Aging in Context - Daily Views of Aging and Affect Vary by Region of Residence

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Abstract

Whether and how societal contexts permeate aging experiences in microlevel, daily contexts remains underexplored. Studying groups with shared language, history, and homogenous cultural traditions but different socialization experiences offers a unique opportunity to better understand how cultural-societal contexts permeate daily life contexts. Middle-aged and older Germans have spent considerable time living in different political and economic systems (free market democracy in West Germany vs. socialist planned economy in East Germany). Given that VoA and their daily fluctuations are meaningfully linked to developmental outcomes such as affective well-being, we investigated German East-West differences in the relation between VoA and affective experience using data of a 14-day diary study, with data of older East ($N = 97$) and West ($N = 71$) Germans (50 – 87 years old). East Germans reported less negative and more positive affect, more age-related gains, and a slower aging rate. Relations between age-related losses and gains with negative affect were more pronounced for West Germans. Our results indicate that growing up and living in Western, youth-oriented cultures increases the relevance of daily aging-related experiences for affective well-being.

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Views of aging (VoA) and their daily fluctuations are meaningfully linked to important developmental outcomes, including affective well-being (Bellingtier et al., 2021; Shenkman et al., 2024; Wirth et al., 2025). Socialization processes and the cultural-societal contexts we live in shape how we perceive and evaluate others and ourselves as aging individuals (de Paula Couto & Rothermund, 2022; Diehl, Brothers, et al., 2021; Kornadt et al., 2022; Segel-Karpas & Bergman, 2022; Shenkman et al., 2024). This contextual embeddedness of VoA has recently received more attention: Shenkman and colleagues (2024) showed that cultural differences (comparing Jewish and Arab Israelis) can permeate the relations between VoA and affective well-being in daily life.

Extending this previous work, we investigated potential differences in the relation between VoA and affective well-being by region of residence within the same country, namely Germany. Between 1949 and 1990, two separate states existed on German territory, one in the West called the Federal Republic of Germany (FRG) and one in the East called the German Democratic Republic (GDR). Depending on region of residence, either in the former FRG or GDR, German middle-aged and older individuals have spent a considerable part of their lifetime in extremely different political and economic systems (free market democracy in the FRG vs. socialist planned economy in the GDR). Previous studies indicate that region of residence is related to how German individuals perceive old age, the aging process, and their own aging (Diehl, Wettstein, et al., 2021; Wettstein et al., 2024). East Germans held less positive VoA, supposedly a long-term consequence of differences in socialization experiences (Entringer et al., 2024; Wettstein et al., 2024). Whether and how these East-West differences in VoA were related to affective well-being was not investigated in these studies. Using data of a 14-day diary study, we thus investigated whether VoA, namely subjective age, ageist attitudes, awareness of age-related change, and accelerated aging are differentially related to negative and positive affect, depending on region of residence in East or West Germany.

Contextual Embeddedness of Views of Aging

Context, conceptualized broadly as a range of conditions, events, and forces that exist outside the individual (Dannefer, 2014; Wahl & Gerstorf, 2018), provides affordances and limitations for development (Baltes, 1987; Bronfenbrenner, 1977; Elder, 1974). This embeddedness, ranging from macro-level, cultural-societal contexts to micro-level, everyday life contexts, has been increasingly recognized in research on VoA (Diehl, Brothers, et al., 2021; Kornadt et al., 2020; Segel-Karpas & Bergman, 2022; Shenkman et al., 2024). The aging process is shaped by societal and cultural contexts and should vary according to these contexts. This, in turn, should translate into the views that people have of their own and others' aging (cf. Kornadt et al., 2022). Studies interested in societal and cultural contextual differences in VoA typically use geographical region (country or continent) as a proxy. For example, in a meta-analysis comparing Eastern and Western countries, North and Fiske (2015) showed that negative attitudes towards older adults were more prevalent in Eastern countries. Comparing individual countries, namely Germany, the US, and China, Voss and colleagues (2018) showed that VoA were most positive in the US and least positive in China.

While such cross-country comparisons can help to understand which parts of the aging experience are more or less universal, results depend on countries selected and compared (Kornadt et al., 2022). In contrast, comparing different cultural groups within the same country accounts for country-level contextual factors (e.g., GDP, political system; cf. Bergman & Shrira, 2022). For example, VoA are more negative for Arab compared to Jewish Israelis (Ayalon & Cohn-Schwartz, 2022; Bergman & Segel-Karpas, 2020; Shenkman et al., 2024). Investigating participants in the same country but different regions of residence, with one shared language and homogenous cultural traditions, further reduces the potential of unobservable or unobserved heterogeneity (Vatter, 2012; Wolff et al., 2018). Following this reasoning, studies comparing VoA for middle-aged and older East and West Germans, who have a common language and history but lived under strikingly different political and

economic regimes for over four decades, are a case in point. Such studies showed that East Germans have less positive VoA as they reported an older subjective age (Wettstein et al., 2021, 2023), less positive attitudes towards aging (Wettstein & Wahl, 2021), and were more likely to perceive old age as a time of physical and social losses (Diehl, Wettstein, et al., 2021). It has been reasoned that these German East-West differences in VoA could be long-term consequences of the different socialization experiences (Wettstein et al., 2024).

Whether such differences in VoA related to macrolevel societal or cultural contexts also permeate microlevel, daily contexts remains underexplored (cf. Shenkman et al., 2024). Shenkman and colleagues (2024) showed that VoA assessed in daily life differed between Arab and Jewish Israelis, with Arab Israelis' affective well-being being more sensitive to daily fluctuations in VoA. It remains an open question whether the German East-West differences in VoA permeate daily life and whether there are different relations of VoA to affective well-being. Uncovering potential divergent effects of VoA on affective well-being by region of residence would substantiate ideas that interventions aimed at improving well-being have to address the contexts and factors that expose some people to more challenges than others (Ayalon & Cohn-Schwartz, 2022; Shenkman et al., 2024; Silbereisen, 2005).

Taken together, VoA are embedded in the macro and micro contexts that individuals inhabit. Studying groups with shared language, history, and homogenous cultural traditions but separated by region of residence and different socialization experiences offers a unique opportunity to understand how cultural-societal contexts permeate daily life contexts.

Views of Aging and Affective Well-being by Region of Residence

German middle-aged and older individuals have spent a considerable part of their lifetime in different political and economic systems (free market democracy in the Federal Republic of Germany [FRG] vs. socialist planned economy in the German Democratic Republic [GDR]). After more than 40 years of separation (1949 - 1990) and in a short time span, the GDR and its inhabitants were assimilated into the political and economic system of

the FRG and were largely expected to adopt its values, preferences, and norms (Easterlin &
Plagnol, 2008; Entringer et al., 2024). Although there is no data on VoA during the time of
the GDR's existence, looking at how older adults or old age were presented by the socialist
government and the role they played in everyday life provides some insight into the
predominant VoA in the GDR. Old age was seen as a laudable success of socialist policy
rather than a problem generated by modernity, an image that was more prevalent in the FRG
(Chappel, 2018; Streubel, 2005). More positive images of old age and older workers were
supposedly predominant in the GDR; due to labor shortage, employees remained longer in the
workforce (Bundesministerium für Familie, Senioren, Frauen und Jugend, 2010). However,
pensions were very low in the GDR, pensioners held the lowest social status (Chappel, 2018;
Mollenkopf & Kaspar, 2005), and life expectancy was lower due to a higher mortality of older
adults (Vogel et al., 2017; Vogt, 2013), potentially creating an image of old age as a time of
need and fragility. Thus, at least publicly, the image of old age and older adults may have
been somewhat ambiguous in the GDR.

　　　While it seems plausible to relate German East-West differences in VoA to different
socialization experiences, processes of assimilation related to unification, but also persisting
differences between both regions, might also be important. The environment a person lives in
changes over time (Bronfenbrenner, 1977), and the changes people in the former GDR had to
face after unification were unprecedented in their lifetime, and these changes probably also
affected their VoA. VoA that were largely shaped by socialism and socialist society in the
GDR collided with mostly negative VoA predominant in the FRG (Streubel, 2005). These
more negative VoA may have been assimilated by East Germans. Unification also marked a
transition from a collectivistic to a more individualistic society, which has been linked to a
higher prevalence of ageist attitudes (North & Fiske, 2015). Besides, becoming a united
country also invited intergroup comparisons, highlighting differences between East and West
Germans, especially regarding their financial resources. Lifestyles, value orientations, and

cultural characteristics formed during socialism were hardly comparable to those of the social milieus in the FRG. Specifically, the majority of older GDR citizens did not fit in with the wealthy older adults ("conservative upper class"), nor older homeowners ("petit bourgeoisie"; Schwitzer, 1993). The older generation's connection to their (former) workplace was also lost as previous work-based social programs (e.g., "veteran's clubs") catering for and integrating older retired workers into society were abolished, as were state-run programs for age-appropriate housing (Otte, 2016). This loss of societal integration and resources for older adults may have contributed to more negative VoA in East Germany following unification. Moreover, East Germany experienced tremendous internal migration to West Germany, especially of young adults, resulting in a fast rate of population aging in East Germany (Wolff et al., 2018). This fast population aging combined with persisting socioeconomic deprivation (e.g., lower wealth, shortage of health care; Bundesärztekammer, 2022), which both have been linked to more negative VoA (Kasinger et al., 2023; Wolff et al., 2018), might explain the contemporarily more negative VoA in East Germany. Moreover, the fast rate of aging combined with the economic and structural problems (many public services are provided on a more limited basis; Bundesärztekammer, 2022) means that East Germans could have more responsibility for their life and aging, which is also related to more negative VoA.

Despite the well-established relation between VoA and its daily fluctuations to affective well-being (Bellingtier et al., 2021; Shenkman et al., 2024; Wirth et al., 2025), German East-West differences in VoA have not been related to affective well-being. While some studies indicate no differences in affective well-being between East and West Germans (Entringer et al., 2024; Westerhof & Keyes, 2006), others point to higher positive and negative affect in East Germans (Mollenkopf & Kaspar, 2005; Schmalbach et al., 2021). These mixed findings already indicate that the relation between VoA and affective well-being with regard to German East-West differences might be complex. Following the reasoning of Shenkman and colleagues (2024), daily VoA should be more closely related to affective well-being for

(cultural) groups with fast population aging, higher responsibility for their aging, and that are socioeconomically deprived (for a similar reasoning, see Bergman & Shrira, 2022; Westerhof et al., 2003). Given the fast population aging (Wolff et al., 2018), combined with persisting socioeconomic deprivation in East Germany, one would expect that daily VoA are more closely related to affective well-being in East compared to West Germans. Then again, individuals growing up in the FRG had been socialized with more negative portrayals of old age (Chappel, 2018; Streubel, 2005) and were exposed to the youth-oriented American culture already early in life. Signs of growing older are thought to be particularly detrimental in individualistic and youth-oriented cultures, and thus might be more of a personal concern that also shapes daily affective experiences (Dutt et al., 2018; Westerhof & Barrett, 2005).

Taken together, studies indicate more negative VoA in East compared to West Germany, which might be related to different socialization experiences but also current disparities in population aging and socioeconomic factors. These could be reasons why VoA could be more closely related to affective well-being in East Germans.

Current Study

Although East Germany has been dramatically reshaped by democratization and economic liberalization, previous studies indicate that East Germans, compared to West Germans, report more negative VoA. In this study, we investigated whether these differences in VoA permeate everyday life contexts and whether they are differentially related to affective well-being. Given previous studies (Wettstein et al., 2023; Wettstein & Wahl, 2021) indicating more negative VoA among East Germans, we predicted that East compared to West Germans, would report an older subjective age, feel that they are aging faster, endorse ageist attitudes more strongly, report more age-related losses, and fewer age-related gains.

Concerning the relation of VoA and affective well-being, in line with previous research (Bellingtier et al., 2021; Bodner et al., 2021; Palgi, 2020; Shenkman et al., 2024; Wirth et al., 2025), we made the following predictions: On the between-person level, individuals with

above-average subjective age, age-related losses, aging rate, endorsement of ageist attitudes, and below-average age-related gains would report more negative and less positive affect. On the within-person level, on days with above-average subjective age, age-related losses, aging rate, endorsement of ageist attitudes, and below-average age-related gains, participants would also report more negative and less positive affect. Following the idea that VoA are more closely related to affective well-being for groups with faster population aging, higher responsibility for their aging, and who are socioeconomically deprived (Shenkman et al., 2024), we expected that the relations between VoA and positive and negative affect would be stronger in East Germans.

Method

Participants

We followed simulation-informed recommendations of Nezlek (2020) for diary studies interested in cross-level interactions, indicating that data assessment should encompass 14 days and at least 125 participants. The original sample comprised 204 German-speaking adults between 50 and 91 years ($M = 65.00$, $SD = 8.01$), with the majority being female (65.2%). Given the focus of our research question concerning a comparison of individuals who were born, raised, and still lived either in East or West Germany, we excluded 36 participants who did not fit that profile because they were not born in Germany or had moved between East and West Germany (for similar reasoning, see Schmalbach et al., 2023). Demographic information for West ($N = 71$) and East Germans ($N = 97$) can be found in Table 1. Participants only differed in number of (grand) children, with East Germans reporting more children and grandchildren. Participants had high compliance ($M = 95.7\%$, range = 57.1%-100%).

Participants were recruited through personal contacts or social media. Participants first provided written informed consent and completed a baseline questionnaire including demographic information. Following, they received questionnaires on 14 consecutive days,

including the day-level variables. Ethical approval was granted by the Ethics Committee of Friedrich-Schiller-University Jena (project title "Expectations for active ageing"; FSV 22/018). The study design was pre-registered at https://aspredicted.org/5NR_2SD. Deidentified data, analysis codes, and study material are available at https://osf.io/w2mnj/.

Measures

Subjective age, ageist attitudes, age-related change, accelerated aging, and affective well-being were assessed daily; region of residence was assessed during the baseline questionnaire. Most covariates (chronological age in years, sex, financial situation, primary education, number of reported illnesses) were assessed in the baseline questionnaire; uplifts and stressors were assessed daily.

Subjective age discrepancy

Subjective age was assessed using the item: "How old did you feel in the past 24 hours? (Please respond in years)" (Bellingtier et al., 2017). Discrepancy scores were calculated for each day by subtracting chronological age from subjective age. Negative values indicate that participants felt younger, while positive values indicate that participants felt older. Following good practice (Kornadt et al., 2025; Stephan et al., 2018), all values of subjective age discrepancy scores that were 3 *SD* below or above the sample mean were omitted ($N = 19$). This led to the exclusion of one participant.

Awareness of age-related gains and losses

AARC facets were assessed using 20 items from previous research (Neupert & Bellingtier, 2017). All items started with the phrase "With my awareness of aging in the past 24 hours, I realize that…" and were rated on a 5-point scale from 1 = "not at all" to 5 = "very much". An example item for gains was "…I appreciate relationships and people much more." and for losses, "…I am slower in my thinking." An indicator of daily gains was computed by aggregating responses across 10 items, and 10 items for daily losses. Higher aggregated values indicate higher gains and losses. McDonald's omega was calculated using omegaSEM

(Geldhof et al., 2014) in R (R Core Team, 2025) and indicated that the gains scale had good

within-person (ω = .726) and between-person (ω = .931) reliability. Reliability for the loss

scale was ω = .666 on the within-person and ω = .925 between-person level.

Ageist attitudes

Daily ageist attitudes were assessed using three items from previous research (Bodner et

al., 2021; North & Fiske, 2013; Shenkman et al., 2024). On a scale ranging from 1 = "not at

all" to 5 = "very much", participants indicated whether they thought that "older people

shouldn't go to places where younger people hang out", "shouldn't be expected to know how

to use social networks", or "thought it's not pleasant to see older people trying to dress, talk,

and behave in a 'cool way'." A mean score was computed, with higher values indicating

higher ageist attitudes. Reliability for the scale on the within-person level was ω = .444 and ω

= .735 on the between-person level.

Subjective accelerated aging

Accelerated aging was assessed by a single item asking participants about the rate of

their aging during the day ("I feel that my aging rate today is…") on a scale ranging from 1 =

"very slow" to 5 = "very fast" (Palgi, 2020; Shenkman et al., 2024).

Affective Well-being

Negative and positive affect were measured using six items each from previous research

(Early et al., 2024). Participants rated how "cheerful", "in good spirits", "extremely happy",

"calm and peaceful", "satisfied", "full of life", "depressed that nothing could cheer them up",

"hopeless", "restless and fidgety", "everything was an effort", "worthless", and "nervous"

they had felt in the past 24 hours on a 5-point Likert scale ranging from 1 ("none of the time")

to 5 ("all of the time"). The positive affect scale had good within-person (ω = .796) and

between-person (ω = .885) reliability. Reliability for the negative affect scale was ω = .638 on

the within-person and ω = .864 on the between-person level. Intraclass correlations (ICC)

indicated that 64.9% percent of the variation in positive affect and 64.2% in negative affect were due to between-person differences.

Covariates

Following previous research investigating the relation between affective experience and VoA (Early et al., 2024; Shenkman et al., 2024), we included the following covariates: chronological age in years, sex (male, female), financial situation, primary education, number of reported illnesses, as well as uplifts and stressors. Financial situation was assessed with one item "How would you describe your financial situation?", on a response scale of 1 ("not good at all") to 5 ("excellent"). Number of illnesses was assessed with a list of 15 illnesses (e.g., asthma, osteoporosis, high cholesterol) with the option to add illnesses not listed. Primary education was indicated on a scale ranging from 1 = no formal education to 7 = PhD. Participants indicated whether "a medical doctor told you that you have (or have had in recent years) any of the following conditions?" (Bodner et al., 2021; Shenkman et al., 2024). Responses were either yes or no for each illness. Eight items from previous research (Kornadt et al., 2025; Neupert et al., 2006) were used to assess stressors (e.g., having an argument, avoiding an argument). Responses were summed for each day; thus, scores ranged from 0 to 8. 10 items from previous research (Early et al., 2024; Kornadt et al., 2025) were used to assess uplifts (e.g., spending time with family, relating well with friends). Participants indicated whether, in the past 24 hours, they did (= 1) or did not (= 0) experience each event. Responses were summed for each day, thus, scores ranged from 0 to 10.

Analytic Plan

In two separate multilevel models (MLM), we predicted positive and negative affect by subjective age discrepancy, age-related gains and losses, ageist attitudes, and accelerated aging, as well as an interaction of these predictors with region of residence (East vs. West). To follow suggestions by Hoffman (2015), we decomposed the variance of our Level-1 predictors into within- and between-person variation and included between-person effects into

our model. MLM analyses were carried out with Level-1 predictors centered around each

participant's mean and Level-2 predictors centered around the sample mean (Enders &

Tofighi, 2007). The models included random intercepts for participants. We initially included

random slopes for all predictors, but for predicting negative affect, only the model containing

random slopes for accelerated aging, gains, and losses converged. For positive affect, only the

model containing random slopes for gains and losses converged. We controlled for study day

and the covariates. Analyses were conducted using *R* version 4.5.1 (R Core Team, 2025), the

lmerTest (Kuznetsova et al., 2017), and the interactions packages (Long, 2019). Model

equations can be found in the supplementary information.

Results

Descriptive and Bivariate Correlations

East Germans reported less negative and more positive affect (Table 2). They also

reported more age-related gains and lower accelerated aging (Table 3). Concerning within-

and between-person correlations of VoA and affective experience (Table 4), there were few

differences between East and West Germans. On the between-person level, the correlation

between negative affect and perceived losses was higher for West compared to East Germans,

$z = 2.168$, $p = .015$. On the within-person level, the relation between negative affect and

ageist attitudes was significant only for West Germans.

Main Findings

Results for negative affect can be found in Table 5. There was a main effect of region of

residence, indicating that East compared to West Germans, reported lower negative affect. On

the between-person level, we found that individuals who reported above-average losses also

reported higher negative affect. Participants with above-average gains reported lower negative

affect. Additionally, we found an interaction between losses and region of residence (Figure

1). The between-person relation of losses and negative affect was only significant in West,

estimate = 0.501, t = 6.712, p < .001, but not East Germans, estimate = 0.135, t = 1.885, p = .061.

On the within-person level, we found that on days with higher endorsement of ageist attitudes and higher perceived losses, participants reported higher negative affect. On days with more perceived gains, negative affect was lower. The effects of losses and gains on negative affect were moderated by region of residence. The negative interaction term of losses and region of residence (East Germany as reference category) indicated that the slope for losses was more pronounced for West Germans, estimate = 0.274, t = 5.968, p < .001, compared to East Germans, estimate = 0.142, t = 3.449, p < .001 (Figure 2). The slope for gains was only significant for West, estimate = -0.152, t = -4.180, p < .001, but not East Germans, estimate = -0.039, t = -1.322, p = .192 (Figure 3).

Results for positive affect can be found in Table 6. There was a main effect of region of residence, indicating that East compared to West Germans reported higher positive affect. On the between-person level, we found that individuals who report above-average losses reported lower positive affect. On the within-person level, we found that on days with older subjective age, more losses, and faster aging, participants reported lower positive affect. On days with more gains, positive affect was higher. The between- and within-person effects of VoA were not moderated by region of residence.

Discussion

Views of aging are shaped by societal and cultural contexts that provide constraints to and affordances for individual functioning and development (Baltes, 1987; Bronfenbrenner, 1977; Elder, 1974). Whether differences in VoA related to differences in societal and cultural contexts manifest in daily life and are related to important developmental outcomes such as affective well-being has rarely been investigated (cf. Shenkman et al., 2024). Comparing VoA and their relation to affective well-being between middle-aged and older East and West

Germans who have been socialized in very different political and economic systems indicated few differences.

In contrast to previous studies indicating more negative VoA among East Germans (Wettstein et al., 2023; Wettstein & Wahl, 2021), our results indicated that East Germans reported more age-related gains and a slower aging rate. Partially consistent with previous results (Mollenkopf & Kaspar, 2005; Schmalbach et al., 2021), East Germans reported more positive but less negative affect. Previous studies, however, did not differentiate between the region of birth and current region of residence, thus disregarding internal migration and potentially mixing socialization effects and more contemporary situational effects of this migration (cf. Heller & Schmidt, 2024). Additionally, previous research was based on large representative samples that included East Germans proportionally to the German population, and thus, fewer East than West Germans. Our sample, however, included more East than West Germans and is not representative of middle-age and older individuals living in East and West Germany. This non-representativeness especially with regard to (high) education might explain why we did not find more negative VoA in our sample for East Germans. Specifically, Wurm and Huxhold (2012) showed that German East-West differences in VoA are only present for individuals with low or medium but not high education, which was predominant in our sample.

In line with previous findings (Bellingtier et al., 2021; Shenkman et al., 2024; Wirth et al., 2025), VoA were significant predictors of affective well-being. For example, higher age-related gains were related to more positive and less negative affect. On days with higher endorsement of ageist attitudes, participants reported higher negative affect. Contrary to our predictions, VoA were not more closely related to East Germans' affect. While West Germans who reported above-average losses also reported more negative affect, there was no relation between losses and negative affect on the between-person level for East Germans. Days with more losses were related to more negative affect, but this relation was more pronounced for

West compared to East Germans. Also, on the within-person level, gains were only related to negative affect for West but not East Germans.

Our expectations that VoA would be more closely related to affective well-being in East compared to West Germans were based on the idea that VoA and affective well-being are more closely related for groups that show fast population aging, are socioeconomically deprived, and might thus bear more responsibility for their life and aging (Shenkman et al., 2024). While East Germans are socioeconomically deprived (Bundesärztekammer, 2022), German socio-economic East-West differences might be relatively small compared to those between other societies or cultural groups within a country, such as between Arab and Jewish Israelis (Semyonov & Lewin-Epstein, 2011). Put differently, reasoning based on socioeconomical differences might be limited when applied to Western industrialized countries with statewide welfare benefits.

Alternatively, the more pronounced effect of VoA on West Germans' negative affect might be related to being socialized with more negative portrayals of old age (Chappel, 2018; Streubel, 2005) and an early exposure to the youth-oriented American culture compared to participants who grew up in the GDR. Signs of growing older are thought to be particularly detrimental in individualistic and youth-oriented cultures, and thus might be more of a personal concern that also shapes daily affective experiences (Dutt et al., 2018; Westerhof & Barrett, 2005). As we did not assess participants' socialization experience with regard to exposure to youth-oriented cultural values or media content, we can only speculate about its importance for our results.

While our results concerning the East-West differences in relation to VoA and affective experience were opposite to what we had expected, they concur with those of Shenkman and colleagues (2024) in that we found differences in the relation only for personal VoA (gains and losses), which are directly relevant to the perception of one's aging. No East-West differences in the relation were found for ageist attitudes, which represent beliefs and attitudes

towards (other) older adults. It is worth noting that the reliability of our measure of ageist attitudes had low reliability on the within-person level and, thus, within-person effects may have been underestimated. Thus, more research is needed to support the idea that self-related or personal VoA are a prime avenue to explore the cultural-societal embeddedness of how individuals perceive and evaluate old age and aging (cf. Diehl & Wahl, 2024).

Our study extends previous cross-country (North & Fiske, 2015; Voss et al., 2018) and cross-cultural (Ayalon & Cohn-Schwartz, 2022; Bergman et al., 2013; Bergman & Segel-Karpas, 2020; Shenkman et al., 2024) work on VoA in important and unique ways. It shows that despite living in the same country, sharing the same language and welfare system, different (early) socialization experiences made more than 35 years ago can be related to differences in VoA and its relation to well-being. Moreover, our findings highlight that ideas of classifying countries or cultural groups on dimensions of collectivistic/ traditionalistic vs. individualistic/ modernistic might not always apply, as these categories assume coherent clusters of features that might not capture actual constellations. For instance, while the GDR can be classified as a collectivistic country, norms such as filial piety typically linked to collectivistic or traditional societies or groups (Bergman & Segel-Karpas, 2020) were less pronounced and non-traditional family structures (e.g., single parenthood) are more accepted in East than West Germany, even today (Dorbritz & Ruckdeschel, 2009).

Limitations

The following limitations deserve note: Although we investigated samples with a common language, we cannot rule out differential item functioning. We are not aware of any study investigating measurement invariance for daily VoA or daily affective experience for German East-West differences. Based on the results of the study by Schmalbach and colleagues (2023) investigating German regional differences in the assessment of depressive symptoms, if differences in item functioning exist, they are likely too small to explain the observed East-West differences.

Given the focus of our research question, comparing individuals who spent considerable time in one or the other sociopolitical system, we were somewhat limited in the age range we could investigate. However, given that cultural-societal contexts become more salient and self-relevant as individuals enter midlife and early old age (Levy, 2009; Montepare, 2009), this limited age range could also be considered a strength. Moreover, studying younger individuals means that they were already socialized in a unified Germany, which would also introduce age and cohort differences in VoA and affective experience that might potentially interact with region of residence.

We followed simulation-informed recommendations of Nezlek (2020) for diary studies interested in cross-level interactions. However, we cannot rule out that our study did not have enough power to detect small cross-level interactions, and larger samples are required to replicate our findings.

Important variables that might underlie the reported East-West differences, such as socialization experiences, VoA before 1990, or the degree of assimilation of West German values, preferences, and norms, were not assessed and should be incorporated in future studies. This could get us closer to understanding which cultural expectations, beliefs, and values people draw upon when constructing VoA.

Conclusion

Whether and how societal or cultural contexts permeate microlevel, daily contexts is still a largely underexplored topic. Studying groups with shared language, history, and homogenous cultural traditions but different socialization experiences offers a unique opportunity to better understand how cultural-societal contexts permeate daily life contexts. Comparing relations of daily VoA and affective experience by German region of residence indicated that aging experiences in terms of gains and losses were more closely related to daily affective experience for West compared to East Germans. This indicates that age and aging were more of a concern for people who had grown up and lived their lives in a Western,

youth-oriented culture. Our results underline the importance of contextual factors when investigating relations between VoA and affective well-being, and that contextual factors need to be considered in interventions aiming to improve well-being.

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Table 1

Demographic information for East and West German participants

Demographics	East German (N = 97)	West German (N = 71)	difference
Mean age (SD)	65.57 (6.81)	65.54 (9.10)	$t(124.06) = -0.025, p = .980$
Gender (%)			$\chi(1) = 0.3692, p = .544$
female	67 (69.1%)	45 (63.4%)	
male	30 (30.9%)	26 (36.6%)	
Primary education (%)			$\chi(5) = 6.950, p = .224$
some high school	11 (11.3%)	10 (14.1%)	
completed high school	4 (4.1%)	7 (9.8%)	
college degree	21 (21.6%)	14 (19.7%)	
university degree	42 (43.4%)	32 (45.1%)	
doctorate	13 (13.4%)	8 (11.3%)	
other	6 (6.2%)	0 (0%)	
Retired (%)	68 (70.1%)	42 (59.2%)	$\chi(1) = 1.716, p = .190$
Relationship status (%)			$\chi(4) = 3.700, p = .448$
single	5 (5.1%)	5 (7.0%)	
married	58 (59.8%)	50 (70.5%)	
separated/divorced	15 (15.5%)	8 (11.3%)	
widowed	10 (10.3%)	3 (4.2%)	
with partner	9 (9.3%)	5 (7.0%)	
Living arrangement (%)			$\chi(2) = 2.433, p = .296$
alone	27 (27.8%)	14 (19.7%)	
one other person	64 (66.0%)	49 (69.0%)	
more than one other person	6 (6.2%)	8 (11.3%)	
Residence (%)			$\chi(2) = 2.765, p = .251$
own household	97 (100%)	69 (97.2%)	
assisted living	0 (0.0%)	1 (1.4%)	
Independent living in group home	0 (0.0%)	1 (1.4%)	
Number of children (SD)	2.03 (0.99)	1.61 (1.02)	$t(148.68) = -2.697, p = .008$
Number of grandchildren (SD)	2.30 (2.22)	1.04 (1.73)	$t(165.37) = -4.122, p < .001$
Financial situation (SD)[a]	3.72 (0.72)	3.92 (0.73)	$t(149.33) = 1.709, p = .089$

Subjective health (*SD*)[b]	3.65(0.78)	3.58 (0.92)	$t(135.33) = -0.534$, $p = .594$
Number of diagnosed illnesses (*SD*)[c]	1.89 (1.39)	1.92 (1.47)	$t(146) = 0.129$, $p = .898$

Note. [a]Financial situation was assessed with one item, "How would you describe your financial situation?", on a response scale of 1 (not good at all) to 5 (excellent). [b]Subjective health was assessed by a single item, "How would you describe your health?" with a response scale from 1 (not good at all) to 5 (excellent). [c]Number of diagnosed illnesses was assessed with a list of 15 illnesses (e.g., Asthma, Osteoporosis, high cholesterol), and participants indicated whether "a medical doctor told you that you have (or have had in recent years) any of the following conditions?". Responses were either yes or no. Participants could also indicate additional illnesses not listed.

Table 2

MLMs testing differences between East and West Germans in daily negative and positive affect, subjective age, and ageist attitudes.

Model	Model 1 (Negative Affect)					Model 2 (Positive Affect)					Model 3 (Subj. age)					Model 4 (Ageist attitudes)				
	Est.	*SE*	*95% CI*		*p*	*Est.*	*SE*	*95% CI*		*p*	*Est.*	*SE*	*95% CI*		*p*	*Est.*	*SE*	*95% CI*		*p*
			LL	UL				LL	UL				LL	UL				LL	UL	
Fixed effects																				
Intercept	1.395	0.042	1.312	1.477	<.001	3.305	0.066	3.176	3.435	<.001	-4.986	0.618	-6.196	-3.776	<.001	0.779	0.096	0.592	0.967	<.001
Residence [EAST]	-0.182	0.055	-0.291	-0.073	.001	0.314	0.087	0.143	0.485	<.001	0.082	0.814	-1.514	1.677	.920	0.100	0.126	-0.147	0.347	.429
Random Effects																				
Between-person variance	0.120					0.297					26.493					0.643				
Within-person variance	0.071					0.173					7.534					0.101				
N	167					167					167					167				
Observations	2238					2238					2238					2238				
Marginal R²	0.040					0.049					0.000					0.003				
AIC	977.853					2968.351					11521.506					1978.013				

Note. *Est.* – estimate, CI – Confidence interval; LL – lower level, UL – upper level

Table 3

MLMs testing differences between East and West Germans in daily perceived age-related losses and gains, as well as accelerated aging.

Model	Model 5 (Losses)					Model 6 (Gains)					Model 7 (Accelerated Aging)				
	Est.	*SE*	*95 % CI*		*p*	*Est.*	*SE*	*95 % CI*		*p*	*Est.*	*SE*	*95 % CI*		*p*
			LL	UL				LL	UL				LL	UL	
Fixed effects															
Intercept	1.934	0.062	1.812	2.056	<.001	3.077	0.086	2.908	3.249	<.001	1.917	0.086	1.748	2.086	<.001
Residence [EAST]	-0.049	0.082	-0.209	0.112	.553	0.284	0.114	0.061	0.507	.013	-0.261	0.114	-0.484	-0.038	.023
Random Effects															
Between-person variance	0.270					0.519					0.501				
Within-person variance	0.063					0.112					0.356				
N	167					167					167				
Observations	2238					2238					2238				
Marginal R²	0.002					0.030					0.019				
AIC	848.061					2150.211					4550.195				

Note. *Est.* – estimate, CI – Confidence interval; LL – lower level, UL – upper level

Table 4

Within- and between-person correlations of study variables separately for West and East Germans.

Residence	Variable	Mean (*SD*)	1.	2.	3.	4.	5.	6.	7.
East Germany	1. Subjective age	-4.878 (5.435)	-	.016	.043	-.182**	.261***	.159**	-.291***
	2. Ageist attitudes	0.878 (0.841)	.189	-	.178***	.118*	-.036	.035	.001
	3. Losses	1.883 (0.562)	.440***	.352**	-	.248***	.137	.234***	-.155**
	4. Gains	3.349 (0.767)	-.085	.072	.229	-	-.106	-.035	.166***
	5. Accelerated Aging	1.660 (0.890)	.496***	.275	.555***	-.035	-	.196***	-.246***
	6. Negative affect	1.212 (0.334)	.159	.120	.437***	-.096	.329**	-	-.406***
	7. Positive affect	3.617 (0.671)	-.361**	-.231	-.415***	.318**	-.421***	-.435***	-
West Germany	1. Subjective age	-4.953 (6.334)	-	-.007	.111	-.142**	.344***	.148***	-.332***
	2. Ageist attitudes	0.792 (0.880)	-.013	-	.195**	.148**	.064	.136**	-.011
	3. Losses	1.864 (0.628)	.145	.457**	-	.323***	.197**	.311***	-.181**
	4. Gains	3.068 (0.829)	-.312	.154	.307	-	-.089	-.043	.209**
	5. Accelerated Aging	1.917 (0.968)	.450***	.094	.314	-.219	-	.185***	-.288***
	6. Negative affect	1.387 (0.542)	.158	.256	.672***	-.024	.370**	-	-.440***
	7. Positive affect	3.304 (0.701)	-.334	-.183	-.452**	.178	-.382*	-.560***	-

Note. $N = 167$. Values above the diagonal indicate within-person relations, values below the diagonal indicate between-person relations.

p-values were adjusted for multiple comparisons using the method proposed by Holm (1979). *** $p < .001$, ** $p < .01$, * $p < .05$.

Subjective age is a discrepancy score was calculated by subtracting chronological age from subjective felt age. Negative values indicate

that participants felt younger, while positive values indicate that participants felt older. Ageist attitudes were assessed on a scale ranging

from 1 = "not at all" to 5 = "very much". Gains and Losses were assessed on a 5-point scale from 1 = "not at all" to 5 = "very much".

Accelerated aging was on a scale ranging from 1 = "very slow" to 5 = "very fast". Negative and positive affect were assessed on a 5-point

Likert scale ranging from 1 ("none of the time") to 5 ("all of the time").

Table 5

Multilevel models predicting negative affect

	Est.	SE	95% CI		p
			LL	UL	
Model					
Fixed effects					
Intercept	1.492	0.0701	1.361	1.621	<.001
Day	-0.008	0.001	-0.011	-0.005	<.001
Residence [EAST]	-0.134	0.046	-0.220	-0.048	.004
subjective age$_{wp}$	0.004	0.003	-0.001	0.001	.113
subjective age$_{bp}$	-0.007	0.007	-0.020	0.005	.268
ageist attitudes$_{wp}$	0.055	0.026	0.004	0.106	.037
ageist attitudes$_{bp}$	0.053	0.042	-0.026	0.136	.207
Gains$_{wp}$	-0.152	0.036	-0.224	-0.082	<.001
Gains$_{bp}$	-0.161	0.046	-0.247	-0.075	.001
Losses$_{wp}$	0.274	0.046	0.185	0.037	<.001
Losses$_{bp}$	0.501	0.075	0.352	0.641	<.001
accelerated aging$_{wp}$	0.030	0.017	-0.003	0.065	.078
accelerated aging$_{bp}$	0.029	0.051	-0.066	0.123	.574
Residence × subjective age$_{wp}$	0.004	0.004	-0.003	0.013	.299
Residence × subjective age$_{bp}$	0.002	0.009	-0.015	0.019	.856
Residence × ageist attitudes.$_{wp}$	-0.056	0.034	-0.122	0.014	.104
Residence × ageist attitudes$_{bp}$	-0.047	0.054	-0.152	0.053	.380
Residence × Gains$_{wp}$	0.113	0.047	0.020	0.205	.016
Residence × Gains$_{bp}$	0.097	0.060	-0.015	0.207	.108
Residence × Losses$_{wp}$	-0.132	0.061	-0.255	-0.015	.031
Residence × Losses$_{bp}$	-0.365	0.101	-0.551	-0.173	<.001
Residence × accelerated aging$_{wp}$	0.013	0.025	-0.035	0.061	.584
Residence × accelerated aging$_{bp}$	0.029	0.069	-0.098	0.157	.670
Covariates					
Uplifts$_{wp}$	-0.009	0.004	-0.017	0.001	.050
Stressors$_{wp}$	0.062	0.006	0.051	0.073	<.001
age	-0.005	0.003	-0.011	-0.006	.049
sex [female]	0.018	0.0441	-0.063	0.099	.679

primary education [some high school]					
completed high school	-0.125	0.097	-0.304	0.062	.198
college degree	-0.106	0.070	-0.232	0.025	.129
university degree	-0.089	0.064	-0.205	0.098	.164
doctorate	-0.169	0.077	-0.311	-0.024	.029
other	-0.045	0.125	-0.276	0.190	.721
financial situation[a]	-0.054	0.030	-0.116	0.002	.071
number of illnesses[b]	0.015	0.016	-0.014	0.044	.326
Random Effects					
Residual variance σ^2	0.051				
random intercept var. participant	0.105				
random slope var. Gains	0.020				
random slope var. Losses	0.051				
random slope var. accelerated aging	0.054				
N	167				
Observations	2238				
Marginal R²	0.349				
AIC	618.888				

Note. CI – Confidence interval; LL – lower level, UL – upper level; wp =within-person, bp = between-person, AIC = Akaike Information criterion. [a]Financial situation was assessed with one item "How would you describe your financial situation?", on a response scale of 1 (not good at all) to 5 (excellent). [b]Number of diagnosed illnesses was assessed with a list of 15 illnesses (e.g., Asthma, Osteoporosis, high cholesterol), and participants indicated whether "a medical doctor told you that you have (or have had in recent years) any of the following conditions?". Responses were either yes or no. Participants could also indicate additional illnesses not listed.

Table 6

Multilevel models predicting positive affect

	Est.	SE	95% CI		p
			LL	UL	
Fixed effects					
Intercept	3.273	0.125	3.042	3.505	<.001
Day	0.004	0.002	-0.000	0.008	.068
Residence [EAST]	0.258	0.077	0.117	0.399	.001
subjective age$_{wp}$	-0.024	0.004	-0.032	-0.016	<.001
subjective age$_{bp}$	-0.017	0.012	-0.039	0.005	.147
ageist attitudes$_{wp}$	0.026	0.039	-0.501	0.103	.508
ageist attitudes$_{bp}$	-0.012	0.074	-0.152	0.128	.869
Gains$_{wp}$	0.213	0.061	0.094	0.332	<.001
Gains$_{bp}$	0.157	0.083	0.000	0.314	.060
Losses$_{wp}$	-0.185	0.070	-0.323	-0.486	.008
Losses$_{bp}$	-0.378	0.135	-0.628	-0.128	.005
accelerated aging$_{wp}$	-0.069	0.020	-0.108	-0.031	<.001
accelerated aging$_{bp}$	-0.046	0.093	-0.218	0.125	.618
Residence × subjective age$_{wp}$	-0.008	0.006	-0.020	0.004	.174
Residence × subjective age$_{bp}$	0.007	0.016	-0.023	0.037	.648
Residence × ageist attitudes.$_{wp}$	0.004	0.051	-0.096	0.104	.939
Residence × ageist attitudes$_{bp}$	-0.028	0.097	-0.208	0.152	.772
Residence × Gains$_{wp}$	0.000	0.080	-0.155	0.157	.997
Residence × Gains$_{bp}$	0.108	0.109	-0.097	0.311	.323
Residence × Losses$_{wp}$	-0.053	0.093	-0.236	0.129	.569
Residence × Losses$_{bp}$	0.108	0.109	-0.227	0.442	.323
Residence × accelerated aging$_{wp}$	-0.003	0.028	-0.058	0.053	.919
Residence × accelerated aging$_{bp}$	-0.031	0.125	-0.262	0.200	.802
Covariates					
Uplifts$_{wp}$	0.056	0.007	0.044	0.069	<.001
Stressors$_{wp}$	-0.113	0.009	-0.129	-0.096	<.001
age	0.001	0.005	-0.008	0.011	.775
sex [female]	0.073	0.079	-0.073	0.219	.356
primary education [some high school]					

completed high school	0.092	0.179	-0.238	0.421	.607
college degree	-0.009	0.128	-0.244	0.226	.947
university degree	0.012	0.117	-0.205	0.229	.918
doctorate	-0.205	0.143	-0.468	0.058	.151
other	-0.016	0.224	-0.431	0.398	.942
financial situation[a]	0.144	0.055	0.042	0.247	.009
number of illnesses[b]	-0.064	0.029	-0.118	-0.011	.026
Random Effects					
Residual variance σ^2	0.113				
random intercept var. participant	0.190				
random slope var. Gains	0.101				
random slope var. Losses	0.117				
N	167				
Observations	2238				
Marginal R²	0.382				
AIC	2380.401				

Note. CI – Confidence interval; LL – lower level, UL – upper level; wp – within-person, bp – between-person. wp =within-person, bp = between-person, AIC = Akaike Information criterion. [a]Financial situation was assessed with one item "How would you describe your financial situation?", on a response scale of 1 (not good at all) to 5 (excellent). [b]Number of diagnosed illnesses was assessed with a list of 15 illnesses (e.g., Asthma, Osteoporosis, high cholesterol), and participants indicated whether "a medical doctor told you that you have (or have had in recent years) any of the following conditions?". Responses were either yes or no. Participants could also indicate additional illnesses not listed.

Figure 1

Between-person relation between age-related losses and negative affect by region of residence
(East vs. West Germany).
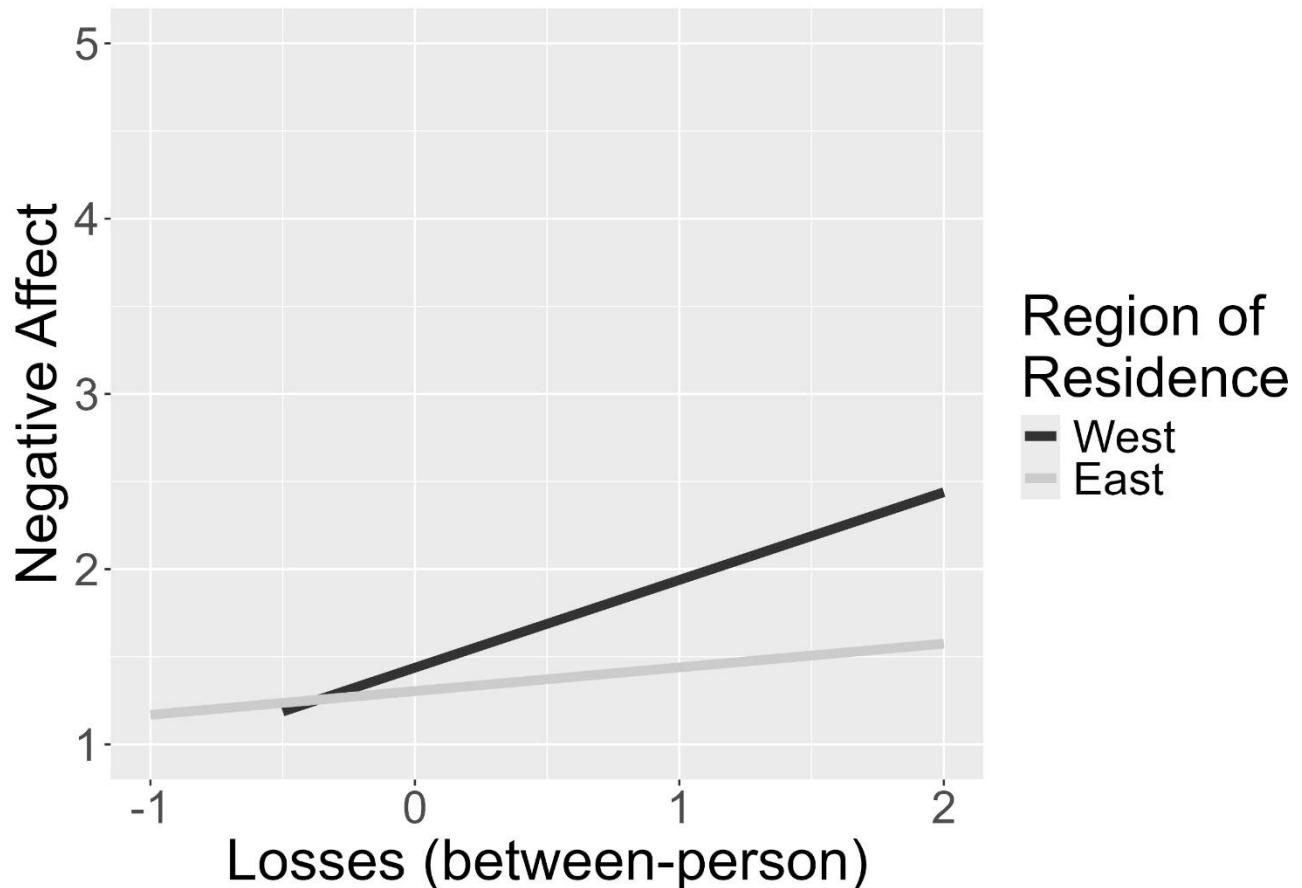
Note. N = 167, Observations = 2238. Losses were assessed on a 5-point scale from 1 = "not at
all" to 5 = "very much" and centered at person's mean. Negative affect was assessed on a 5-
point Likert scale ranging from 1 ("none of the time") to 5 ("all of the time").

Figure 2

Within-person relation between age-related losses and negative affect by region of residence
(East vs. West Germany).
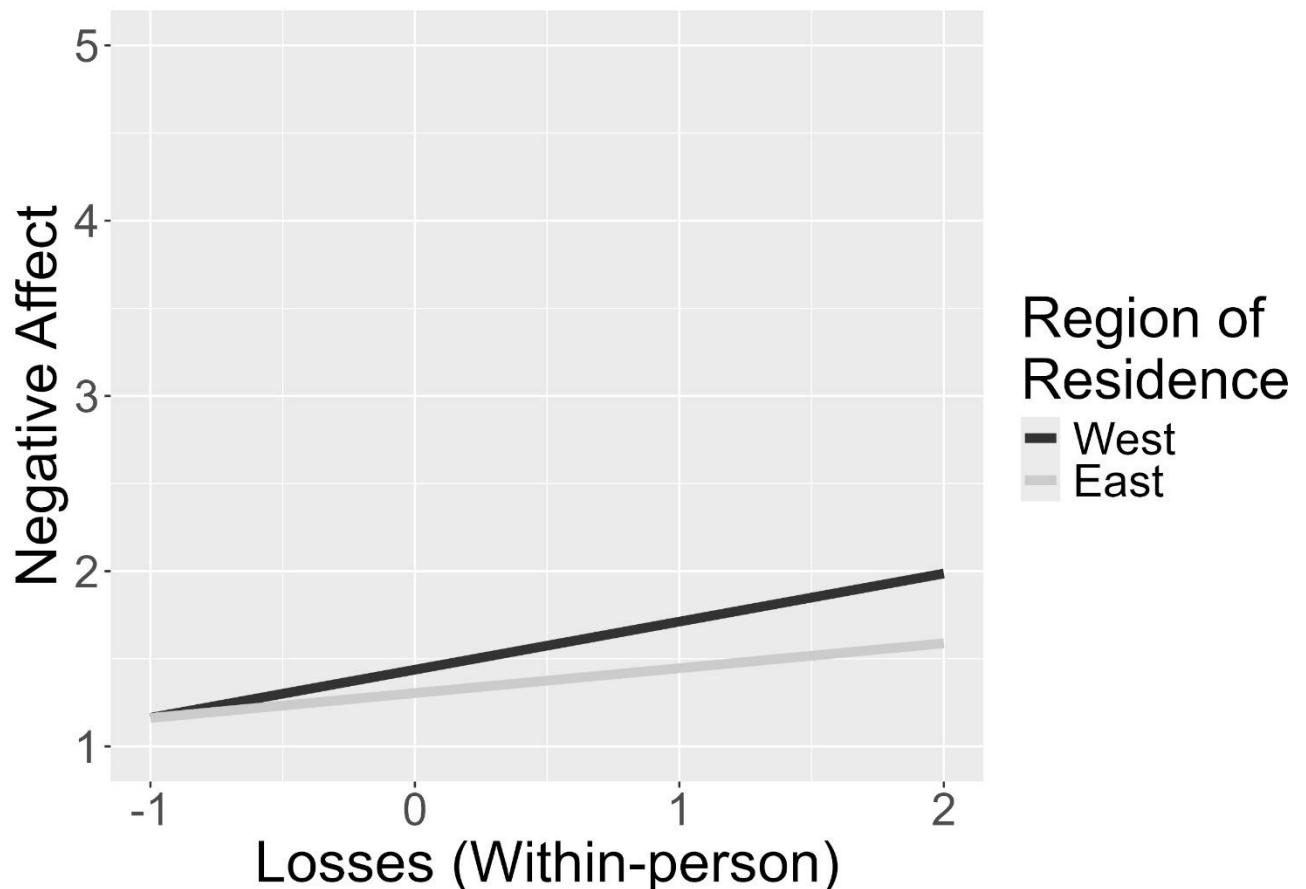
Note. N = 167, Observations = 2238. Losses were assessed on a 5-point scale from 1 = "not at
all" to 5 = "very much" and centered at person's mean. Negative affect was assessed on a 5-
point Likert scale ranging from 1 ("none of the time") to 5 ("all of the time").

Figure 3

Within-person relation between age-related gains and negative affect by region of residence

(East vs. West Germany).
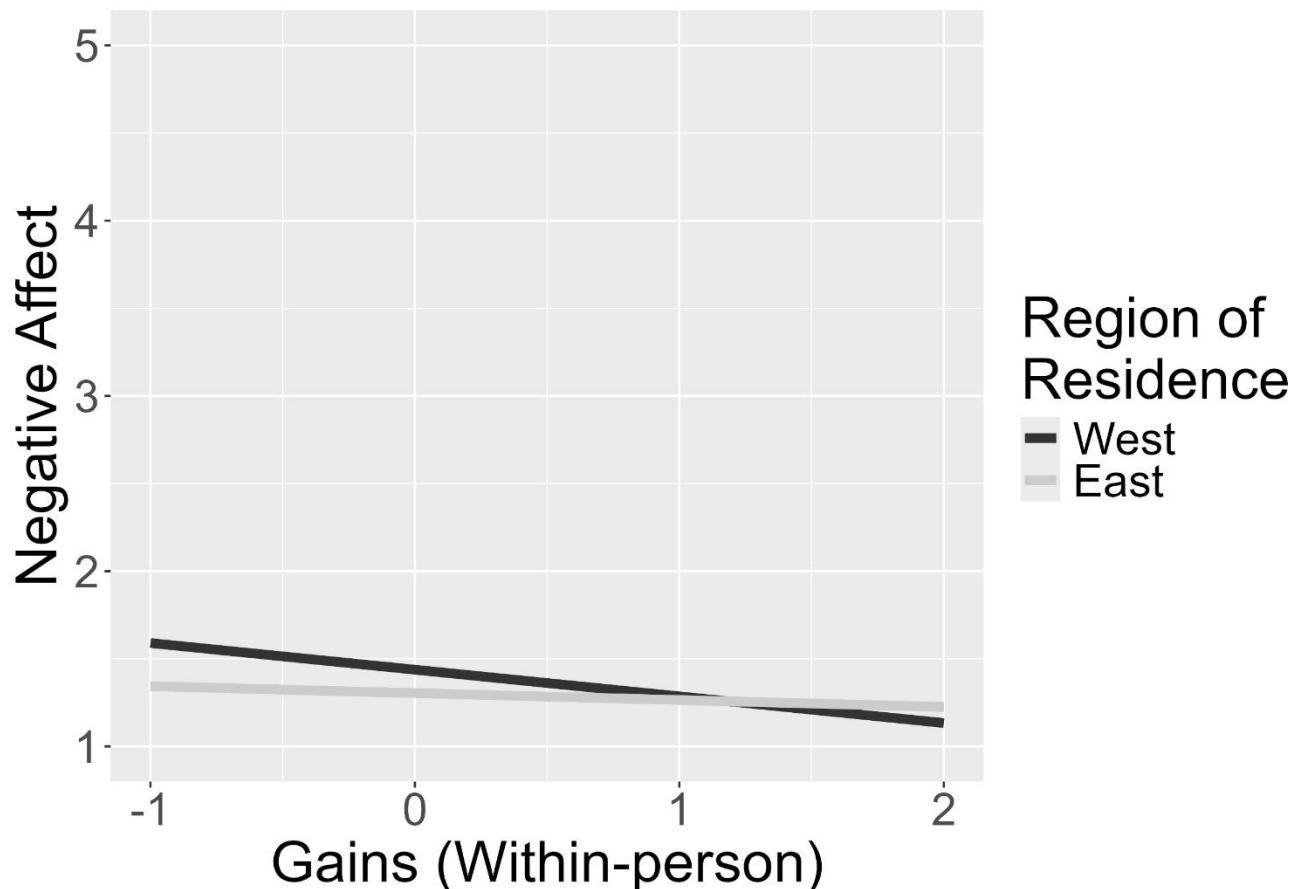
Note. *N* = 167, Observations = 2238. Gains were assessed on a 5-point scale from 1 = "not at

all" to 5 = "very much" and centered at person's mean. Negative affect was assessed on a 5-

point Likert scale ranging from 1 ("none of the time") to 5 ("all of the time").