en/>. Accessed March 12, 2017.
- Zensus. (2011). Ergebnisse des Zensus 2011. <https://www.zensus2011.de/SharedDocs/Aktuelles/Ergebnisse/DemografischeGrunddaten.html?nn=3065474>. Accessed March 28, 2017.