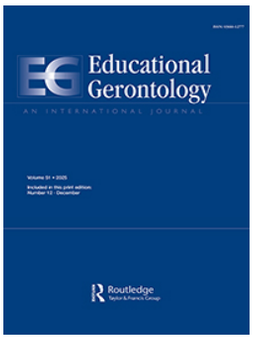

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# Ageism in the labor market: Validation of the Portuguese version of the workplace age discrimination scale (WADS)

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**ABSTRACT**

Contemporary workplaces are characterized by diverse age groups that work collaboratively. Research has indicated an increase in workplace age discrimination, being crucial to understand the perceptions of employees regarding its impact at work contexts. The present study explores the potential for objective measurement of age discrimination in European employment rates among older workers. It addresses the lack of a validated instrument to measure age-related discriminatory experiences in the Portuguese context, demanding the adaptation and validation of a reliable and valid tool. The study focuses on adapting and validating the Workplace Age Discrimination Scale (WADS) in a sample of 536 Portuguese employees from public, private, and third-sector organizations in the southern region of Portugal, assesses the perceived age-related discrimination in the workplace, and determines to which personal variables workers' age is related. Confirmatory Factor Analysis (CFA) supported the unidimensional structure of the WADS, with acceptable fit indices. The scale demonstrated high internal consistency. Multiple linear regression analyses revealed that age and hours worked per day were significant predictors of perceived age discrimination. These findings validate the Portuguese version of the WADS as a reliable and robust tool to assess age discrimination in the workplace.

## Introduction

Portugal has the fourth oldest population in Europe (PORDATA, 2024). According to EU28, workers aged between 55 and 64 years old will be more active in the labor market, increasing from 59.1% to 69.4% in mid-2070 (European Commission, 2018, 2019; Eurostat, 2023; INE, 2024). As organizations increasingly have an older age group of workers (Finkelstein et al., 2015; Fisher et al., 2017; Loichinger & Weber, 2016; Marchiondo et al., 2015), age diversity in the workforce of organizations is increasing and it seems central to understand the perceptions of employers and employees regarding age at work.

The subject is: can age be an issue? Age discrimination is generally regarded as part of the broader concept of ageism (Furunes & Mykletun, 2010; Marchiondo et al., 2016), defined as 'a process of systematic stereotyping and discrimination against people because they are old' (Butler, 1969, p. 22). The term refers to the broader concept of age stereotypes (how we think), prejudice (how we feel) and discrimination (how we act) toward individuals due to their age (Ayalon & Tesch-Römer, 2018; Butler, 1969; World Health Organization, 2021).

While ageism can affect individuals in various social contexts, its manifestations in the workplace are particularly concerning due to their direct impact on employment opportunities and professional development. In this setting, age stereotypes are general beliefs and judgments about individual employees based on their chronological age, rather than on their actual competencies (Posthuma

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et al., 2012). They are the cognitive component of a broader constellation of negative effects and emotions (that is, prejudices), behavior intentions, decisions, and social/cultural norms toward older employees and aging (Carral & Alcover, 2019).

According to Cuddy and Fiske (2002), the triad of negative stereotypes, negative emotions, and discriminatory behavior toward older workers is associated with the distinction between ageism and age discrimination proposed by McMullin and Marshall (2001). These authors differentiate between an ageist ideology, covering cognitive components (negative stereotypes and beliefs), emotional core (negative attitudes), and age discrimination. Hence, age discrimination at work occurs when exclusively age-based beliefs become the bases for unreasonable, unfair, and negative employment decisions affecting older workers (Posthuma et al., 2012). Age-based stereotypes can in turn produce age bias, in the form of errors of judgment and false assumptions caused by the general tendency to think about older workers in either positive or negative terms. The consequence may be to favor such employees or to disadvantage them based simply on their age (Posthuma et al., 2012).

This approach entails both prejudice and employment discrimination affecting the career opportunities, access to learning and training, and job continuity of older workers (Alcover et al., 2012; Greenberg et al., 2002; Kunze et al., 2011; Rupp et al., 2006).

Some investigations (Dordoni & Argentero, 2015; Harris et al., 2018; Ng & Feldman, 2012; Posthuma & Campion, 2009; Shah & Kleiner, 2005; Wood et al., 2008) report persistent misconceptions and negative stereotypes about age, usually associated with scant motivation, less alert capacity and limited productivity, less flexibility, more resistance to change, unwillingness to learn, less reliability for health reasons, and poor technological and digital skills. These stereotypes very often contribute to age discrimination climate in organizational settings (Kunze et al., 2011).

Other authors have also found significant associations between negative age stereotypes and decreased self-efficacy, job satisfaction, performance as well as learning, development, or increased retirement intentions of older employees (Weber et al., 2019). Even other researchers have identified age-associated prejudice as a major factor in recruitment, selection, training, promotion, dismissal, and retirement (Abrams et al., 2016; Ajunwa, 2019; Duncan & Loretto, 2004; Finkelstein et al., 1995; Loretto et al., 2000; Macdonald & Levy, 2016; Wood et al., 2008).

Overall, such negative stereotypes end up translating into discriminatory behavior toward older workers (Giasson et al., 2017; Marchiondo et al., 2015), with potentially dangerous consequences both for individuals and organizations.

In nowadays, the definition is broader and includes age-related discrimination against any age group (Ayalon & Tesch-Römer, 2018; de la fuente-Núñez et al., 2021; Paleari et al., 2019). According to Gordon (2020) the concept comprises three interrelated components: affective, behavioral, and cognitive, which refer to the feelings (e.g., contempt), attitudes, and age-based discrimination behaviors toward specific age groups (Marchiondo et al., 2016; Posthuma et al., 2012).

The sources of ageism in the work context are diverse and include supervisors, workmates, clients, and other people (Marchiondo et al., 2016). Yet ageism does not necessarily stem from the individual level – it may also be caused by groups, organizations, and other social entities (Ayalon & Tesch-Römer, 2018).

Though the phenomenon exists in all sectors of the economy (Ayalon & Tesch-Römer, 2018), there is no consensus among scholars as to the causes of age discrimination. In general terms, it has been attributed to limitations in the labor market (e.g. subjective beliefs and information about the competences of older workers), the result of rational decisions (e.g. labor costs), and the effects of neoliberal economy (e.g. the profile of older workers compared to the young in an extremely dynamic and competitive labor market) (Carral & Alcover, 2019; Marchiondo et al., 2016).

In workplace contexts, it is crucial to develop tools capable of measuring perceptions of age discrimination and allowing comparison between samples of older workers in different countries, across industries, and economic sectors. Although few people report that they are ageists, many claim that they are victims of ageism (Abrams et al., 2015; Bratt et al., 2018). Hence, people's perceptions or experiences of age discrimination may be a trustworthy source of

information concerning the prevalence of ageism (Bratt et al., 2018; Pascoe & Richman, 2009). Nevertheless, at least on a micro level, the perception of ageism is a complicated phenomenon that most likely arises from social interactions (Voss et al., 2018). Dong et al. (2023) even report that ageism is a common phenomenon in the workplace, despite being not ethical, nor legal.

The assessment of discriminatory attitudes and behaviors toward older workers has been carried out with diverse instruments in the past years (see Ayalon et al., 2019; or Klusmann et al., 2020; Ludwig et al., 2024 systematic reviews). We identified in the literature the WADS, a simple scale that to our knowledge was only validated in the Spanish (Carral & Alcover, 2019), Turkish (Özmete et al., 2021), and German contexts (Funk & Lorenz, 2024).

The WADS (Marchiondo et al., 2016) assesses personal experiences of ageism and is estimated to hold a low risk of bias due to reported thorough efforts to ensure validity and reliability (Ludwig et al., 2024).

Given the lack of validated instruments in Portuguese, this study has two main objectives: (1) to adapt and validate the Workplace Age Discrimination Scale (WADS) developed by Marchiondo et al. (2016) for a Portuguese sample, ensuring its internal consistency and validity in this context; (2) to assess the perceived age-related discrimination in the workplace and determine to which personal variables workers' age is related with. Although the WADS has been used in specific Portuguese contexts (e.g. Humboldt et al., 2022; Prazeres & Passos, 2021), this study represents the first systematic effort to validate it for broader application.

## Method

This study was developed in the context of a financed project in Portugal. Because we wanted to assess the perceived age-related discrimination in the workplace and determine to which personal variables workers' age is related with, we developed an exploratory study, by using a cross-sectional, web-based questionnaire among Portuguese employees from a specific region, considering that we wanted to achieve a substantial number of participants.

### *Participants*

A total of 536 employees from public, private, and third-sector organizations in the south region of Portugal participated in the study, aged between 18 and 82 years old ($M = 45.02$; $SD = 10.64$). The sample comprised 394 women (73.5%) and 142 men (26.5%).

From a total of 1179 questionnaires made available; this corresponds to a response rate of 45.5%. Although 1,179 questionnaires were made available, the final sample comprised 561 participants, but only 536 have been considered (25 participants with incomplete responses were removed, resulting in a final sample of 536 participants). The difference is due to the exclusion of incomplete responses, cases with missing data on key variables, and individuals who did not meet the inclusion criteria (e.g., being currently employed). These criteria ensured the validity and internal consistency of the dataset used in the analyses.

Participants were invited to answer to several questions related to their academic degrees and professional activity. In what concerns academic degree, 42,5% completed secondary school ($n = 228$), followed by 33,4% with a bachelor's degree ($n = 179$), 10,8% completed a master's degree ($n = 58$), 1,3% had a PhD and also 1,3% only had 4 years of basic education ($n = 7$), 2,2% completed 6 years ($n = 12$), and 8,4% 9 years ($n = 45$).

The professional experience ranged from a minimum of one (1) day ($n = 3$) to a maximum of 62 years ($n = 1$). The majority of the participants ($n = 365$) had more than 23 years of experience ($M = 15.47$; $SD = 11.15$). Regarding their current professional situation (salaried worker or self-employed), only 25 (4,7%) participants are self-employed.

In what concerns the number of hours of work per day, 59,7% ($n = 320$) work between 7 and 8 hours, 19,8% ($n = 106$) between 8 and 9, 10,6% ($n = 57$) less then 7 hours, 5,6% ($n = 30$) between 9 and 10, 2,8% ($n = 15$) more than 11 hours and 1,5% ($n = 8$) between 10 and 11 hours per day.

Most of the participants work in the public sector ($n = 249$), followed by the private sector ($n = 233$) and 54 in the third sector.

### Instrument

Several instruments are available to assess individual perceptions of ageism. In their systematic review, Ludwig et al. (2024) systematized them in a quite useful taxonomy, considering 34 multi-item measures. We choose the WADS because it focuses on the individuals' perceptions of age discrimination, targets' personal experiences of age discrimination, and is also particularly useful because its items capture workers' experiences across age groups; thus, it is possible to administer one measure to all employees (Marchiondo et al., 2016). Also, all the procedures and results are described in detail in the original study and allow replication.

Our purpose was to validate a measure, the Workplace Age Discrimination Scale (WADS), that researchers, practitioners, and policymakers can use to better understand employees' perspectives and outcomes of age discrimination.

Respondents indicated the degree of agreement with each of the nine (9) items (e.g., 'I was given fewer opportunities to express my ideas because of my age') on a 5-point Likert scale (1 = *strongly disagree*, to 5 = *strongly agree*). The answers allow to calculate a summed score, which vary between 9 and 45, with higher scores representing a worse perception of age discrimination at work (Marchiondo et al., 2016). In the original version, WADS revealed a unidimensional structure that explains significant variance in workers' experiences of age discrimination.

The original study also suggests that the WADS has a convergent, discriminant validity and high internal consistency (Cronbach's alpha value of .93). According to Carral and Alcover (2019) researchers can use the scale to identify outcomes of age discrimination and to compare the employees' discriminatory experiences.

Questions concerning other sociodemographic variables (gender, age, academic degree, professional experience, current professional situation, economic sector, number of hours of work per day) were also included in the measure, so that further analysis was possible.

### Procedures of data collection

Regarding the procedures for the adaptation and validation of the WADS, the process began with the request for use to the authors of the original scale, who promptly authorized the translation and adaptation.

A standard translation-back translation (Hill & Hill, 2008) procedure was used to ensure that the meaning content of each item in the present version was equivalent to the original version of the scale. Translation to Portuguese language was made by different Portuguese individuals, all with good skills in English language. After comparing and integrating the different versions, a revised translated version was submitted to a back-translation by a Portuguese individual, with very good skills on both languages (Almeida & Freire, 2017). Finished the procedure, and once minor differences in wording had been dealt with, no major incompatibilities in the translations were observed. According to Cronbach (Cronbach, 1984) these procedures are legitimate, since they contribute to improve the validity and accuracy of the instrument. Also, Creswell (2012) reports that the use of experts is a form of qualitative analysis of the items of a questionnaire and used to assess the content and form of the items in terms of clarity, understanding, and appropriateness to the objectives of the inventory (face validity). This was followed by the adaptation of the instructions (respecting as much as possible the original scale), which guided the participants on how to fill out the scale. The Portuguese version of the WADS maintained the original structure.

Data collection was conducted in accordance with all ethical guidelines for research involving adult human beings, namely those set in the Universal Declaration of Human Rights (1948), the Ethical Principles of the Fundamental Rights Chapter of the European Union, the European Code of Conduct for Research Integrity, and the General Data Protection Regulation (Parlamento Europeu e Conselho da União Europeia, 2016). Considering the official documents pertaining to educational research, the recommendations set forth by the American Educational Research Association (AERA, 2011), the British Educational Research Association (BERA, 2011), the APA (2020), and the Ethical Charter of the Portuguese Society of Educational Sciences (2014) were duly considered.

The collection of personal data is obligatory, specifically data pertaining to ethnicity, lifestyle, career trajectory, professional activity, and other relevant factors. All personal data will be safeguarded in accordance with the provisions set forth in the Data Protection Act.

This study was approved by the Ethical Committee (Pn°12/2021) of a higher education institution and all the participants received appropriate documentation to provide informed consent in written form.

A comprehensive search was conducted to determine the number of organizations within the region, categorized according to the number of employees, economic sector, and contribution to the regional GDP. This procedure was crucial to the sampling. Researchers then initiated exploratory contacts with these organizations to present the project and secure their willingness to participate.

Participants in the study were identified through contacts made by e-mail with all the organizations from the public sector, private sector, and third sector in the south region of the country.

The purpose of the investigation was explained to the participants. Participation was on a voluntary and anonymous basis and confidentiality of all the information collected was secured. We also guaranteed the dissemination of the results of this investigation. All the participants were assured of their right to withdraw at any given time.

Although this was a convenience sample (Creswell, 2013), we could map the situation in one of the most particular regions of Portugal.

Due to the number of organizations in the region, the WADS was made available during two (2) months through *Microsoft forms*. This approach allowed us to reduce operative costs and simplified the data collection; considering that data were automatically stored in a database, the approach contributed to eliminate potential errors related to typing (Daikeler et al., 2020). Participants received no compensation upon the completion of the questionnaire, in accordance with ethical standards.

### *Data analysis*

All statistical analyses were performed using SPSS and AMOS 29.0 (SPSS Inc., 2024). In a preliminary approach, descriptive statistics for the scale were calculated, followed by construct validity analysis. Our intention was to verify if the structure of the Portuguese version of the WADS was equivalent to structures obtained in other investigations with this scale (e.g. Dong et al., 2023; Funk & Lorenz, 2024; Humboldt et al., 2022; Marchiondo et al., 2016).

Confirmatory factor analysis (CFA) was conducted to determine the construct validity of the scale and to confirm whether the data fits the measurement model based on theory or prior research. Comparative Fit Index (CFI), Normed Fit Index (NFI), Tucker Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), Root Mean Square Residual (RMR), and Standardized Root Mean Square Residual (SRMR) indexes were used in this analysis.

Additionally, the internal consistency of the WADS was determined through the Cronbach's alpha, and item discrimination was calculated using corrected item-total score correlation values.

Similar to other studies with the WADS (Funk & Lorenz, 2024; Marchiondo et al., 2016; Özmete et al., 2021; Prazeres & Passos, 2021), multiple linear regression (east squares method) was conducted to determine whether specific independent variables, including age, gender, level of education attended, professional experience, economic sector, current professional situation, and number of hours worked per day, significantly predicted perceptions of age discrimination. The regression model

included calculations of regression coefficients ($\beta$), standard errors, significance levels ($p$-values), and confidence intervals. The model's overall performance was evaluated using the coefficient of determination ($R^2$), which indicated the proportion of variance in the dependent variable explained by the independent variables (Maroco, 2014).

The sample size ($n = 536$) exceeded the minimum requirements for both factor and variance analysis, as suggested by Guilford (1956), Gorsuch (1983), Bryant and Yarnold (1995), and Tabachnick and Fidell (1996). Participants with missing data were excluded listwise from the analysis, as the proportion of missing cases was minimal and did not compromise statistical validity (Graham, 2009).

## Results

Table 1 displays the sample descriptive statistics for the scale, including mean, standard-deviation, skewness, kurtosis, and range.

The average scores of each item of the scale ranged from 1.60 (item 3) to 1.30 (item 9), which indicates that the participants don't think that they have been given fewer opportunities to express their ideas (item 3), neither that someone has blamed them for failures or problems due to their age (item 9). All skewness values are positive and greater than 1, suggesting that the data is positively skewed, meaning that most participants selected lower values on the scale (e.g., 'strongly disagree' or 'disagree'). Kurtosis values range from 2.59 to 8.28, which indicates that the distributions are leptokurtic (more peaked than normal).

Every investigation with psychometric instruments must demonstrate evidence of reliability of the measures collected (Duff, 2001). The Cronbach's alpha for the scale was of .91, which reveals a high level of internal consistency (George & Mallery, 2003), similar to other investigations using the WADS (e.g. Funk & Lorenz, 2024; Humboldt et al., 2022; Marchiondo et al., 2016).

The corrected item-total correlations for item discrimination in the Portuguese form of WADS (Table 2) varied between 0.55 and 0.79 values. Some changes in the behavior of the Cronbach's alpha can be observed when an item is excluded.

**Table 1.** Descriptive statistics for the WADS ($n = 536$).

| Item | *Mean* | *SD* | Skewness | Kurtosis |
|---|---|---|---|---|
| I have been passed over for a work role/task due to my age | 1.32 | .690 | 2.357 | 5.789 |
| My contributions are not valued as much due to my age | 1.46 | .815 | 1.899 | 3.501 |
| I have been given fewer opportunities to express my ideas due to my age | 1.60 | 1.050 | 1.826 | 2.586 |
| I have unfairly been evaluated less favorably due to my age | 1.44 | .806 | 1.989 | 3.682 |
| I receive less social support due to my age | 1.39 | .829 | 2.374 | 5.533 |
| I have been treated as though I am less capable due to my age | 1.41 | .790 | 2.247 | 5.380 |
| I have been treated with less respect due to my age | 1.39 | .792 | 2.437 | 6.343 |
| Someone has delayed or ignored my requests due to my age | 1.35 | .741 | 2.642 | 7.865 |
| Someone has blamed me for failures or problems due to my age | 1.30 | .661 | 2.668 | 8.281 |

**Table 2.** Workplace Age Discrimination Scale (WADS) correlations if item corrected and Cronbach Alpha if item deleted (n = 536)

| Item | Correted item-total correlations | Cronbach alpha if item deleted |
|---|---|---|
| I have been passed over for a work role/task due to my age | .666 | .907 |
| My contributions are not valued as much due to my age | .782 | .899 |
| I have been given fewer opportunities to express my ideas due to my age | .548 | .921 |
| I have unfairly been evaluated less favorably due to my age | .786 | .899 |
| I receive less social support due to my age | .635 | .909 |
| I have been treated as though I am less capable due to my age | .787 | .899 |
| I have been treated with less respect due to my age | .705 | .904 |
| Someone has delayed or ignored my requests due to my age | .794 | .899 |
| Someone has blamed me for failures or problems due to my age | .720 | .904 |

Confirmatory factor analysis (Maximal Likelihood; Eigenvalues ≥1) reported factorial weightings in a range of .28 and .84. The goodness-of-fit indexes used (Table 3) reflect an acceptable fit of the single-factor structure of the WADS. Fit index values obtained as a result of CFA were as follows: $\chi^2/df = 3.239$), RMSEA = 0.063, SRMR = 0.027; RMR = 0.020, GFI = 0.969, CFI = 0.982, NFI = 0.974, NNFI (TLI) = 0.974. Table 3 shows the acceptance limits of these indexes. These values suggest an acceptable fit (Brown, 2006; Hu & Bentler, 1999).

Figure 1 shows the values of the model in terms of local adjustment, namely the standardized factor weights and the individual reliability of each item.

The suggested modifications by the software indicated that item 3 should covary with item 6 and item 8 should covary with item 9. The covariance of these pairs may be associated with the existence of a common source of variation in the items that is not fully explained by the common factor present in the model (Maroco, 2014).

All the items had standardized factor weights (λ) greater than .5 and individual reliabilities ($\lambda^2$) greater than .25, thus revealing that the factor has factorial validity. The factor's composite reliability was found to be high, with a value above .7 (FC = .920) and its convergent validity was considered adequate, with a value above .5 (VEM = .566). The solution obtained therefore seemed viable for subsequent analyses.

Multiple linear regression was then carried out to see if the independent variables were able to predict the results of the WADS (Table 4).

The analysis resulted in a statistically significant model [$F$ (7.541) = 4.449; $p < .001$; $r^2 = .540$]. Age ($\beta = -.228$; $t = -3.818$; $p < .001$) and hours worked per day ($\beta = .120$; $t = 2.664$; $p < .05$) appeared to be significant predictors of the WADS results.

The negative coefficient for age suggests that older individuals tend to report lower levels of perceived age discrimination, which aligns with previous findings indicating that older workers may develop coping strategies or lower expectations regarding workplace equity (Dong et al., 2023). Conversely, the positive coefficient for hours worked per day suggests that individuals with longer work hours tend to perceive greater levels of age discrimination, potentially due to increased exposure to workplace interactions where age biases may manifest (Podsakoff et al., 2007).

## Discussion and conclusions

In this study, our aim was to adapt and validate the Workplace Age Discrimination Scale (WADS) in the Portuguese context, intending to fill the existing gap of a validated instrument to assess age discrimination at work in Portugal. In this regard, our study corroborates the results, with minor

**Table 3.** Workplace age discrimination scale (WADS) DFA fit indexes and cutoff values.

| Fit Indexes | Perfect Fit | Acceptable Fit | Model Fit |
|---|---|---|---|
| [1] $\chi^2$/df | $\chi^2$/df ≤ 3 | $\chi^2$/df ≤ 5 | 3.239 |
| [2] RMSEA | ≤0.05 | ≤0.08 | .063 |
| [2] SRMR | 00 ≤ SRMR ≤ .05 | .05 ≤ SRMR ≤ .10 | .027 |
| [3] RMR | 0 < RMR ≤ .05 | 0 < RMR ≤ .08 | .020 |
| [4] GFI | .95 < GFI < 1.00 | .90 < GFI < .95 | .969 |
| [4] CFI | .95 < GFI < 1.00 | .90 < GFI < .95 | .982 |
| [4] NFI | .95 < GFI < 1.00 | .90 < GFI < .95 | .974 |
| [4] NNFI (TLI) | .95 < GFI < 1.00 | .90 < GFI < .95 | .974 |

$X^2$ refers to the Chi-square difference value with respective degrees of freedom (df). Sig. is used to display the *p*-value of the Chi-square difference test. RMSEA is the robust Root Mean Square Error of Approximation. RMR is the square root of the average of the squares of the residuals and indicates the average absolute value of the covariance residuals. GFI is the quality of fit index (*goodness-of-fit index*). NFI stands for Normed Fit Index and assess how well a proposed model fits the observed data. The confirmatory fit index is reported as CFI, the Tucker-Lewis index as TLI.

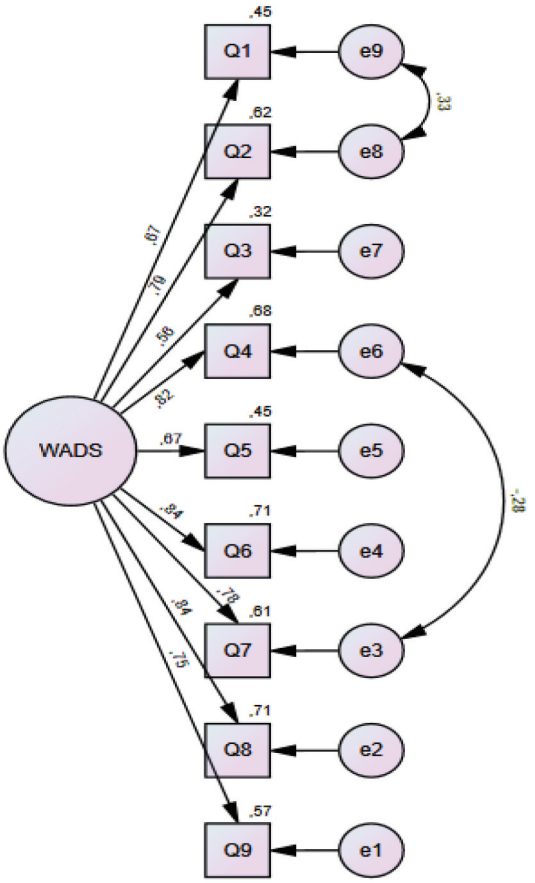


**Figure 1.** Confirmatory factor analysis (CFA) ($n = 536$).

**Table 4.** Predictors of age discrimination in the workplace in the region.

| WADS | | | | | | |
|---|---|---|---|---|---|---|
| | *β* | Error | *t* | *p* | 95% CI | |
| Gender | .311 | .557 | .558 | .577 | −.783 | 1.405 |
| Age | −.120 | .032 | −3.818 | < .001** | −.182 | −.058 |
| Level of education attended | .213 | .253 | .842 | .400 | −.284 | .709 |
| Professional activity | −1.230 | 1.156 | −1.064 | .288 | −3.501 | 1.041 |
| Work organization | −.707 | .372 | −1.901 | .058 | −1.438 | .023 |
| Length of service | .000 | .000 | 1.850 | .065 | .000 | .000 |
| Working hours per day | .692 | .260 | 2.664 | .008** | .182 | 1.202 |
| *$p < .05$, **$p < .01$, ***$p < .001$ | | | | | | |

variations obtained in other studies using the WADS (e.g., Funk & Lorenz, 2024; Humboldt et al., 2022; Marchiondo et al., 2016). The items consistently measure the construct of workplace age discrimination within our sample. Some variations observed when compared to other studies may be due to cultural differences or sample characteristics, but they remain within an acceptable range. This consistency across studies reinforces the reliability of the WADS as a robust tool (Cronbach, 1951) for assessing age discrimination in various organizational settings (Humboldt et al., 2022).

The validation presented in this study offers support for the adequacy of the psychometric properties of the Portuguese version of the WADS. The results were also confirmed by Prazeres and Passos (2021), although in their study the focus was on a particular context – health professionals.

The WADS can help researchers and employers to diagnose and design organizational interventions for preventing age discrimination.

The results of the Confirmatory Factor Analysis (CFA) align with previous studies (e.g., Funk & Lorenz, 2024; Humboldt et al., 2022; Marchiondo et al., 2016), confirming the validity of the unidimensional model in different cultural contexts. The fit indices obtained were acceptable and indicate that the proposed model provides an adequate fit for the Portuguese data, reinforcing the scale's structural validity. This cross-cultural consistency supports the notion that perceptions of age discrimination are understood in a similar way across diverse populations, enhancing the generalizability of our findings. Furthermore, the WADS's unidimensionality suggests that it captures the construct of workplace age discrimination without significant cultural bias, affirming its utility for international comparative research (Cheung & Rensvold, 2002). These findings contribute to a broader understanding of age discrimination in the global workforce and underscore the importance of using validated instruments across different populations.

Regarding the perceptions of age-related discrimination in the workplace, the results suggest that participants in this sample generally perceive low levels of workplace age discrimination. The patterns observed reflect a consensus among participants, reinforcing the observation that explicit age discrimination is perceived as infrequent in their work context. They also raise the possibility that subtle or systemic forms of ageism, which are less overt and harder to identify, may persist. However, this does not necessarily indicate an absence of discriminatory practices. Rather, it might reflect a cultural or individual reluctance to label or recognize certain behaviors as discriminatory (Ayalon & Tesch-Römer, 2018). These findings are consistent with studies in similar organizational contexts where proactive measures against discrimination have been implemented (e.g., Funk & Lorenz, 2024; Marchiondo et al., 2016).

It is conceivable that an individual may be exposed to any aspect of ageism, yet not subjectively perceive it as such, and vice versa. This perception is theorized to 'depend on the respondent's recognition, acknowledgment, and willingness to report the discriminatory event' (Ayalon et al., 2023, p. 2). Consequently, perceived ageism is a distinct aspect of ageism, characterized as a subjective, individual perception (Ayalon et al., 2023; Rothermund et al., 2021). Particularly, perceived ageism refers to the subjective perception of oneself – or others – being looked at in a negative way or treated unfairly based on belonging to any age group. This means that perceived ageism can be addressed not only against older people, but also against younger people (de la fuente-Núñez et al., 2021).

Age and hours worked per day are significant predictors of perceived age discrimination in our sample. These findings are consistent with prior literature, which identifies older employees as a group particularly vulnerable to age-based biases in the workplace (Ayalon & Tesch-Römer, 2018; Dong et al., 2023; Funk & Lorenz, 2024). Ageism often manifests in stereotypes that portray older workers as less adaptable or less productive, potentially leading to exclusion from opportunities or increased scrutiny in performance evaluations (North & Fiske, 2012).

Additionally, the association between hours worked per day and perceived discrimination suggests that excessive workloads may exacerbate feelings of marginalization. Prolonged working hours are often linked to increased stress and reduced support from colleagues or supervisors, potentially amplifying perceptions of discrimination (Podsakoff et al., 2007). Employees with longer hours may also encounter fewer opportunities for meaningful social interactions or professional development, further reinforcing feelings of exclusion. This aligns with findings from Ayalon et al. (2020), which indicate that organizational support plays a critical role in mitigating perceptions of workplace discrimination. Ayalon and Tesch-Römer (2018) note that cultures with a stronger emphasis on respect for age-related hierarchies may report lower levels of perceived discrimination against older

workers. In such contexts, ageism may manifest in indirect or implicit ways that are harder to identify and measure (Ayalon & Tesch-Römer, 2018).

The significant relationship between age and perceived discrimination highlights the need for targeted organizational interventions to counteract stereotypes about older workers (Finkelstein et al., 2015). Such interventions could include awareness training and inclusive policies that promote equity and respect for workers of all ages (North & Fiske, 2012). Additionally, the association between longer working hours and higher perceptions of discrimination underscores the importance of managing workloads effectively (Podsakoff et al., 2007). Creating balanced work environments and providing adequate support for employees in high-demand roles is crucial for fostering inclusivity (Ayalon et al., 2020). Finally, organizations should implement proactive policies that address structural age-related biases and ensure equitable treatment across all demographic groups (Eurofound, 2019).

Despite its contributions into workplace age discrimination, some limitations must be addressed. One significant limitation is the reliance on a single self-reported data, which raises the possibility of social desirability bias. As Podsakoff et al. (2003) emphasize, self-reported measures on sensitive topics like discrimination can be influenced by the participants' desire to align their responses with perceived social norms, potentially masking their true experiences. To address this, future studies could consider methodologies that minimize social desirability bias, such as indirect questioning techniques or implicit association tests (IAT) to reveal underlying attitudes. As is the case in other studies that make use of the WADS, as referenced in the article, the use of other scales to assess factors such as job satisfaction could have served to supplement and enhance the results, as well as to better assess construct and criteria validity. A further limitation is that we only assessed employees' perceptions. In future research in organizational contexts, it is crucial to incorporate the employers' insights. Additionally, qualitative methods like interviews or focus groups with these participants could provide richer and more nuanced insights.

Finally, the study is only focused on professionals from a single region. Dataset can be expanded and data obtained from other national samples can be interesting for further research.

Overall, this study validates the WADS in the Portuguese context, confirming its internal consistency and applicability for assessing workplace age discrimination. The findings contribute to a better understanding of the complexities of ageism and lay the groundwork for practical interventions and future research aimed at fostering more inclusive and equitable work environments.

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