Aging during COVID-19 in Germany: A Longitudinal Analysis of Psychosocial Adaptation and Attitudes Toward Aging *

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Abstract

Available theories of aging suggest that there may be similarities and differences in how COVID-19 impacts older peoples' psychosocial adaptation compared to younger age groups, particularly mid-aged individuals. We analyzed data from 3,215 participants between 40 and 79 years gathered at three measurement occasions between the start of the nation-wide lockdown mid-March 2020 and its lifting early August 2020 in an online survey in Germany. The survey focused on everyday experiences during the COVID-19 crisis and collected various satisfaction ratings (e.g., general life satisfaction, satisfaction with family life, satisfaction with social contacts). Participants also provided retrospective satisfaction ratings for their situations before the COVID-19 crisis at baseline. For a small sub-sample of 29 participants (48–78 years), we explored how attitudes toward own aging (ATOA) measured prior to the crisis may have played a role in satisfaction ratings during the crisis. Both mid-aged and older participants experienced the greatest decreases in satisfaction in the social domain, with more pronounced decreases seen in mid-aged participants. We also observed a partial recovery effect in all measures at T3, and this effect was more pronounced in older adults. More negative ATOA prior to the crisis was associated with lowered psychosocial adaptation. Although ageism arose during the pandemic in the sense that older adults were labeled as a “risk group” particularly at the outbreak, we found in accordance with other studies that mid-aged adults' satisfaction decreased to a greater extent than older adults'. Beginning evidence supports that attitudes toward aging were relevant for adaptation.

Keywords: coronavirus pandemic, older adults, satisfaction with life, satisfaction with social relations, age stereotypes, survey study

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As has been officially documented and reported across a large number of countries, older adults were the most severely affected of all age groups by the COVID-19 virus in terms of their health and lives (WHO 2020). However, not much is known on how the crisis has affected older adults' life satisfaction and psychological adaptation compared to other age groups, mid-aged adults, in particular. As older adults were negatively stereotyped as a “risk group” during the crisis due to their chronological age (Ayalon et al. 2020; Ehni and Wahl 2020; Jiminez-Sotomayor et al. 2020), it may well be that age stereotypes and perceptions of own aging prior to the COVID-19 crisis shaped psychological adaptation during the crisis.

Psychosocial Challenges for Older Adults During the COVID-19 Crisis

The SARS-CoV2 virus created an unexpectedly stressful situation for individuals around the globe, including community-dwelling older adults and those living in long-term care settings (Sands et al. 2020). This article looks at community-dwelling older adults. In Germany, where we conducted our study, older adults were affected by the crisis in at least four ways. First, data on mortality caused by COVID-19 infections were regularly communicated via the press and media; such reports clearly indicated that survival after medical treatment, such as ventilator treatment, was significantly lower for older adults (Wolf-Ostermann and Rothgang 2020).

Second, the ongoing discussion on the availability of intensive care beds (ICBs) and public communications on the possible need for triage in case of shortage of ICBs raised fears among older adults that, if infected, they would, not receive optimal medical treatment and would be accorded a lower priority predominantly due to their chronological age (Ehni and Wahl 2020). Television reports on the situation in other European countries—in particular, Italy, France, and Spain—suggested that age-driven triage may have been utilized due to ICB shortages. The inclusion of images of military trucks in Italy helping to cope with the

exorbitant number of coffins might have further aroused such fears among older German adults (see also Cesari and Proietti 2020).

Third, the lockdown, which began in Germany in mid-March 2020, led to complete social isolation among older adults in nursing homes; but the same also largely applied to those living in the community. Many valuable activities for older adults, such as visiting or being visited by children and grandchildren, shopping, eating out, going to cultural events, hiking with peers, volunteering, or taking part in educational programs were out of the question. This separation from family and close others put older adults at risk of loneliness which may eventually also lead to physical and mental health decline (Tyrell and Williams 2020). At this point in time, was also unclear how long the situation would last.

Fourth, older adults faced ageism and negative age stereotyping in that they were seen as the major “risk group” who had to be protected by the lockdown and who had thus forced younger age groups to stay at home, minimize activity, and stop schooling, a development that had dramatic consequences for parents’ lives and their childcare duties (Ayalon et al. 2020; Ehni and Wahl 2020).

Against this background, this paper addresses how mid-aged (40-64 years) and older adults (65-79 years) have psychologically adapted to the COVID-19 crisis in Germany covering a timespan with three measurement occasions from the point in time when the outbreak caused a country-wide lock-down to about 5 months later. We also explore the role of attitudes toward aging prior to the crisis to assess adaptation during the COVID-19 crisis.

Conceptual Approach

To conceptually capture the pandemic’s psychosocial consequences, we draw on socio-emotional selectivity theory, stress and resilience theory, and age stereotype theory. First, socio-emotional selectivity theory (Carstensen 2006; English and Carstensen 2016; see also Martin 2020) argues that if time is perceived as limited, which is typically the case in old age and may have been reinforced by the COVID-19 crisis, people value emotionally

meaningful relationships and goals more than other goals in life. This activates mood-enhancing goals and reduces the willingness to accept temporary negative experiences for the sake of long-term benefits. Findings related to socio-emotional selectivity theory have informed a phenomenon referred to as the *positivity effect* of aging (Scheibe and Carstensen 2010). The positivity effect relates to a shifting ratio of paying attention to or remembering positive as opposed to negative information that occurs with advancing age.

A second theoretical lens through which to analyze the crisis's impact on individual well-being is stress theory (Lazarus 1993). The COVID-19 crisis represented a major physical and psychological health threat to populations worldwide, making coping and adaptational efforts necessary (Aravena et al. 2020). Recent research findings suggest that the COVID-19 pandemic caused various stress-related symptoms and anxiety for many people around the world (e.g., Casagrande et al. 2020; González-Sanguino et al. 2020). From a stress-theoretical view, it is important to note that the crisis came without warning and did not allow for anticipation and preparatory measures. Established stress research has shown that anticipation and prediction may increase feelings of control over stressors and thus reduce overall stress (Lazarus 1993). However, more recent work has also suggested that stress experiences in day-to-day life may increase “when you see it coming” (Neubauer et al. 2018). That said, the COVID-19 crisis may at least be partially similar to a natural disaster and may have similar consequences. This is relevant because there are findings suggesting that older adults exhibit higher resilience during natural disasters and have more positive outcomes than other age groups (Eshel et al. 2016; Rafiey et al. 2016; but see Parker et al., 2016 for opposing evidence). In addition, previous research on the so-called well-being paradox supports the notion that general life satisfaction is high in older adults and rather robust against stress experiences (Diehl et al. 2020; Kunzmann et al. 2000).

A third theoretical lens that may be useful in this case is age-stereotype theory. This conceptual approach allows us to analyze the adaptational outcomes of the COVID-19 crisis

among middle-aged and older individuals, as older people are predominantly described as a “risk group” in public discourse, which may create negative age stereotypes in society due to chronological age along with negative self-perceptions of aging (see also Levy et al. 2020). Age-stereotype-related research has clearly shown that negative age stereotypes can be quickly triggered (Diehl et al. 2020; Wurm et al. 2017). Negative age stereotypes have been found to be three times more powerful in prompting negative effects than positive age stereotypes are in prompting positive effects (Meisner 2012). Furthermore, negative age stereotypes increase the risk of insomniac illnesses and functional impairment as well as undermining cognitive functioning and well-being (Wurm et al. 2017; Westerhof et al. 2014). For instance, negative age self-stereotyping has been implicated in inflammatory processes via C-reactive protein and has been found to lead to reinforced and raised cortisol secretions (Levy et al. 2000, 2016; Stephan et al. 2015). Such physiological pathways may increase the likelihood of cardiovascular disease and severe loss of cognitive performance in the long run. A recent study also supports the notion that negative perceptions of older age have increased the negative impact of the COVID-19 crisis among older people (Losada-Baltar et al. 2020).

Hypotheses

As suggested by the conceptual models applied to the COVID-19 crisis as outlined above, we examine two hypotheses relating to satisfaction ratings and explore the role of attitudes toward aging for psychological adaptation. First, by applying socio-emotional selectivity theory and the positivity effect to the COVID-19 crisis, we expected the crisis to have caused stronger decreases in satisfaction with social contact than in satisfaction with life in general among both middle-aged and older adults. Given the positivity effect in old age, we also expected the decreases in satisfaction with social contact to be more pronounced among middle-aged adults compared to older ones. Second, we expected a decrease in general life satisfaction as a result of the stress caused by the COVID-19 crisis that was of similar magnitude among both middle-aged and older adults. We also explored whether recovery

effects occurred during the lockdown that followed the pandemic's outbreak in Germany as suggested by the psycho-adaptational literature on critical life events (Luhmann et al. 2012; Schilling and Wahl 2006). Third, we explored whether more negative attitudes toward aging were associated with lowered psychological adaptation both in middle-aged and older adults during the COVID-19 crisis.

Research Design and Methods

Sample and Design

In our analyses, we drew on three waves of survey data gathered in an online survey to capture individuals' everyday experiences during the COVID-19 lockdown in Germany¹. The survey started one week after Germany went into a nationwide lockdown, which entailed closing schools, shops, restaurants, and businesses and prohibiting public gatherings.

Participants learned about the study via email lists, newspaper announcements, and instant messenger services. Participants who agreed to be surveyed again were invited to participate in a follow-up survey 3.5 to 4 weeks after they completed the first questionnaire and again ten weeks after the first interview. The first wave of data collection ran between March 23, 2020 and May 11, 2020. The second wave of data collection (April 20 to June 14, 2020) coincided with the tentative lifting of the lockdown, including the limited re-openings of schools and shops. The third wave (June 3 to August 2, 2020) coincided with further liftings, including the decision to restart regular schooling after the summer holidays, and the government's presentation of its economic stimulus package.

The final sample size for the three survey waves amounted to 14,754 individuals in survey wave 1 (W1), 7,573 in wave 2 (W2) and 6,397 in wave 3 (W3). Our analytical sample included a total of 3,215 participants aged 40 to 79 years who participated in all three waves. More than 13% of the respondents in this sample (N = 422) were aged between 65 and 79

¹ All data are available at <https://doi.org/10.7802/2042>

years. Due to our theoretical interest, our analyses distinguished between mid-aged individuals (40–64 years) and older individuals (65–79 years). Besides the differences in chronological age between the two groups, the two groups differ substantially with regard to their labor force involvement and child and care activities. We excluded those 80 years and older due to the rather low sample size and the selectivity of “onliners” in this age category (see, for example, Schlomann et al. 2020).

As can be seen in Table 1, the majority of participants were female (72%), partnered (73%) and highly-educated (77% of all participants had a university degree). In total, 85% of all participants were employed (age group 40–64: 93%, age group 65–79: 26%). Self-rated prepandemic physical health was 2.11 on a five-point scale in the whole sample.

(Insert Table 1 about here)

The sociodemographic characteristics of individuals who participated in all three waves were very similar to those of the full W1 sample (see Table 1-Supplement). To assess respondents’ situations before the COVID-19 crisis began, we included a couple of retrospective questions (t0). To minimize inaccurate answering behaviors due to the high cognitive load of retrospective questions (Yan and Tourangeau 2007) and social desirability biases (Jaspers et al. 2009), we ensured that questions about the respondents’ pasts were short, easy to understand, and referred to a specific anchor point (the prepandemic period) that was only a short time before the lockdown started (between two to six weeks). All of these factors have been shown to increase recall accuracy, even for subjective assessments such as ratings of health status and subjective well-being (Barsky 2002), and recall accuracy was found to be independent of respondents’ age or educational background (Hipp et al. 2020).

For our additional exploratory analysis on the role of attitudes toward aging and their potential impact on psychosocial adaptation during the COVID-19 crisis, we invited participants of an ongoing longitudinal study on the role of views on aging and their connection with well-being and health outcomes to also participate in the online survey (see

Rupprecht et al. 2019 for more information on the study). This longitudinal study has been running since 2012, and individuals have been surveyed at three measurement points, in 2012, 2015, and 2017. In total, of those invited, 29 participants also participated in all three waves of the online survey and provided a person-specific code that allowed to match the two data sources. The sample contained 16 participants aged over 65 years (55 %, mean age: 64.2 years, SD=8.25, age range: 48 to 78 years); 19 (66%) were female, 18 (62%) were partnered, and 20 (69%) had a university degree.

Measures

Psychosocial Adaptation. Respondents were asked about their satisfaction (measured on a 7-point Likert scale) with family life, the quality of social contact (also via telephone, email etc.), and satisfaction with life in general.² Although multi-item measurements are generally preferred, single-item measures are a commonly used and cost-effective method in survey research, and single-item measures of life satisfaction have been found to be reasonably valid (see Richter et al., 2017 for an overview).

Attitudes Toward Own Aging. Attitudes towards own aging (ATOA), which were only collected for the small subsample of participants who participated in both studies (e.g., Rupprecht et al. 2019), were based on the respective Attitudes Toward Own Aging subscale of the Philadelphia Geriatric Morale Scale (Brothers et al. 2019; Lawton, 1975). The ATOA is among the most established scales in the subjective aging field internationally (Diehl et al. 2014). We used a person-specific mean value across the measurement waves in 2012, 2015, and 2017 as a proxy for a time-constant individual difference variable in ATOA. Respondents answered 5 items such as “Things keep getting worse as I get older” or “I am as happy now as

² Additionally, we also collected respondents' satisfaction with work (among the employed), their relationship and their division of household labor (among partnered persons), as well as satisfaction with neighborhood solidarity. In this paper, however, our focus is on the social domain and on satisfaction with life in general.

when I was younger” in a dichotomous way whether they agree (yes=1) or not (no=0). Higher values indicate a more positive perception of own aging.

Covariates. The following covariates were included in the multivariate analyses: gender (female/male), presence of partner in the household (dummy), level of education (dummy variable indicating university degree), whether the person was working (dummy), self-reported physical health prior to the pandemic (1 item, 5-point Likert scale, adapted from the German Socio-Economic Panel), and the size of respondents’ place of residence (greater/lesser than 50,000). Presence of a partner and employment status were assessed in each wave; the remaining variables were assessed at t1.

Data Analysis

The survey data were analyzed using OLS regressions with clustered, robust standard errors using four time points (t0 (retrospective assessment) to t3). To test whether the coefficients significantly differed by age group and time point, we included interaction effects for age and time point. In the ATOA substudy, we assessed satisfaction ratings across time points in a primarily descriptive way depending on a group median split in ATOA due to the small number of participants. We also applied a nonparametric Kruskal-Wallis procedure as an exploratory statistical test of differences across time between individuals high versus low in ATOA.

Results

We start by presenting mean levels of all satisfaction ratings across the four time points separately for the two age groups (Figure 1). Satisfaction ratings decreased in both age groups for general life satisfaction and for family life and quality of social contact at the beginning of the pandemic and recovered to some extent at the last observation period.

(Insert Figure 1 about here)

Psychosocial Adaptation Across Time

Findings from the OLS regressions are summarized in Table 2. Respondents from both age groups reported significantly higher levels of satisfaction with life in general, family life, and the quality of social contacts before the beginning of the pandemic (t0) than during the first weeks of lockdown (reference category).

Comparing the size of the coefficients between age groups, we found decreases in general life satisfaction and satisfaction with the quality of social contact. These decreases, however, were more pronounced among *middle-aged* adults than *older* adults. In fact, coefficients were almost twice as high in the middle-aged group, and the differences in the size of the coefficients were statistically significant (see Table 2—Supplement). Satisfaction with family life, by contrast, decreased to a similar extent in both age groups.

Comparing the changes in satisfaction across different areas of life, we found that decreases in satisfaction with contact quality were most pronounced in both age groups. Among mid-aged respondents, decreases in general life satisfaction came second, followed by decreases in satisfaction with family life, whereas older respondents' satisfaction with both areas decreased to a similar extent (see Table 4—Supplement).

In addition, there was little evidence of recovery at t2 (in the middle of the lockdown period) compared to t1. On the contrary, older respondents' satisfaction with all three life domains tended to deteriorate further, as did middle-aged respondents' satisfaction with social contacts. Only middle-aged respondents' satisfaction with life in general slightly recovered, whereas their satisfaction with family life remained stable. Yet, we observed partial recovery towards the end of the lockdown (hence approximately four months after the start of the lockdown). Although both older and mid-aged respondents reported higher levels of life satisfaction and satisfaction with family and social contacts at t3 compared to t1, older adults had a stronger recovery in general life satisfaction and satisfaction with social contacts than mid-aged adults when comparing their ratings at t3 to the prepandemic period (t0). Recovery in satisfaction with family life was similar for both age groups (see Table 3—Supplement).

Note, however, that satisfaction ratings in all three dimensions remained considerably below the prepandemic levels.

Exploring the Role of Attitudes Toward Aging Prior to the Corona Crisis for Psychosocial Adaptation

The findings of our small-scale explorative analysis indicated that ATOA prior to the COVID-19 crisis indeed played a role in psychological adaptation during the pandemic. As can be seen in Figure 2, satisfaction levels with family life, quality of social contact, and life in general were consistently lower among those with a more negative prepandemic ATOA. Furthermore, ATOA seems to be related to changes in satisfaction ratings. Ratings for satisfaction with life in general converged between the two groups in the course of the pandemic and ratings of satisfaction with the quality of social contacts diverged, with lower ratings among those with a more negative ATOA. Satisfaction with family life first converged until t2 but became more different between the two groups at t3 (see Figure 2). However, findings based on a Kruskal-Wallis test indicated no significant difference at any time point in any satisfaction domain between the two groups, although this may be due to our underpowered sample.

(Insert Figure 2 about here)

Discussion

This study explored differences in satisfaction with social life and life in general between mid-aged individuals (40 to 64 years) and older individuals (65 to 79 years) during the COVID-19 pandemic in Germany. Based on an online survey with more than 3,000 respondents, we found that psychological adaptation to the COVID-19 pandemic differed to some extent between mid-aged and older individuals and that the reactions to the lockdown were contingent on the satisfaction domain as well as age and attitudes toward own aging.

In line with our first hypothesis, we observed the most pronounced decreases in satisfaction with the quality of social contacts and that the decrease was more pronounced

among mid-aged than older adults. In addition, the recovery in satisfaction ratings towards the end of the lockdown was stronger among older adults. This finding is in line with other studies on the age-specific impact of the COVID-19 crisis. In their analyses of the German Socio-Economic Panel, for instance, Entringer and Kröger (2020) found an increase in loneliness among both younger and older age groups but that the increase was less pronounced among older adults. Similar results were found for the United States (Luchetti et al. 2020) and the United Kingdom (Bu et al. 2020 a, b); in these studies, however, the comparison group was younger (18 to 29 years) than in our study (40 to 64 years).

These findings suggest that the positivity effect as described by socio-emotional selectivity theory (Carstensen 2006; English and Carstensen 2016) may have protected older adults from experiencing or suffering from social isolation to some extent. Older adults tend to process negative information (such as the pandemic) less intensive as younger individuals due to their reduced future time perspective and may unfold a stronger tendency to emphasize positive side effects related to COVID-19 as well as generally. In addition, older adults' higher psychosocial resilience to COVID-19-like challenges may result from accumulated life experiences (Staudinger 1999) and their higher flexibility in downsizing social aspirations (Brandtstädter 2006); both processes may lead to higher satisfaction even in a disadvantageous social situation.

In accordance with our second hypothesis, we also found decreases in general life satisfaction among both mid-aged (40 to 64 years) and older participants (65 to 79 years) compared to before the crisis (t1 to t0). Again, the decrease was more pronounced among mid-aged adults. Besides the aforementioned explanations referring to positivity and resilience-like factors (Eshel et al. 2016; Rafiey et al. 2016), the established well-being paradox in old age, also labeled the “stability despite loss” paradigm (Kunzmann et al. 2000) may add to explaining the age-differential impact of the COVID-19 crisis on general life satisfaction.

An important feature of our research design was the inclusion of a second and third measurement point during the lockdown period in Germany. Interestingly, we observed no recovery in any satisfaction domain between t1 and t2. Satisfaction with the quality of social contacts even deteriorated further across both age groups during the early months of the lockdowns. We only observed some recovery for both age groups and across life domains at t3, hence about 4-5 months after baseline, but satisfaction ratings still remained below pre-pandemic levels.

Finally, our small-scale explorative analysis provided preliminary evidence on whether attitudes toward one's own aging prior to the crisis was a potentially protective or a risk-enhancing individual-difference variable. As has also been found in prior research (Losada-Baltar et al. 2020), satisfaction levels tended to be lower among those with a more negative pre-pandemic ATOA and there were also different trajectories in the two groups of positive versus negative ATOA across time.

A number of limitations of this study need to be noted. First, although we included a broad range of covariates in our analyses to address the fact that our data came from a nonprobability online survey and different sociodemographic groups varied in their likelihood to participate, our estimates may nonetheless be biased with regard to education, gender, and the usage of the technology necessary for an online study, in particular. Second, our analyses only included community-dwelling older adults, who experienced much less dramatic social consequences during the lockdown than those in long-term care institutions. Thus, we have not addressed the very high-risk constellation that affected those living in nursing homes (European Centre for Disease Prevention and Control 2020). Moreover, we did not include individuals aged 80 years and older in order to avoid further selection biases. Yet, it would be very important to also consider adults in nursing homes and of very old age in future COVID-19 studies on psychosocial adaptation due their very different physical and mental ability and thus their reduced resource status (Baltes and Smith 2003). Third, our findings with regard to

the respondents' retrospective assessments of their pre-pandemic well-being (t_0) should also be interpreted cautiously. Despite the fact that asking retrospective question has been increasingly used to expand the backward lifespan in surveys on mid-aged and older adults (Börsch-Supan and Schröder 2011), retrospective assessment continues to be under debate in its measurement quality due to their proneness for inaccuracies and answering biases (Jürges 2007). In the case of this study, however, our results are most likely to be conservative, as research on retrospective questions during COVID-19 found that respondents tend to remember their past as more similar to their present (and not more idealized) when the experience or feeling of interest has changed between the time of the interview and the time point of interest, (Hipp et al. 2020). Finally, a bigger sample for explorative analysis targeting the role of attitudes toward own aging is needed in future research, although our results seem to be in line with at least one other study (Losada-Baltar et al. 2020).

In conclusion, although ageism in the form of labeling older adults as “the risk group” occurred during the pandemic and might have caused psychological harm (Ayalon et al. 2020; Ehni and Wahl 2020), the current study found that both middle-aged and old-age individuals experienced decreases in a number of satisfaction ratings. However, in accordance with other large longitudinal studies, the decreases were more pronounced in middle-aged adults than in older adults. Furthermore, older adults showed a larger extent of recovery in the general domain and for satisfaction with quality of social contacts compared to middle-aged adults. Some initial evidence also suggested that more negative ATOA undermined psychological adaptation during the COVID-19 crisis, which fits well with the now robust evidence that more negative views of one's aging are a considerable risk for the maintenance of mental and physical health.

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Table 1: Descriptive Statistics (at t1)

	All			Age 40-64			Age 65-79		
	mean	sd	N	mean	sd	N	mean	sd	N
Age 65-79	0.13	0.34	3215						
Women	0.72	0.45	3185	0.74	0.44	2763	0.58	0.49	422
Partnered	0.73	0.44	3186	0.74	0.44	2771	0.68	0.47	415
University degree	0.77	0.42	3175	0.77	0.42	2762	0.75	0.43	413
Working	0.85	0.36	3128	0.93	0.25	2732	0.26	0.44	396
Self-rated pre-pandemic physical health ^a	2.11	0.82	3205	2.11	0.81	2785	2.10	0.84	420
Townsize >50000 inhabitants	0.68	0.47	3197	0.69	0.46	2777	0.61	0.49	420
<i>N</i>	3215			2793			422		

^a 5-point scale, higher values indicate poorer health.

Table 2: OLS Regressions on Satisfaction with Different Domains of Life Using t1 as Reference

	Life		Family		Contacts	
	40-64	65-79	40-64	65-79	40-64	65-79
t0	0.75***	0.44***	0.54***	0.50***	1.34***	0.75***
	[0.70,0.80]	[0.34,0.54]	[0.48,0.59]	[0.37,0.63]	[1.27,1.41]	[0.61,0.90]
t2	0.05*	-0.10	-0.03	-0.18	-0.16***	-0.27**
	[0.00,0.10]	[-0.25,0.06]	[-0.09,0.02]	[-0.36,0.01]	[-0.22,-0.09]	[-0.44,-0.10]
t3	0.29***	0.21**	0.19***	0.24**	0.29***	0.17
	[0.23,0.34]	[0.05,0.36]	[0.13,0.25]	[0.06,0.41]	[0.22,0.35]	[-0.00,0.33]
Women	-0.12**	-0.06	-0.05	-0.22	0.11*	0.07
	[-0.21,-0.04]	[-0.25,0.13]	[-0.15,0.04]	[-0.44,0.00]	[0.01,0.20]	[-0.15,0.29]
Partnered	0.21***	0.05	0.52***	0.39**	-0.27***	-0.35**
	[0.13,0.30]	[-0.15,0.26]	[0.42,0.63]	[0.14,0.64]	[-0.36,-0.17]	[-0.59,-0.10]
University degree	0.05	-0.05	-0.00	-0.11	-0.09	-0.09
	[-0.05,0.14]	[-0.27,0.16]	[-0.11,0.10]	[-0.36,0.13]	[-0.19,0.01]	[-0.33,0.15]
Working	0.19*	-0.16	0.07	-0.14	0.14	-0.00
	[0.02,0.35]	[-0.35,0.03]	[-0.10,0.25]	[-0.37,0.09]	[-0.03,0.31]	[-0.21,0.20]
Health	-0.39***	-0.28***	-0.35***	-0.24***	-0.18***	-0.16*
	[-0.44,-0.34]	[-0.39,-0.17]	[-0.40,-0.29]	[-0.38,-0.11]	[-0.23,-0.12]	[-0.28,-0.03]
Town size >50000	-0.11*	-0.07	-0.10*	0.01	-0.10*	0.00
	[-0.19,-0.02]	[-0.27,0.12]	[-0.20,-0.01]	[-0.22,0.24]	[-0.20,-0.01]	[-0.22,0.22]
Constant	5.75***	6.44***	5.58***	5.99***	5.04***	5.86***
	[5.47,6.03]	[5.92,6.96]	[5.28,5.87]	[5.38,6.60]	[4.76,5.33]	[5.25,6.48]
N(persons)	2747	411	2746	409	2747	411
N(observations)	10529	1533	10381	1510	10531	1538
R2	0.12	0.07	0.09	0.08	0.14	0.09

Note: Coefficients stem from OLS regressions with clustered, robust standard errors; confidence intervals provided in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1: Sample Means of Satisfaction Ratings by Age Group and Measurement Occasion

Note: Mean values for satisfaction ratings across time; t0: retrospective assessment of pre-pandemic situation assessed at t1, t1: assessed March 23 to May 11, 2020, t2: assessed 3.5 to 4 weeks after t1 (April 20 to June 14, 2020), t3: assessed 10 weeks after t1 (June 3 to August 20, 2020).

Figure 2: Explorative Analysis: Satisfaction Ratings across Measurement Occasions Depending on Attitudes Toward Own Aging (ATOA) Prior to the COVID-19 Crisis

Note: Mean values for satisfaction ratings across time; t0: retrospective assessment of pre-pandemic situation assessed at t1, t1: assessed March 23 to May 11, 2020, t2: assessed 3.5 to 4 weeks after t1 (April 20 to June 14, 2020), t3: assessed 10 weeks after t1 (June 3 to August 20, 2020).

Supplementary Data

Table 1—Supplement: Selectivity of Sample W1-W3 compared to full W1 Sample

	Participants Wave 1			Participants Wave 1 to 3		
	mean	sd	N	mean	sd	N
Age 65-79	0.11	0.31	6660	0.13	0.34	3215
Women	0.69	0.46	6573	0.72	0.45	3185
Partnered	0.73	0.44	6569	0.73	0.44	3186
University degree	0.74	0.44	6520	0.77	0.42	3175
Working	0.87	0.34	6417	0.85	0.36	3128
Self-rated pre-pandemic physical health	2.12	0.82	5254	2.11	0.82	3205
Townsize >50000 inhabitants	0.65	0.48	6604	0.68	0.47	3197
<i>N</i>	6660			3215		

Table 2—Supplement: OLS Regressions on Satisfaction with Different Domains of Life Using t1 as Reference: Pooled model

	Life	Family	Contacts
Age 65-79	0.66*** [0.48,0.83]	0.43*** [0.23,0.63]	0.89*** [0.70,1.08]
t0	0.75*** [0.70,0.81]	0.54*** [0.48,0.59]	1.34*** [1.27,1.41]
t2	0.05* [0.00,0.10]	-0.03 [-0.09,0.02]	-0.16*** [-0.22,-0.09]
t3	0.29*** [0.23,0.34]	0.19*** [0.13,0.25]	0.29*** [0.22,0.35]
t0 * Age 65-79	-0.32*** [-0.43,-0.20]	-0.04 [-0.18,0.10]	-0.59*** [-0.75,-0.43]
t2 * Age 65-79	-0.14 [-0.31,0.02]	-0.15 [-0.34,0.04]	-0.12 [-0.30,0.06]
t3 * Age 65-79	-0.08 [-0.24,0.08]	0.05 [-0.14,0.23]	-0.12 [-0.30,0.06]
Women	-0.11** [-0.18,-0.03]	-0.07 [-0.16,0.01]	0.11* [0.02,0.19]
Partnered	0.19*** [0.11,0.27]	0.51*** [0.42,0.61]	-0.28*** [-0.37,-0.19]
University degree	0.03 [-0.06,0.12]	-0.02 [-0.12,0.08]	-0.09* [-0.19,-0.00]
Working	0.08 [-0.05,0.21]	0.01 [-0.13,0.15]	0.10 [-0.04,0.23]
Health	-0.38*** [-0.43,-0.33]	-0.33*** [-0.39,-0.28]	-0.18*** [-0.22,-0.13]
Town size >50000	-0.10* [-0.18,-0.02]	-0.08 [-0.17,0.00]	-0.09* [-0.17,-0.00]
Constant	5.84*** [5.59,6.08]	5.62*** [5.36,5.89]	5.07*** [4.81,5.32]
N(persons)	3155	3152	3155
N(observations)	12062	11891	12069
R2	0.12	0.09	0.15

Note: Coefficients stem from OLS regressions with clustered, robust standard errors; confidence intervals provided in parentheses. T

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3—Supplement: OLS Regressions on Satisfaction with Different Domains of Life Using t0 as Reference: Pooled model

	Life	Family	Contacts
Age 65-79	0.34*** [0.19,0.49]	0.39*** [0.22,0.56]	0.30*** [0.15,0.45]
t1	-0.75*** [-0.81,-0.70]	-0.54*** [-0.59,-0.48]	-1.34*** [-1.41,-1.27]
t2	-0.71*** [-0.76,-0.65]	-0.57*** [-0.63,-0.51]	-1.50*** [-1.57,-1.43]
t3	-0.47*** [-0.52,-0.42]	-0.35*** [-0.40,-0.30]	-1.06*** [-1.12,-0.99]
t1 * Age 65-79	0.32*** [0.20,0.43]	0.04 [-0.10,0.18]	0.59*** [0.43,0.75]
t2 * Age 65-79	0.17* [0.01,0.34]	-0.11 [-0.29,0.07]	0.47*** [0.28,0.66]
t3 * Age 65-79	0.24** [0.09,0.39]	0.09 [-0.07,0.25]	0.47*** [0.31,0.64]
N(persons)	3155	3152	3155
N(observations)	12062	11891	12069
R2	0.12	0.09	0.15

Note: Coefficients stem from OLS regressions with clustered, robust standard errors; confidence intervals provided in parentheses. The models additionally include gender, partnership status, employment status, health and size of place of residence.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4—Supplement: Comparison of Coefficients across Measurement Occasions and Life Domain by Age Groups

	40 to 64 yrs.		65 to 79 yrs.	
	χ^2	p-value	χ^2	p-value
t0 vs. t1				
Life vs. family satisfaction	62.67	0.00	0.79	0.37
Life vs. contact quality satisfaction	338.06	0.00	20.47	0.00
Family vs. contact quality satisfaction	442.68	0.00	9.80	0.00
t1 vs. t2				
Life vs. family satisfaction	7.63	0.01	1.09	0.30
Life vs. contact quality satisfaction	40.10	0.00	4.87	0.03
Family vs. contact quality satisfaction	11.96	0.00	1.26	0.26
t1 vs. t3				
Life vs. family satisfaction	11.69	0.00	0.15	0.70
Life vs. contact quality satisfaction	0.00	0.96	0.23	0.63
Family vs. contact quality satisfaction	6.36	0.01	0.63	0.43

Note: Stata's `suest` command was used to compare regression coefficients across life domains and time points (taken from Table 2).