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The Impact of Perceived Ageism on Psychological Distress: Insights into the Role of Subjective Vitality

Isabel Miguel [1,*] and Lénia Carvalhais [2,3]

[1] RISE-Health, Department of Psychology and Education, Universidade Portucalense Infante D. Henrique, Rua Dr. António Bernardino de Almeida, 4200-072 Porto, Portugal
[2] Departament of Psychology and Education, Universidade Portucalense Infante D. Henrique, Rua Dr. António Bernardino de Almeida, 4200-072 Porto, Portugal; leniac@upt.pt
[3] Life Quality Research Centre (CIEQV), Politécnico de Santarém, Complexo Andaluz, Apartado 279, 2001-964 Santarém, Portugal
* Correspondence: isabelm@upt.pt

Abstract: Age discrimination is prevalent in society and has significant, far-reaching effects on individual distress. Additionally, loss of energy and fatigue are natural aspects of aging that can further potentiate psychological distress (depression, stress, and anxiety). Although the effects of ageism have been extensively studied, the moderating role of subjective vitality in the relationship between age discrimination and psychological distress has received far less attention. A total of 792 Portuguese participants from three distinct age groups (18–39, 40–59, and 60+) participated in this cross-sectional study. Data were collected through a structured self-report questionnaire, which included measures of perceived ageism, subjective vitality, stress, depression, and anxiety. Multivariate analyses of variance and moderated regression analyses were performed on the data. While an increased perception of positive ageism was found throughout the life cycle, results also indicated the highest levels of perceived negative ageism, anxiety, and depression among younger and older participants. Perceived ageism, both negative and positive, was positively connected to dimensions of psychological distress. Further, the effect of perceived negative ageism on stress and anxiety depends on the level of subjective vitality. The practical implications of the results to diminish the negative impacts of ageism are discussed.

Keywords: perceived ageism; subjective vitality; psychological distress; lifespan; age groups

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1. Introduction

Ageism is a complex and evolving concept that has undergone significant transformations. In (Butler 1969), described ageism as age discrimination by one age group toward other age groups, focusing more on negative attitudes toward old adults (Levy and Macdonald 2016). However, the literature on ageism has also started to focus on positive ageism, and even more research is needed on this topic (Levy and Macdonald 2016). Iversen et al. (2009) presented ageism encompassing negative and positive stereotypes, prejudices, and discriminatory behaviors directed toward—or in favor of—aging individuals. Positive ageism was previously linked to greater well-being and longevity (Levy et al. 2002; Steverink et al. 2001) and is based on a positive attitude towards a specific lifetime or age (Palmore 1990), mainly studied among older adults, that can manifest with traits like wisdom and kindness (Cuddy et al. 2005) or characterizations of older adults as having higher social status or as more reliable workers (Levy and Macdonald 2016). Furthermore, negative ageism also mainly focuses on the impact of age on older populations, assuming

the increasing age of a group (World Health Organization (WHO) 2015), and primarily on negative attitudes related to age perception toward older adults and discriminatory practices and policies that perpetuate stereotypic beliefs about older people (Butler 1980). Nelson (2005) reported that getting older is associated with negative concepts and could be characterized by illness or unattractiveness (Cuddy et al. 2005; Kite et al. 2005), leading to potential marginalization and social exclusion. However, though most of the past research had focused on negative ageism among the older population, recent studies have also reported the effects of ageism among other age groups, namely young adults (Francioli and North 2021).

Considering the consequences of ageism, in a systematic review, Chang et al. (2020) reported that ageism represents worse health outcomes, namely psychological (e.g., a lack of work opportunities, decreased levels of purpose in life or self-efficacy; for more information—Levy 2009), physiological (e.g., C-reactive protein, a stress biomarker), and behavioral pathways (e.g., behaviors related to physical activity). Negative ageism, particularly among the elderly (Ribeiro-Gonçalves et al. 2023), has been associated with psychological distress, producing symptoms of anxiety, depression, and stress (Kessler et al. 2002; Santos et al. 2015), and with several factors such as social isolation, socioeconomic conditions, or family support (Evandrou et al. 2017). However, ageism as a negative perception of age has also been analyzed in younger and younger adults (Bratt et al. 2018) as a particularly exigent phase with a transition to adulthood (Sacker and Cable 2010) that could impact psychological well-being. At this lifespan phase, youths must deal with several tasks, such as entering employment, leaving their parent's home, and forming partnerships or families, and negative self-perceptions of their age are usually related to the accomplishment of these tasks. Societal pressures and the prospect of not fulfilling all age expectations are associated with stress and anxiety as frequent responses to these external threats (Heidrich and Ryff 1993). Regarding middle-aged adults, little is known about the association between the aging perspective and psychological distress (Bodner et al. 2023; Bratt et al. 2018) as well as the impact of positive ageism. In the older age stage, Rothermund and Couto (2024) found that, in contrast, while perceptions of older adults are negative regarding health or memory, they are typically more positive regarding the role and relations that older adults have within their family or in terms of their life experience.

By fostering environments that support individuals' competence, autonomy, and relatedness regardless of age, it is possible to create a society that values contributions across the lifespan and reduces the mental health burden associated with age-based stereotypes (Ayalon and Tesch-Römer 2018). Furthermore, according to self-determination theory (Deci and Ryan 2000), subjective vitality arises when individuals' psychological needs are fulfilled, enabling them to feel competent, self-directed, and socially connected. These experiences foster intrinsic motivation, thereby increasing subjective vitality. People with stronger vitality traits generally have an enduring sense of energy, enthusiasm, and psychological well-being. Subjective vitality refers to a person's self-perceived energy and enthusiasm for life (Fini et al. 2010; Ryan et al. 2010). Conversely, when these needs are not fulfilled, individuals may experience psychological distress, a state characterized by negative emotions, a lack of motivation, and a sense of diminished capacity for life (Kasser and Ryan 1999; Couto et al. 2017). In stressful environments where autonomy or relatedness is thwarted, people often report feeling depleted, which correlates with increased psychological distress and lower vitality (Ryan et al. 2010). In this sense, subjective vitality is influenced by psychological factors and physical abilities, which are negatively influenced by aging (Manini and Pahor 2009). Bostic et al. (2000) reported that individuals with higher vitality cope better with stress and are less likely to experience psychological distress. Based on these premises, subjective vitality could be a protective factor, buffering the effect of

negative perceptions of age on psychological distress. Thus, perceived higher vitality levels could lead to better stress management, goal pursuit, or engagement with the environment, including in job or task performance (Dubreuil et al. 2014; Muraven et al. 2008). Furthermore, subjects report different subjective vitality along the lifespan, according to different life circumstances lived at each stage, such as physical and mental decline among older adults (Park et al. 2019) or social challenges during youth (Sacker and Cable 2010), which can influence how subjective vitality is experienced. Giles et al. (2000) analyzed the concept of subjective vitality in the intergenerational field and cross-culturally, concluding that middle age was the age stage that assessed vitality highly compared to young adults and the elderly.

Despite previous findings regarding the possible negative consequences that ageism can have on young adults (16–39 years old), adults (40–59 years old), and elders (+60 years old), few studies have focused on ageism in adults or on factors that can have a positive impact, namely subjective vitality, on diminishing psychological distress, based on the impact of one's negative ageism perception. Thus, this study has two main objectives. On the one hand, we aim to understand the differences among lifespan periods on the subjects' perception of ageism, psychological distress (stress, anxiety, and depression), and subjective vitality. On the other hand, we aim to explore the moderating role of intrapersonal factors such as subjective vitality in the relationship between the perception of ageism and psychological distress. We hypothesize that (i) there are statistically significant differences in ageism perception along the lifespan; (ii) perceived ageism (both positive and negative) is associated with the symptomatology of stress, depression, and anxiety; and (iii) subjective vitality moderates the impact of ageism on psychological distress.

2. Materials and Methods

2.1. Participants

A total of 792 Portuguese participants participated in the present study, ages 18 to 91 years old (M_{age} = 46.29; SD_{age} = 18.58). The sociodemographic characteristics of the study sample are shown in Table 1. All participants lived in the community and were eighteen years old and older.

Table 1. Sociodemographic characteristics of the participants.

Characteristics	Frequency (n)	Percentage (%)
Total (overall)	792	100
Gender		
Male	390	49.2
Female	402	50.8
Age group		
18–39 years	307	38.3
40–59 years	256	32.3
60+ years	229	28.9
Educational level *		
<Secondary	164	21.3
Secondary	235	30.5
>Secondary	371	48.2
Marital status		
Single	266	33.6
Married/de facto union	385	48.6
Divorced/separated	68	8.6
Widow	73	9.2

* 22 participants did not report on their level of education.

2.2. Materials

2.2.1. Sociodemographic Questionnaire

The sociodemographic questionnaire collected participants' information, including age, gender, level of education, and marital status. Descriptive statistics were used to characterize the sample.

2.2.2. Perceived Ageism Questionnaire (PAQ)

Perceived ageism was assessed using the Perceived Ageism Questionnaire (PAQ-8; Brinkhof et al. 2022; Portuguese adaptation from Miguel and Pedro-Chaparro 2024), a comprehensive scale that quantifies experienced ageism, including both negative (e.g., "... you are not being listened to and/or your opinion advice is not taken seriously because of your age?") and positive (e.g., "...people assume that you are wise and sensible because of your age?") ageism. Participants were asked to report on the 8 items using a 5-point Likert scale ranging from 1 (never) to 5 (very often). Cronbach's alpha for the PAQ-8 was 0.75 and 0.74 for the positive ageism subscale and 0.81 and 0.89 for the negative ageism subscale, respectively, for the original version (Brinkhof et al. 2022) and the Portuguese adaptation (Miguel and Pedro-Chaparro 2024). In the present study, subscales presented adequate reliability, with Cronbach alpha coefficients of 0.72 for the perceived positive ageism and 0.90 for the perceived negative ageism.

2.2.3. Subjective Vitality Scale (SVS)

Subjective vitality was assessed with the Subjective Vitality Scale (SVS; Ryan and Frederick 1997; Portuguese adaptation from Lemos et al. 2011), a 7-item self-report instrument used to measure one's level of positive feeling of aliveness (e.g., "I look forward to each new day"). Respondents were asked to indicate the degree to which each item was true for them on a 7-point Likert-type scale ranging from 1 (not at all true) to 7 (very true). The scale's alpha was 0.86, both for the original version (Ryan and Frederick 1997) and the Portuguese adaptation (Lemos et al. 2011). The scale presented adequate reliability in the present study, with a Cronbach alpha coefficient of 0.84.

2.2.4. Depression, Anxiety, and Stress Scales (DASS-21)

The Portuguese version (Pais-Ribeiro et al. 2004) of the Depression Anxiety Stress Scale—21 (DASS-21; Lovibond and Lovibond 1995) was used to assess the negative emotional states. The 21 items on the questionnaire comprise a set of 3 self-reported scales designed to evaluate stress (e.g., "I tended to over-react to situations"), anxiety (e.g., "I felt scared without any good reason"), and depression (e.g., "I was unable to become enthusiastic about anything"). Respondents rated the degree to which they experienced the symptoms over the course of the last week on a 4-point Likert scale (0 = Did not apply to me at all to 3 = Applied to me very much or most of the time). Higher scores reflect higher levels of symptom endorsement. The internal consistency for the current sample was very satisfactory (α = 0.92, α = 0.92, and α = 0.93, respectively, for stress, anxiety, and depression).

2.3. Procedures

2.3.1. Data Collection Procedures

Data were collected through a self-reported online questionnaire, made available between October and December 2023, and shared via email and social/personal networks. Portuguese adults living in Portugal aged 18 years and older could take part in the study. All participants were provided with research details and the expected duration of participation. Protocols for human subject research were conducted according to the Helsinki Declaration

on Ethical Guidelines. Confidentiality and anonymity in data collection and treatment were guaranteed, as well as voluntary participation. Informed consent was provided in all cases. Participants were not compensated upon the completion of the questionnaire.

2.3.2. Data Analyses Procedures

Survey data were entered into a database and analyzed using SPSS (Statistical Package for the Social Sciences). The normality of the data was assessed for the dependent and independent variables using the Kolmogorov–Smirnov test and descriptive statistics. Despite some deviations in the univariate tests, skewness and kurtosis values were within acceptable ranges, suggesting normality for the considered variables. Prior to the exploration of the relations associated with perceived ageism, psychological distress and subjective vitality, the tolerance and variance inflation factors (VIFs) of the independent variables were examined to test for potential multicollinearity among variables. Since the observed values of tolerance ranged between 0.854 and 0.886 and those of VIF between 1.129 and 1.171, no severe problems regarding multicollinearity were found. Descriptive analyses were conducted to characterize the sample and the variables of interest. The reliability of each scale was assessed using Cronbach's alpha coefficient. Multivariate analyses of variance (MANOVAs) were performed, with the study variables (perceived ageism, subjective vitality, stress, anxiety, and depression) as dependent variables and gender, level of education, marital status, and age cohorts (18–39 years, 40–59 years, and 60 years and older) as the independent variables. MANOVAs were used to decrease the chance of Type I errors associated with multiple significance testing with correlated outcome variables. Identified differences were further explored with univariate and Tukey's HSD post hoc comparisons. The PROCESS procedure developed by Hayes (2013) was utilized for regression analysis on moderating effects, with perceived ageism (both negative and positive) as the independent variable, subjective vitality as the moderator, and dimensions of psychological distress (stress, anxiety, and depression) as dependent variables. Age and gender were included as covariates. The results were considered statistically significant if $p < 0.05$.

3. Results

3.1. Preliminary Analyses

A MANOVA identified a significant multivariate effect of gender on study variables [Wilk's $\Lambda = 0.990$; F (2, 789) = 4.120, $p = 0.017$; *partial* $\eta 2 = 0.010$]. Subsequent univariate analyses showed significant differences between means in perceived negative ageism [F (1, 790) = 8.248, $p = 0.004$; *partial* $\eta 2 = 0.010$]: men reported higher levels of perceived negative ageism ($M = 2.20$) compared to women ($M = 2.00$). No effects of gender on psychological distress or subjective vitality were identified.

MANOVA results also indicated a statistically significant effect of the level of education on perceived ageism [Wilk's $\Lambda = 0.955$; F (4, 1532) = 8.861, $p < 0.001$; *partial* $\eta 2 = 0.023$]. The effect of the level of education was significant in perceived negative ageism [F (2, 770) = 14.052, $p < 0.001$; *partial* $\eta 2 = 0.035$]. Post hoc Tukey tests revealed that participants with a basic level of education perceived significantly higher levels of negative ageism ($M = 2.43$, $SD = 0.99$) than those with secondary ($M = 2.01$, $SD = 0.89$) and high education ($M = 1.99$, $SD = 0.95$). Perceived positive ageism was also significantly lower in participants with secondary education ($M = 2.92$, $SD = 0.85$) compared to individuals with basic ($M = 3.20$, $SD = 0.87$) and high education ($M = 3.06$, $SD = 0.85$) [F (2, 770) = 5.463, $p = 0.004$; *partial* $\eta 2 = 0.014$]. Education level also produced a significant effect on psychological distress [Wilk's $\Lambda = 0.972$; F (6, 1530) = 3.698, $p = 0.001$; *partial* $\eta 2 = 0.014$], namely on stress [F (2, 770) = 7.823, $p < 0.001$; *partial* $\eta 2 = 0.020$], anxiety [F (2, 770) = 10.357, $p < 0.001$; *partial* $\eta 2 = 0.026$], and depression [F (2, 770) = 9.215, $p < 0.001$; *partial* $\eta 2 = 0.023$].

Participants with a basic level of education presented significantly higher levels of stress (M = 1.50, SD = 0.84), anxiety (M = 1.26, SD = 0.84), and depression (M = 1.27, SD = 0.86) compared to other participants. The effect of the level of education on subjective vitality was not significant [F (2, 769) = 2.084, p = 0.125; *partial* η2 = 0.005].

A statistically significant effect of marital status on the combined dependent variables of perceived ageism was found [Wilk's Λ = 0.887; F (6, 1574) = 16.189, $p < 0.001$; *partial* η2 = 0.058]. Widowed participants presented significantly higher levels of perceived negative ageism (M = 2.77, SD = 0.11) compared to other participants [F (3, 788) = 16.577, $p < 0.001$; *partial* η2 = 0.059]. Also, significantly lower levels of perceived positive ageism were displayed by single participants (M = 2.78, SD = 0.51) compared to all other participants [F (3, 788) = 16.437, $p < 0.001$; *partial* η2 = 0.059]. Marital status also produced a significant effect on psychological distress [Wilk's Λ = 0.956; F (9, 1913) = 3.939, $p < 0.001$; *partial* η2 = 0.015]. More specifically, widowed participants presented significantly higher levels of stress (M = 1.52, SD = 0.82 compared to single (M = 1.28, SD = 0.80) participants [F (3, 792) = 3.646, p = 0.012; *partial* η2 = 0.014]. Widowed participants also displayed significantly higher levels of anxiety (M = 1.36, SD = 0.84) and depression (M = 1.43, SD = 0.85) than participants with other marital statuses [anxiety: F (3, 792) = 8.294, $p < 0.001$; *partial* η2 = 0.031; depression: F (3, 792) = 9.683, $p < 0.001$; *partial* η2 = 0.036]. Finally, subjective vitality was similarly significantly lower in widowed participants (M = 3.72, SD = 1.11) compared to all other participants [F (3, 788) = 5.682, $p < 0.001$; *partial* η2 = 0.021].

3.2. Perceived Ageism, Subjective Vitality, and Psychological Distress: Differences Between Age Groups

Table 2 presents the results of age group comparisons across perceived ageism, subjective vitality, stress, anxiety, and depression. A significant multivariate effect of age group [Wilk's Λ = 0.859, F (12, 1568) = 10.282, $p < 0.001$; *partial* η2 = 0.073] was identified by MANOVA analyses. The findings indicate that scores on perceived negative ageism exhibit a U-shaped pattern across age groups (F (2, 789) = 43.72, $p < 0.001$; *partial* η2 = 0.100): older adults reported the highest levels of perceived negative ageism (M = 2.47), followed by the younger participants (M = 2.15), and the middle-aged (M = 1.71) participants. Positive ageism seems to increase steadily with age [F (2, 789) = 19.21, $p < 0.001$; *partial* η2 = 0.046] with younger participants (M = 2.87) presenting lower scores, followed by middle-aged (M = 3.06) and older participants (M = 3.32). Young and old-aged participants seem to present higher scores of anxiety (M = 1.05; M = 1.13) and depression (M = 1.07; M = 1.14) compared to middle-aged participants (anxiety: M = 0.84; depression: M = 0.87) (anxiety: F (2, 789) = 8.433, $p \leq 0.001$; *partial* η2 = 0.021; depression: F (2, 789) = 6.953, $p < 0.001$; *partial* η2 = 0.017). No age group differences were found in subjective vitality and stress.

Table 2. Perceived ageism, subjective vitality, and well-being: descriptives per age group and univariate tests.

	18–39 Years	**40–59 Years**	**≥60 Years**		
	Mean (*SD*)	**Mean (*SD*)**	**Mean (*SD*)**	***F***	***p***
Perceived negative ageism	2.15 (0.85) a	1.71 (0.87) b	2.47 (1.01) c	36.14	<0.001
Perceived positive ageism	2.87 (0.77) a	3.06 (0.89) b	3.32 (0.87) c	19.21	<0.001
Subjective vitality	4.11 (1.20)	4.30 (1.16)	4.11 (1.16)	2.21	0.110
Stress	1.33 (0.76)	1.19 (0.83)	1.35 (0.84)	2.91	0.055
Anxiety	1.05 (0.81) a	0.84 (0.85) b	1.13 (0.84) ac	8.43	<0.001
Depression	1.07 (0.85) a	0.87 (0.85) b	1.14 (0.86) a	6.95	0.001

Note: Measures marked with different letters differ statistically between age categories, at the level of $\alpha < 0.05$, according to the Tukey HSD test: if two groups have different letters assigned to them (e.g., "a" and "b"), their values are significantly different from each other; if two groups share the same letter (e.g., both have "a"), it means their values are not significantly different.

3.3. Relations Between Perceived Ageism, Stress, Anxiety, and Depression: The Moderating Role of Subjective Vitality

Moderation models were tested to investigate whether the association between perceived ageism (negative and positive) and psychological distress (stress, anxiety, and depression) is moderated by subjective vitality. As shown in Table 3, the results overall indicate that perceived negative ageism is a positive and statistically significant predictor of stress and anxiety. Perceived positive ageism is also positively associated with stress and anxiety. Subjective vitality is negatively associated with stress, anxiety, and depression. The moderating effect of subjective vitality (b = 0.067, p = 0.014) on the relationship between perceived negative ageism and stress is statistically significant, suggesting that the effect of perceived negative ageism depends on the level of subjective vitality. The simple slope for the association between perceived negative ageism and stress was tested for low (−1 SD below the mean), moderate (mean), and high (+1 SD above the mean) levels of subjective vitality: the positive effect of perceived negative ageism is significant and stronger for high (b = 0.370, p < 0.001) levels of subjective vitality, compared to moderate (b = 0.302, p < 0.001) and low (b = 0.235, p < 0.001) levels of subjective vitality (Figure 1). Finally, results also show that the effect of perceived negative ageism on anxiety depends on the level of subjective vitality. Each of the simple slope tests reveals a significant positive association between perceived negative ageism and anxiety, but perceived negative ageism is more strongly related to anxiety for high levels of subjective vitality (b = 0.470, p < 0.001), than for moderate (b = 0.416, p < 0.001) or low (b = 0.362, p < 0.001) levels of subjective vitality (Figure 1).

Table 3. Summary of moderated regression analyses predicting stress, anxiety, and depression.

	Stress		**Anxiety**		**Depression**	
	b (SE)	**95% CI**	***B (SE)***	**95% CI**	***B (SE)***	**95% CI**
Perceived negative ageism (X)	0.302 *** (0.028)	[0.247; 0.358]	0.416 *** (0.027]	[0.362; 0.470]	0.396 *** (0.028)	[0.341; 0.450]
Subjective vitality (W)	−0.111 *** (0.023)	[−0.156; −0.066]	−0.119 *** (0.022)	[−0.163; −0.076]	−0.185 *** (0.022)	[−0.229; −0.141]
X × W	0.057 * (0.023)	[0.012; 0.001]	0.046 * (0.022)	[0.003; 0.089]	0.036 (0.022)	[−0.008; 0.080]
Age (covariate)	−0.002 (0.001)	[−0.005; 0.001]	−0.001 (0.001)	[−0.004; 0.001]	−0.001 (0.001)	[−0.004; 0.001]
Gender (covariate)	−0.064 (0.052]	[−0.166; 0.039]	0.019 (0.050)	[−0.080; 0.117]	−0.013 (0.051)	[−0.113; 0.088]
F	38.210 ***		69.129 ***		73.447 ***	
R^2	0.196		0.305		0.318	
Perceived positive ageism (X)	0.124 *** (0.034)	[0.056; 0.191]	0.084 * (0.035)	[0.015; 0.153]	0.065 (0.035)	[−0.004; 0.135]
Subjective vitality (W)	−0.201 *** (0.024)	[−0.249; −0.154}	−0.226 *** (0.035)	[−0.275; −0.177]	−0.283 *** (0.025)	[−0.332; −0.234]
X × W	0.000 (0.027)	[−0.053; 0.052]	0.029 (0.027)	[−0.025; 0.083]	0.040 (0.028)	[−0.014; 0.094]
Age (covariate)	−0.001 (0.002)	[−0.004: 0.002]	0.000 (0.002)	[−0.003; 0.003]	0.000 (0.002)	[−0.003; 0.003]
Gender (covariate)	−0.005 (0.055)	[−0.114; 0.104]	0.105 (0.057)	[−0.006; 0.217]	0.071 (0.057)	[−0.041; 0.183]
F	14.299 ***		17.364 ***		26.455 ***	
R^2	0.083		0.099		0.144	

Note: Different moderation models for each dimension of perceived ageism and each outcome, with subjective vitality as moderator; X = independent variable; W = moderator; b = non-standardized regression coefficient. *SE* = Standard error. CI = confidence interval. * p < 0.05, *** p < 0.001.

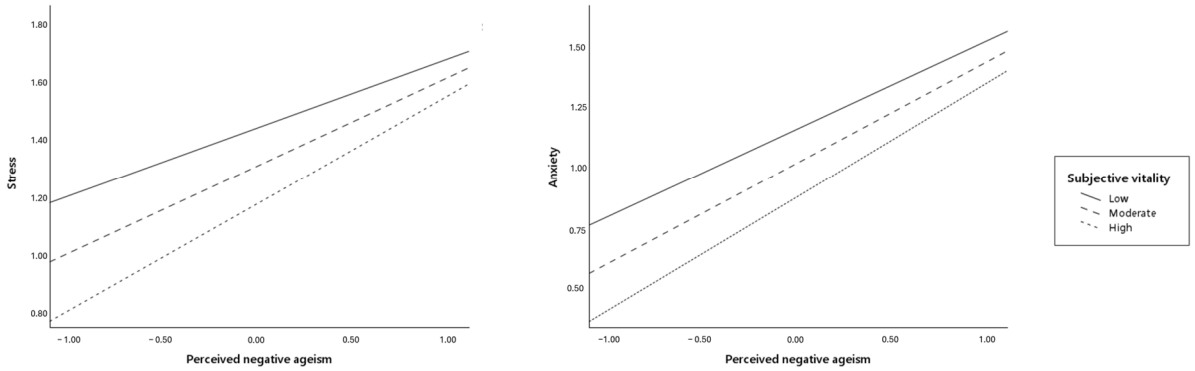

Figure 1. The relationship between perceived negative ageism, stress, and anxiety, moderated by subjective vitality.

4. Discussion

While the negative effects of ageism on the psychological well-being of older adults have been recognized, few studies have explored the impact of age across the lifespan and the role of positive psychological states—such as subjective vitality—in safeguarding against the negative effects of ageism. The current study sought to contribute to this line of research by comparing perceived ageism, subjective vitality, and psychological distress indicators across three age cohorts spanning the lifespan. Additionally, it explored how perceived ageism influences psychological distress (stress, anxiety, and depression) and examined the moderating effect of subjective vitality on these relationships. Firstly, findings show variations in perceived ageism and psychological distress across the different age groups. Negative ageism amongst older individuals was evident. Indeed, research has shown that characteristics attributed to older adults have mainly been placed on the negative pole, the greater assumption involving negative attributes such as lacking competence, being fragile, cognitively impaired, and lonely (Couto et al. 2022; Cuddy et al. 2005; Kornadt and Rothermund 2011). Older adults are frequently perceived as passive recipients of help and may be characterized as burdens on younger generations, reinforcing ageist stereotypes (Kang and Kim 2022). However, the results also show that the negative experience of age is a wide and crosswise experience, with perceptions of negative ageism also being reported by younger adults, a phenomenon also known as youngism (Francioli and North 2021). Research indicates that younger adults often feel undervalued, face dismissive remarks, and are seen as less capable due to their youthful appearance, resulting in fewer opportunities for professional advancement (de la Fuente-Núñez et al. 2021).

On the other hand, perceptions of positive ageism increase across age groups throughout the life cycle, indicating that individuals feel more appreciated and valued as they grow older. Therefore, whereas perceptions of older adults are negative regarding different life domains, they are typically more positive regarding the role and relations older adults have within their family and work context and in terms of their life experience (Rothermund and Couto 2024; von Humboldt et al. 2022), supporting the complex, multi-faceted, and domain-specific nature of age stereotypes (Kornadt and Rothermund 2011; Rothermund and Couto 2024).

Higher levels of anxiety and depression are reported by younger and older participants. These differences might highlight how stressors are shaped by the unique demands and circumstances associated with each stage of life. While younger adults face fairly common stressors during this life transition related to career decisions, finances, and planning for the future, older adults are faced with multiple situational factors that might trigger distress, such as health concerns, stressful life events (e.g., death of a loved one), retirement, financial insecurity, or caregiving responsibilities (Adams et al. 2022; Brito and Soares 2023;

Curran et al. 2020; Sowan et al. 2023). Middle-aged individuals reporting lower levels of depression and anxiety reinforce the idea of middle age as a peak in life, characterized by broad choice opportunities, competence and power in the work situation, gratifying relationships, a sense of liberation, self-acceptance, and emotional maturity (Dolberg and Ayalon 2018; Haase 2023).

Ageism has become a growing concern as repeated exposure to ageism can have serious negative consequences for older individuals' overall quality of life and mental well-being, as well as depressive symptomatology, stress, and anxiety (Brinkhof et al. 2024; Kang and Kim 2022; Kim et al. 2019; Lyons et al. 2018; Marques et al. 2020; von Humboldt et al. 2024). Expectedly, the results of the present study are in line with these numerous previous studies, showing the positive relations between perceived negative ageism and stress, anxiety, and depression. However, while ageism is often negative, older adults are sometimes viewed in a more favorable light, such as being stereotyped as wise and capable of handling complex situations (Brinkhof et al. 2022). The positive effects on physical, mental, and cognitive outcomes of positive ageism have been recognized (Brown et al. 2021; Fasel et al. 2021; Levy et al. 2022). Nevertheless, the results of the present study surprisingly show that positive perceptions of ageism can also translate into increased levels of stress and anxiety, calling attention to the unintended consequences of positive ageism and the need for a more nuanced and individualized understanding of aging. Despite its seemingly favorable nature, positive ageism seems to inadvertently promote psychological distress. The expectation to embody positive or idealized traits—such as, for example, wisdom, patience, or resilience—might unintentionally set unrealistic standards which may lead to feelings of inadequacy if older adults cannot meet these expectations. Being perceived through the lens of positive stereotypes can thereby produce pressure in ways that align with these ideals, even when contradicting individuals' true feelings and abilities, causing stress and anxiety. Moreover, positive stereotypes, for example, assuming that older adults are resilient and emotionally mature, may lead others to overlook the challenges faced in old age, preventing older adults from receiving necessary emotional support, which in turn might increase feelings of isolation and stress.

Not everyone seems to be equally affected by ageism. It has been shown that several variables related to social-group membership (age, gender, race/ethnicity) and psychological attributes (self-relevance, self-esteem, sense of control, subjective social status, subjective life expectancy, subjective aging) moderate the relationship between ageism and health (Bergman 2022; Hu et al. 2021; Kornadt et al. 2021). Evidence from the present study supports that the negative relationships between perceived negative ageism and both stress and anxiety become more pronounced for individuals with high levels of subjective vitality, suggesting them to be more vulnerable to the negative effects of ageism. Subjective vitality, the conscious experience of feeling alive and energized, plays a role in exacerbating the detrimental impact of negative ageism. Societal messages that promote youth as ideal and dismiss the value of older individuals can create a sense of devaluation and exclusion, pressuring individuals to prove their worth and ability, especially if they perceive age-related biases in different everyday personal, social, and professional contexts. Even if individuals maintain a sense of vitality, the constant vigilance and effort required to overcome these biases can generate anxiety and heighten stress levels, as they feel their self-worth is threatened. Additionally, individuals with high subjective vitality are at higher risk of feeling a disconnect between how they view themselves as capable and energetic individuals, and how society views them as less competent or valuable due to their age. Therefore, despite maintaining high vitality on a personal level, they may present heightened levels of stress and anxiety.

The findings should be seen in light of the study's limitations. First, the cross-sectional design restricts the capacity to determine causal relationships. Although studies have demonstrated the detrimental impacts of ageism on physical, cognitive, and psychological (e.g., depressive symptoms) outcomes (Bodner et al. 2021), it is possible that individual differences in (mental) health status may lead to increased ageism and subsequent distress. For instance, research suggests that individuals who are depressed may be more likely to perceive high levels of ageism due to their negative outlook on life (Ayalon and Tesch-Römer 2018). Second, the cross-sectional relationships reported in the current study are based on an extended time frame. However, perceived ageism and subjective emotional states are shaped by dynamic interactions between psychological predispositions, life events, and ongoing stressors, leading to significant fluctuations over time and across different individuals. While the findings of the present study remain valuable for identifying general trends and associations across these broad age categories (18–39; 40–59; 60+), these issues need further clarification through longitudinal studies or narrower age intervals to deepen insights into age-related dynamics. Third, the reliance on self-reported measures may introduce bias or inaccuracies, potentially affecting the reliability of the findings. Perceptions of ageism may depend on personal sensitivity to discrimination, previous experiences, or the specific social settings in which individuals find themselves. It is important to recognize that the levels of perceived ageism may not always align with the levels of ageism that individuals experience objectively. Individuals may not necessarily recognize or be aware of the ageist attitudes and behaviors that they are objectively exposed to, a discrepancy that may result in varying levels of perceived ageism even when exposed to comparable objective ones. Finally, as participation was voluntary and data were obtained through online data collection, groups or individuals with specific traits may have been overrepresented or underrepresented. Convenience sampling further limited the possibility of generalizing findings beyond the sampled population. Future studies would benefit from employing random sampling or stratified sampling approaches to enhance representativeness and generalizability.

5. Conclusions

In summary, the current study demonstrates that while positive ageism increases throughout the life cycle, perceived negative ageism, anxiety, and depression are mostly reported among younger and older participants. Further, results show that both negative and positive perceived ageism are associated with higher levels of psychological distress and that such an association is exacerbated by high levels of subjective vitality. Results suggest that neutralizing the effects of ageism might be challenging. The interplay of positive and negative ageism underscores the complexity of its impact on emotional well-being and highlights the need for greater awareness and intentional efforts to challenge age-based stereotypes and foster environments that genuinely value and empower individuals across all stages of life.

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Institutional Review Board Statement: Ethical review and approval were waived for this study because it involved anonymous, non-sensitive self-reported data from adult participants, ensuring confidentiality. Questions focused solely on general perceptions and experiences and did not request sensitive or private information. Participation was voluntary, with the option to withdraw at any

time. The research did not involve vulnerable populations. Informed consent was obtained, detailing the study's purpose, anonymity, and voluntary nature. The study ensured that participants' rights and well-being were protected. All ethical procedures adhered to the Helsinki Declaration and to the most recent national General Data Protection Regulation (RGPD).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

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