

The conceptual and methodological characteristics of ageism during COVID-19:

A scoping review of empirical studies

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Abstract

Background and Objectives: Printed and social media, as well as professional and scholarly platforms, have extensively discussed the proliferation of ageism during the COVID-19 pandemic. However, no study has systematically examined the body of knowledge on the topic. Framed around the characteristics of ageism in general, the aim of this review was to identify and characterize the conceptual and methodological underpinnings of the global, peer-reviewed, empirical literature on ageism during COVID-19.

Research Design and Methods: We conducted a scoping review in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, using PubMed, CINAHL, AgeLine, and PsycINFO. Quantitative and/or qualitative, English-language, peer-reviewed articles were included. Data were tabulated and synthesized.

Results: Thirty-six articles examining ageism during the COVID-19 pandemic met inclusion criteria. Most were quantitative (64%), and cross-sectional (81%). The level, correlates, and consequences of ageism during the pandemic were similar to the ones reported before it. Studies about ageism during COVID-19 had similar conceptualization and measurement problems to those before the pandemic.

Discussion and Implications: Empirical studies didn't find ageism during COVID-19 to be a unique phenomenon, as suggested by the media. More theoretically sound and methodologically rigorous studies, using longitudinal designs and validated unique measures are needed to examine this unique phenomenon.

Keywords: Stereotypes, Prejudice, Discrimination, SARS-CoV2

Introduction

On December 31, 2019, a severe respiratory disease caused by the previously unknown severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) in the city of Wuhan, China, was reported to the World Health Organization (WHO) (Wu et al., 2020). Since then, the world has changed. Due to the rapid spread of the virus, COVID-19 was declared a pandemic, and countries around the world were forced to address the extensive health, social, and individual consequences of the crisis.

Ample evidence has shown that older adults are among the most affected by the pandemic, including having a significantly higher risk of becoming infected by the virus, having serious complications, and even having higher mortality rates (Malik et al., 2022; D'ascanio et al., 2021; Damayanthi et al., 2021). However, health-related complications are not the only negative consequence of COVID-19 that affect older people; but they must also cope with other social and individual outcomes such as increased stress and anxiety, higher levels of loneliness, and *ageism*.

Ageism has been defined as a multidimensional concept referring to beliefs (stereotypes), emotions (prejudice), and behaviors (discrimination) associated with the age of a person or group of persons (Ayalon & Tesch-Romer, 2018). This broad definition subsumes several constructs which help making the concept clearer and less diffuse. "Self-directed ageism", often denoted as self-perceptions of aging, refers to ageist beliefs that people direct toward themselves or toward others in the same age group, while "other-directed ageism" refers to ageist beliefs directed toward others. "Explicit and implicit ageism" differentiate between conscious and unconscious expressions of ageism (Iversen et al., 2009). "Hostile and benevolent ageism" reflect the complexity and ambivalence of the concept, with hostile ageism being a more overt and aggressive type of ageism, and benevolent ageism being a

subtler one characterized by patronizing stereotypes (Dossing & Craciun, 2022; Swift & Chasteen, 2021). Finally, it has lately been recommended to examine how ageism varies according to the setting in which it occurs, such as the health or work setting, as well as in socio-cultural contexts, such as developed or developing countries (Voss et al., 2018). Common to all these constructs is the observation that older people are homogeneously characterized by negative (e.g., being weak, vulnerable, and incompetent) as well as by positive (e.g., being warm and kind) but equally harmful stereotypes (Ayalon & Tesch-Romer, 2018).

While the COVID-19 crisis has provided fertile grounds for the development of ageist beliefs, and much attention has been drawn in both printed and social media, as well as in professional and scholarly platforms, to the proliferation and consequences of ageism, no study has systematically examined and synthesized this body of knowledge. Our aim was to close this gap by methodically identifying and analyzing empirical studies on ageism in the context of COVID-19, and focusing on its conceptualization, measurement, prevalence, determinants, and consequences. We expected the results of this process to allow us providing further clarity on the concept by identifying the conceptual and methodological similarities and/or differences between ageism during the pandemic and ageism in general.

Methods

This scoping review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-analysis Protocols extension for Scoping Reviews (PRISMA) guidelines (Tricco et al., 2018). The aim of a scoping review is to systematically explore a topic about which conceptual and methodological knowledge is emerging and developing. In contrast to a systematic review, the research questions in a scoping review are broad and exploratory

(Tricco et al., 2018). Our review process was guided by the five main steps set forth by Arksey & O'Malley (2005), as described below.

Identifying the research question(s): Our overall research question was framed around the conceptual and methodological characteristics of ageism as defined in the literature before the pandemic. After an initial unstructured examination of this literature, and in accordance with the exploratory nature of scoping reviews, we developed the following specific research questions: 1) What are the characteristics (e.g., country of publication, aim, sample, etc.) of the global, peer-reviewed, empirical quantitative literature on ageism during the COVID-19 crisis? 2) What are the characteristics (e.g., country of publication, aim, sample, etc.) of the global, peer-reviewed, empirical qualitative literature on ageism during the COVID-19 crisis? 3) How is ageism conceptualized and measured in this quantitative literature? 4) How is ageism framed in this qualitative literature?

Guided by these questions we intended to answer the question whether ageism during COVID-19 is a conceptually and methodologically unique construct or similar to the concept's characteristics before the pandemic?

Identifying relevant studies: Four electronic databases were electronically searched on February 5, 2022 – PubMed, CINAHL, AgeLine, and PsycINFO. These were selected because of their relevance to the topic. Titles, abstracts, and keyword fields were searched using a combination of the following terms and Boolean connectors: (COVID-19 OR SARS-CoV-2) AND (ageism OR "age discrimination" OR "age stereotype" OR "perceptions of aging"). The electronic search was augmented by hand searching reference lists of included studies to ensure a thorough search.

Selection of studies: Empirical studies were considered for this review if they met the following eligibility criteria: 1. Original quantitative and/or qualitative research addressing the topic of ageism and COVID-19 as a primary or secondary aim. 2. Studies published in English prior to February 5, 2022. Commentaries, opinion articles, editorials, abstracts, book reviews, and letters to the editor were excluded from this review.

Identified records were screened by one of the authors and checked by the second author, with disagreements resolved through discussion. In this step we identified 890 articles, and two additional ones were added via a manual search. Of these, 156 duplicate papers were removed, in addition to 700 papers that did not meet the inclusion criteria at the screening stage. Thus, a total of 36 papers meeting the study's inclusion criteria were read, reviewed and included in the study. Figure 1 shows the flowchart of the literature search and screening process.

Data extraction and charting: Data for each of these 36 studies were extracted and organized into tables (See Online Supplementary Material). Data included general characteristics of each article (authors' names, year of publication, study location, the aim of the study, characteristics of the participants, description of the study methods and measures used, and a summary of the main results, including the level of ageism during COVID-19 and its correlates), together with unique information tapping the conceptualization and operationalization of the construct.

Data analysis: Before determining the way in which the articles would be presented and analyzed, the authors analyzed 10 randomly selected articles from those included in the review. Both authors reviewed and agreed upon the contents included in the table. We created two groups of studies to organize the presentation of the results: quantitative studies and qualitative studies. Finally, the results were summarized and reported using narrative

synthesis – that is, relying on the use of words and text to explain the findings (Popay et al., 2006).

The protocol for this review was not registered with a review tracking database.

Results

A total of 36 empirical published studies were included in this scoping review. The majority were quantitative (64%), and the rest qualitative.

1. Quantitative studies

1.1 Studies' characteristics: Out of a total of 23 studies, 10 were published in North America (nine in the USA and one in Canada), and six were conducted in Europe (two of them in Spain and Luxemburg respectively, and the rest in Italy, Switzerland, and France). Other countries publishing studies on the topic included Israel (five publications) and Singapore (two publications).

1.2 Studies' design and data collection method: The majority of the studies ($n = 16$) used a cross-sectional design. Six used a longitudinal design: Three of these were based on a longitudinal panel survey (Kornadt et al., 2021b; Lytle et al., 2020; Shea et al., 2021), one on a longitudinal trend design (Seifert, 2021), and two quantitatively examined aging narratives, online, across time (Ng et al., 2021; Ng & Indran, 2021). Only one interventional study was included in this review, and it used a before-and-after design (Levy et al., 2020).

An online survey was used in 16 (70%) studies (Apriceno et al., 2021, Arcieri, 2021, Bergman et al., 2020, García-Soler et al., 2020; Graf & Carney, 2021; Levy et al., 2020; Losada-Baltar et al., 2020; Lytle et al., 2020; Maxfield et al., 2021; Maxfield & Pituch, 2020; Miconi et al., 2021; Palgi et al., 2021; Shea et al., 2021; Vale et al., 2020; Visintin, 2021; Werner et al., 2021); a phone survey was used in two studies (Ayalon & Schwartz, 2021;

Cohn-Schwartz & Ayalon, 2020); a combination of phone and online surveys was used in two studies (Kornadt et al., 2021a, 2021b); and a combination of computer-assisted phone and paper-and-pencil surveys was used in one study (Seifert, 2021). Lastly, two studies were based on an analysis of online media (tweets) (Ng et al., 2021; Ng & Indran, 2021).

1.3 Sample characteristics: Nine studies were conducted among medium-sized samples comprising between 100 and 500 participants. A similar number had large sample sizes of more than 500 but less than 1,000 participants; and another five – all of them conducted via an online questionnaire – had very large samples of over 1,000 participants (Levy et al., 2021; Losada-Baltar et al., 2020; Maxfield et al., 2021; Miconi et al., 2021; Seifert, 2021).

All of the studies in the review were conducted among samples of healthy people: five among participants in the ages of 60 and above, three among participants in the ages of 50 and above, and 13 among people in the ages of 18 and above (two of them among college students). Thirteen studies were based on predominantly female samples belonging to a majority group. In 11 studies, the participants' level of education was relatively high (Bergman et al., 2020; Cohn-Schwartz & Ayalon, 2020; García-Soler et al., 2020; Graf & Carney, 2021; Kornadt et al., 2021a, 2021b; Miconi et al., 2021; Palgi et al., 2021; Vale et al., 2020; Visintin, 2021; Werner et al., 2021), and three studies were conducted among students (Apriceno et al., 2021; Lytle et al., 2020; Shea et al., 2021). In six studies there was no information about participants' education (Arcieri, 2021; Ayalon & Cohn-Schwartz, 2021; Levy et al., 2020; Losada-Baltar et al., 2020; Maxfield et al., 2021; Maxfield & Pituch, 2020).

1.4 Conceptualization of ageism

1.4.1 Defining ageism: Almost all of the quantitative studies in the review defined ageism as a multidimensional construct including stereotypes, prejudice, and discrimination. However, only one study empirically examined the affective dimension – that is, prejudice (Visintin,

2021) – and only six examined the behavioral or discrimination dimension (Ayalon & Cohn-Schwartz, 2021; Cohn-Schwartz & Ayalon, 2020; Kornadt et al., 2021a, 2021b; Miconi et al., 2021; Shea et al., 2021). Eight studies (Apriceno et al., 2021; Graf & Carney, 2021; Levy et al., 2021; Lytle et al., 2020; Maxfield & Pituch, 2020; Seifert, 2021; Vale et al., 2020; Visintin, et al., 202) conceptualized ageism as having positive and negative aspects. A similar number (Apriceno et al., 2021; García-Soler et al., 2020; Graf & Carney, 2021; Levy et al., 2021; Lytle et al., 2021; Maxfield & Pituch, 2020; Vale et al., 2020; Visintin et al., 2021) examined other-directed ageism, and two (Ayalon & Cohn-Schwartz, 2021; Cohn-Schwartz & Ayalon, 2020) examined both other- and self-directed stereotypes. Only four studies evaluated ageism toward younger people. Two studies (Garcia-Soler et al, 2020; Werner et al., 2021), examined ageism toward older and younger persons among the general public without providing details about the age of these groups. The other two examined the association between self-perceptions of ageism and age and found that ageism was higher in younger participants: age 18 -39 vs 40 and over in Miconi et al. (2021), and younger age in general in Losada-Baltar et al. (2021).

Regarding the context of ageism, the majority of the quantitative studies (Arcieri, 2021; Cohn-Schwartz & Ayalon, 2020; García-Soler et al., 2020; Losada-Baltar et al., 2021; Lytle, et al., 2020; Maxfield & Pituch, 2021; Miconi et al., 2021; Palgi et al., 2021; Seifert, 2021; Vale, et al., 2021; Visintin, et al., 2021; Werner et al., 2021) examined ageism in a general, non-specific context. Nine assessed it in the health context (Apriceno et al., 2021, Ayalon & Cohn-Schwartz, 2021; Bergman et al., 2020; Graf & Carney, 2021; Kornadt, 2021a, 2021b; Maxfield, et al., 2021; Miconi et al., 2021; Jiménez-Etxebarria et al., 2021), and two also in the work context (Apriceno et al., 2021; Shea et al., 2021). Finally, five studies analyzed ageism in the media (Kornadt et al., 2021a, 2021b; Levy, et al., 2021; Ng et al., 2021; Ng & Indran, 2021).

1.4.2 Theoretical framework: Seven studies used the Stereotype Embodiment Theory as their theoretical basis (Bergman et al., 2020; Levy et al., 2021; Losada-Baltar et al., 2021; Maxfield & Pituch, 2020; Seifert, 2021; Vale et al., 2020; Visintin et al., 2021). Two were based on the assumptions of the Stereotype Content Model (Apriceno et al., 2021; Lytle et al., 2020), and two on Terror Management Theory (Arcieri, 2021; Cohn-Schwartz & Ayalon, 2020). One study was based on Stereotype Threat (Maxfield et al., 2021), and another on the Theory of Planned Behavior (Shea et al., 2021). The remaining ten studies did not explicitly mention explicitly any theoretical basis.

1.5 Measurement of ageism: The most commonly used structured instrument to assess perceptions of ageism was the Ambivalent Ageism Scale (Cary et al., 2016). Five studies (Apriceno et al., 2021; Graf & Carney, 2021; Maxfield & Pituch, 2020; Vale et al., 2020; Visintin, 2021) used the original 13-item scale, divided into two subscales: benevolent and hostile ageism. Only two studies (Maxfield & Pituch, 2020; Vale et al., 2020) used the 7-point Likert scale suggested by the developers to rate the responses. Two studies used a 6-point scale (Apriceno et al., 2021; Graf & Carney, 2021), and one (Visintin, 2021), a 5-point scale. The internal reliability of the scale was examined in all the studies that used it, and it was found to range from moderate to very good: Cronbach's alpha ranged from .81 to .92 for the benevolent ageism subscale, and from .76 to .91 for the hostile ageism subscale. None of the studies reported any other psychometric measures. Two studies used the 5-item Attitudes towards Aging Scale (Liang & Bolle, 1983), although the internal reliability reported was modest in both publications: Cronbach's alpha = .75 and .60, in Ayalon & Cohn-Schwartz (2021) and Losada-Baltar et al. (2020), respectively. Two studies used four items assessing whether participants thought they were treated unfairly based on their age (Kornadt et al., 2021a, 2020b); three studies (Kornadt et al., 2021a, 2021b; Seifert, 2021) used the AgeCog scale (Steverink et al., 2011); and one study (Palgi et al., 2021) used the Ageism toward

Older People Scale (North & Fiske, 2013). Shea and colleagues (2021) used the 23-item Ageism Attitude Scale (Yilmaz & Terzioğlu, 2011), which includes eight items for assessing positive ageism, six for negative ageism, and nine for assessing restricting the lives of older people. Other scales used by the studies in the review included six items from the Health and Retirement Survey (Ayalon & Cohn-Schwartz, 2021; Cohn-Schwartz & Ayalon, 2020), the Fraboni Ageism Scale (Arcieri, 2021; Lytle et al., 2021; Shea et al., 2021), the Everyday Discrimination Scale (Miconi et al., 2021), and adaptations of the Succession, Identity, Consumption (SIC) Scale (Bergman et al., 2020; Werner et al., 2021).

Only a few of the studies assessed experiences of ageism. Werner and colleagues (2021) used two items based on Bratt et al. (2020). Ayalon & Cohn-Schwartz (2020) and Cohn-Schwartz & Ayalon (2020) used four-items from the Health and Retirement Survey (Clarke et al., 2008), and Miconi et al., (2021) assessed perceived discrimination in eight contexts.

1.6 Levels of ageism: Comparing the studies' results regarding levels of ageism was difficult because of the variety of instruments and scoring scales used. However, several interesting findings emerged when looking at the quantitative studies. First, the level of ageism was relatively low both in studies assessing self-directed and other-directed ageism. Second, when negative and positive types of ageism were assessed, levels on the benevolent subscales were consistently higher than on the hostile subscales (Cohn-Schwartz & Ayalon, 2020; Graf & Carney, 2021; Lytle et al., 2020; Maxfield & Pituch, 2020; Seifert, 2021; Vale et al., 2020; Visintin, 2021). Third, the level of experienced discrimination was also moderate, ranging between 16% to 24% in the few studies that assessed it (Ayalon & Cohn-Schwartz, 2021; Cohn-Schwartz & Ayalon, 2020; Miconi et al., 2021).

1.7 Correlates: Only seven studies examined factors associated with ageism. These included sociodemographic characteristics, social resources, and death anxiety. Associations with participants' age were inconsistent: Three studies found that older age was associated with increased ageism (Cohn-Schwartz & Ayalon, 2020; Maxfield & Pituch, 2021; Seifert, 2021), and four found a similar association but with younger age (Arcieri, 2021; García-Soler et al., 2020; Miconi et al., 2021; Werner et al., 2021). Higher education was associated with higher levels of positive ageism, whereas the opposite direction was reported with negative ageism (Seifert, 2021). Only one study found a significant association with gender, with women reporting higher levels of ageist stereotypes (Cohn-Schwartz & Ayalon, 2020), and two examined associations with ethno-cultural groups, finding higher levels of ageism among minorities (Miconi et al., 2021; Werner et al., 2021). Regarding participants' social resources, living alone or having no children was associated with increased ageism in two studies (Cohn-Schwartz & Ayalon, 2020; Seifert, 2021); furthermore, lower levels of contact with family members or worse quality of contact with older people in general were associated with increased ageism, and lower levels of satisfaction with social support was also associated with increased ageism (Losada-Baltar et al., 2020; Visintin, 2021). Higher levels of dying anxiety (Cohn-Schwartz & Ayalon, 2020), COVID-19 anxiety (Arcieri, 2021), ableism (Arcieri, 2021), and of worries regarding COVID-19 (Losada-Baltar et al., 2020) were associated with increased levels of ageism.

1.8 Consequences: Fourteen studies interpreted the directionality of the associations as consequences of ageism during the COVID-19 pandemic. Several interesting findings emerged. First, six studies examined associations with mental health variables such as anxiety, PTSD symptoms, and health worries (Ayalon & Cohn-Schwartz, 2021; Bergman et al., 2020; Maxfield & Pituch, 2020; Palgi et al., 2021), distress and loneliness (Levy et al., 2021), and life satisfaction (Korndat et al., 2021a). Seven studies examined associations with

COVID-19 behavioral intentions, such as the intention to work with older people (Shea et al., 2021), to prioritize resources (Apriceno et al., 2021), to observe social distancing (Graf & Carney, 2021; Vale et al., 2020; Visintin, 2021), to use protective devices (Visintin, 2021), to help (Lytle et al., 2020), and to prepare or to plan for the pandemic (Maxfield & Pituch, 2021).

Second, the evidence regarding associations between positive and negative age-related stereotypes was inconclusive. Three studies found statistically significant associations between benevolent ageism or positive age-related self-perceptions and positive outcomes such as increased resource prioritization (Apriceno et al., 2021), better mental health (Levy et al., 2020), and increased use of protective devices (Visintin, 2021). Three additional studies found that both types of ageism (positive and negative) were equally associated with outcome variables such as decreased intentions to observe social distancing (Graf & Carney, 2021; Vale et al., 2020), and increased depression, anxiety, or fear (Maxfield & Pituch, 2020; Vale et al., 2020).

2 Qualitative studies

2.1 Studies' characteristics: Out of the 13 qualitative studies, seven were conducted in North America (five in the USA and the rest in Canada and Mexico), four in Europe (Spain, France, England, and a comparative study in Austria and Ireland). Other countries publishing qualitative studies included China and Nigeria.

2.2 Studies' design, data collection, and data analysis: All of the qualitative studies used a cross-sectional design. Four of them relied on semi-structured interviews analyzed using thematic analysis (Barth et al., 2021; Ekoh et al., 2021; Hop et al., 2021; Jiménez-Etxebarria et al., 2021). The remaining nine examined ageism in social media (mainly Twitter) or printed media, and were analyzed using a hybrid technique linking qualitative and

quantitative methods in the analysis of textual data (Barrett et al., 2021; Jen et al., 2021; Jimenez- Sotomayor et., 2020; Lagacé et al., 2021; Lichtenstein, 2021; Skippe & Rose, 2021; Schnell et al., 2021; Xiang et al., 2021; Zhang & Liu, 2021).

2.3 Sample characteristics: Studies based on interviews included mostly female samples of up to 50 participants with an age of 62 and over.

2.4 Conceptualization of ageism: Studies based on interviews assessed self-directed ageism, and those analyzing media texts examined mostly explicit ageism. Only one qualitative study (Lagacé et al., 2021) relied on a theoretical framework: the Theory of Social Representations and the Stereotype Content Model.

2.5 Expressions of ageism: Studies examining subjective experiences of ageism found that overall, participants reported experiencing more ageism during the pandemic than they did before it. Studies examining printed or social media during the pandemic reported an average of 1% to 44% of ageist expressions.

Ageism in qualitative studies using semi-structured interviews was subtle. Participants used implicit more than explicit language, and characterized the ageism experienced to be paternalistic rather than aggressive (Barth et al., 2021; Hopf et al., 2021; Jimenez-Etxebarria et al., 2021). Findings of qualitative studies of the published and the social media showed that mainly two narratives were used to describe ageism during the pandemic. The first – the "vulnerability narrative" – framed older people as a homogeneous and vulnerable group, and as being a target for stigmatization and discrimination of health resources. The second narrative – the "intergenerational conflict" – stressed the tension created between older and younger generations regarding the source and results of the pandemic (Jimenez-Sotomayor et al., 2020; Lagace et al., 2021; Lichtenstein, 2021; Skippe & Rose, 2021; Schnell et al., 2021; Zhang et al., 2021).

Discussion

Out of 119 leading scientists in 23 countries, 90% believe that COVID-19 is here to stay (Phillips, 2021). As such, older people will continue to be at an increased risk of becoming seriously ill, and the adoption of preventive measures such as the use of masks and restrictions on gatherings might be required for people of all ages to protect older people. Consequently, ageism will continue to be a key challenge at both the individual and public health level during this pandemic (World Health Organization, 2021). Elucidating the meaning, correlates, and consequences of ageism is therefore of utmost importance. Our scoping review sought to achieve this aim.

Key findings

Several patterns become rapidly apparent from the 36 empirical studies included. These are discussed in light of the knowledge (or the lack of) about ageism in general, and the characteristics of the pandemic in particular.

First, almost all of the studies identified in this review were conducted in high-income countries. Although a similar pattern was found in the study of ageism in general (Marques et al., 2020), this limited view restricts our ability to understand the meaning, consequences and cultural aspects of ageism in low-income countries (Ng & Lim-Soh, 2021). This point is especially important given that the few studies conducted in these countries before the COVID-19 crisis showed that, due to inequalities in structural and public health variables (such as healthy life expectancy, the amount of and access to health services and treatment resources, and the availability of health insurance), the level of ageism was higher and its impact worse in low-income than in high-income countries (Chang et al., 2020; Officer et al., 2020; World Health Organization, 2021). These differences and their consequences are accentuated during health emergencies, such as the COVID-19 pandemic, when health

professionals in developing countries were confronted with the need to distribute extremely scarce life-saving resources and used age (explicitly or implicitly) as a criterion for allocation (Salgado Soares et al., 2021).

Second, similar to studies about ageism in general, the majority of the samples in this review used convenience samples, comprised primarily of female participants, individuals with high education levels, and individuals belonging to the majority group. It is essential that future studies include more diverse samples to fully understand the topic under study, especially since studies conducted during the pandemic have consistently shown associations between demographic characteristics and the impact of the virus (Arcieri, 2021; Cohn-Schwartz & Ayalon, 2020; Miconi et al., 2021; Seifert, 2021; Werner et al., 2021).

Third, the studies included in the current review lacked a clear conceptualization of ageism during COVID-19. Although the majority defined ageism as a complex, multidimensional construct including cognitive (stereotypes), affective (prejudice), and behavioral (discrimination) aspects, only one study (Visintin, 2021) empirically assessed prejudice, and five (two of them by the same authors) addressed the behavioral component by assessing experienced ageism, or feelings of discrimination (Ayalon & Cohn-Schwartz, 2021; Cohn-Schwartz & Ayalon, 2021; Miconi et al., 2021, Werner et al., 2021). Moreover, almost all of the studies in our review examined ageism toward older people, and only one study assessed ageism directed toward younger people (Werner et al., 2021). This limited definition of the concept, although similar to descriptions for ageism in general (Iversen et al., 2009), hinders the possibility of assessing the unique characteristics of the phenomenon as displayed during the pandemic. A few of these experiences did emerge in the qualitative studies, which highlighted distinctive characteristics of ageism during COVID-19 within the family, inter-generational tensions, and discrimination in the distribution of health resources. However, the importance of these findings were rarely expanded by integrating them with quantitative

studies. This limits the possibility of operationalizing the results from qualitative studies, generating and testing hypotheses, and assessing complex theories that will allow to understand the concept of ageism beyond the specific context of the current pandemic.

Fourth, the abovementioned difficulties might be a consequence of methodological limitations of the reviewed literature. For example, with the exception of two studies (Bergman et al., 2020; Werner et al., 2021), quantitative studies did not use measures specifically designed for ageism during COVID-19, restricting therefore the possibility to unveil the distinctiveness of the concept at times of crisis. Fifth, the majority of the studies used cross-sectional designs, restricting the ability to compare their results to pre-pandemic results. That said, given that many of the studies were conducted during the first waves of the crisis, it is possible that some longitudinal findings are currently in the pipeline. Sixth, less than a third of the quantitative studies examined correlates of ageism - mostly socio-demographic factors – showing similar associations to those described in the general literature on ageism. Future studies should further examine the contribution of unique factors such as knowledge of and fear about COVID-19, which proved to be significant to the explanation of the phenomenon in Werner et al. (2021). Fifth, none of the studies examined cultural aspects of ageism during COVID-19. This is surprising since it has been noted that, as other types of discrimination, ageism is associated with different cultural dimensions (such as collectivism, individualism, masculinity and more), and varies among countries and cultures (Wilinska et al., 2018). This line of study must be extended especially since the global characteristics of the pandemic provide a perfect setting for the examination of cross-cultural features of ageism.

Finally, qualitative studies showed numerous examples of benevolent ageism in the media during the pandemic, with old age being associated with vulnerability. While older people have been characterized as vulnerable in relation to other diseases (Schnell et al.,

2021), the strength, consistency, and extent of this stereotype as reflected in the qualitative studies of this review is unique. This might be the results of the period of data collection. As mentioned, the studies in this review were conducted during the first period of the pandemic; a period that was characterized by fear and lack of knowledge which resulted in extreme measures such as sudden and continuous lockdowns and isolation of the older population. Recently, Bernstein and colleagues (2022) using quantitative methods showed that benevolent and hostile ageism decreased across time during the pandemic and as the level of concerns about its results decreased. Studies using qualitative methodology should be conducted to see if a similar change is observed in the framing of ageism in the media. Such an examination might discover also that the "intergenerational conflict" narrative has changed to a "intergenerational solidarity" discourse, especially with the availability of the vaccines (Ellerich-Groppe et al., 2021).

Strengths and limitations

The strengths of our review include the use of rigorous methods such as a search of multiple databases, independent selection, and a dual-author screening process. However, several factors may limit the interpretation and application of the findings. First, despite our comprehensive search, and the use of a variety of keywords, we may have overlooked relevant studies in the area. We believe, however, that the manual search we conducted might have curbed this limitation. Second, we restricted our review to English, peer-reviewed studies. Third, we did not examine how ageism during COVID-19 varies across health disparity populations. Finally, we did not assess the quality of the studies included. However, scoping reviews concentrate on the state of knowledge in the studied area rather than on the quality of the studies (Levac et al., 2010).

Conclusions and implications

Our main question was: Is ageism during COVID-19 as reflected in the published literature different (in its definition, operationalization, prevalence, or determinants) than ageism in general? Based on our review the response is no. There are almost no theoretical nor methodological differences, or differences in prevalence, correlates and consequences. So now the question is: Do the studies we reviewed fail to capture the full picture of ageism during the pandemic? Do they underestimate its levels and consequences; both negative and positive? Or, does the lay and grey media about discrimination toward older people during the pandemic overstate its manifestation and prevalence, especially towards older people?

To answer these questions, and as the pandemic continues, we need studies that are more theoretically sound and methodologically rigorous, using longitudinal designs and unique validated measures. Only then we will be able to move ahead and provide policy-makers and professionals with the information necessary for the development of focused and successful interventions to reduce the negative and increase the positive consequences of ageism during natural disasters.

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Declarations of conflict of interest

We have no conflict of interest to declare

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Figure 1. Publication selection process

