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Current Opinion in Psychology

Review

Diversity in the study of aging and lifespan development

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Abstract

In psychology, authors have shined a light on a lack of ethnic/racial and cultural diversity in sampling and scholarship. These issues pertain also to the study of aging and lifespan development. This article presents examples of how diverse sampling, across ethnic/racial groups and cultures, enriches theories of aging and adult development. There remain, however, numerous theoretical insights that are yet to be uncovered by future research that seeks to further diversify this subdiscipline. Good practices and avenues to diversification are considered, including targeted sampling of minority groups in the community, online sampling with use of data screening tools, lifespan-orientated surveys initiated in non-Western countries, and a redress of the balance in the perceived value of research from different regions of the world.

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Keywords

Aging, Diversity, Cultural differences, Sample diversity, Ethnicity, Minority groups.

In recent years, authors have shined a light on the striking lack of ethnic/racial and cultural diversity in participant samples and scholarship in psychology. These concerns pertain also to the study of aging and lifespan development. This article draws attention to good practices in diversity and highlights some of the rewards of diverse sampling and scholarship. Avenues for diversification, such as targeted sampling in the community, sampling online, non-Western lifespan-orientated surveys, and a redress of the value of diverse knowledge are also considered.

Current Opinion in Psychology 2024, **57**:101802

This review comes from a themed issue on Late Adulthood 2024

Edited by Alexandra M Freund and Jonathan Rolison

For complete overview about the section, refer Generation COVID: Coming of Age Amid the Pandemic (2024)

Available online 21 February 2024

https://doi.org/10.1016/j.copsyc.2024.101802

Diversity in the study of aging and lifespan development

In psychology, most participants reported in published articles come from the United States or other Western industrialized countries [1]. This narrow focus on a small region of the world, representing just 10% of the world's estimated population (American, Canadian, Western European), limits the generalizability of experimental results [2,3]. First, many behaviors differ across cultures [2]. Second, in comparison with other populations, Western industrialized populations are outliers for some behaviors considered to be universal, including perceptions of visual illusions (e.g., Müller-Lyer illusion) and social motivations (e.g., fairness and cooperation; [2,3]).

Non-diverse sampling limits the study of aging and lifespan development. In a meta-analysis of age-related differences in emotional empathy, Jarvis et al. [4] acknowledged that only 7 of 43 studies that met their inclusion criteria were from non-Western countries. The authors noted that as empathy depends on cultural norms, their findings may not generalize to other cultures. Overweighting of Western populations and scholarship occurs in other meta-analyses of age-related differences where search tools (e.g., PsycINFO, Web of Science) and manual searches in prominent journals (e.g., *Psychology of Aging*, *Developmental Psychology*) are used to identify eligible studies [5–8]. This is in part because samples and authors from Western countries are overrepresented in prominent psychology journals [2]. Studies included in meta-analyses serve as a gauge of cultural bias in sampling and authorship in adult development research. Where more diverse samples and scholarship is not available, acknowledging and quantifying cultural bias is important [4].

Publically accessible data resources, such as longitudinal lifespan-orientated studies, provide a wide range of variables with large samples. The Health and Retirement Study (HRS)—a longitudinal panel study of more than 37,000 Americans—provides a rich data resource for assessing age-related differences in socioeconomic and health measures, psychological constructs, and in recent years also includes biomarkers and genetics [9]. The HRS oversamples minority groups (e.g., African-American and Hispanic households), increasing racial and ethnic sampling diversity and enabling subgroup

comparisons [10]. However, these publically accessible resources are subject to overuse [11,12]. Moreover, many of the largest and most comprehensive publically accessible datasets suitable for the study of aging and lifespan development are limited to Western populations. Other prominent datasets include the German Socio-Economic Panel (SOEP; [13]). Regarding non-Western populations, the longitudinal Midlife in Japan (MIDJA) study is conducted on a Japanese sample in parallel with the Midlife in the United States (MIDUS) study that is conducted on Americans. The China Family Panel Studies (CFPS) is a longitudinal social survey conducted in China, tailored to both urban and rural communities, and provides individual, family, and community level data [14].

Diverse sampling is not only necessary to generalize experimental results, it also enriches the study of aging and adult development. Cross-cultural aging research sheds light on mechanisms underlying aging. One way in which culture drives age-related differences in behavior is through internalized cultural values (see Fung, this volume). The age-related positivity effect, for example, in which older adults (vs. younger adults) exhibit a preference for processing positive over negative information, has been studied mostly with Western samples [7]. This age-related effect may not be universal, however, as it does not always generalize to East Asian countries (e.g., China) where older adults attach less value to positive emotions ([15,16]; but see Ref. [17]). This cross-cultural difference enriches lifespan theories because it suggests that socioemotional processing is driven not by the valence of information per se but by what a person perceives to be emotionally meaningful [15]. That is, rather than people becoming more hedonistic with age, they pursue what is emotionally meaningful for them, fostering a greater sense of meaning in their life [15,18].

The authors of this volume identify multiple areas in the study of aging and lifespan development that could be enriched by more diverse samples. Personality development research, for example, draws heavily on self-report measures (e.g., the Big Five) that have not been validated in non-Western adult samples (see Bleidorn & Hopwood, this volume). Riediger and Rauers (this volume) identify a need for studies of age-related differences in everyday affective experiences in non-Western cultures and diverse ethnic groups to extend findings from more homogeneous samples. Kunzmann and Wrosch (this volume) speculate how age-related differences in expression of emotions may vary across cultures. Anger, for example, which can be used to signal dominance and protect self-interests, may be less functional in Eastern (vs. Western) cultures, where it could threaten social interdependent harmony.

It is important to recognize that any group of people (e.g., ethnic/racial or cultural) can be found to differ in their behavior from another group of people given a large enough sample size. Advancing psychology theory requires identifying the critical dimensions of diversity that bring about inter-group differences in behavior by influencing underlying processes. For example, the collectivist-individualist dimension is associated with cross-cultural differences in a variety of behaviors. Li and Fung [19] observed that a positive association between age and trust in friends and strangers was moderated by country-level differences in individualism (as well as other factors). More collectivistic countries, that value close social ties (e.g., family) and are more exclusive toward outsides, exhibited weaker associations between age and trust in friends and strangers. The authors reason that in individualistic cultures trust in friends and strangers is more culturally valued, resulting in a stronger association between trust and age. In this example, an investigation of diverse behavior was driven by predictions drawn from theoretical propositions about how a critical dimension influences underlying processes that bring about inter-group differences in behavior.

Increasing diversity in the study of aging and lifespan development

Sampling in the community

People who feel marginalized or disconnected from society may be less likely to participate in social science research. People who are mobile or do not have a fixed or long-term address may not receive research invitations (e.g., flyers) from universities. Attending a laboratory study on a university campus may require travel (particularly in rural areas), and public transport may be expensive or inadequate. Language may also be a barrier to participation in social science studies where persons are not adequately proficient in a language to participate in studies that require strong language skills.

One way that aging and lifespan research can be diversified is with targeted sampling in minority neighborhoods. Fingerman et al. [20] investigated the relationship between social partner ties (with little social contact) and socioemotional outcomes (e.g., a sense of connectivity and security) among older adults. They used listed landline samples that had matching addresses in Austin (Texas, USA) to oversample residents in high density minority neighborhoods. One third of their sample were ethnic or racial minority older adults. This diverse sampling enabled the authors to test whether their pattern of findings held across racial/ethnic groups [20], enabling them to generalize their findings beyond a homogenous group.

Testing participants in their own community, such as by use of a mobile testing unit (e.g., an equipped vehicle),

can be particularly effective for sampling adults who live in deprived areas or who have limited mobility [21]. Forging connections with community service organizations beyond mainstream health services, such as adult day programs and the YMCA, can also support diverse sampling [22]. Promoting more racially and ethnically diverse research teams, especially from minority groups who match those of participants [23], may also help diversify samples by better accommodating language preferences and other cultural/ethnic expectations and preferences of participants.

Online sampling

Online sampling has become popular in many areas of psychology [24]. Two prominent online testing platforms include Amazon's Mechanical Turk (MTurk®) and Prolific Academic®. Yet, while these platforms provide access to large samples of younger and older adults [25], relatively few studies of aging and lifespan development have made use of online sampling [26]. Bui et al. [27] showed that relations among age, processing speed, and working memory in an MTurk® sample were similar to those typically observed in laboratory samples. Online sampling can afford access to persons who are not physically able to attend a laboratory in person [28]. A further benefit of online sampling is greater access to more diverse samples of younger and older adults, enabling replication and generalization of experimental results beyond laboratory samples [29]. For example, Greene et al. [30] replicated age-related differences in associative recognition performance that they observed in the laboratory in an online sample recruited from Prolific Academic® who were more diverse in their number of years in education. The data screening tools on some online testing platforms (e.g., Prolific Academic®, CloudResearch®) enable researchers to determine the ethnicity of their sample and other participant characteristics (e.g., sexual orientation, gender identity) to diversify sample characteristics and conduct sub-group comparisons. Currently, popular online testing platforms, such as MTurk® and Prolific Academic®, do not provide access to adequately large samples of younger and older adults beyond a small number of Western countries.

It is important also to recognize caveats of online sampling. Younger and older adults differ in their access and familiarity with technology, which may result in cross-sectional differences between younger and older adults sampled online [29]. A technology savvy senior citizen who actively participates in online studies may not represent a typical person of their age. Yet, internet use among older adults has been increasing in recent years [31]. Sixsmith et al. [32] found that older adults in Canada increased their use of technology during the Covid-19 pandemic and reported more positive feelings about the benefits of technology. This trend, however, may not be similar across all demographic groups and across countries. There are also caveats of online sampling that are not specific to the study of aging and lifespan development, such as the risk of sampling computer bots posing as human participants.

Publically accessible data resources

As discussed earlier, publically accessible data resources provide access to diverse samples, but many are limited to Western populations. Initiating more longitudinal lifespan-orientated studies in non-Western countries would increase opportunities for cross-cultural aging research and help diversify samples reported in articles published in prominent aging and developmental psychology journals. For example, the Japan Gerontological Evaluation Study (JAGES)—a longitudinal survey on around 250,000 older adults living in 64 municipalities in Japan—has been instrumental in studying the relationship between social role participation and health and wellbeing in older adults living in an interdependent culture (see Uchida et al., this volume). Lifespan-orientated surveys are lacking, however, in other regions of the world, such as the African continent and Latin America. One reason for this disparity is that large surveys are resource intensive and countries differ greatly in their financial investments in the social sciences.

Valuing diverse knowledge

As discussed earlier, some behaviors studied predominantly in Western populations, such as visual illusions and social motivations, have been assumed to be universal to all people [2]. Baber [33] argues that scholarship in the global North (broadly, richer countries) historically produces generic claims often without reference to geographical location and assumes universal relevance. Conversely, research in the global South (broadly, poorer countries) instead historically produces 'case studies' that offer real-world applications of knowledge [33]. As a consequence, collaboration between the global North and South, or richer and poorer countries, can result in a division of labor that favors publishable knowledge in the North and sub-contracted case studies in the South that are not relevant to local culture [34]. While these issues are not specific to the study of aging and lifespan development, they are nonetheless relevant to this subdiscipline, and their solutions may help diversify both sampling and scholarship.

One solution is to redress the balance in the perceived value of research from different regions of the world. This would require refraining from tacit assumptions that knowledge is transferred or extended from Western countries to other regions of the world. Diverse research groups that include scholars from underrepresented regions (e.g., Africa, Latin America) may help redress the balance of scholarship and the direction of

knowledge exchange. Relatedly, refraining from tacit assumptions that studies of non-Western populations are necessarily 'cross-cultural' could help shift the balance in the perceived value of scholarship away from Western countries.

Closing remarks

Diverse sampling, across ethnic/racial groups and cultures, enriches theories of aging and lifespan development. There remain, however, numerous theoretical insights that are yet to be uncovered by future research that seeks to further diversify this sub-discipline. Diversification can come from targeted sampling of minority and underrepresented groups in the community, online sampling with use of data screening tools, lifespan-orientated surveys initiated in non-Western countries, and a redress of the balance in the perceived value of research from different regions of the world.

Editorial disclosure statement

Given the role as Guest Editor, Jonathan Rolison had no involvement in the peer review of the article and has no access to information regarding its peer-review. Full responsibility for the editorial process of this article was delegated to Alexandra M Freund.

Declaration of competing interest

The author is a Guest Editor for *Current Opinion in Psychology* and was not involved in the editorial review or the decision to publish this article.

Data availability

No data was used for the research described in the article.

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** of outstanding interest

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Further information on references of particular interest

4. * This article reports a meta-analysis of 43 studies investigating age-related differences in emotional empathy. The authors acknowledge cultural bias in the studies that met their inclusion criteria and speculate about the possible implications of this bias.

20. ** In the reported study, the authors used listed landline samples that had matching addresses in Austin (Texas, USA) to oversample residents in high density minority neighborhoods. One third of their sample were ethnic or racial minority older adults. This diverse sampling enabled the authors to generalize their findings beyond a homogenous group.

29. ** This article discusses the benefits and limitations of online experimentation and sampling in the study of age-related differences in cognition. The article discusses the importance of diverse sampling and highlights where sampling diversity can be increased with online sampling.