

Research Article

## Aging in Precarious Circumstances: Do Positive Views on Aging Make a Difference?

Catrinel Craciun,<sup>\*,1,2</sup> Paul Gellert,<sup>3</sup> and Uwe Flick<sup>1</sup>

<sup>1</sup>Department of Education and Psychology, Division of Qualitative Social and Educational Research, Freie Universität Berlin, Germany. <sup>2</sup>Department of Psychology, Babes-Bolyai University, Cluj Napoca, Romania. <sup>3</sup>Charité - CC1 - Universitätsmedizin Berlin, Germany.

\*Address correspondence to Catrinel Craciun, Faculty of Education and Psychology, Department of Qualitative Social and Educational Research, Free University Berlin, Habelschwerdter Allee 45, 14195 Berlin, Germany. E-mail: [catrinelcraciun@yahoo.com](mailto:catrinelcraciun@yahoo.com)

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### Abstract

**Purpose of the study:** Precariousness, defined as low income combined with lack of security for retirement, can influence the way people grow old and result in health inequalities in old age.

**Design and methods:** A sequential mixed methods approach was used to identify differences in behavioral (physical activity), social (social network), and psychological resources (positive views on aging) that middle-aged individuals from both precarious and financially secure backgrounds use in preparation for positive aging and keep high levels of health and well-being. It was investigated whether positive views on aging can compensate the detrimental association of a lack of resources with health and well-being in midlife. Data from the German Aging Survey ( $N = 1,992$  in the secure group,  $N = 240$  in the precarious group) were analyzed to understand the relationship between resources on the one hand and health and well-being on the other, as well as to compare the strategies of individuals with precarious and financially secure backgrounds. Semistructured interviews with middle-aged individuals ( $N = 20$ ) from these two categories were analyzed in order to further explain the quantitative findings.

**Results:** Precarious individuals are indeed disadvantaged in terms of behavioral, social, and psychological resources as well as in health and well-being. However, having a positive view on aging can compensate for insufficient resources. Qualitative findings showed differences in strategies for resource management and perceptions of positive aging.

**Implications:** Secondary analysis of quantitative and qualitative data reflects the importance of positive views on aging as a resource for a healthy old age despite aging in precarious circumstances.

**Key Words:** Positive views on aging, Precariousness, Middle-age, Mixed methods, Resources

Previous studies show that social inequalities are reflected in the health of older adults across European countries (Brandt, Deindl, & Hank, 2012) and accumulate over the lifespan resulting in health inequalities in old age (Ferraro & Shippee, 2009; Gonzales, Matz-Costa, & Morrow-Howell, 2015). However, psychological resources such as a positive view on aging might act as a buffer against the negative effects of a precarious context. Thus, it is relevant to investigate how positive views on aging differ depending on the social context in which people grow old and if these represent a health and well-being resource in midlife that can be used in preparation for old age. Successful aging, defined as physical and mental health, social engagement, and lack of disability in old age (Rowe & Kahn, 1997), holds an indisputable importance in social gerontology. However, critiques of the theory comprise its narrowness in scope, its potential for discrimination by setting unrealistic standards (Calasanti, 2015), ignorance of subjective meanings of old age, and lack of cultural diversity (Martinson & Berridge, 2015). In order to reduce the potential for discrimination potential and explore subjective meanings in groups that are disadvantaged in terms of successful aging, the present article aims to identify health and well-being resources from the perspective of aging individuals who live in precarious circumstances and are at risk of poverty in old age. Moreover, it explores the subjective views of middle-aged individuals concerning their preparations for preparations.

### Precariousness and Aging

Precariousness was first defined in reference to precarious workers without retirement plans (Portacolone, 2013) living in “the age of uncertainty,” where the weakening of social structures (e.g., social security system, privatization of care services) determines the need for personal initiative on behalf of the individual (Bauman, 2007). More than lacking financial resources for old age as a low income or low socioeconomic status (SES) would imply (Corna, 2013), precariousness refers to dealing with the daily hassles of an uncertain future perspective, triggered by the instability of a temporary job and by having no retirement benefits. Thus, the main factor that would be negatively associated with a person’s health becomes job and pension insecurity (Marmot & Wilkinson, 2005) rather than just the low income itself. In Germany, the rising number of mini jobs (i.e., jobs paid with 400 Euro/month) make saving for old age or engaging in health behaviors such as being physically active or planning a healthy diet less probable. The frequent change in career paths and rising number of part-time jobs were also said to increase the risk for poverty in old age (Schmähl, 2011).

### Behavioral, Social, and Psychological Resources in Midlife

Midlife is regarded as a turning point in one’s life, where the ratio of developmental gains and losses sets the context

for how a person ages (Wurm, Tomasik, & Tesch-Römer, 2010). Having behavioral, social, and psychological resources—that is factors that may help increase health and well-being—in midlife, may counteract the effects of precariousness on health and well-being (Rotegård, Moore, Fagermoen, & Ruland, 2010). Various resources were shown to predict health and well-being in old age such as social interaction (Silverstein & Parker, 2002) or physical activity (Klusmann, Evers, Schwarzer, & Heuser, 2012). For instance, developing new social ties in old age enhances self-esteem, reduces loneliness, and increases physical activity (Cornwell & Laumann, 2013). In a recent study investigating definitions and determinants of successful aging in young, middle-aged, and older adults from Germany and United States, participants named resources (health, social relations), behaviors (activities), and psychological factors (attitudes, beliefs) as determinants of a successful old age (Jopp, Wozniak, Damarin, De Feo, Jung, & Jeswani, 2015).

### The Role of Positive Views on Aging

Among the most acclaimed psychological resources for old age are positive views on aging (Levy, 2003), meaning that one perceives more gains than losses, the personal future has positive meaning and a person continues to set goals in old age. Positive images of aging are associated with involvement in preventive behavior (Levy & Myers, 2004) such as physical activity (Wurm, Tesch-Römer, & Tomasik, 2007) and have a direct physiological effect on health (Levy, Hausdorff, Hencke, & Wei, 2000). As views on aging were shown to be increasingly connected with actual experiences during adult years (Levy, 2009) knowing what middle-aged individuals think about old age becomes relevant. Moreover, views on aging emerge in a social context or social media (Levy, Chung, Bedford, & Navrazhina, 2014), and therefore might differ depending on education or social status and indirectly lead to experiencing health inequalities in old age or even in the preparation process. Seeing the positive aspects of growing old might encourage one to identify resources that would facilitate positive aging, while a more negative perspective on aging may hinder preparations as one could consider these unnecessary (Craciun & Flick, 2014; Craciun, Gellert, & Flick, 2015). Furthermore, for individuals with an uncertain future perspective, imagining a positive old age might be more difficult compared to financially secure individuals who can make plans for a healthy old age. Thus, it may be more challenging for precarious individuals to identify and use their resources for aging well.

### Aims

The present study took an innovative approach to examine behavioral, social, and psychological resources for positive aging in both precarious and financially secure individuals. One goal was to compare how people with insecure

and secure pension plans differ concerning psychosocial resources that would help them for positive aging. The study aimed to understand the role of positive views on aging as a potential resource for health and well-being in middle-aged individuals. Positive views on aging may act as a buffer for negative effects of living in precarious conditions. Understanding how middle-aged individuals see their resources for old age might shed light on the reasons why some people prepare for old age (i.e., engage in health behavior, build social support networks) while others do not, despite being aware of available resources. Moreover, it is relevant to explore positive representation of aging in those who happen to live in precarious circumstances. For this purpose, data from qualitative interviews were used to further explain the findings from a quantitative data analysis of an existing quantitative data set.

First, it was hypothesized (see Figure 1) that individuals categorized as living in precarious circumstances would be also disadvantaged in health and well-being as well as in terms of behavioral, social, and psychological resources, that is, physical activity, social network size, and views on aging.

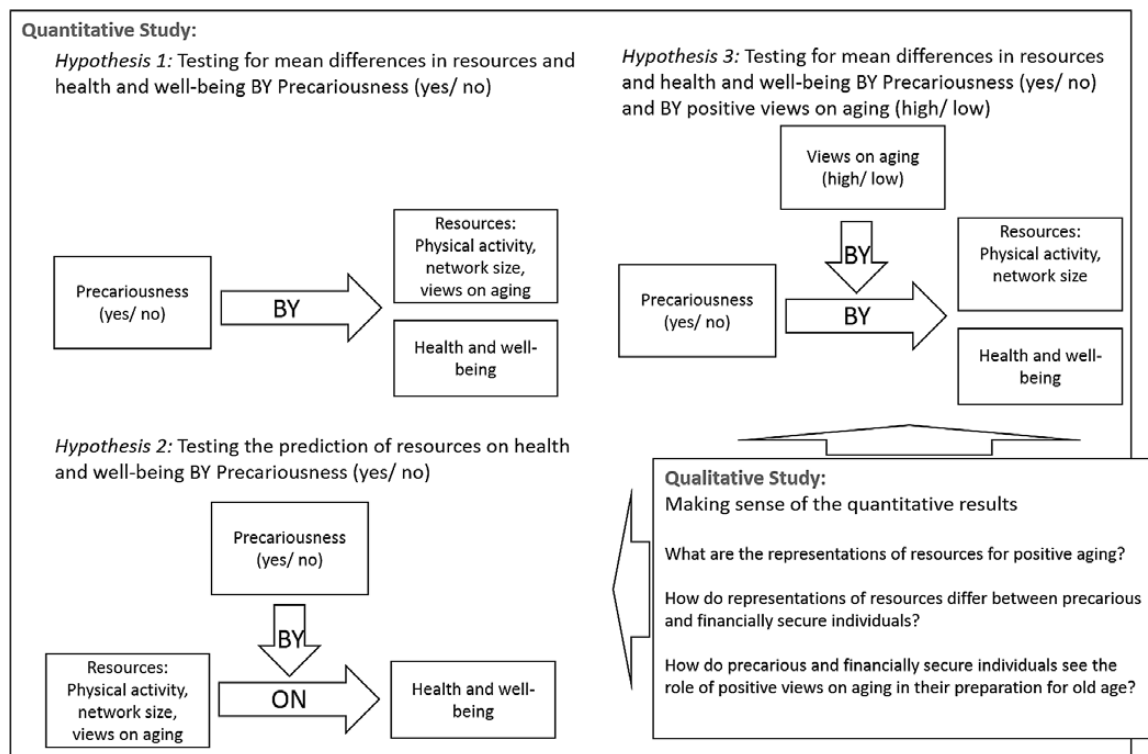
The second hypothesis examined how the predictive value of resources (i.e., physical activity, social network size, and positive views on aging) for health and well-being differed in precarious and secure individuals. It was assumed that stronger associations would be found in the insecure pension group as compared to the secure group.

The third hypothesis concerned the buffering effect of positive views on aging, namely that individuals with an insecure pension plan, who have a positive view on aging would enjoy better health and well-being and have better behavioral and social resources than individuals with a precarious background but less psychological resources, that is, negative views on aging.

Findings from the secondary interview analysis were expected to shed light on *how* individuals from the precarious and financially secure group perceive their resources for aging. The findings also helped to understand *how* participants from both groups represented positive aging and how positive views of aging helped them in preparing for old age (i.e., engaging in health behaviors, building social support networks, experiencing positive views on aging).

### Methods

An *explanatory sequential mixed methods approach* following the triangulation principle (Flick, Garmes-Homolová, Herrmann, Kuck, & Röhnsch, 2012b) was used. Triangulation was achieved by use of quantitative as well as qualitative data sets and different perspective angles in the qualitative analysis. *Explanatory sequential mixed methods design* (Creswell & Plano Clarke, 2011) refers to explaining quantitative findings by exploring qualitative data.



**Figure 1.** Conceptually relations of the variables in the quantitative and the qualitative study. BY refers to mean comparisons or interactions, ON refers to linear regression.

## The Quantitative Data

### Data Collection

The German Aging Survey (DEAS; Engstler & Motel-Klingebiel, 2010) provided the quantitative data to understand associations between resources and health and well-being in midlife and how these differ in individuals with secure and insecure pension plans. The DEAS represents an ongoing, cohort-sequential nationwide representative survey of community-dwelling adults aged 40–85 years (Spuling, Wurm, Tesch-Römer, & Huxhold, 2015). The sample was drawn using national probability sampling stratified by age, gender and place of residence (Eastern or Western Germany). The DEAS was first conducted in 1996 and a new cross-sectional sample is drawn every 6 years. The survey was designed to offer an overview of the situation of people who are growing old in Germany, targeting both individual development over the years and social change. The DEAS was chosen for the current secondary analysis because it contains measures of behavioral (e.g., smoking, physical activity), social (e.g., social networks), and psychological resources (e.g., self-efficacy) for health and well-being. For the present study, data from the 2011 wave was used (for 2011,  $N = 2,430$ ;  $N = 2,232$  remained in the current analyses). Here we describe how participants from the DEAS sample were included in the present analysis based on their precariousness or financial security status.

**Precariousness.** Because precariousness is not directly measured within the DEAS survey, three operationalization factors were chosen based on the definition given to precariousness by Portacolone (2013): *Low income* (i.e., poverty or insufficient financial resources) and having either an *insecure job situation* (i.e., unemployment or working on a temporary contract or without a contract) or experiencing an *insecure future perspective* (not being able to plan one own's future). The precarious *versus* secure groups were defined according to three criteria. People who scored at *low income* criterion ( $n = 742$ ; Living below the poverty line of 60% of the median equivalent income of the population which was 840 Euro in 2011, SOEP, 2012) and who either scored at *insecure job situation* criterion (being unemployed or on half-time short-term contract;  $n = 130$ ) or *insecure future* criterion (being 1 *SD* above the scale mean;  $n = 433$ ; four items about security of the future: (a) Perceived likelihood of becoming unemployed, (b) Expected job situation change, (c) Looking into the future with confidence, (d) Enough money to meet personal needs) were categorized as living in precarious circumstances. People who did not meet the low income criterion and at least one of the insecurity criteria (insecure job or future) were classified as being nonprecarious or financially secure. Precariousness was dummy coded with 0 being in the secure group and 1 being in the precarious group.

The sample for the present quantitative data analysis comprised  $N = 1,992$  individuals classified as being in secure and  $N = 240$  who were classified as being in

precarious circumstances (see Table 1 for sample characteristics). Individuals who were classified as being in precarious circumstances were more likely to be divorced (29.2% in the precarious group *vs* 15.5% in the secure group;  $\chi^2 = 42.52, p < .001$ ) and to be less likely to be better educated (17.1% in the precarious group were highly educated *vs* 47.1% in the secure group;  $\chi^2 = 89.19, p < .001$ ) than secure individuals (see Table 1). There were no significant differences between the groups in terms of age with a mean age and gender.

### Variables

*Well-being* and *physical health* were used as outcomes in the analyses. *Well-being* was measured with a validated five item scale (Pavot & Diener, 1993: for example, "I am satisfied with my life" or "In most ways my life is close to my ideal" with answers on a 4-point scale ranging from 1 "definitely true" to 4 "definitely false." For the purpose of the analysis the items were reverse coded. The internal consistency was good with Cronbach's alpha = .85. Means for well-being were  $M = 3.35$  ( $SD = 0.83$ ) for the precarious and  $M = 3.90$  ( $SD = 0.63$ ) for the secure group. *Physical Health* was assessed via functional health status of the SF-36 "physical" subscale (Bullinger & Kirchberger, 1998). Means for views on aging were  $M = 82.88$  ( $SD = 22.70$ ) for the precarious and  $M = 89.68$  ( $SD = 17.09$ ) for the secure individuals.

Based on previous studies (Klusmann et al., 2012; Silverstein & Parker, 2002; Wurm et al., 2007), behavioral (i.e., physical activity), social (i.e., network size), and psychological (i.e., positive views on aging) resources were established as predictors for the analyses. Subsequently positive views on aging served as a grouping variable (Hypotheses 2 and 3).

*Physical activity* (behavioral resource) was measured using three Likert-items constituting a composite score of sports within three domains, namely team sports, endurance, and strength and combat. Participants were asked how often they engage in these activities with response categories "Daily," "Several times a week," "Once a week," "1–3 times a month," "Less often," and "Never." Higher values indicate being more physically active.

*Network size* (social resource) was measured by the number of important people with whom participants mentioned having regular contact. Having more than eight regular contacts was categorized as "Nine or more."

*Positive views on aging* (psychological resource) were assessed with the scale including four items on aging-related cognitions of ongoing development (e.g., "Aging means to me that I continue to make plans," Wurm et al., 2007); four items measuring cognitions associated with physical losses in old age (e.g., "Aging means to me that I am less healthy," Steverink et al., 2001), and two items referring to social losses in old age. Answers ranged from

**Table 1.** Mean Levels of Health Outcomes and Behavioral, Social, and Psychological Resources (Hypothesis 1), and Demographics by Precariousness Status

Variable	Quantitative study				Group difference Cohen's <i>d</i>	Qualitative study	
	Precarious group		Secure group			Precarious group	Secure group
	Mean Imputed ( <i>N</i> = 240)	Mean ( <i>SD</i> ) Original	Mean Imputed ( <i>N</i> = 1,992)	Mean ( <i>SD</i> ) Original		( <i>N</i> = 10)	( <i>N</i> = 10)
<i>Outcomes</i>							
Well-being	3.31	3.35(0.83)	3.89	3.90(0.63)	0.53***		
Physical health	82.88	82.88(22.7)	89.66	89.68(17.09)	0.24***		
<i>Resources</i>							
Behavioral: Physical activity	1.71	1.71(0.80)	2.13	2.14(0.88)	0.28***		
Social: Network size	4.03	4.03(2.65)	5.22	5.22(2.66)	0.30***		
Psychological: Positive views on aging	2.75	2.78(0.42)	2.88	2.89(0.37)	0.18**		
<i>Demographics</i>							
Age	55.42	55.42(5.97)	55.57	55.57(5.94)	0.02	50.00 (4.47)	54.10 (8.17)
Gender (W)		127 (52.9%)		1,086 (54.5%)		7 (70.0%)	6 (60.0%)
<i>Level of education by ISCED</i>							
Low		27 (11.3%)		80 (4.0%)			
Medium		172 (71.7%)		973 (48.8%)		2 (20.0%)	4 (40.0%)
High		41 (17.1%)		939 (47.1%)		8 (80.0%)	6 (60.0%)
<i>Marital status</i>							
Married/		140 (58.3%)		1,542 (77.4%)		3 (30.0%)	4 (40.0%)
Widowed/divorced		70 (29.2%)		309 (15.5%)			1 (10.0%)
Single		30 (12.5%)		141 (7.1%)		7 (70.0%)	5 (50.0%)

Notes: Imputed means were pooled across five imputed data sets. *N* = 1,992 secure group (*N* = 1,571–1,992 original data; number varies across scales), *N* = 240 precarious group (*N* = 191–240 original data). *SD* = Standard deviation of the mean. ISCED = International Standard Classification of Education index by the UNESCO is classifying the educational level from low (basic/no qualification) to high (advanced) to facilitate cross-country comparisons of education statistics. W = women, M = men. Cohen's *d* is an effect size indicating the standardized difference between two means and refers to the original data.

\*\**p* < .01; \*\*\**p* < .001.

“definitely false” to “definitely true.” People with positive views on aging would have higher scores on the development cognitions and lower scores on physical and social losses. Internal consistency was acceptable with Cronbach's alpha = .76. This magnitude of the internal consistency is consistent with the magnitude reported for other views on aging measures (e.g., Wurm et al., 2007 and Klusmann et al., 2012 with Cronbach's alpha .73–.79 and .73 respectively). Means for views on aging varied from *M* = 2.78 (*SD* = 0.42) for the precarious to *M* = 2.89 (*SD* = 0.37) for the secure individuals. Gender and chronological age (chronological age in years) were included as control variables in the analyses for Hypotheses 2 and 3.

### Data Analysis

All statistical analyses were conducted using SPSS Statistics for Windows, v22 (Released 2013, IBM Corp., Armonk, NY). To test for mean differences between precarious and secure individuals for Hypothesis 1, a series of *T*-tests were performed. Mean differences were evaluated on the basis of Cohen's *d* effect sizes (defined as “small, *d* = .20,” “medium,

*d* = .50,” and “large, *d* = .80”; Cohen, 1988). Comparing the multivariate prediction (Hypothesis 2) of the behavioral, social, and psychological resources on well-being and on physical health, both groups were analyzed separately for the precarious group only and one with the data for the secure group only. In a consecutive step, the regression coefficients of the precarious group with the secure group were compared. To do this analysis, a dummy variable called precariousness (i.e., coded 1 for the precarious and 0 for the secure) and a product term of precariousness and the respective psychosocial predictor was entered into the regression model. All other resources were also entered as covariates. This was done for each resource separately. The product term tests the null hypothesis coefficients across groups to be equal. A significant product term indicates that the regression coefficient in the precarious group is significantly different from the coefficient in the secure group.

Regarding Hypothesis 3, interaction effects of adjusted mean differences—namely that positive views on aging can buffer the detrimental association of lower mean values in groups being in precarious circumstances—were tested within a 2(precarious *vs* secure) × 2(positive views on aging



vs negative views on aging) analysis of covariance with gender, age, and the respective resources serving as covariates. To account for missing data multiple imputation generating five data sets (imputed data) was employed. This was done separately for each precariousness group (Graham, 2009). In the imputation model physical health and well-being were included as dependent variables only. All other variables were included as predictors and dependent variables. The imputation method was a fully conditional specification which is an iterative Markov chain Monte Carlo method that can be used when the pattern of missing data is monotone or nonmonotone (Original and pooled imputed means were displayed in Table 1). Linear regression was used as the univariate model for scale variables. There were no significant difference ( $z$ -ratio;  $z = 1.35$ ,  $p = .18$ ) between the proportions of cases without missing values on any of the variables under study between precarious group (78.9%;  $n = 1,571/n = 1,992$ ) and secure group (79.6% ( $n = 191/n = 240$ )). For views on aging (19.4%), physical activity (19.3%), and well-being (18.8%) missing values were >5% yet none of these variables were selective concerning precariousness. Beyond this, only in terms of age, individuals without missing values in well-being were slightly younger ( $M = 54.84$ ) than those who had missing values in well-being ( $M = 55.78$ ;  $t = 3.0$ ,  $p < .05$ ).

## The Qualitative Data

### Data Collection

Sequential secondary analysis was performed on existing qualitative data from a larger project on resources for positive aging in precarious and nonprecarious middle-aged Germans, conducted by two of the authors of the present study (Craciun & Flick, 2014). The secondary analysis aimed to explore and compare how precarious and secure middle-aged individuals perceive their resources for aging well. Precariousness status was defined by current work and insurance situation, that is, uncertain job-related future perspective or part-time job or unemployed or no pension insurance (Portacolone, 2013) in addition to having insufficient financial resources, that is, having generally low income. Financial security status was defined as having a stable job and good pension insurance. As further inclusion criteria, participants had to be living and working in Germany. Sample characteristics are described in Table 1. Recruitment was done mainly by advertisement and using the snowball technique. At the beginning of the interview, participants were informed about the aim of the study and were guaranteed confidentiality. Participation was based on informed consent. Ethical approval for conducting the study was granted by the Alexander von Humboldt Foundation.

The *episodic interview*, a form of semistructured interview focusing on eliciting semantic and episodic knowledge, was used for data collection (Flick, 2014). The method was chosen as it has been shown, not only be useful for

encouraging interviewee to talk about abstract definitions or beliefs and their influences (i.e., semantic knowledge) (Flick, Garms-Homolová & Röhnsch 2012a), but also for contextualizing their experiences in real life situations (i.e., episodic knowledge). The original interview guide (Craciun & Flick, 2014) was comprised of 11 questions regarding people's perceptions of aging, representations of positive aging and resources for growing old in a healthy way. For the purpose of the present analysis, we selected and used only responses from questions about the perception of resources for aging (e.g., "What would you need in order to achieve a positive old age? Can you give me some examples?", "What are you doing at the moment in order to achieve a healthy old age?"). Interviews were conducted in German by the first author of the study (C. Craciun) and transcribed verbatim. Quotes were translated into English for the purpose of publication by the first author. Data collection took place between October 2012 and August 2013.

### Data analysis

Secondary analysis in the *context of qualitative research* aims to address new research questions by analyzing data that have been collected previously (Long-Suthehall, Sque, & Addington-Hall, 2010). Data were analyzed with Atlas.ti 6 software (ATLAS.ti Scientific Software Development GmbH, Berlin, Germany) by two of the authors. Thematic coding (Flick, 2014) was applied. The first step in the analysis consisted of coding all statements for each thematic area, for example, how they identify resources for aging. The coding was done for each case, namely each interview. Comparative dimensions were identified across cases and taken as a starting point for identifying common aspects and differences between the interviews. Our analysis focused on how middle-aged individuals identify resources and how they use them to achieve a good old age. In order to identify similarities, cases were combined within the same group, for example, how do persons with secure pensions identify resources for aging well. It was considered that comparisons across the groups—that is, between persons with secure and insecure pension plans—would highlight the existing differences in how people think about resources for old age. Two of the researchers participated also in the primary study and thus were involved in the development of the research concept and research questions. All interviews from the primary research were used in the secondary analysis.

## Results

### Quantitative Findings

#### Differences in Resources between Precarious and Secure Individuals

Regarding Hypothesis 1 (see Table 1) that individuals categorized as being in precarious circumstances were also disadvantaged in health, well-being, and behavioral, social, and psychological resources. Compared with secure individuals the precarious group indicated less preferable values

for well-being ( $M_{\text{precarious}} = 3.31$ ;  $M_{\text{secure}} = 3.89$ ), as well as for physical health ( $M_{\text{precarious}} = 82.88$ ;  $M_{\text{secure}} = 89.66$ ), which were the primary outcomes of the present study. There was a large effect for well-being group mean difference of Cohen's  $d = 0.53$ , whereas the effect size for physical health was  $d = 0.24$  (small-to-medium magnitude). With regards to the mean differences of the resources, network size ( $M_{\text{precarious}} = 4.03$ ;  $M_{\text{secure}} = 5.22$ ;  $d = 0.30$ ), positive views on aging ( $M_{\text{precarious}} = 2.78$ ;  $M_{\text{secure}} = 2.89$ ;  $d = 0.18$ ) as well as physical activity ( $M_{\text{precarious}} = 1.71$ ;  $M_{\text{secure}} = 2.13$ ;  $d = 0.28$ ) became significant, indicating the group with insecure pension plans to be less advantaged regarding these resources.

### Differences in Well-being and Physical Health Predictors among Precarious and Secure Individuals

In a next step (Hypothesis 2), the multivariate prediction of the resources on well-being was explored using regression models separately for the precarious and the secure group (see Table 2) and the differences between groups were tested by post hoc interaction term analysis. Positive views on aging was the strongest predictor in both groups ( $\beta_{\text{precarious}} = .48$ ,  $p < .001$ ;  $\beta_{\text{secure}} = .42$ ,  $p < .001$ ), yet the relationship between positive views on aging and well-being was stronger in the precarious group ( $B_{\text{interaction}} = .26$ ,  $p < .05$ ). There was no association of network size and well-being in both groups, whereas regarding physical activity only the secure group showed a significant association ( $\beta_{\text{secure}} = .06$ ,  $p < .01$ ) with well-being. In the separate regression analysis for the precarious and the secure groups, a significant difference in the magnitude

of the relationship on physical health ( $B_{\text{interaction}} = 2.62$ ,  $p < .001$ ) was found only for physical activity. Physical activity was closer related to physical health in the precarious group ( $\beta_{\text{precarious}} = .17$ ,  $p < .001$ ) as compared with the secure group ( $\beta_{\text{secure}} = .11$ ,  $p > .001$ ), yet physical activity was a strong predictor in both groups. Positive views on aging were significant predictor in both groups ( $\beta_{\text{precarious}} = .22$ ,  $p < .001$ ;  $\beta_{\text{secure}} = .23$ ,  $p < .001$ ). There was no significant difference across the groups ( $B_{\text{interaction}} = 0.79$ ,  $p > .05$ ).

### Positive View on Aging Can Buffer the Negative Effect of Precariousness on Well-being and Physical Health

In Hypothesis 3, precarious individuals with a positive view on aging were expected to enjoy better physical health and well-being than individuals with a precarious background but negative views on aging (Table 3). For well-being ( $M_{\text{precarious and negative view on aging}} = 2.99$ ;  $M_{\text{precarious and positive view on aging}} = 3.68$ ), for physical health ( $M_{\text{precarious and negative view on aging}} = 78.79$ ;  $M_{\text{precarious and positive view on aging}} = 88.34$ ), as well as network size ( $M_{\text{precarious and negative view on aging}} = 3.69$ ;  $M_{\text{precarious and positive view on aging}} = 4.57$ ) and physical activity there was a significant difference in group mean levels, adjusted for gender, age, and the other resources respectively.

### Qualitative Findings

Following the secondary analysis of the interviews several themes emerged concerning factors leading to health and well-being in old age. For precarious workers, the main

**Table 2.** Comparison of the Prediction Patterns on Well-Being and on Physical Health between Precarious and Secure Group (Hypothesis 2)

Variable	Precarious group model			Secure group model			Group comparison (Interaction term)	
	B (SE) imputed data	B (SE) original data	$\beta$ original data	B (SE) imputed data	B (SE) original data	$\beta$ original data	$B_{\text{pooled}}$	LLCI/ ULCI
<b>On well-being</b>								
Age	0.007(.009)	-0.05(0.07)	0.02	0.01(0.003)***	0.01(0.002)***	0.10***	-0.005	-0.02/0.01
Gender <sup>a</sup>	-0.10(0.10)	-0.04(0.10)	-0.02	-0.05(0.03)	-0.06(0.03)*	-0.05*	-0.06	-0.24/0.12
<b>Resources</b>								
Physical activity	0.07(0.07)	0.08(0.07)	0.08	0.04(0.06)*	0.04(0.02)**	0.06**	0.05	-0.07/0.16
Network size	0.007(0.02)	0.001(0.02)	0.004	0.00(0.05)	-0.01(0.05)	0.004	0.02	-0.02/0.05
Pos. views on aging	0.90(0.12)***	0.88(0.12)***	0.48***	0.65(0.04)***	0.71(0.04)***	0.42***	0.26*	0.05/0.47
<b>On Physical health<sup>b</sup></b>								
Age	-0.19(0.23)	0.08(0.26)	-0.02	-0.36(0.64)	-0.37(0.07)***	-0.13***	0.17	-0.21/0.56
Gender <sup>a</sup>	0.47(2.84)	0.92(3.10)	0.02	2.04(0.75)**	2.57(0.82)**	0.08**	-0.97	-5.69/3.75
<b>Resources</b>								
Physical activity	7.23(1.33)***	4.62(1.97)*	0.17*	1.80(0.45)***	2.15(0.46)***	0.11***	2.62***	1.73/3.51
Network size	-0.22(0.56)	-0.10(0.62)	-0.01	-0.15(0.14)	-0.13(0.15)	-0.02	0.17	-0.72/1.06
Pos. views on aging	10.45(3.57)**	10.89(3.65)**	0.22**	9.92(1.26)***	10.15(1.09)***	0.23***	0.79	-5.49/7.06

Notes: Imputed means were pooled across five imputed data sets.  $N = 1,992$  secure group ( $N = 1,571-1,992$  original data),  $N = 240$  ( $N = 191-240$  original data) in the precarious group. LLCI/ULCI = Lower and upper limits of the 95% confidence interval.

<sup>a</sup>Men = 1, Women = 0.

<sup>b</sup>SF-36 subscale physical health, higher values indicate poorer health.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

**Table 3.** Mean Levels of Well-Being and Physical Health by and Behavioral and Social Resources by Precariousness Group Status and by View on Aging

	Negative views on aging		Positive views on aging	
	Precarious group ( <i>n</i> = 122)	Secure group ( <i>n</i> = 752)	Precarious group ( <i>n</i> = 118)	Secure group ( <i>n</i> = 1,240)
	Adjusted mean ( <i>SE</i> )	Adjusted mean ( <i>SE</i> )	Adjusted mean ( <i>SE</i> )	Adjusted mean ( <i>SE</i> )
<i>Outcomes</i>				
Well-being	2.99 (0.07) <sup>a,c</sup>	3.66 (0.03) <sup>b,c</sup>	3.68 (0.06) <sup>a,d</sup>	4.03 (0.02) <sup>b,d</sup>
Physical health	78.79 (1.62) <sup>a,c</sup>	85.87 (0.67) <sup>b,c</sup>	88.34(1.58) <sup>a,d</sup>	91.84 (0.51) <sup>b,d</sup>
<i>Resources</i>				
Physical activity	1.71 (0.06) <sup>c</sup>	2.06 (0.04) <sup>b,c</sup>	1.74 (0.07) <sup>d</sup>	2.16 (0.03) <sup>b,d</sup>
Network size	3.69 (0.25) <sup>a,c</sup>	4.99 (0.12) <sup>b,c</sup>	4.57 (0.26) <sup>a,d</sup>	5.34 (0.08) <sup>b,d</sup>
Age	55.49 (0.55)	55.56 (0.23)	54.87 (0.41)	55.62 (0.18)

Notes: Means were based on pooled imputed data (*N* = 2,232). *SE* = standard errors of the adjusted means by analysis of covariance (ANCOVA) where gender, age, and the respective resources served as covariates.

<sup>a</sup>Bonferroni adjusted significant ( $p < .05$  across the five imputed datasets) pairwise post hoc comparison which tests the simple difference of negative compared with positive views on aging within the precarious group (Hypothesis 3).

<sup>b</sup>Significant difference of negative compared with positive views on aging within the secure group.

<sup>c</sup>Significant difference of precarious compared with secure group within the negative views on aging group.

<sup>d</sup>Significant difference of precarious compared with secure group within the positive views on aging group.

themes were flexibility and social relations. For the secure group the main theme was planning. Engagement in health behaviors and “a do-it-yourself mentality” constituted common themes for the two groups.

#### Precarious Individuals Views on Resources for Aging Well

In accordance with the quantitative findings showing a relation between well-being and network size in the precarious group, the analysis of the interview data revealed that people with insecure pensions considered social networks an important resource for aging and talked about the possibility of sharing a flat with friends in old age so that “you can cook together, share expenses.” (BC, f, ip [Initials used to protect the anonymity of the participant, ip stands for insecure pension plan and sp for secure pension plan]). Also, they mentioned flexibility as the most valued resource in preparing for a good old age, as one participant described: “At present I am unemployed, that means that I have a lot of time for my hobbies, for social engagement...the opposite is horrible, always under time pressure...I believe for a healthy old age it is very important to be able to be flexible.” (PL, m, ip). The main barrier for engagement in health behavior for precarious participants was lack of time “My work is like this...I cannot say that I leave the office at 16h and then I go to sports...” (KW, m, ip). Flexibility when choosing time frames for practicing sports was mentioned as an alternative. There were also some separate opinions, mentioning obstacles such as lack of money or lack of motivation toward engagement in health behaviors: “I could go jogging, I have the time, I am unemployed...my friend who is also unemployed is really fit, he runs every day 4 km...but I do not feel like it...” (JS, m, ip).

#### Financially Secure Individuals Views on Resources for Aging Well

People with a secure pension emphasized planning and discipline as relevant for reaching a happy old age: “we have planned this... we are going to engage in community work, continue our sports and our intellectual activities...” (CB, f, sp). They considered discipline as being relevant for developing resources such as practicing sports on a regular basis: “even if there is a storm outside, I will go jogging” (DP, f, sp). Lack of discipline was seen as a barrier for health behavior adoption: “I believe discipline is important...I know this old woman, she wakes up every morning and does her stretching exercises for 20 minutes... she is 85 but looks great...but me I can’t do these exercises in the morning, after 6 minutes I have no patience...” (TS, f, sp). Planning was mentioned as a resource to deal with insufficient discipline concerning the adoption of a healthy lifestyle.

#### Common and Divergent Views on Aging

Both groups displayed a “do-it-yourself” mentality. They mentioned not expecting help from State institutions for their old age. People from both groups talked about how they are the ones who can influence what their old age would look like. Mistrust in the state pension system was expressed by both categories of participants and negative scenarios were depicted: “the social pension system only determines poverty in old age...most people still trust it, but it will be their damnation in old age...” (HK, m, sp). For the individuals with insecure pension plans, mistrust in the pension system was high and negative scenarios about old age were predominant: “the question is if we will ever have a stable contract job, if we will have a pension...if



the pension will be enough to pay for the rent...it will be a brutal problem" (KW, m, ip). For both groups, positive thinking about old age was represented as a stress coping mechanism. Participants with insecure pension plans but positive views on aging were more likely to focus on identifying resources for old age: "I constantly reinvent myself ...every year at Christmas time I think about what I have learned...because of my work I am obliged to constantly develop myself"(DD, f, ip). Being precarious appeared to lead to individuals being alert and dynamic and thinking about the future in an optimistic way seemed to offer a sense of security "there will always be a solution, no matter what comes" (BM, m, ip). Financial insecurity was described as one of the biggest problems that precarious persons envisioned for their old age. However, positive thinking provided the precarious individuals with a way to cope with uncertainty and actively search for solutions "you can't lay down your weapons so to speak...negative thinking takes the energy away, energy that one needs in order to survive on a daily basis" (KW, m, ip). Positive thinking was mentioned as a possible way to compensate for lacking financial security: "If I had an insurance... this would be like a psychological resource, it will give me some security, I could say I can look into the future with trust... So better think positively, it might help one day..." (KW, m, ip). Individuals with secure pension plans seemed to use positive views of aging as motivation for engaging in activities that help them to keep fit: "I say to myself, you have to begin now and then I do..." (ZI, f, sp) and protect them from stress induced illnesses: "I try not to get annoyed about things that happen to me, and be more relaxed.. Because one can become ill from stress..." (KK, f, sp). All in all, positive thinking seemed to represent a highly valued ingredient for positive aging: "I think it is important to be satisfied, grateful for what you have, look on the sunny side of life..." (SL, f, sp).

## Discussion

The present study has shown that individuals categorized as being in precarious circumstances were disadvantaged in physical health, well-being, and behavioral, social, and psychological resources compared with secure individuals (Hypothesis 1). An impressively large group difference could be found for well-being, but the difference for physical health was of medium magnitude. Precarious workers might also have a lower status in old age due to lack of pension security. Present findings lend support to previous literature that shows a negative association between old age identification and subjective health to be stronger in countries where the status of older people is perceived to be lower (Marques et al., 2014). As expected, looking into the mean differences of the resources, namely physical activity, network size, and positive views on aging, these were less evident in the precarious group. This is in line with evidence that shows how a disadvantaged social environment, lower

social class or income can affect health in a negative way by engagement in less physical activity (McNeill, Kreuter, & Subramanian, 2006), adopting an unhealthy diet (Stafford et al., 2007) and holding negative images of aging (Wurm, Berner, & Tesch-Römer, 2013).

Data from the qualitative study complete the picture painted by the quantitative results regarding resources for aging. Namely, they show that people in the precarious groups tend to value flexibility which represents for them a required trait in their working lives, while the persons in the secure pension group focus on planning. Both strategies could be effective for resource management (Freund, 2008). Both groups of participants emphasized the importance of autonomy and deciding for oneself how to deal with old age. These findings underpin ideas expressed in the active aging policy which encourages individuals to take initiative and be proactive in order to have a healthy old age (Foster & Walker, 2015). It also accommodates the idea that with the retreat of state institutions (Bauman, 2007), people are left to find their own ways to design a positive old age. Interestingly, there was a stronger association of positive views on aging and well-being in the precarious group compared with the secure group. This might be an indicator that a positive view on aging may compensate for missing resources due to precarious circumstances, like some participants expressed in the interviews. Increased positive views on aging were associated with a strong increase in well-being especially in this vulnerable group. Social economic status has been shown in previous literature to be a predictor of successful aging (McLaughlin, Connell, Heeringa, Li, & Roberts, 2010). Moreover, certain circumstances in midlife, such as work environment or family characteristics or even childhood experiences matter even more than SES in influencing health over the lifespan (Brandt et al., 2012). The present study contributes to the literature by showing that the state of living with financial insecurity and lacking perspectives for retirement also affects how people engage in preparatory efforts for positive aging (e.g., adopting health behaviors, trying to change their thinking patterns or attitudes toward old age etc.). First, it lends support to previous research showing that precarious individuals are at a disadvantage in relation to resources for health and well-being (Kawashi, Subramanian, & Kim 2010). Being at a disadvantage in midlife sets the stage for inequalities in older age (Gonzales et al., 2015). Findings from the present research suggest that this might be due to the fact that persons from precarious circumstances do not plan their old age carefully. They adapt flexibly to "whatever comes," without planning concrete actions to take or setting objectives for what they would like their old age to be. However, both quantitative and qualitative results suggest that a positive view on aging might act as a protective factor in this sense, helping them identify and make use of their resources for a positive old age. For instance, positive views on aging, as well as flexible planning may help in engaging in physical activity. Having a positive view on aging might act as

the motivating factor, while elaborating back-up plans concerning a flexible exercise schedule may help put intentions into physical activity action. Also, positive views on aging might help one reinterpret inevitable loss of health and strength with rising age, as a challenge and not as personal failure.

### The Role of Positive Views on Aging

The group categorized as “precarious with positive views on aging” had significantly higher mean levels of well-being compared with a group of individuals that was categorized as being “precarious and having a negative view on aging.” The mean levels of well-being in the “precarious with positive views on aging” group were comparable with mean levels in the secure group, supporting the buffering hypothesis (Hypothesis 3). Results from the quantitative analysis support previous literature on the role of psychological resources such as positive views on aging being a resource for health and well-being (Wurm et al., 2007; Wurm et al., 2010). The present paper adds to the literature by showing that individuals from precarious circumstances, who have positive views on aging, keep their optimism and motivation high and thus cope better with the daily hassles caused by their insecure life and work circumstances. Moreover, it suggests that, for those persons with secure pension plans, positive views on aging also play a motivating role for mobilizing their resources for health, lending support to existing literature on the role of positive views on aging for engaging in health behavior (Levy & Myers, 2004; Wurm et al., 2010). A positive orientation to life is characterized by satisfaction with one’s life, feeling needed, enjoying life, making future plans, and the absence of negative feelings such as depression or loneliness. It also confirms previous research that highlights that positive views on aging motivate people to engage in physical activity in old age (Klusmann et al., 2012) or already in midlife (Wurm et al., 2010). Present findings suggest that positive views on aging might help individuals in precarious circumstances to make plans regarding engagement in health behavior and coping with daily hassles. Further studies might examine the role of other factors such as personality characteristics in influencing attitudes toward aging (Bryant et al., 2014) in precarious and financially secure individuals.

As far as limitations of this study are concerned, it must be acknowledged that there was no direct measurement of precariousness in the current study. Thus, a precariousness index had to be calculated based on existing definitions of the concept. A study by Tangian (2007) used a comparable post hoc measure of precariousness which included income, employment stability, and employability. In this study, it was not possible to measure the last facet namely integration in social security. As this was beyond the scope of the current study, a challenge for future studies is to establish a more advanced way to measure precariousness. Another

limitation concerns the use of a sequential mixed method design with secondary data analysis. Concerns regarding secondary data analysis include insufficient understanding of the research context by secondary researchers and lack of adequate amounts of data (Siegel, Young, Zysberg, & Santillan, 2014). These concerns are minimized by the fact that two of the authors were involved in the design, collection, and analysis of the primary qualitative study. However, the secondary findings should not be regarded as a definite model, but as stimulation for future research. Future studies should also have a closer look at differences between men and women coming from financially secure or precarious circumstances. Limitations acknowledged, the study is innovative as it uses a mixed methods approach in order to better understand how precarious individuals think about preparation for aging in comparison to financially secure persons. In doing so, it adds to the existing literature on the importance on mixed method designs in exploring health psychology topics (Daley, Weisner, & Singhal, 2014). Moreover it provides a way to operationalize precariousness and measure it with an index. Furthermore, it provides an example on how to integrate secondary analysis of data to explore topics such as positive aging from different perspectives. The present study was conducted in Germany, yet the findings could also apply for other countries as the aging precarious worker is a phenomenon in more countries in Europe and around the world (Portacolone, 2013).

### Conclusion

All in all, the findings add to the existing literature concerning the benefits of positive views on aging on health and well-being (Wurm et al., 2007; Levy, 2003; Levy & Myers, 2004; Levy et al., 2000). However, they also move one step further by pointing to the importance of psychological resources such as positive views of aging for people who grow old in precarious circumstances. The present study aimed at stimulating thought on what aging means for precarious workers. It may inform policy interventions to help them reach a positive old age despite lacking financial assets. For instance, providing opportunities for social networking and flexible, free of charge alternatives for engaging in health behavior might take precarious middle-aged individuals one step forward toward reaching the goal of enjoying health and well-being in old age. Present findings lend support to the importance of elaborating policy that encourages the development of resources (e.g., positive views on aging, healthy lifestyle) over the lifespan (Gonzales et al., 2015) and across social contexts (Foster & Walker, 2015) in order to facilitate positive aging for all individuals.

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## References

- Bauman, Z. (2007). *Liquid times: Living in an age of uncertainty*. Cambridge, Polity Press. ISBN: 978 07456 3986 4.
- Brandt, M., Deindl, C., & Hank, K. (2012). Tracing the origins of successful aging: The role of childhood conditions and social inequality in explaining later life health. *Social Science & Medicine* (1982), *74*, 1418–1425. doi:10.1016/j.socscimed.2012.01.004
- Bryant, C., Bei, B., Gilson, C. M., Komiti, A., Jackson, H., & Judd, F. (2014). Antecedents of attitudes to aging: A study of the role of personality and well-being, *The Gerontologist*, 1–11, doi:10.1093/geront/gnu041
- Bullinger, M., & Kirchner, I. (1998). *Fragebogen zum Gesundheitszustand* [MOS Short-Form-36 Health Survey (SF-36; Ware, J.E., Snow, K.K., Kosinski, M., & Gandek, B., 1993) - German version]. doi.org/10.1026//0084-5345.28.2.143
- Calasanti, T. (2015). Combating ageism: How successful is successful aging? *The Gerontologist*, 1–9, doi:10.1093/geront/gnv076
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, MI: Lawrence Earlbaum Associates.
- Corna, L. M. (2013). A life course perspective on socioeconomic inequalities in health: A critical review of conceptual frameworks. *Advances in Life Course Research*, *18*, 150–159. doi:10.1016/j.alcr.2013.01.002
- Cornwell, B., & Laumann, E. O. (2013). The health benefits of network growth: New evidence from a national survey of older adults. *Social Science & Medicine*, *125*, 94–106. doi: 10.1016/j.socscimed.2013.09.011.
- Craciun, C., & Flick, U. (2014). "I will never be the granny with rosy cheeks": Perceptions of aging in precarious and financially secure middle-aged Germans. *Journal of Aging Studies*, *29*, 78–87. doi:10.1016/j.jaging.2014.01.003
- Craciun, C., Gellert, P., & Flick, U. (2015). Aging in precarious times: Positive views on aging in middle-aged Germans with secure and insecure pension plans, *40*, 201–218. doi: 10.1007/s12126-015-9223-5
- Creswell, J. W., & Plano Clarke, V. L. (2011). *Designing and conducting mixed methods research*. Thousand Oaks, CA, Sage. ISBN: 9781412975179.
- Daley, T. C., Weisner, T., & Singhal, N. (2014). Adults with autism in India: A mixed-method approach to make meaning of daily routines. *Social Science & Medicine* (1982), *116*, 142–149. doi:10.1016/j.socscimed.2014.06.052
- Engstler, H., & Motel-Klingebiel, A. (2010). Datengrundlagen und Methoden des Deutschen Alterssurvey (DEAS) [Data and methods in the German Ageing Survey (DEAS)]. In A. Motel-Klingebiel, S. Wurm, & C. Tesch-Römer (Eds.), *Altern im Wandel: Befunde des Deutschen Alterssurveys (DEAS) [Ageing in change: Findings from the German Ageing Survey (DEAS)]* (pp. 34–60). Stuttgart, Germany, Kohlhammer. ISBN: 978-3-17-021595-5
- Ferraro, K. F., & Shippee, T. P. (2009). Aging and cumulative inequality: How does inequality get under the skin? *The Gerontologist*, *49*, 333–343. doi:10.1093/geront/gnp034
- Flick, U. (2014). *An introduction to qualitative research* (5th ed.). London/Thousand Oaks, CA/Dehli, Sage. doi:10.4135/9781446282243
- Flick, U., Garms-Homolová, V., & Röhnisch, G. (2012a). "And mostly they have a need for sleeping pills": Physicians' views on treatment of sleep disorders with drugs in nursing homes. *Journal of Aging Studies*, *26*, 484–494. doi:10.1016/j.jaging.2012.07.001
- Flick, U., Garms-Homolová, V., Herrmann, W., Kuck, J., & Röhnisch, G. (2012b). "I Can't Prescribe Something Just Because Someone Asks for It . . .": Using mixed methods in the framework of triangulation. *Journal of Mixed Methods Research*, *6*, 97–110. doi: 10.1177/1558689812437183
- Foster, L., & Walker, A. (2015). Active and successful aging: A European policy perspective. *The Gerontologist*, *55*, 83–90, doi:10.1093/geront/gnu028
- Freund, A. M. (2008). Successful aging as management of resources: The role of selection, optimization, and compensation. *Research in Human Development*, *5*, 94–106. doi:10.1080/15427600802034827
- Gonzales, E., Matz-Costa, C., & Morrow-Howell, N. (2015). Increasing opportunities for the productive engagement of older adults: A response to population aging. *The Gerontologist*, 1–10. doi:10.1093/geront/gnu176
- Graham, J. W. (2009). Missing data analysis: Making it work in the real world. *Annual Review of Psychology*, *60*, 549–576. doi:10.1146/annurev.psych.58.110405.085530
- Jopp, D. S., Wozniak, D., Damarin, A. K., De Feo, M., Jung, S., & Jeswani, S. (2015). How could lay perspectives on successful aging complement scientific theory? Findings from a U.S. and a German life-span sample. *The Gerontologist*, *55*, 91–106. doi:10.1093/geront/gnu059
- Kawachi, I., Subramanian, S. V., & Kim, D. (2008). *Social capital and health*. New York, Springer. doi:10.1007/978-0-387-71311-3
- Klusmann, V., Evers, A., Schwarzer, R., & Heuser, I. (2012). Views on aging and emotional benefits of physical activity: Effects of an exercise intervention in older women. *Psychology of Sport and Exercise*, *13*, 236–242. doi:10.1016/j.psychsport.2011.11.001
- Levy, B. (2003). Mind matters: Cognitive and physical effects of aging self-stereotypes. *Journal of Gerontology: Psychological Sciences*, *58B*, 203–211. doi:10.1093/geronb/58.4.p203
- Levy, B. (2009). Stereotype embodiment: A Psychosocial Approach to Aging. *Current Directions in Psychological Science*, *18*, 332–336. doi:10.1111/j.1467-8721.2009.01662.x
- Levy, B. R., Chung, P. H., Bedford, T., & Navrazhina, K. (2014). Facebook as a site for negative age stereotypes. *The Gerontologist*, *54*, 172–176. doi:10.1093/geront/gns194
- Levy, B. R., Hausdorff, J. M., Hencke, R., & Wei, J. Y. (2000). Reducing cardiovascular stress with positive self-stereotypes of aging. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *55*, P205–P213. doi:10.1093/geronb/55.4.p205
- Levy, B. R., & Myers, L. M. (2004). Preventive health behaviors influenced by self-perceptions of aging. *Preventive Medicine*, *39*, 625–629. doi:10.1016/j.ypmed.2004.02.029
- Long-Sutthall, T., Sque, M., & Addington-Hall, J. (2010). Secondary analysis of qualitative data: A valuable method for exploring sensitive issues with an elusive population? *Journal of Research in Nursing*, *16*, 335–344. doi:10.1177/1744987110381553
- Marques, S., Swift, H. J., Vauclair, C. M., Lima, M. L., Bratt, C., & Abrams, D. (2014). 'Being old and ill' across different countries:

- Social status, age identification and older people's subjective health. *Psychology & Health*, 30, 699–714. doi:10.1080/08870446.2014.938742
- Marmot, M., & Wilkinson, R. (Eds.). (2005). *Social determinants of health*. Oxford: Oxford University Press. doi:10.1093/acprof:oso/9780198565895.001.0001
- Martinson, M., & Berridge, C. (2015). Successful aging and its discontents: A systematic review of the social gerontology literature. *The Gerontologist*, 55, 58–69. doi:10.1093/geront/gnu037
- McLaughlin, S. J., Connell, C. M., Heeringa, S. G., Li, L. W., & Roberts, J. S. (2010). Successful aging in the United States: Prevalence estimates from a National sample of older adults. *The Journals of Gerontology. B Series, Psychological Sciences and Social Sciences*, 65, 216–226. doi:10.1093/geronb/gbp101
- McNeill, L. H., Kreuter, M. W., & Subramanian, S. V. (2006). Social environment and physical activity: A review of concepts and evidence. *Social Science & Medicine (1982)*, 63, 1011–1022. doi:10.1016/j.socscimed.2006.03.012
- Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment*, 5, 164–172. doi:10.1037/1040-3590.5.2.164
- Portacolone, E. (2013). The notion of precariousness among older adults living alone in the U.S. *Journal of Aging Studies*, 27, 166–174. doi:10.1016/j.jaging.2013.01.001
- Rotegård, A. K., Moore, S. M., Fagermoen, M. S., & Ruland, C. M. (2010). Health assets: A concept analysis. *International Journal of Nursing Studies*, 47, 513–525. doi:10.1016/j.ijnurstu.2009.09.005
- Rowe, J. W., & Kahn, R. L. (1997). Successful aging. *The Gerontologist*, 37, 433–440. doi:10.1093/geront/37.4.433
- Silverstein, M., & Parker, M. G. (2002). Leisure activities and quality of life among the oldest old in Sweden. *Research on Aging*, 24, 528–547. doi:10.1177/0164027502245003
- Schmähl, W. (2011). Politikberatung und Alterssicherung: Rentenniveau, Altersarmut und das Rentenversicherungssystem. [Policy and old age insurance: Pension level, poverty and pension system]. *Vierteljahrshefte Zur Wirtschaftsforschung*, 80, 159–174. doi:10.3790/vjh.80.1.159
- Siegel, E. O., Young, H. M., Zysberg, L., & Santillan, V. (2015). Securing and managing nursing home resources: Director of nursing tactic. *The Gerontologist*, 55, 748–759. doi:10.1093/geront/gnu003
- SOEP (2012). *SOEP Wave Report 2011 of the German Socio-Economic Panel Study (Wave 28)*. Berlin, Germany: DIW/SOEP.
- Spuling, S. M., Wurm, S., Tesch-Römer, C., & Huxhold, O. (2015). Changing predictors of self-rated health: Disentangling age and cohort effects. *Psychology and Aging*. Advance online publication. doi:10.1037/a0039111
- Stafford, M., Cummins, S., Ellaway, A., Sacker, A., Wiggins, R. D., & Macintyre, S. (2007). Pathways to obesity: Identifying local, modifiable determinants of physical activity and diet. *Social Science & Medicine (1982)*, 65, 1882–1897. doi:10.1016/j.socscimed.2007.05.042
- Steverink, N., Westerhof, G.J., Bode, C., & Dittmann-Kohli, F. (2001). The personal experience of aging, individual resources and subjective well-being. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 56, 365–373. doi:10.1093/geronb/56.6.p364
- Tangian, A.S. (2007). Is flexible work precarious? A study based on the 4th European survey of working conditions 2005. *WSI-Diskussionspapier Nr. 153*. Retrieved from <http://www.boechler.de/pdf>
- Wurm, S., Berner, F., & Tesch-Römer, C. (2013). Altersbilder im Wandel [The changing image of aging]. *Aus Politik und Zeitgeschichte*, 63, 3–8.
- Wurm, S., Tesch-Römer, C., & Tomasik, M. J. (2007). Longitudinal findings on aging-related cognitions, control beliefs and health in later life. *The Journals of Gerontology: Psychological Sciences*, 62, 156–164. doi:10.1093/geronb/62.3.p156
- Wurm, S., Tomasik, M. J., & Tesch-Römer, C. (2010). On the importance of a positive view on ageing for physical exercise among middle-aged and older adults: Cross-sectional and longitudinal findings. *Psychology & Health*, 25, 25–42. doi:10.1080/08870440802311314