Cultural Differences in Daily Coupling of Subjective Views of Aging and Negative Affect

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Abstract

Objectives: The established link between subjective views of aging (VoA) and well-being shows variations across different cultures. Although VoA show daily fluctuations, little is known about cultural differences in such fluctuations and the daily coupling of VoA and well-being. We compared Israeli Arabs to Israeli Jews in the daily coupling of VoA and negative affect (NA).

Methods: Community-dwelling older adults (N=76, M_{age}=66.71) completed measures of subjective age, subjective accelerated aging, ageist attitudes, and NA over 14 consecutive days.

Results: Respondents reported higher daily NA when they felt older, reported to be aging faster, or had more ageist attitudes. The daily coupling between subjective age/subjective accelerated aging and NA was stronger among Israeli Arabs compared to Israeli Jews. There was no such interaction with ageist attitudes.

Discussion: It is important to adopt a cultural perspective when investigating daily fluctuations in VoA and their correlates. In applied contexts, this might help to identify cultural groups that are particularly sensitive to the effects of VoA.

Keywords: Subjective age, Ageist attitudes, Cultural perspective, Minority populations.

There has recently been a growing recognition of the associations between subjective views of aging (VoA) and well-being (Shrira et al., 2022). Cultural factors are also becoming more prominent in the study of VoA, suggesting individuals draw upon cultural expectations, beliefs, and values (North & Fiske, 2015). While previous research has explored differences in VoA across countries (e.g., Westerhof & Barrett, 2005), fewer studies have investigated the link between VoA and well-being among diverse cultural groups within a specific society (Bergman & Shrira, 2022). Furthermore, although VoA show daily and momentary fluctuations (Bodner et al., 2021; Neupert & Bellingtier, 2022), whether such cultural differences manifest in daily VoA remains underexplored. The objective of this study is to investigate cultural differences in the daily coupling of VoA – i.e., subjective age, subjective accelerated aging, ageist attitudes – and negative affect (NA) within Israel, comparing Israeli Jews and Arabs (see Author Note 1). Subjective age and ageist attitudes are VoA that previously showed daily variations (Bodner et al., 2021; Kotter-Grühn et al., 2005). Subjective accelerated aging was recently suggested as another important index of VoA (Palgi, 2020), which refers to one's perceived rate of aging, and may also demonstrate daily variations. NA was chosen to index well-being as it is highly sensitive to daily experiences (Kotter-Grühn et al., 2005; Schilling & Diehl, 2015).

Israel is a diverse society comprising various cultural groups. Besides the majority Israeli Jewish population, Israeli Arab citizens constitute 21.7% of the total population, making them the largest minority group (Shnoor & Cohen, 2022). The Israeli Arab population is characterized by lower socioeconomic status, limited access to healthcare, and less knowledge regarding benefits and privileges associated with the welfare system, particularly among older adults (Balicer et al., 2011). Given that VoA become a more influential determinant of well-being when societal resources are less accessible for the minority group, research suggested that the relationship between individuals' VoA and well-being would be more pronounced for Israeli Arabs compared to Jews (Shrira & Bergman, 2022). This rationale is grounded in the idea that when older adults have fewer social benefits and opportunities, they may bear a

greater responsibility for their well-being throughout life, thus amplifying the role of VoA in determining such outcomes (Westerhof & Barrett, 2005).

Moreover, recent years have witnessed a transformation in the status of older adults in Israeli Arab society as it transitions from a more collectivistic to a more individualistic orientation (Bergman & Shrira, 2022). This shift can be related to greater modernization and urbanization and manifested in the replacement of traditional family and clan support networks with smaller independent structures, the fragmentation of households previously led by older adults into individual units, and the increasing willingness of adult children to seek formal social services for the care of their aging parents (Khalaila & Litwin, 2012). These changes collectively undermined positive self-views and social standing of older adults in the Arab society and may be associated with a rise in ageist attitudes (North & Fiske, 2015). Consequently, Israeli Arab older adults may become especially susceptible to daily stereotypes, potentially leading to less favorable well-being outcomes (Shrira & Bergman, 2022).

Given the limited exploration of disparities in VoA and their correlation with well-being among cultural groups within countries, along with the imperative to scrutinize cultural distinctions on the daily manifestation of VoA, this study investigates the associations between VoA—indicated by subjective age, subjective accelerated aging, and ageist attitudes—and NA among Jews and Arabs. We hypothesized that on days older adults report an older subjective age, feel to be aging faster, and hold higher ageist attitudes, they would report higher NA, and that these associations will be stronger among Arabs compared to Jews.

Methods

Participants and Procedure

A convenience sample of 76 Israeli older adults (M_{age}=66.71, *SD*=9.52, range=50-88) participated in the study, of which 60.5% were Jews and 39.5% were Arabs. Slightly more than half of the sample were females (53.9%), 75.0% had a high-school education or above, 64.5% were married or living with a

partner, 36.8% reported that their financial status was good or very good, 42.1% reported that their health was good or very good, and 21.1% reported no illnesses.

Graduate gerontology students approached eligible participants in their communities and asked them to voluntarily take part in the study. Inclusion criteria were community-dwelling adults aged 50 or above who spoke Hebrew. Between November 14, 2021, and February 11, 2022, participants completed an online web-based baseline questionnaire, which included background characteristics, and subsequently completed online daily measures of VoA and NA in the evening of each day for 14 consecutive days. Students regularly checked in with respondents to ensure that they were following the study procedure and provided help if participants experienced difficulties in completing the online questionnaires.

Respondents provided information for at least eight of the fourteen days (M_{day}=13.63, *SD*=1.54, total number of daily reports=1,036). The study received approval from the Institutional Review Boards of the second and last authors' institutions (IRB approval #1923 and #507/21, respectively), and all participants provided informed consent. No identifying information was requested or provided to ensure anonymity.

Measures

Daily negative affect was assessed using a Hebrew version (Palgi et al., 2021) of the scale developed for the National Survey of Midlife Development in the United States (MIDUS; Mroczek & Kolarz, 1998). Participants rated six negative emotions (i.e., depressed, hopeless, restless, everything was an effort, worthless, nervous) on a scale ranging from 1= '*none of the time'* to 5='*all of the time'*. The mean score was computed with higher values indicating higher NA. Internal consistency coefficients estimated on all 14 days suggest good internal consistency (mean α=.85, *SD*=.03, range=.77 to .91).

Daily subjective age was assessed by a single item asking participants how old they felt during the day. A proportional discrepancy score was computed by subtracting respondents' chronological age from subjective age, divided by chronological age (Stephan et al., 2015). These scores represent what percent younger (negative scores) or older (positive scores) an individual subjectively feels. Responses three *SD*s above or below the mean were considered outliers and omitted (cf. Stephan et al., 2015).

Daily subjective accelerated age 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).

Daily ageist attitudes included three items depicting the identity factor from North and Fiske's ageist attitudes questionnaire (North & Fiske, 2013; Hebrew version Bodner et al., 2021). Each day, participants indicated on a scale ranging from 1='*not at all*' to 5='*very much*' 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". The mean score was computed with higher values indicating higher ageist attitudes. Internal consistency coefficients estimated on all 14 days suggest good internal consistency (mean α=.81, *SD*=.03, range=.72 to .86).

Background characteristics. Ethnic group was determined by asking the respondents to indicate whether they identify themselves as Jews, Arabs, or belong to another ethnic category. Participants provided information regarding their chronological age, sex, education level (scale ranged from 0='*no formal education*' to 5='*academic degree*'), marital status (not married/married or with partner), self-rated financial status and health (scales ranged from 1=*'not good at all'* to 5=*'very good'*), and medical conditions (a list of 16 conditions, e.g., myocardial infarction, diabetes, chronic lung disease). Participants reported conditions diagnosed by a physician, and the sum score was computed (Bodner et al., 2021).

Data Analysis

To test whether VoA (i.e., subjective age, subjective accelerated aging, and ageist attitudes), ethnic group, and their interaction predicted NA, we fit a multilevel model. We controlled for age, sex, education, marital and financial status, self-rated health, and medical conditions, as these variables were generally related to NA (DeNeve & Cooper, 1998), or significantly differed between the two ethnic groups.

In all models, within-person variables (i.e., VoA) were person-mean centered, thus focusing on state-like deviations of scores from one's average, while between-person variables were grand-mean centered. Models were examined with SPSS 28. Significant interactions were probed using Preacher et al.'s (2006) procedure. More details about the model specifications and equations can be found in Supplementary Material.

We conducted power analyses using the EMAtools package (Kleiman, 2021). With 70 participants, 14 days, a completion rate close to 100%, and intraclass correlation (ICC)=0.40 (cf. Bodner et al., 2021) there was sufficient power to detect medium-sized effects (Cohen d>0.5) at over 90% power.

Results

Preliminary Analyses

Means, *SD*, and bivariate between-person correlations for the study variables appear in Supplementary Material. At the between-person level, NA was related to an older subjective age and higher accelerated aging and ageist attitudes. The VoA were moderately positively related to one another.

Relative to their Jewish counterparts, Arabs reported significantly higher average daily NA (t[74]=-2.29, p=.02, Cohen's d=-.53), older average daily subjective age (t[74]=-2.19, p=.03, Cohen's d=-.51), higher average daily ageist attitudes (t[74]=-2.57, p=.01, d=-.60), lower education level (t[74]=3.95, p<.001, d=.99), and lower financial status (t[74]=2.33, p=.02, d=.54). Arabs also had a higher proportion

of men (χ^2[1]=3.88, p=.049, φ=-.22) and unmarried individuals (χ^2[1]=5.21, p=.02, φ=-.26). The groups did not differ in average daily subjective accelerated aging, chronological age, self-rated health, and medical conditions (|d| < .34, see Author Note 2).

ICCs for daily NA, subjective age, subjective accelerated aging, and ageist attitudes were 0.48, 0.64, 0.55, and 0.74, respectively, suggesting that there was between 26% to 52% within-person variance in daily measures over time.

Multilevel Models

Models without the interaction term showed that on days respondents felt older (estimator=1.41, p<.001), reported to be aging faster (estimator=0.22, p<.001), or had more ageist attitudes (estimator=0.16, p<.001), they reported higher NA.

Table 1 presents the multilevel models (with and without covariates) predicting daily NA by VoA, ethnic group, and their interaction. On days older adults felt older, they reported higher NA, however, there was no significant effect for the ethnic group after controlling for the other covariates. There was a significant interaction between ethnic group and subjective age: the daily coupling between subjective age and NA was stronger among Arabs (estimator=2.11, p<.0001) relative to Jews (estimator=0.92, p=.002).

In the model with subjective accelerated aging, there was a main effect for ethnic group, suggesting higher NA among Arabs. Moreover, on days respondents felt to be aging faster, they reported higher NA. The interaction term between ethnic group and accelerated aging was significant. The daily coupling between accelerated aging and NA was stronger among Arabs (estimator=0.34, p<.0001) relative to Jews (estimator=0.12, p=.008).

The last model included ageist attitudes but there was no main effect for either ageist attitudes or an interaction between ethnic group and ageist attitudes (p=.08 without or with covariates, see Author Note 3).

Discussion

The present study extends the existing literature on VoA, by addressing its link to NA within specific cultural groups in Israeli society, drawing on data from daily experiences. As hypothesized, older subjective age, feeling to be aging faster, and holding more ageist attitudes were related to higher NA. Partially consistent with our second hypothesis, these associations were moderated by ethnic group (although the interaction between ageist attitudes and ethnic group was not significant). Specifically, there was a stronger daily coupling between VoA and NA among Arabs compared to Jews.

The significant daily coupling between negative VoA and NA aligns with findings from previous studies (Bodner et al., 2021). Our findings, indicating a stronger daily coupling between VoA and NA among Arabs, also align with previous findings revealing strong associations between subjective age and well-being among Arabs in a national sample (Bergman & Shrira, 2022). This may be attributed to the greater responsibility placed on individuals in specific cultural groups for planning their later years, coupled with reduced access to welfare benefits. Indeed, the variations in welfare states among developed countries may accentuate the role of individual factors, such as VoA, in determining well-being (Westerhof & Barrett, 2005). Given that Arabs have limited access to welfare benefits, their responsibility for well-being becomes crucial for its preservation.

The above explanation may align with findings showing a stronger coupling of NA with subjective age and subjective accelerated aging, but less so with ageist attitudes, among Israeli Arabs. Subjective age and subjective accelerated aging represent personal VoA which are directly relevant to perception of one's aging while ageist attitudes refer to generalized perceptions of old people and are more other-oriented (Shrira et al., 2022). Individuals may plan their aging based on the more self-oriented VoA (e.g., subjective age and subjective accelerated aging), which clearly showed a stronger association with NA in Arabs. Notably, the limited variance of NA and ageist attitudes in our study may also have affected the ability to detect significant associations between these two variables. Nevertheless, similar

NA distribution is generally found among older adults (e.g., Charles et al., 2016), and still, daily NA is considered sensitive to daily experiences (Kotter-Grühn et al., 2015; Schilling & Diehl, 2015).

An additional factor influencing the impact of culture may be traced to the evolving status of older adults within Arabic society, marking a transition from a collectivistic to an individualistic societal framework associated with a decline in the social standing of older individuals. In societies undergoing such transformations, ageist attitudes tend to be more prevalent (North & Fiske, 2015), potentially resulting in less favorable well-being outcomes. This reasoning, alongside being minority and less privileged, is also pertinent to the older subjective age, higher ageist attitudes and higher NA identified in our study among Arabs.

This study has several limitations. First, the sample was a convenience sample of Hebrew-speaking older adults, potentially limiting its representativeness. Second, the fact that Arabs did not receive a translated version of the questionnaire should be acknowledged. Third, the sample size for Arabs was quite small limiting the statistical power to detect potential meaningful differences. Fourth, important variables that might underlie the reported associations, such as acculturation or discrimination faced by Israeli Arabs on access to socioeconomic resources were not assessed and should be incorporated in future studies. Fifth, VoA were assessed with single items and a relatively brief scale. Finally, both VoA and NA might have been affected by other daily events and experiences that caused respondents to rate their day in generally positive or negative terms.

Despite these limitations, our findings underscore the significance of adopting a cultural perspective when examining the daily associations between VoA and well-being. Furthermore, they emphasize the importance of considering such cultural differences among diverse cultural groups including majority and minority groups within a specific society. In applied contexts, this might help to identify cultural groups particularly sensitive to the effects of VoA, such as those that are currently undergoing modernization and urbanization. Future studies should further investigate such differences while accounting for daily fluctuations in VoA and well-being.

Author Notes

1. Israeli Arabs and Israeli Jews will be titled as Arabs and Jews henceforth.
2. Although the groups significantly differed in NA, there was also substantial between-person variance in average daily NA scores and considerable overlap between the groups' distribution of these scores. See more details in the supplementary file.
3. Adding the interaction terms to the models increased the between-person pseudo-R2 (Raudenbush & Bryk, 2002) from 1% to 8% in the models with subjective age and from 4% to 5% in the models with subjective accelerated aging. Although the coupling between subjective age/subjective accelerated aging and NA significantly differed between the study groups, there was substantial between-person variance in the coupling between these VoA and NA, and some overlap between the groups' distributions of coefficients. See more details in the supplementary file.

Funding

None.

Conflict of Interest

None.

Data Availability

Data, analytic methods, and materials will be made available to other researchers by contacting the first or second authors. The current study was not pre-registered.

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Table 1. Unstandardized Coefficients (and Standard Errors) of Multilevel Models Predicting Negative Affect

	Predicting daily negative affect by:					
	Daily subjective age		Daily subjective accelerated aging		Daily ageist attitudes	
Variable	Without covariates	With covariates	Without covariates	With covariates	Without covariates	With covariates
Fixed effects						
Intercept, γ_{00}	1.45*** (.06)	1.38*** (.19)	1.45*** (.07)	1.40*** (.19)	1.45*** (.06)	1.39*** (.19)
Ethnic group (Arabs), γ_{01}	.24* (.10)	.24 (.12)	.25* (.10)	.25* (.12)	.23* (.10)	.23 (.12)
Chronological age, γ_{02}		.003 (.006)		.004 (.006)		.003 (.006)
Sex (Woman), γ_{03}		.02 (.10)		.01 (.10)		.02 (.10)
Education level, γ_{04}		.01 (.04)		.01 (.04)		.01 (.04)
Marital status (married/with partner), γ_{05}		.07 (.12)		.05 (.12)		.06 (.12)
Financial status, γ_{06}		.02 (.06)		.02 (.06)		.04 (.06)
Self-rated health, γ_{07}		-.19** (.06)		-.20** (.06)		-.21** (.06)
Medical conditions, γ_{08}		-.06 (.03)		-.06 (.03)		-.05 (.03)
Daily VoA, γ_{10}	.97*** (.26)	.97*** (.26)	.13** (.04)	.13** (.04)	.09 (.06)	.09 (.06)
Ethnic group*Daily VoA, γ_{11}	1.18** (.41)	1.18** (.42)	.22** (.07)	.22** (.06)	.14 (.08)	.14 (.08)
Random effects						
VoA slope, u_1	.44 (.37)	.44 (.37)	.03** (.01)	.03** (.01)	.04** (.01)	.04** (.01)
Between-person, u_0	.18*** (.03)	.16*** (.03)	.19*** (.03)	.16*** (.03)	.19*** (.03)	.16*** (.03)
Within-person, e	.19*** (.01)	.19*** (.01)	.18*** (.01)	.18*** (.01)	.19*** (.01)	.19*** (.01)
Pseudo-R^2 within-person	.14	.14	.21	.21	.17	.17
Pseudo-R^2 between-person	.08	.21	.05	.19	.06	.20

Note. VoA=views of aging. Pseudo-R^2 within- and between-person are calculated based on Raudenbush and Bryk (2002).

*p<.05, **p<.01, ***p<.001.