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Aging in (con)text: a systematic review on how scientific discourses embed the intersectional reality of elderly

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The aim of the current study was to access the intersectional link between aging and different contextual determinants, such as social class, gender identity, sexual orientation and race/ethnicity, among others, elder adults are exposed to in contemporary societies. Accordingly, a systematic review of existing literature in accordance with the PRISMA guidelines, processed through statistical text-mining-analysis, has been carried out to understand how the production of scientific knowledge shapes sociocultural representations concerning the aforementioned reality. The findings showed a prevalence of studies investigating the development of elderly, with intersectional elements appearing only peripherally. However, although Psychology itself has not engaged much in this discussion so far, human sciences already began to understand aging as a heterogeneous, multifaceted and complex process of human development. It is worth noting, indeed, that scientific production focused on topics such as gender, race, nationality and sexual orientation are becoming increasingly prominent, suggesting to address special attention to these variables in future studies on aging. Contextual factors, circumscribing healthcare issues focused on aging, should be taken into account in order to overcome prejudices historically directed against elder adults. An increased longevity is, in fact, an achievement, and not a burden to be lived in precarious conditions of development.

Introduction

The Psychology of Aging is one of the areas that contributes the most to building gerontological knowledge (Salmazo-Silva and Almeida 2019; Komp-Leukkunen and Sarasma 2023). Since the 1930s, several theoretical models were developed in various areas, as in psychology and the health sciences, which include aging in their different research approaches. Among these, we recognize that there are two main theoretical frameworks: (1) one more focused on the subjective processes that constitute each “stage of development,” and (2) another that includes approaches that consider intersubjective and contextual factors as essential tools in the investigation of human development as a whole (Ferreira 2010).

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Theories more focused on the subjective dimension, developed from mechanistic and organicist perspectives, became widespread and predominant in the investigation of aging throughout the first half of the twentieth century, and were based on the understanding that older people would be unproductive and deteriorated (Eytan 2024; Neri 2012). Subsequently, there was a proliferation of approaches focused on the influence of social, historical, cultural and ideological factors on the human development process as a whole (Ferreira 2010), which represented a new contribution to the area of knowledge of the Psychology of Aging.

Among the latter, the life-span developmental paradigm became one of the most relevant to the study of aging. This approach, with its pluralistic character, considers multiple dimensions of human development, understanding this process as dynamic, contextualized and interactional (Baltes and Smith 2004; Sigelman and Rider 2021). This theoretical framework, therefore, operates at a level of analysis that includes the impact of micro and macrosocial environmental factors on behavior and subjectivation, emphasizing the life-span character of human development (Neri 2013). From this perspective, it is understood that human development does not stop with advancing age. This is because genetic-biological and sociocultural factors have a concurrent impact on the aging trajectory, marking old age as a stage characterized by unique movements toward a systemic operationalization of mechanisms that promote healthy and adaptable aging (Baltes 1997; Baltes and Smith 2004; Sigelman and Rider 2021). That is, the development of adults and older people in particular is as important and relevant to scientific investigation as the stages more often investigated from a more evolutionary perspective, such as childhood and adolescence, the latter also resting on underlying social and cultural constructions. In this context, given the specificities of the life course in old age, the aging process can already be considered an emerging twenty-first century's topic, as the longevity and growth of the older population have become a reality in most developed, recently industrialized and developing countries (Souza et al. 2021; Cardoso et al. 2022).

In 2020, the UN General Assembly declared the decade 2021–2030 the Decade of Healthy Aging, setting goals to build a plan for improving the lives of older people, their families and communities (UN 2020). Considering the above, implementing new public policies that meet the emerging demands of this population are thus crucial, beginning with the investigation of the different contexts in which they live. In other words, it is essential to consider that, in addition to aging itself, there are multiple other factors converging both in the structuring of psychological meanings and intersubjective senses, as well as of the symbolic-cultural determinants of social life at different moments in the life course (Valsiner 2019).

As a stage of development, aging is multidimensional and heterogeneous, and we can highlight other determinants in relational systems: social class, nationality, gender identity, sexual orientation, race/ethnicity, among others (Andreoletti et al. 2015; Brown and Mutambudzi 2022). We can thus say that various structural factors come into play in the way power relationships and hierarchies permeate our lives, at both the subjective and the intersubjective level, according to our cultural contexts, with direct implications for our life trajectories and the way we age, making it even more relevant to discuss the formulation of personal plans for this age population (Garcia et al. 2023; Manfrim and Rasera 2016).

Therefore, it is essential to consider intersectionality an element of the investigation of aging, based on the understanding that intersectionality is a theoretical framework for comprehending how social identities intersect at the microlevel of

individual experiences, reflecting systems of oppression at the macro level (Bowleg 2012). There is, in fact, a need to investigate how power relations operate in the interactions of race, gender, social class, sexual orientation, nationality, age and other factors in a diverse society (Collins and Bilge 2021). Understanding aging as a complex process implies recognizing intersectionality as a tool for investigating the “Other”: the Black, the LGBTQIA+, the migrant and the woman as individuals; that is, those individuals whose identity deviates from Eurocentric logics. As, indeed, pointed out in a recent study regarding the link between aging and contextual factors,

the intersectionality of race/ethnicity and sex in these associations, which may have a complex relationship with baseline cognition and patterns of decline over time, should be further assessed given the life-long disparities that differentially contribute to incidence and severity of mental health in women and minorities (Brown and Mutambudzi 2022, p. 2).

Accordingly, such disparities, elder people are exposed to, commonly promote social injustices due to “historical inequities in the labor market and gendered social expectations” (Armstrong-Carter et al. 2022, p. 7).

Furthermore, operationalizing complex concepts like “intersectional” and “developmental” requires a thoughtful and multifaceted approach that aligns theoretical frameworks with methodological rigor. By carefully considering the dimensions of these concepts, employing appropriate data collection methods, and acknowledging the dynamic nature of social and individual change, researchers can produce meaningful and generalizable findings that advance the understanding of these critical areas of inquiry.

In our article, we thus aim to systematically review the existing literature focused on aging as an intersectional reality, by considering surface-level diversities, like gender and race. As pointed out by Chu et al. (2023, p. 12), indeed, “intersectionality applied to aging outlines how intersecting social locations such as gender, race, class, and sexual orientation impact aging”. A systematic review of studies considering aging as an intersectional process, due to a global society in progressively increasing transformations, enables a critical analysis of what has been discussed on the subject, in order to identify advances and gaps in the understanding of such a complex reality that is still little discussed in the literature. According to a recent review, moreover, focused on social inequalities and cultural-historical determinants, which are linguistically circumscribed, showed how “the volume of symbolic and cultural meanings disseminated by different cultural environments and vehicles impacts the composition of society” (de Moraes-Santos et al. 2022, p. 2).

Materials and methods

This review was developed based on the indications of the international guide prepared by Page et al. (2021), titled Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). The PRISMA method is considered the “gold standard” for systematic reviews and meta-analyses. It offers a comprehensive and transparent guide for conducting and reporting these studies, ensuring methodological rigor and replicability. To this end, we surveyed scientific publications in online bibliographic searchable databases for full papers, without restricting results by date of publication. All articles that had in their title, abstract and descriptors references to aging and any intersectional-related term were selected.

We used a combination of keywords to search the PubMed/MEDLINE database for citations and abstracts of research articles

in the medical, biomedical and other health-related areas. It is important to note that PubMed/MEDLINE is maintained by the US National Library of Medicine, so all articles contained therein were published in English, regardless of the geopolitical context of the research. The keyword combination was as follows:

((((((((((((((gender) OR (sex)) OR (woman)) OR (women))) AND (race)) OR (ethnicity)) OR (ethnic-racial identity))) AND (elder)) OR (elderly)) OR (age*)) OR (older people)) AND (intersectionality)) NOT (children)) NOT (teenager))

This allowed us to identify studies that contained words such as “gender, sex or woman/women,” “race, ethnicity or ethnic-racial identity,” “age*, elder, elderly or older people” and “intersectionality,” and also to exclude all those related to children and adolescents. It is important to highlight that, to obtain our results, a truncation strategy was used to search the term (age*), in order to identify singular and plural variations, as well as differences in spelling and endings.

This keyword combination resulted in 299 articles identified. All articles that did not address aging as the central element of analysis, or that did not approach an intersectional perspective, were then excluded, as most of those identified dealt with intersectionality from other perspectives, such as feminism, non-monogamy, mortality due to specific health problems, among others. Finally, 44 scientific papers were selected, as shown in Fig. 1.

Screening of literature. The screening of literature was carried out in two steps, by following the PRISMA guidelines (see above):

- (1) The articles’ titles and abstracts were read, considering the eligibility criteria; and next,
- (2) The articles were read in full to ensure their congruence with our research question validated by two independent reviewers.

The 44 articles selected for review had their abstracts consolidated into a single textual corpus.

Text-mining-analysis. A meta-analysis of the textual corpus was conducted using the IRaMuTeQ package for statistical text-mining-analysis. This software allows to perform different types of textual data analysis, such as basic lexicography, Descending Hierarchical Classification (DHC), Correspondence Factor Analysis, Similarity Analysis as well as Word Cloud Analysis (Camargo and Justo 2013). The adoption of text-mining-analysis for carrying out meta-analysis of bibliographical data has already been used in previous research (Hochdorn et al. 2018; de Moraes Santos et al. 2022), in order to shed light on how scientific literature promotes discursive representations according to specific cultural- (Hochdorn et al. 2018), or gender- (de Moraes Santos et al. 2022) driven realities.

IRaMuTeQ, accordingly, represents a powerful and popular tool for analyzing textual data. It offers a variety of features that

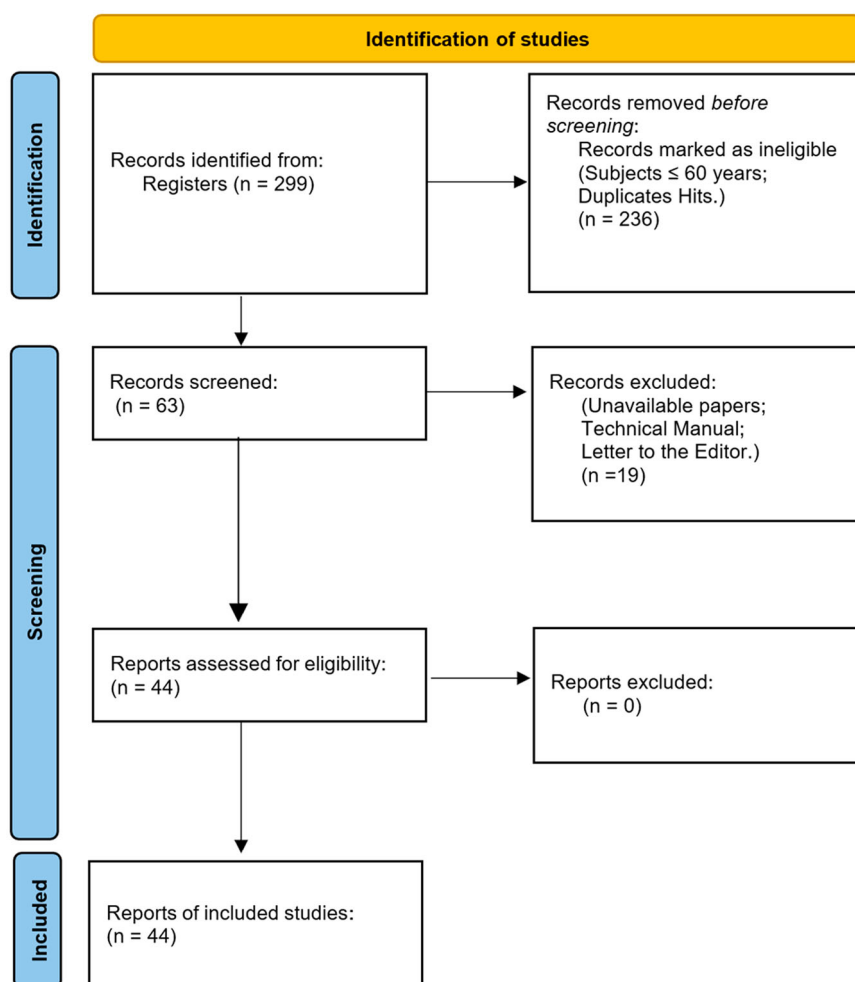


Fig. 1 PRISMA flow for Scoping Review maps the process of selecting and synthesizing relevant studies to answer the research question.

allow researchers to explore and interpret data comprehensively and in-depth. The combination of PRISMA and IRaMuTeQ offers a wide ranging solution for research that requires rigor in data collection and multilevel text-mining-analysis. Indeed, the adoption of a statistical package for quali-quantitative investigation of textual sources—i.e., the abstracts of the publications retrieved for the present review—allows to add some relevant meta-analytical considerations about the way scientific literature contributes to the production of discursive representations, underlying realities of social and psychological interest, like the topic taken into account for our study.

In the same sense, the graphical outputs of such an investigation tool, indeed, belong to so-called mixed method approaches, namely the application of statistical procedures on qualitative, textual material. Such methods, indeed, aim to evidence discursive processes, underlying specific social representations and how these representations turn into factual realities (Camargo and Justo 2013). According to the Theory of Social Representations (ibidem), common sense, especially in social, healthcare and psychological sciences (Hochdorn et al. 2018), becomes part of the scientific language, as shown by a recent meta-analysis published on Humanities and Social Science Communications (de Moraes Santos et al. 2022), where the authors asserted that “it is of paramount importance that the scientific community understands its role in the production of knowledge and the political and social impacts that its discourse has so that we can begin to address of the differences as they appear” (p. 7).

Results

After applying the inclusion and exclusion criteria, as defined for this literature review, we noticed that the articles on aging and its social determinants showed a strong intersectional focus, in addition to being a relatively recent interest of the scientific community. Out of the 44 selected articles, six were published in 2021, eleven in 2020, nine in 2019, four in 2018, seven in 2017, four in 2016, one in 2012, one in 2011 and one in 1997. These results indicate how recent is the production of intersectional knowledge on aging, since approximately 93% of the articles analyzed were published in the last 5 years. For analytical purposes, the articles were categorized as shown in Table 1.

It is important to highlight that, although the keyword combination addressed intersectionality in the conditions of aging, gender and race, the algorithm also returned studies referring to deep-level diversities, such as sexual orientation and migration. These papers were therefore incorporated into the analysis.

Surprisingly, despite not being included within the search string, quite a lot LGBT-related papers have been identified by the PubMed/Medline algorithm. Such a result is due to the importance, studies about sexual orientation and gender related issues occupy in recent research addressed to the understanding of diversity, as evidenced by former systematic reviews focused on

this topic (Garg and Sangwan 2020; Yadav and Lenka 2020; de Moraes Santos et al. 2022).

The production of scientific knowledge, contributing to the complex understanding of diversity, indeed, is particularly interested in identifying the strict intersectionality among gender and sexual related issues on one hand and variables concerning social class and race grouping on the other, above all regarding the contemporary mainstream in social, psychological and cultural sciences.

As shown in Table 1, the articles analyzed were distributed in three main groups addressing: (1) developmental issues, (2) health issues, and (3) other issues, such as social and clinical; these three groups were also further subdivided to distinguish between empirical and non-empirical studies. Subsequently, the selected articles were categorized based on the social determinants they focused on, namely: aging and gender, with five articles; aging and race, with six articles; aging and sexual orientation, with ten articles; aging and migration, with seven articles; and, finally, aging and intersectionality, with 16 articles.

This allowed us to analyze the data using the IRaMuTeQ software package, as will be discussed in the next section.

It is necessary to point out, however, that out of the 44 selected articles 20 fell within the broad area of human development. Of these 20, five were addressed to issues of aging in association with ethnic-racial factors, three dealt with sexual orientation in association with elder people, five addressed the relationship between older adults and migration flows, and seven dealt with aging and intersectionality in general. Another point worth noting is that within this group of 20 articles focused on developmental issues only five were characterized as empirical studies. Moreover, no articles were found on old age in association with gender from the perspective of human development.

Our results also showed that the health area was responsible for the second largest group of articles focused on aging from an intersectional perspective. In this group, ten articles were identified: one on aging and gender; three on aging and sexual orientation; two on old age in association with migration; and four on the aging process and intersectionality in general. Out of these, four were empirical studies. However, our findings also showed a lack of healthcare studies focused on aging and racism.

Finally, 14 studies did not fit into either the development or health perspectives: four on aging and gender; one on racialized old age; four on the relationship between aging and sexual orientation; and five on old age and intersectional aspects. Within this group, six studies were empirical, and it was possible to notice the lack of articles on aging in association with migration aspects.

After this classification process, we used the IRaMuTeQ software package to conduct three fundamental analyzes for our meta-analysis of the textual corpus obtained, namely:

Table 1 Screening process of scientific literature.						
Retrieved papers focused on aging regarding			Gender (5)	Race (6)	Sexual orientation (10)	Migration (7)
Developmental issues	E	0		1	1	1
	NE	0		4	2	4
Healthcare issues	E	1		0	1	1
	NE	0		0	2	1
Other issues	E	2		0	2	0
	NE	2		1	2	0

E empirical, NE not empirical.

- (1) A Descending Hierarchical Classification Dendrogram (DHC),
- (2) A Correspondence Factor Analysis and
- (3) A Word Cloud Analysis.

The results of these analyzes will be presented in this section to support the subsequent discussion of the overall results.

DHC identified similar textual materials and the corpus analyzed consisted of the 44 articles' abstracts. This corpus was divided into 260 text segments, with 77.31% of these included in the analysis. A total of 8950 different elements were analyzed, categorized according to their vocabularies. Next, the group of elements was divided by IRaMuTeQ according to the average frequency of their textual components. It is important to emphasize that the DHC divided the corpus into four classes of textual elements, as shown in the Dendrogram in Fig. 2.

The Dendrogram (Fig. 2) shows the corpus divided into stable classes, as well as the connection between the classes, considering only words with X^2 of class association ($p \leq 0.05$), as per the IRaMuTeQ Tutorial's instructions (Ratinaud 2009). Four classes were obtained, distributed in three large thematic groups: one class that comprises all the others, one with two other subgroups and another with two subgroups.

Class 1, named Behavioral and Ethnic-Racial Disparities, encompassed all other classes, and its textual segments represented 24.4% of the textual corpus analyzed. The interpretation of the Dendrogram showed that class 1 covered textual elements referring to ethnic-racial aspects (white, Black) and to various behavioral elements (associations, disparity, behavior, result, effect, etc.). A gender demarcation was also evident, as the word *man* appeared as the most significant word in class 1.

Class 2, Health Stigmas, consisted of 22.4% of the textual corpus' segments and included words such as *stigma*, *HIV*, *sexual*, *orientation* and *drug*, among others. This result evidenced the relationship discussed in some articles between intersectional aspects and health vulnerabilities, such as diseases and drug addiction. Class 2 was classified as a subgroup of Class 1, together with Class 3, named Intersectional Perspectives.

Class 3 (Intersectional Perspectives) covered 25.4% of the textual corpus' elements and included terms such as *knowledge*, *perspective*, *research*, *power* and *intersectional*, demonstrating the close interdependence between scientific production and contextual aspects.

Finally, class 4 was named Diversity and Health Care, since its textual segments referred to the importance of considering the social determinants of aging in health care. Some of the terms included in class 4 were *age*, *policy*, *care*, *diversity* and *LGBT*, representing 27.9% of the textual corpus.

Furthermore, the Correspondence Factor Analysis (Fig. 3) showed the intersection of the four stable classes produced by DHC in a Cartesian Coordinate System (CCS). This procedure clearly showed the intertextual correspondence between the four stable classes in the four quadrants and along the two axes of the CCS.

Class 1 (Ethnic-Racial Behavioral Disparities) appeared as strongly independent; that is, significantly separated from the other classes, occupying a large part of the right quadrants, both upper and lower. In contrast, classes 2 (Health Stigmas) and 3 (Intersectional Perspectives) merged, although class 2 occupied most of the lower left quadrant and class 3 was located mostly in the center of the graph. This result corroborated the DHC, which showed classes 2 and 3 in the same subgroup. Class 4, in turn, also proved to be strongly independent, occupying the upper left quadrant.

The Word Cloud visualization allowed us to identify which occurrences were most used in the articles selected for the current review. The Word Cloud in Fig. 4 showed graphically that the term *old* was the most frequently used as a noun, being especially associated with the words *health*, *age*, *experience* and *gender*.

The Word Cloud (Fig. 4) evidenced that, even with the selected articles referring to important social determinants, such as issues related to gender, race, nationality and/or sexual orientation, these did not show a high frequency, compared with the terms *aging* or *old*. This allowed us to infer that, although studies focusing on old age, health and gender have been identified, little has been discussed about intersectionality, such as racial issues, nationality or sexual orientation.

This inference was corroborated by the DHC and the Correspondence Factor Analysis, since the most frequently used textual elements identified in the classes analyzed were broad terms such as *man*, *perspective*, *stigma* and *old*.

Our results showed that terms more specifically related to intersectional issues, such as *racial/ethnic*, *intersectional*, *orientation* and *LGBT* appeared less frequently, occupying the last and more peripheral positions in DHC and in the Correspondence Factor Analysis clouds, respectively.

Discussion

Our findings showed how recent is the advancement of intersectional studies of the aging process, a very complex phenomenon that has yet to be fully understood. In short, the mere presence of some identity variables in the papers does not guarantee that the studies actually present an intersectional perspective. In this sense, our analyzes allowed us to present an overview of how the international scientific community has been investigating the elderly among certain identity groups, considering that all the studies here selected understand intersectionality as a theoretical structure that refers to the combined interaction of different social and identity categorizations. As emerged in the analysis of the results, DHC categorized textual elements into four classes, the first being an independent class with three branches. As shown in Fig. 2, class 1 (Behavioral and Ethnic-Racial Disparities) mainly included words such as: *man*, *disparity*, *white*, *Black*, *behavior* and *stressors*, among others. That is, we found that in class 1 there was, above all, a prevalence of psychosocial elements related to the aging process of Black and white men, directing the way in which the associations were categorized.

Among studies focused on race, a significant number of articles indicated that stressful experiences harmful to mental health are experienced more frequently by Black people, and may even exacerbate important clinical conditions, such as post-traumatic stress, anxiety disorders and cardiovascular diseases (Campos et al. 2020; Correia-Zanini et al. 2021; Josiah et al. 2021; Sosoo et al. 2020). Our DHC results evidenced that these findings led to further studies focused on the older Black population, as the words listed in that analysis pointed to an investigation of disparities between the behavior of older white and Black men.

Furthermore, the Correspondence Factor Analysis showed that class 1 stood separated from the others, that is, strongly independent, with its boundaries well defined in relation to the other classes. We understand from this that there is a consolidated field of psychosocial studies, as illustrated by the articles "Psychosocial Mechanisms Underlying Older Black Men's Health" (Brown and Hargrove 2018) and "On Intersectionality: How Complex Patterns of Discrimination Can Emerge from Simple Stereotypes" (Hester et al. 2020), and that the sub-area of aging studies has been gaining ground within this field of knowledge, differentiating itself from other approaches found in our review.

Nevertheless, the "Behavioral and Ethnic-Racial Disparities" class was the only one fully located in the right quadrants of the Correspondence Factor Analysis diagram, corroborating the hypothesis that class 1 represented a specific field of scientific production.

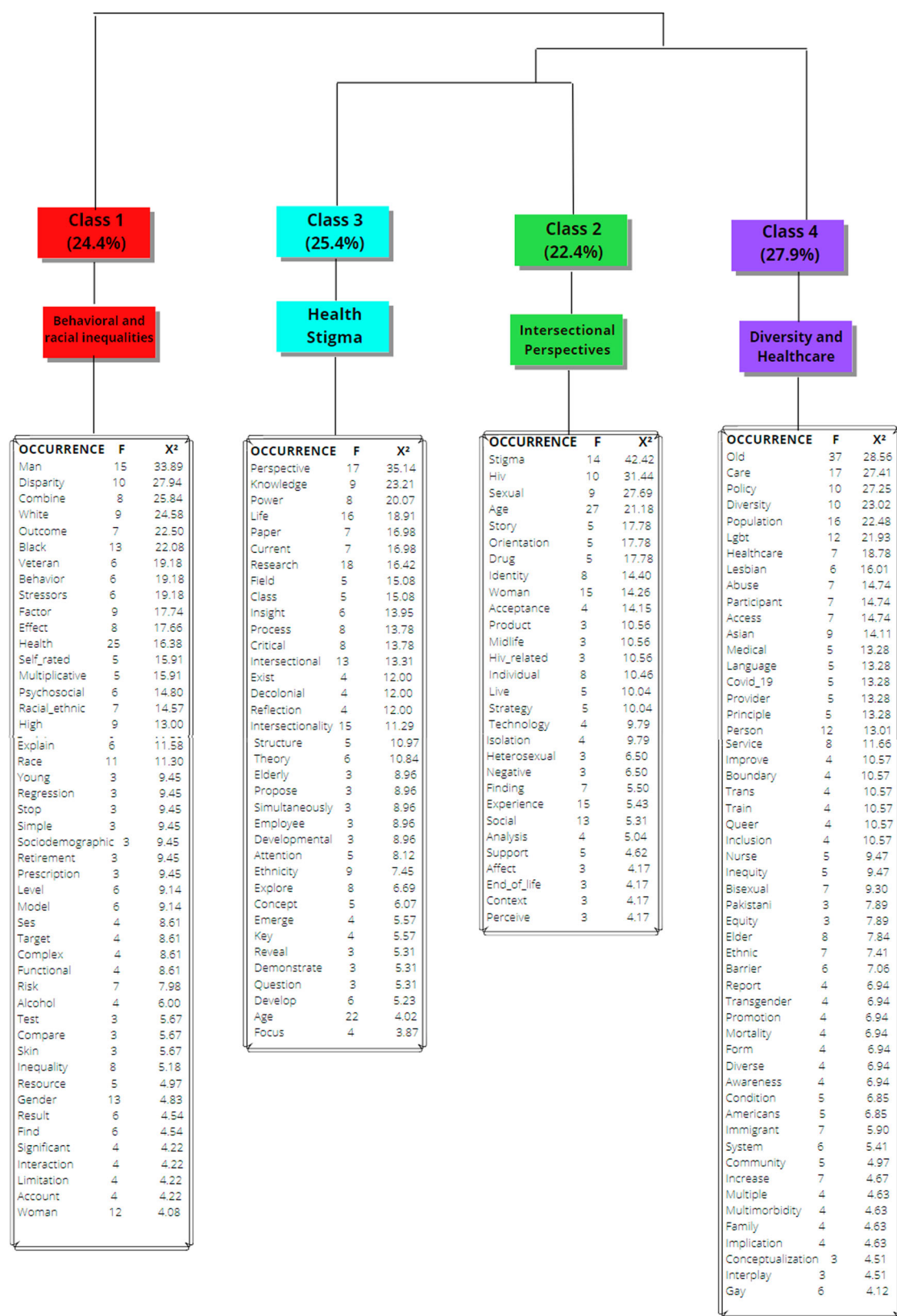


Fig. 2 The IRaMuTeQ dendrogram visualizes the hierarchical structure of thematic categories emerging from the analysis of a set of texts.

The Word Cloud (Fig. 4), however, showed that, although the studies belonging to class 1 were well defined as a group, they still did not constitute a majority within the subarea of human aging studies, since the words *man*, *ethnicity*, *Black*, *identity* and *race*

turned out to be less significant, occupying a peripheral position regarding the occurrences *age*, *health* and *old*.

It is worth noting that psychosocial studies stood out in understanding development processes as situated within specific

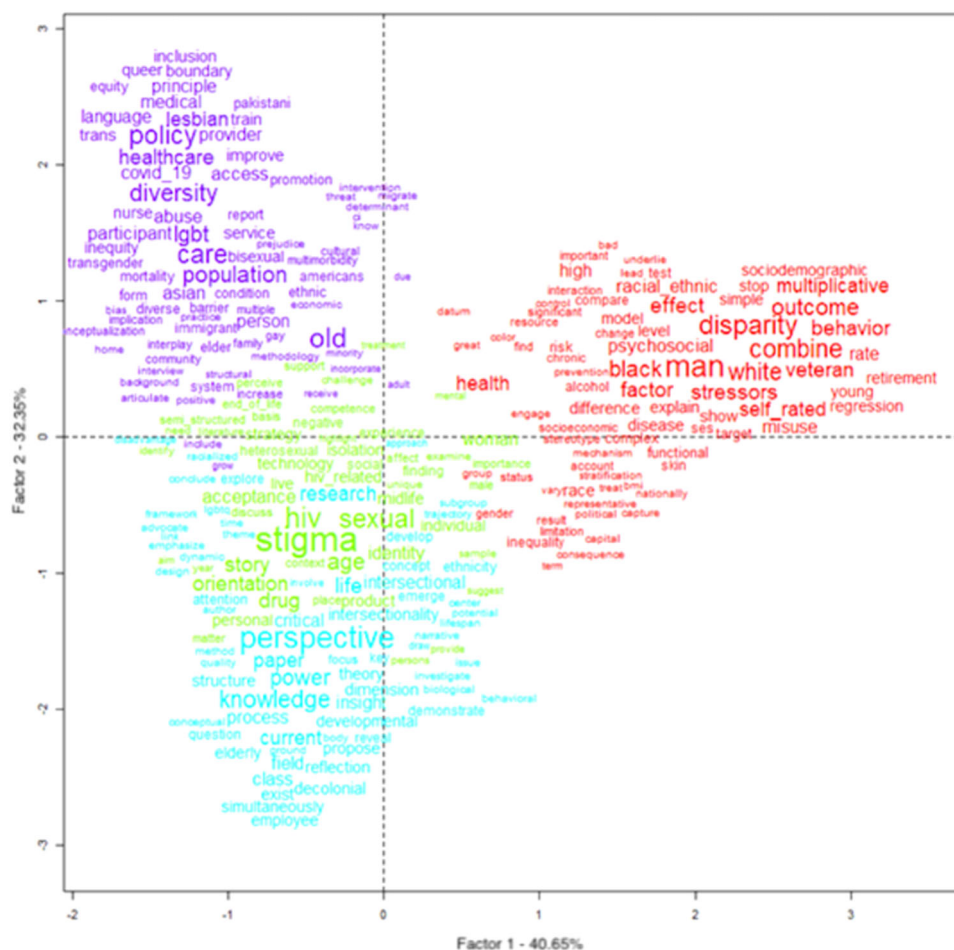


Fig. 3 The IRaMuTeQ Correspondence Factor Analysis map reveals the distribution of thematic categories and frequent terms in a two-dimensional space, allowing relationships and patterns between them to be identified.

historical, social and ideological contexts, in line with the second strand of studies in Social Psychology (Ferreira 2010). In short, this is an area of investigation whose approach to developing individual goes beyond intrapsychic realities, understanding the subjectivation of older people as susceptible not only to the biological processes operating in the course of aging, but also, and perhaps mainly, to external stressors (Neri 2013), as demonstrated by the Dendrogram. Class 2 (Health Stigmas), obtained with DHC, had *stigma* as its first occurrence, related to the following textual elements: *HIV*, *sexual orientation*, *drug* and *identity*, among other factors. In analyzing this class, we noticed a tendency of aging studies to focus on stigmas related to sexual orientation and specific conditions, such as HIV and/or drug addiction.

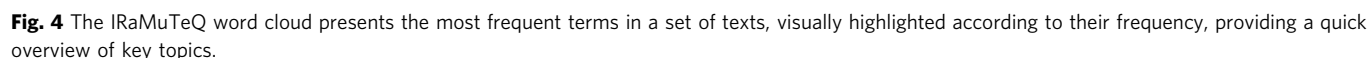
This is an interesting perspective, as the number of older people with sexually transmitted infections is currently growing (Aguiar et al. 2020). This fact can be understood as a result of various stigmas associated with the older population, which lead to a lack of sex education campaigns aimed at people aged over 60, to the social imaginary that older people do not have sexual relations and to the compulsory heteronormativity imposed on the whole of the population, including the elderly (Debert et al. 2016), reinforcing the belief that older people necessarily experience their emotional lives and relationships in a heterosexual and monogamous way.

The above findings show that health studies have been incorporating discussions about aging and the possible clinical conditions associated with it.

In this regard, the Word Cloud (Fig. 4) highlighted the word *health* as the central term of the textual corpus analyzed.

However, there is still a point to be considered: within intersectional studies, there was a strong tendency to stigmatize groups belonging to the LGBTQIA+ community during the late twentieth century and the beginning of the twenty-first century, perpetuating prejudices against this population through their association with sexually transmitted infections and higher rates of drug addiction (Lopes 2021). Therefore, we should maintain a critical stance regarding studies in this area, in order to verify whether the production of intersectional knowledge is aimed at overcoming or perpetuating certain types of discrimination depending on the individuals' identity.

Class 3 (Intersectional Perspectives) concerned perspectives, trajectories, power and intersectionality in aging, as illustrated by the DHC results. The analysis of the class 3 textual corpus showed a prevalence of developmental studies, in contrast to class 2 (Health Stigmas), which included scientific studies in the area of health. However, it is interesting to notice how both classes' clouds "merged" in the Correspondence Factor Analysis, indicating the use of similar terms in investigations that use different epistemological approaches. For example, both the articles "Understanding the Experiences of Racialized Older People Through an Intersectional Life Course Perspective" (Ferrer et al. 2017) and "Intersectional Stigma Among Midlife and Older Black Women Living with HIV" (Sangaramoorthy et al. 2017) focused on older people and ethnic-racial aspects. The first study, however, investigated the relationship between social determinants and the trajectory of human development of a particular population segment, corresponding to class 3 (Intersectional



In short, our review found more studies containing references to the health area in their title and/or abstract, such as the articles “Older LGBT+ Health Inequalities in the UK: Setting a Research Agenda” (Westwood et al. 2020) and “Health Disparities of Older Adults in California: The Role of Sexual Identity and Latinx Ethnicity” (Choi et al. 2021). On the other hand, scientific investigations conducted from a human development perspective did not refer to the term in their title and/or abstract with the same frequency, as observed in the articles “Understanding How Race/Ethnicity and Gender defines Age-Trajectories of Disability: An Intersectionality Approach”

Furthermore, we found a significant concentration of textual elements referring to migration, especially involving the older population of Asian origin, as evidenced by the Correspondence Factor Analysis chart. It is essential to highlight that migratory flows can lead to a breaking of habits, an appropriation of the new cultural and social context, and to new meanings being attributed to the body and the world around, causing a need for adaptation processes (Caio et al. 2019). These observations go together with

the idea that external and contextual factors influence development throughout life (Ferreira 2010), including in old age.

Moreover, class 4 highlighted the term *COVID-19*, also indicating that it was composed of recent studies, such as “The Impact of Structural Inequities on Older Asian Americans During COVID-19” (Ma et al. 2021). From this perspective, the COVID-19 pandemic has undoubtedly generated significant changes in population distribution since 2020, especially in underdeveloped or developing countries (Kalache et al. 2020), while also resulting in a greater focus on the health of older people and amplifying some ageist prejudices already existing in society (Manso et al. 2021).

All these observations were corroborated by the Word Cloud (Fig. 4), which placed the words *health* and *old* at the center of the image, indicating their prevalence in the selected studies. Observation of the words positioned around these two textual elements shows a series of different terms, such as: *identity*, *care*, *intersectionality*, *gender*, *LGBT* and *ethnicity*, among others. This points to the recent publication of varied studies focused on aging, especially in the areas of health, human development and psychosocial aspects.

Furthermore, as discussed by Moody and Sasser (2020), it is also important to highlight the growing elderly population in the world, which intensifies the need for research that understands the nuances of aging. However, a terminological ambiguity persists in gerontological studies, confusing “aging” as a process with “old age” as a phase of life. This confusion prevents an accurate analysis of the impacts of aging on society and limits the development of effective public policies.

To overcome these challenges, studies on old age need to: (1) adopt a multidimensional perspective, considering the different dimensions of aging (biological, psychological and social) to understand its complexity; (2) emphasize heterogeneity, recognizing that aging manifests itself individually, with different rhythms and trajectories; and (3) use precise terminology, using the terms “aging” and “old age” appropriately, avoiding confusion and ambiguities.

Conclusions

There is a prevalence of intersectional studies in the area of human development, which are accompanied by a growing number of articles in the area of health. However, our selection of 44 articles published over 35 years highlights the scientific gap regarding the investigation of aging, as this figure does not even correspond to two articles published per year, especially considering that 41 were published in the last 5 years.

Nevertheless, our analyzes also show a prevalence of studies investigating the health of older people, with intersectional textual elements appearing only peripherally. However, it is worth noting that the scientific production focused on topics such as gender, race, nationality and sexual orientation are becoming increasingly prominent, and this fact is also reflected in the scenario for future studies on aging. Thus, we understand the progress of this study, but also the need for replications in different databases and with other keywords so that more intersectional issues can be considered and discussed. Furthermore, expanding the analysis to include additional case studies or examples could provide a more comprehensive understanding of the intersectionality of aging. This would enrich the manuscript's findings and implications.

In view of the above, it is clear that the sub-area of aging studies has slowly gained prominence in international scientific production, in the most diverse areas. Although Psychology itself has not engaged much in this discussion so far, there is a promising scenario for the investigation of this phenomenon from a human sciences perspective, understanding aging as a heterogeneous, multifaceted and complex human development process. It is from this scientific engagement that new public policies can

be designed, in order to improve the life-quality of all the different older people around the world.

Our review used only one searchable database platform, which is known worldwide for collecting publications in English language produced all over the world. Thus, the articles found, selected and analyzed do not reflect the reality of intersectional aging in all countries, especially in the underdeveloped or developing world. They can nevertheless help to advance the scientific production on the topic in New Industrialized Countries, such as the BRICS (Brazil, Russia, India, China and South-Africa). Thus, in order to gain a diverse and plural understanding of the subject in specific geopolitical contexts, we suggest broadening the analyzes in question.

Our conclusion, based on the understanding that aging is already a global reality, is that it is crucial to conduct a detailed investigation of the diverse life experiences of older people around the world, in order to meet the emerging demands of this new population segment and break with prejudices historically directed against them. It is scientific knowledge that will enable us to ensure that an increased longevity is, in fact, an achievement, and not a burden to be lived in precarious conditions of development.

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Author contributions

1st Author: substantial contributions to the conception and design of the work; drafting the work; agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. 2nd Author: substantial contributions to the interpretation of data for the work; revising it critically for important intellectual content. 3rd Author: substantial contributions to the interpretation of data for the work; revising it critically for important intellectual content; final approval of the version to be published.

Competing interests

The authors declare no competing interests.

Ethical approval

Ethical approval was not required as the study did not involve human participants.

Informed consent

For review articles informed consent was not required.

Additional information

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