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International Journal of Population Studies

RESEARCH ARTICLE

Barriers to learning at a U3A in Lebanon: A structurationist perspective

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Abstract

This study examines the barriers older learners experience at a University for the Third Age (U3A) in Lebanon. Contemporary literature often categorizes these barriers into dispositional, situational, and institutional realms, arising as individual or structural phenomena. This article envisages barriers as the (un)intended consequences of (inter)actions among different institutional agents — namely, learners, teachers, and administrators — within the learning environment. Following Anthony Giddens' dualistic understanding of agency and structure, the article aims to transcend the typical dichotomic approach in understanding barriers older persons face when engaging in lifelong learning. Shedding light on this new perspective on barriers as (un)intended consequences of agents' (inter)actions at the U3A, this work raises two research questions: (i) what barriers confront older learners when engaging in non-formal learning? Moreover, (ii) taking older learners' perspective, how are these barriers (re)produced in the (inter)actions of different institutional agents? Following a reflexive deductive thematic analysis of interview data with ten members at a U3A in Lebanon, this article generates two types of barriers. First, barriers as outcomes of interactions involving learners with teachers and administrators (curricula issues, teachers and teaching methods, language of instruction, class protocol, and accessibility). Second, barriers as outcomes of interactions involving learners (unwillingness and inability to socialize, as well as social bias and prejudice). This paper concludes that the actions of institutional agents at the U3A (re)produce its *modus vivendi* and *modus operandi* and calls for the promotion of continuous dialog and reflexivity as countermeasures against bias and exclusion to enhance the U3A's age-friendliness.

Keywords: Lifelong learning; Older adult education; Barriers; Age-friendly university; Educational gerontology; Structuration theory

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1. Introduction

At the turn of the millennium, older persons increasingly participate in formal, non-formal, vocational, and leisure-oriented learning opportunities (Montayre *et al.*, 2022). Consequently, the demand for age-friendly learning opportunities not only at higher educational institutions (HEIs), especially universities, but also elsewhere, reached unprecedented levels (Formosa, 2019a). HEIs cater to older individuals' educational

needs by mainstreaming them with traditional university students or designing age-friendly educational programs, sometimes even on dedicated campuses (Montepare, 2019; Montepare *et al.*, 2019). In addition, other institutions deliver dominantly non-formal learning opportunities to older persons under myriad nomenclatures: Universities for the Third Age (U3As), University Programs for Older People, Learning-in-Retirement Institutes, Osher Lifelong Learning Institutes, and Harvard Institutes for Learning in Retirement. They offer liberal arts and humanities programs covering subjects as diverse as sundials, wine appreciation, and film musicals (Formosa, 2019b; 2021a; 2022).

Although various reasons motivate older people to engage in learning opportunities, the ensuing benefits of learning in later life remain the key. Cross-sectional studies highlight a strong association between late-life learning and improved levels of self-assurance, self-satisfaction, self-esteem, self-reflexivity, and sense of coherence on the one hand and a decline of depressive and anxiety symptoms on the other (Formosa, 2019c; Hachem, 2022a; 2022b; Bjursell, 2019; Bužgová *et al.*, 2023). Continued learning in later life can also augment cognitive reserves in older adults as learners among them experience renewed vitality and strengthened physical, psychological, and social well-being (Maginess, 2017; von Humboldt, 2016). Moreover, learning can contribute to social justice and equity by empowering adult learners, especially older women and those with lower educational attainment (Formosa, 2021b; Hachem & Manninen, 2020).

Recently, lifelong learning scholars and educational gerontologists have called for age-friendly practices at universities. The concept of age-friendly universities (AFU) (see also O'Kelly, 2022) typifies HEIs' response to aging populations through six pillars of institutional activity, namely teaching and learning, research and innovation, lifelong learning, intergenerational learning, encore careers and enterprise, and civic engagement:

> The AFU framework advocates that older adults be enabled to participate in higher educational career, cultural, and wellness activities and that institutions extend aging education to younger students, break down age-segregation, and promote age inclusion by bringing younger and older learners together in educational exchange. (Montepare *et al.*, 2020, p. 274)

Notwithstanding the positive impact of learning and the quest of educational gerontologists to widen the umbrella of opportunities for late-life learning, various barriers confront older learners and hinder their learning experience. Research on such barriers typically categorizes them into situational (the circumstances experienced by a person at a particular time, such as a life crisis), institutional (the obstacles unintentionally erected by educational institutions, thus excluding certain groups of learners), informational (institutions' failure to properly communicate learning opportunities they have on offer), and psychosocial barriers (dispositional or attitudinal beliefs, perceptions, values that inhibit a person's participation) (Cross, 1981; Darkenwald & Merriam, 1982). These typologies of barriers are widespread in educational gerontology research.

Despite the pragmatic usefulness and analytical validity of the above-mentioned typologies of barriers, they raise some concerns. Studies using the above typologies of barriers to late-life learning commonly report physical disabilities, insufficient financial support, previous educational experiences, lack of confidence and motivation, embarrassment, time constraints, insufficient information, and absence of social support (encouragement by family and friends) (Hu, 2023; Wang *et al.*, 2016). Moreover, findings consistently underline how women, retirees, non-ethnic groups, and especially older persons with higher educational attainment, who are living in urban localities and physically mobile, are more drawn to lifelong learning programs than their peers (Hansen *et al.*, 2019), signaling covert social and exclusionary dynamics at play. The praxis in the literature is to examine the roots of identified barriers in individual action or structural and institutional policies and practices (*e.g.*, Boulton-Lewis *et al.*, 2016). Such examination of barriers is reductive since it showcases older learners grappling with psychosocial or enduring institutional barriers at different times. As such, they risk falling into the trap of the subjectivist-objectivist antinomy (Findsen & Formosa, 2011), examining social realities as separate on the continuum of agency or structure. Besides presenting with an analytical antinomy, current literature calls for changes in the *modus operandi* of educational institutions. However, it simultaneously fails to pinpoint the role of other responsible agents, namely older learners (*e.g.*, Hu, 2023), in driving these changes, apart from completing exit-evaluation questionnaires (*e.g.*, Hachem & Vuopala, 2016; Silverstein *et al.*, 2002).

The common belief that "you cannot teach old dogs new tricks" on the one hand, and the age-unfriendly teaching methods, choice of curricula, and premises that often characterize learning engagements on the other, do not arise independently. Instead, this paper argues they are but the results of interactional and intersectional dynamics within which institutional agents (henceforth, learners, teachers, and administrators alike) enact roles and exhibit specific interests. After all, when key factors such as social

class, gender, race-ethnicity, sexual orientation, urban-rural divide, and disability operate to restrict learning opportunities, they always operate in tandem with each other (Findsen & Formosa, 2016a; 2016b). Indeed, it is essential to recognize that the issues of participation and non-participation in older adult learning interlink with a myriad of dualistic structural and individual relations; the separation of which is anticlimactic. Although older persons' decision to engage in learning manifests as an individual decision, the surrounding policy, institutional, and environmental context directly impact the availability and nature of educational programs, and institutional agents, in turn, can impact this context.

The present study aligns with a recent theoretical undertaking framing older adult education in a Giddense an structurationist perspective (Hachem, 2023) and takes stock of the above research gap. Cognizant of the possibility that life chances can lead older persons to be excluded, or exclude themselves, from late-life learning (Hansen *et al.*, 2019), this work, among others, investigates insufficiently examined difficult personalities acting as possible barriers (Brady *et al.*, 2013). First, it evades the literature's standard practice to separate barriers into individual and structural levels, thus their oversimplification. Second, it unpacks their complexity by proceeding at a more illuminating angle, that of Anthony Giddens' (1984) notion of duality of structure. Subsequently, it examines the barriers older persons encounter during non-formal learning activities when barriers correspond to the outcomes of (inter) actions (or the lack thereof) among institutional agents. Drawing from empirical data at a University for the Third Age (U3A) in Lebanon, this study answers two research questions: (i) what barriers confront older learners when engaging in non-formal learning? Furthermore, (ii) taking older learners' perspective, how are these barriers (re) produced in the (inter)actions of different institutional agents?

2. Literature review

The literature dealing with barriers to older adult learning is primarily premised on Cross's (1981) typology of dispositional, institutional, and situational barriers or Darkenwald & Merriam's (1982) typology of situational, institutional, informational, and psychosocial barriers. A summary of this literature shows that a dualistic perspective on barriers to learning in older age may be timely. For instance, Purdie & Boulton-Lewis (2003) interviewed 17 older Australians about the barriers that prevent them from accessing learning activities. Informants pointed toward age-related physical and cognitive limitations, personal complications, and social difficulties — most of these accompany aging. If physical obstacles included reduced mobility, sight, hearing, and illness, the most frequently cited were cognitive. They touched on personal issues, such as failing to concentrate, being overwhelmed by information, forgetting procedural sequence, and needing to "be taught in language they understood" (Purdue & Boulton-Lewis, 2003, p. 136–137). In this study's sample, older women struggled more in using computers and phone banking and accessing the premises, signaling a differential gender-based experience of barriers.

More recently, and focusing again on the Australian context, Boulton-Lewis *et al.* (2016) reached similar results. The authors reported personal barriers, such as health, money, and a lack of time, and structural barriers, including long travel distances to learning venues (especially for older persons living in rural areas), non-interesting subjects, lack of computer skills, limited information on curricula, and employment schedules. In this case, individual and structural barriers were highlighted separately. Other institutional barriers experienced by the sample, which the survey quantified, consisted of "administrative bureaucracy (26.4%), not being able to get into one's course of choice (24.7%), being ineligible for admission (18.8%), having a low educational background (18.1%), having had bad experiences at school (13.1%), and not feeling welcomed on campus (10.3%)" (p. 191).

In the North American context, Silverstein *et al.* (2002) evaluated the age-friendliness of the University of Massachusetts in Boston by focusing on the barriers older adults face when pursuing higher education. Findings showcased dispositional, situational, and transportation- and technology-related barriers and classroom-related difficulties. The program schedule, caring for grandchildren, and other family obligations were perceived as significant hurdles by respondents, especially those aged 50 – 59, as were the difficulties concerning their transportation and commuting to and from the university campuses. As expected, digital competency was reported as a barrier inversely related to age. It followed that the majority of respondents aged 60+ (58%) expressed greater interest in the opportunity to enroll in classes through television in community centers or colleges compared to 51% of respondents aged 50 – 59 who preferred the Internet as the medium. Finally, respondents highlighted how difficulties in locating classrooms, scheduling appointments with professors, and the demands of assignments were additional obstacles for them. While acknowledging the study's limitation in that the sample was healthy and relatively highly educated, results noted a significant break when persons surpass their 60th birthday as far as barriers are concerned, where

a significant percentage of older learners cited "hearing what other classmates said," "reading what was written on the board," and "hearing what professors said" (Silverstein *et al.*, 2002, p. 24). Here, preferences, for instance, concerning the medium of learning, whether through the internet or television, emerge as a problematic issue for the institutions, also observed in other studies below, albeit in various forms.

The barriers older learners face when attending Universities of the Third Age (U3As) and Osher Lifelong Learning Institutes (OLLIs) also received scholarly attention. One consistently reported barrier in U3As is elitism, as both survey and ethnographic data generally uncover a compounding middle-classness in U3A membership bodies (Formosa, 2019d; 2019e), even when U3As do not restrict admission. Indeed, to middle-class older people, joining U3As means returning to an arena where they feel confident and self-assured of its outcome and development; meanwhile, their working-class peers are apprehensive about joining an organization whose name bears such "heavy" class baggage. A qualitative study on a U3A in North-East England uncovered three exclusionary factors which acted as barriers to enrolment and participation, namely, "lack of knowledge about group presence and purpose (both locally and nationally), organizational name and location" (p. 1598) (Patterson *et al.*, 2016). Echoing the results of other international studies, the authors identified this U3A as a middle-class entity frequented mainly by older persons with higher-than-average levels of educational attainment. Their results align with the previous research stressing how health, caring responsibilities, transportation, and the formal nature of late-life learning constitute critical barriers to older adult learning.

Formosa's (2021b; 2021c; 2021d) research at a U3A in Malta approached the barriers to older adult learning from a gendered perspective. His findings underlined how U3As not only fail to attract a learning body that represents the Maltese population gender ratio but are also marked by a double exclusion of older women and men. On the one hand, U3As tend to perpetuate patriarchal ascendency since older women learners remain less visible during learning programs, as male peers are more likely to dominate any discussion despite being in the minority. On the other hand, most U3As' curricula reflect the interests of older women (especially health literacy), so men's interests in the natural and physical sciences are overlooked. The author noted that many married women were often prevented from pursuing their wish to start learning. Their husbands, the gendered role expectations of their families, and, surprisingly, same-aged women in their social networks encouraged them to interact with family members rather than join learning centers.

At a U3A in Lebanon, Hachem and Vuopala (2016) uncovered institutional, infrastructural, dispositional, and situational barriers. The authors analyzed "end-of-term evaluations" by 247 older learners. They grouped the barriers that active U3A members experience into situational barriers such as the lack of time, dispositional barriers such as inabilities to grasp certain subjects and to follow the language of instruction, and institutional barriers concerning course logistics and the infrastructure of the premises. This study provided an additional example of conflicting choices and preferences concerning the language of instruction.

Turning our attention to OLLIs, several studies reported barriers that inhibited or prevented learning in such institutions, namely, space, staff, situational barriers, competition, difficult personalities, and resistance to change (Brady *et al.*, 2013; Hansen & Brady, 2013; Hansen *et al.*, 2016). Space was a frequently-mentioned barrier to participation in that many OLLIs could not expand their premises despite the growth in enrolment, thus being obliged to turn away learners or to hold social gatherings and extra-curricular activities. A lack of parking spaces and the fact that institutes in rural geographical areas included multiple campuses or program centers separated by vast geographical distances were also highlighted as working against a sense of community among learners. Furthermore, staff was reported to be "stretched beyond the levels of human endurance to keep the existing programming of high quality" (Brady *et al.*, 2013, p. 636).

Other barriers earmarked by Brady *et al.* (2013) constituted situational barriers. These referred to personal circumstances that prevented full and active participation of OLLI members and ranged from ill health to a return to employment. Competing programs also hindered the growth of learning possibilities among older learners, especially when OLLIs and other local external entities where OLLI members reside offer similar and competing courses. The competition was also heightened because many institutions have tuition-reduction or tuition-exemption policies for retirement-age people. The external competition manifested in public provision of adult education, community colleges, retirement facilities, hospitals, museums, local parks and recreation programs, and other providers in their geographic region. Nevertheless, difficult personalities mean some members have a private agenda that may not support the OLLI community's overall health. If older learners are hypercritical of OLLI or classmates and vocal about it, it can impact the atmosphere at the institution, but so can

forming cliques and unpenetrable groups of friends. Citing an OLLI administrator and informant:

> One of the biggest obstacles I find is gossip. This inhibits a solid community and lowers morale. Many of our members have been here for years and have formed cliques. My hope is for new members to be welcomed but this does not always happen. (Brady *et al.*, 2013, p. 637)

Finally, resistance to change when teachers were stuck in their ways and were unwilling to reconsider content and instructional methods — such as not dedicating any time for discussion at the end of the lecture, even in the face of critical feedback, resulted in a consistent drop in attendance rates. Still, within OLLIs, Hansen *et al.* (2019) analyzed the responses of 65 directors about their perception of the challenges that shackled the learning experience of older adults. Findings were in accordance with Formosa's (2021e; 2021f) conclusion that older persons with lower-than-average levels of educational attainment register lower participation rates due to the education begets education phenomenon. Older adults from ethnic minorities were similarly under represented, so Hansen *et al.* (2019) iterated that "age-friendly universities will have to address longstanding issues of intersectionality when addressing structural racism in higher education" (p. 233).

The body of literature presented above has several implications that justify this research study's undertaking. On the one hand, findings highlighted how socioeconomic status, infrastructure, the regulations/requirements set by educational institutions or organizations and their operations, failure to communicate available learning opportunities effectively, and course content are significant deterrents to late-life learning. On the other hand, of crucial relevance to this study are cautions raised against *de facto* categorization of "barriers […] as being 'structural' in nature and other barriers as 'non-structural'" (Boulton-Lewis *et al.*, 2016, p. 195). Classifying barriers as individual or structural may potentially and erroneously responsibilize solely individual learners or educational institutions (Hu, 2023). The latter fragments the mitigation of educational barriers by seemingly treating older learners as clients who, at the end of their experience, are invited to review educational services provided by the institution by completing exit evaluation questionnaires (*e.g.*, Hachem & Vuopala, 2016; Silverstein *et al.*, 2002). In contrast, the reality is much more complex and requires delicate treading in examining barriers, not least among older learners enrolled already in campuses, which have conventionally been a hotbed for younger generations. One way forward is applying a structurationist perspective to the barriers to older adult learning, which involves institutional agents ceaselessly and reflexively examining and mitigating such barriers.

3. Theoretical framing

The previous literature is undoubtedly commendable for eliciting the social and individual barriers that older persons face when engaging in late-life learning. However, one consistent lacuna is the neglect of how obstacles arise from the dialectic interplay between structure and agency and how this dialectic may influence their mitigation. For example, if caring duties and assuming responsibility for the welfare of loved ones in older age emanate from individual choices, such choices are enacted within and primarily influenced by structural impetuses and social rules that constrain choice and limit personal maneuvering. Similarly, a lack of time for learning due to occupational commitments may also be inextricably linked to structural income security issues brought on by restrictive and agist retirement policies. Even dispositional and situational barriers arising from the pretext of personality traits and personal preferences intertwine with structures reinforcing institutional and infrastructural barriers, making their separation highly reductive.

This study avoids addressing structure as an external entity beyond the reach of institutional agents (learners, administrators, and teachers). Thus, it investigates so-called "agentic" and "structural" barriers to older adult learning through a dialectic and structurationist approach instead of conceiving their relationship as a dualism. Inspiration for this move is founded on Anthony Giddens' (1984) structuration theory concepts: duality of structure and reflexivity, as well as manifest and latent action functions.

First, the duality of structure holds much potential in examining barriers to older adult learning in terms of individual action that (re)produces structure, which itself can constrain action to learn in older age. According to Giddens, institutions are "the more enduring features of social life" (1984, p. 24) as they witness interactions between agents who assume different positions. Giddens (1976) also describes institutional interactions as occurring at different levels and include the habitual actions of each institutional agent, the set of these agents, and the relationship of interdependence between the actions of any one agent and the actions of other agents. Hence, structures (including so-called structural barriers) primarily result from individual actions enacted at institutions, whereas they become the milieu where such actions occur. Structuration implies that people actively make and remake social structures in everyday life, implying that action and structure are necessarily intertwined rather than being opposite to each other (Giddens, 1984). If structuralism emphasizes a pre-eminent role of the social over its parts, *that is*, human subjects, humanism is rooted in hermeneutic traditions where agency and meanings are

attributed a paramount importance in explaining human conduct. As a compromise to this "monolithic" one-sided emphasis, Giddens (1984) claims that "the basic domain of study of the social sciences, […], is neither the experience of the individual actor, nor the existence of any form of societal totality, but social practices ordered across space and time" (p. 2). These social practices are recursive and continually recreated by social actors as they express themselves as actors. Consequently, structural analyses of a social phenomenon, including barriers to older adult learning, would be more complete when considering individual agents' motives and reasons for action.

The second vital concept for this study is reflexivity. Giddens argues that agents are knowledgeable about why they engage or not in a specific action; one type of knowledge ability in Giddens' sociology is called reflexivity. Giddens (1984) stresses reflexivity as a form of knowledgeability, which he defines as "… not merely self-consciousness but as the monitored character of the ongoing flow of social life," and accordingly, he grounds it "in the continuous monitoring of action which human beings display and expect others to display" (p. 3). Knowledgeability underlines that humans are purposive agents, and they have reasons for the activities they undertake. In other words, when asked, agents can discursively explain these reasons, even when/if they lie about them. Indeed, this reflexivity is neither perfect nor absolute since sometimes the intentions behind an action and its consequences do not match.

The functions of action, the third vital notion in this study, must be clarified to understand how consequences escape the intention of actions and become barriers to learning in older age. Action, according to Giddens (1979), has *latent* and *manifest* functions, and that is why he emphasizes that we "investigate the effects of the 'escape' of activity from the intentions of its initiators upon the reproduction of practices …" (p. 216). Sometimes, actors may not be aware of the consequences of their actions as they (re)produce social systems; thus, these are called unintended consequences of action. Such a latent function is distinguishable from a more manifest function to action, which is the initial intention behind an action. The more reflexive agents are, the more aware they become of possible unintended consequences of their actions and, hopefully, ways for their mitigations.

Taking cues from Giddens (1976; 1984), this study posits that barriers at lifelong learning institutions for older people are henceforth defined as intended or unintended consequences to the (inter)actions of institutional agents (learners, teachers, and administrators). Barriers, which older learners experience, are then formed when the actions of other institutional agents limit an individual learner's agency. Structures mediate such (inter)actions but, in turn, (re)produce them across time and space, obeying the duality of structure.

4. Methodology and methods

To examine the barriers that confront older learners, this study opted for a qualitative research design, employing a reflexive deductive thematic analysis with ten older learners at the U3A in Lebanon.

4.1. The empirical context

Inaugurated in 2010, the U3A in Lebanon offers educational opportunities for older adults aged 50 years or older. Its *modus operandi* runs, to a large extent, in parallel to U3As in other countries (Hachem & Vuopala, 2016). The U3A operates under the continuing education center at a prominent private university in Beirut, offering tertiary educational programs in various academic disciplines. The first of its kind in Lebanon, this lifelong learning program provides an age-friendly academic environment where older learners can exercise their passions and share their wisdom as they interact with other older learners, faculty members, and traditional university students. Each academic term (two per year) has a rich palette of lectures, study groups, field trips, book clubs, and online house parties. Even during the pandemic, the U3A moved its educational activities online and organized socially-oriented events called house parties over Zoom, and at the time of writing, it plans to continue offering education following a hybrid model. The curriculum covers diverse subjects encompassing humanities, arts, sciences, health, and politics. Teachers, who consist of university staff, faculty members, and younger university students, in addition to those recruited from wider social spheres, provide their services free of charge and enact their teachings with a large margin of freedom. Over the years, the U3A attracted more than 800 older learners. However, its membership remains characterized by the dominance of the educated middleclass living in the capital, Beirut (Hachem *et al.*, 2017).

4.2. Recruitment of informants, interviews, and ethical considerations

Before data collection, ethical approval was secured through Sweden's national ethical review board and through the host university's institutional review board in Lebanon. After informing current and previous members of the U3A about this study and the possibility of participating, an online survey link was sent to older learners who had responded positively to the call. Out of the 40 replies received, 11 consented to participate in semi-structured interviews. Since one of these 11 informants

did not meet the eligible criteria—"experiencing barriers to participation in older adult learning" and "enrolled at the U3A for at least two terms" — this study only included the responses of ten participants. The ten informants consisted of two males and eight females. Most held at least a bachelor's degree and came from a middle-class background due to their past white-collar professional positions before retirement. Table 1 presents basic information on each research participant.

All informants consented electronically to be interviewed online using the Zoom platform. U3A members are tech-savvy since their registration process at the U3A occurs online. Thus, no member was left uninformed about the study. At the start of each interview, one of the authors introduced the study and guaranteed the informants' right to skip a question, end the meeting, or withdraw from the study without any aftermath or having to provide a reason. In addition, each informant was given a pseudonym of their choice used during the interview to safeguard their anonymity. Interviews lasted approximately 40 min and were transcribed afterward and analyzed using NVivo. The relevant parts of the interviews concern questions soliciting challenges that informants encountered on various levels (educational and social) at the U3A.

4.3. Reflexive thematic analysis

Data analysis followed a "reflexive thematic analysis" (RTA), constituting a type of content analysis with a high theoretical flexibility. RTA shows affinity toward a critical orientation for qualitative research, is interpretative, and deepens the understanding of individual experiences by identifying patterns and themes in a data set (Braun & Clarke, 2019). RTA distinguishes themes from codes in the knowledge production process, whereby codes are "entities that capture (at least) one observation, display (usually just) one fact," while themes "are like multi-faceted crystals — they capture multiple observations or facets" (Braun & Clarke, 2021, p. 13). The decision to use RTA was based on its usefulness in framing personal accounts in broader social contexts (Braun & Clarke, 2022). RTA consists of six steps (Byrne, 2022).

This study followed a deductive approach to RTA that, to some extent, is inspired by but transcends Cross' (1981) typology of barriers: institutional, dispositional, and contextual. However, data analysis mainly drew on a structurationist perspective of barriers (Giddens, 1984), where they are understood as (un)intended consequences of (inter)actions among institutional agents. Hence, data analysis was not only cognizant of the individual and structural nature of late-life learning barriers (Boulton-Lewis *et al.*, 2016) but also premised on the duality of structure whereby individuals (re)produce structures while acting within structures (Giddens, 1984). This theoretically guided analytical approach overcame the individual/structural dichotomy at the intersection of dispositional, situational, and institutional barriers through the following steps. First, a familiarization with interview data, and second, following thorough and repeated readings, the initial codes were laid down so that observations were coded as barriers. After grouping different barriers, the third and final step was to generate themes, review them, and revisit the codes' distribution across such themes. Table 2 categorizes the emergent themes — interactions involving learners with teachers and administrators and those involving learners together — which shall be presented in the subsequent two sections.

5. Results

5.1. Barriers: Interactions involving learners with teachers and administrators

The first theme of barriers this study identified are those emerging in (un)intended consequences that originate

Table 1. Details of research informants

Pseudonym	Age	Marital status	Living arrangement	Educational attainment
Maria	66	Married	Living with family	Master's degree
Shaker	74	Married	Living with family	Bachelor's degree
Nour	67	Married	Living with family	Master's degree
Laura	56	Married	Living with family	Bachelor's degree
Samsoum	70	Married	Living with family	Bachelor's degree
Antar	65	Single	Living alone	Highschool
Joumana	57	Married	Living alone	Bachelor's degree
Christine	57	Married	Living with family	Master's degree
Thérèse	56	Partnered	Living with partner	Bachelor's degree
Oula	59	Married	Living with family	Bachelor's degree

Table 2. Themes, definitions and sub-themes

Themes	Definitions	Sub-themes
Interactions involving learners with teachers and administrators	Barriers generated in learners' (inter) actions with teachers and administrators. They emerge in (un) intended consequences that originate in institutional agents' (inter) actions, including learners, teachers, and administrators.	• Accessibility • Class protocol • Curricula issues • Teachers and teaching methods • Language of instruction
Interactions involving learners together	Barriers generated in learners' (inter) actions together. They are engendered by (un) intended consequences that originate in the (inter) actions involving mainly learners with other learners.	• Unwillingness/inability to socialize • Social bias and prejudice

in the (inter)actions of institutional agents, including learners, teachers, and administrators. Regarding such barriers, the informants cited accessibility to campus, class protocol, the language of instruction, curricula, and teachers and teaching methodologies.

Barriers pertaining to accessibility to campus were physical and impeded informants' timely attendance at their chosen classes. Older learners living outside the capital, Beirut, experienced congested traffic on their way to the U3A and were often confined to their cars for over an hour. Moreover, as Maria and Shaker were often late to classes, they claimed that traffic was not the only reason for their delay but also pointed out that the difficulty of finding adequate parking space was even a more significant obstacle: "the thing is you go around and around to find a parking, but there is none. No parking spaces on the streets neither in parking lots" (Maria). Indeed, traffic and lack of parking spaces make the U3A less accessible to the point where participants often skip sessions altogether for fear of disturbing the classroom, breaching the class protocol, and, as a result, being reproached by the U3A administration or teachers.

Accessibility and class protocol intertwined in a rather complex way, especially for participants who wished to follow the recommendations in an administrative document that proposes guidelines for proper conduct during learning sessions. Concerning this protocol, informants raised two opposite notions. On the one hand, learners expressed support for implementing the class protocol because it serves a much-needed function. For instance, Nour remarked that when learners arrived late, they disturbed the learning session as their entrance interrupted the teacher or rendered the teacher's voice inaudible for a short while. On the other hand, Maria, who lived far away from the learning venue, disagreed with Nour and claimed that she was often late due to traffic, something that she had no control over, and was regretful that her late arrivals solicited negative communications from the U3A administration, a reaction which she described as "infantilizing." To avoid such communication, Maria misses the sessions whenever she is late. She thus wished for leniency and understanding for older learners who arrive late. Nevertheless, Laura, Samsoum, and Nour insisted that the class protocol be strengthened further to reduce late arrivals, classroom chatters, and phone disturbances.

Apart from timely attendance, finding a parking spot, and respecting the class protocol, making the most out of this learning experience depends on learners' language skills; hence, the barrier of the language of instruction. The U3A attracts older adults with higher-than-average educational attainment who tend to speak one foreign language besides their native one. Some informants highlighted that the language of instruction is decisive for their choice of classes, regardless of their interest in the subject. Samsoum, for instance, pointed out that while scientific subjects are typically offered in English, topics within humanities and the arts are offered in Arabic and that this resulted in some tension between those who are proficient in Arabic and others who are more comfortable studying in English. Many older Lebanese speak French as a second language rather than English and, consequently, struggle with English courses. Case in point, Nour and Laura are two participants who make their case from opposite sides. Nour has limited knowledge of Arabic and can only attend classes in English. Meanwhile, Laura's English skills leave room for improvement, as she is more comfortable in classes instructed in Arabic.

In addition to the language of instruction, curricula contributed their share to the barriers informants experience at the U3A. The curriculum content was deemed relatively boring by some participants for lack of what they called the "wow effect." Despite the richness and diversity of the topics offered at the U3A, Joumana and Antar claimed that when they returned home, their inspiration did not last long: "the times when I was really blown away or wowed by the information that is being presented were few." Some participants did not remember

much information, nor was their "curiosity ignited' to further read up on an issue discussed in the classroom on their return home. While Antar stressed that the type of education being offered to him serves his primary goal of socializing through learning instead of the "actual learning programs," Joumana confessed to adjusting her expectations from learning at the U3A and claimed that despite the benefits, it falls short of "education in the real sense."

Concerns were raised regarding classroom instruction over and above curricula issues. Most informants voiced several problems concerning teachers and their teaching methods. One grievance is that teachers' relatively young life experience was perceived as problematic and insufficient to intrigue much more life-experienced older learners. Antar was very critical of younger teachers at the U3A. According to him, despite the commendable academic knowledge they possess, their life experience does not necessarily impress him and is hard to relate to, as younger teachers seem to lack the "life dimension" deemed necessary to inspire older learners:

> At least [teachers] must have some life experience. Not someone who has not been married, for example, does not have children, never got divorced, does not have a mortgage, you need somebody to give you a life dimension concerning the material in context for it to make sense. (Antar)

Teachers' instructional techniques also resulted in a range of objections. For informants, teaching methodologies and practices are central to the learning experience since they "can make or break a session" (Antar), and they cited "boring teaching methods" (Samsoum) as a significant deterrent to their learning experience since it causes them to lose interest. Although grateful for the teachers' voluntary work at the U3A, Joumana added that their instructional techniques were sometimes mediocre. Together with Samsoum and Antar, she experienced much boredom due to teachers' instructional methods and referred to techniques that often fail to reflect a logical flow of ideas since many teachers are not necessarily "organized in their thoughts." In agreement, Christine remarked that some teachers "hop illogically from one step to the other, especially during practical demonstrations," and protested about most teachers' "mediocre" classroom management skills.

In summary, when considering the (un)intended consequences that originate in institutional agents' (inter) actions involving learners, teachers, and administrators, informants reported several barriers grouped into accessibility, class protocol, the language of instruction, curricula, and teachers and teaching methodologies.

5.2. Barriers: Interactions involving learners

Barriers did not only result from (inter)actions among learners, teachers, and administrators but also interactions involving learners. Hence, this study identified the second theme of barriers engendered by (un)intended consequences that originate in the (inter)actions involving mainly learners with other learners. These barriers included unwillingness or inability to socialize and the overlapping attitudes of social bias and prejudice.

Learners' (inter)actions, or the lack thereof, although favorable in principle, may also have a darker side. They may be detrimental to the social experience at the U3A as informants reported difficulties forming friendships with fellow learners for different reasons. On the one hand, some learners were not interested in socializing in general, and on the other hand, some learners at the U3A socially distanced themselves from their colleagues. Antar, whose goal at the U3A was chiefly academic, was not interested in the social aspects of learning there. A second obstacle to forming social bonds incurred from attending different classes at different times. Christine noted that members she liked and wanted to befriend did not attend the same classes as her. A third difficulty in making friends was related to cliques among the U3A members, as informants testified to impenetrable groups of friends. Maria reported that some members are part of long-lasting groups of friends and distant family members, which restricted her access to them. Nour called these groups "an ongoing classer union of university alumni," for they consist of returning students who once upon a time studied at the U3A host university. In addition, some participants described their relationships with other U3A members as mere "classmates" or "study comrades" rather than friends. This perception is partially due to a decision to refrain from investing in forging friendships at the U3A against the backdrop of possible social detachment and aloofness amongst the learning community.

More covert dynamics than an apparent unwillingness to socialize reveal social bias and prejudice, consequently influencing the social experience at the U3A and structuring additional barriers. Social bias materialized in the (inter) actions of some older learners who seemingly avoid socializing with other learners based on their background, opinions, or for finding some learners to be "annoying." Four participants reported experiencing first- and second-hand instances of social bias and prejudice that were based, in their opinion, on presumed sexual orientation, religious beliefs, socio-cultural background, and simpled is enchantment. For instance, Joumana shared her annoyance at a classmate for asking too many questions, which, in her view, were unnecessary. Even though she confessed that

her feelings originate in some bias, she justified them with his — the annoying classmate's — lack of social awareness and skills: "So sometimes you think I should be better than this, but to what extent can you be the better person? I don't know how you want to consider this, but it does happen." In disagreement, another participant cautioned that all classmates deserve respect, for they are at the U3A to learn and not to be judged.

Other more articulated forms of social bias and prejudice emerging from the data pointed toward social divisions amongst the learning body. By ticking the "wrong" boxes on one's socioeconomic background checklist, a learner can risk social rejection by fellow learners. Some study participants were concerned that the educational experience at the U3A is designed to suit the educational and social needs of what they called the "elite." One participant recalled that on its launch, the U3A membership was characterized by the dominance of middle-class older persons. Later, when learners from lower social classes began to join, many middle-class members did not renew their membership at the U3A. For instance, Thérèse claimed that most members did not favor the participation of less affluent colleagues at the U3A. She recalled that when a new female member from a "not-so-dominant cultural background" joined the U3A, she "did not know how to behave to integrate" and, hence, "could not fit in." Not only were social divisions based on socioeconomic and cultural backgrounds, but social bias and prejudice were based on presumed sexual orientation and even certain religious beliefs, the undermining of which evoked feelings of alienation for some older learners. Oula allegedly felt excluded from a field trip because of her religious opinions, which were not looked on favorably by the group members overseeing the trip organization. Although she dismissed the incident by saying that "people are free," she poignantly added that there was no doubt that other members at the U3A appreciated her. On the same note, Thérèse remarked that one of her classmates was made fun of whenever he spoke during the sessions, a bias that seems to be based on his presumed sexual orientation:

> Actually, we have a problem at the U3A. Every time he speaks, they make fun of him […] of course people are mean to him and laugh at him because he is homosexual. His attitude and the way he talks makes it obvious that he is homosexual. (Thérèse)

Even when learners are not directly subjected to outspoken remarks, Thérèse sensed negativity toward particular learners, especially those generally perceived as "different." To sum up, this theme of barriers emerged as (un)intended consequences of (inter)actions involving mainly learners with other learners. They consisted of the unwillingness and inability to socialize and the overlapping attitudes of social bias and prejudice.

6. Discussion

This study defined barriers as the (un)intended consequences of interactions among institutional agents at a U3A in Lebanon. It identified two types of barriers. The first type consisted of consequences to (inter)actions involving older learners with teachers and administrators. The second type included the consequences of social (inter)actions that manifest among learners at the U3A. Such findings are herein discussed from three analytical viewpoints.

First, there is an expected but striking similarity between the barriers identified in this study and those reported in the previous literature, including an earlier examination of the educational barriers at the same U3A (see Hachem & Vuopala, 2016), meaning that little has changed. Traffic, traveling distance, and parking space availability arose as critical issues hindering the timely attendance of learners (Boulton-Lewis *et al.*, 2016; Brady *et al.*, 2013; Hansen *et al.*, 2019; Patterson *et al.*, 2016; Silverstein *et al.*, 2002). Moreover, members who commute from relatively far distances are disadvantaged compared to peers who live nearby or in the capital (Beirut), where the learning avenue is situated (Boulton-Lewis *et al.*, 2016; Hachem & Vuopala, 2016). The same also applies to teaching mismanagement and class organization and protocols, as difficulties tend to be addressed in a puerile manner, such as admonishing late arrivals for disturbing the classroom (Silverstein *et al.*, 2002).

Findings also included insufficient offerings of interest and poor instructional techniques that seem to fail to evoke a sensational effect in participants and, on the contrary, diminish their interest levels (Boulton-Lewis *et al.*, 2016). The satisfaction with teachers, teaching methodologies, and curricula content is a matter of personal preferences but tends to wear down the learning experience of those whose needs and desires remain unmet. Similarly, the language of instruction arose as an essential barrier that remains difficult to resolve (Hachem & Vuopala, 2016). The language of instruction can be problematic to those who do not speak it well enough, leading to a language-based course attendance and participation rather than an interest-based one. Findings also highlight teachers' lack of life experiences and, consequently, the relevance of such experience to the lives of older learners, which signals dynamics of intergenerational discord. Taken together, these barriers not only threaten the learning experience at learning avenues targeting older persons but they hamper the educational ethos of late-life learning institutions and,

most importantly, impede its age-friendliness (Montayre *et al.*, 2022).

Second, although the study's results compare straightforwardly to previous research on learning barriers, social bias and the inability/unwillingness to socialize require particular attention, for they have not been sufficiently explored compared to other types of barriers. The study's findings indicate other ways older learners impact later life's social and learning experiences and can render them less than rosy on the social level. Many learners enjoy a rich social life outside their involvement in older adult learning and do not necessarily exhibit the need to widen their social networks. However, forming persuasive groups of friends and enacting personal agendas burdens the social experience in older adult learning with (un)intentional rejection and exclusion (Brady *et al.*, 2013). On the one hand, this leads to learners giving up on the possibility of making friends. On the other hand, rejection seems to embed non-conscious forces that work on the strings of socioeconomic and cultural backgrounds, including sexual orientation and religious beliefs (Formosa, 2006; McAllister, 2018; Patterson *et al.*, 2016). This bias is even noteworthy in the context of the relatively culturally diverse and open Lebanese society.

Third, applying the concept of duality of structure (Giddens, 1984) to the barriers that older learners experience allows for a new perspective on conceptualizing and mitigating said barriers. This perspective transcends the otherwise conventional analysis of individual versus structural factors distributed across a typology of situational, dispositional, and institutional barriers. Findings showed that learners, teachers, and administrators are all involved in (re)producing barriers (un)intentionally by acting or refraining from acting. Consequently, fragmenting individual and structural barriers may not capture the complexity of their origins, their repercussions, and, subsequently, ways for undermining their causes.

The following examples reveal the complexity of barriers to the point that, even if they originate on an individual level, they transmogrify into a common institutional barrier. As such, the personal barriers metamorphose into a problem for involved institutional agents, not only cascading barriers for other agents but also becoming fertile grounds for reproducing such barriers. For instance, the barrier of campus accessibility manifests in congested traffic and parking spaces. Seemingly, these are encountered by individual learners on their way to the U3A from a significant distance. On not finding a parking space, they arrive late to sessions, disturbing other learners and disrupting ongoing classroom teaching. In addition, late arrival or even skipping classes reduced participation rates. It disrupted efforts to maintain a class protocol by U3A's administration and teachers alike, transforming such barriers into structural dilemmas, especially when learners complain about teachers' inadequate classroom management skills. Simultaneously, interactions emanating from late arrival provoke administrative reproach of tardy learners, which, according to them, sounds infantilizing. Here, arriving late leads to disturbing the teaching and deviating from the class protocol; both are unintended consequences of driving to the U3A in one's car. At the same time, upholding the class protocol by the administration has the unintended consequence of infantilizing older members, who may instead decide to skip the session altogether.

Moreover, individual preferences (language of instruction, preferred teaching style, and interest in subjects) that also seem like individual preferences cannot, in reality, be separated from the institutional context where they occur. These encompass decisions regarding the course offerings, the language of instruction, and delivery modes, in which administration and teachers have the most considerable say. The following cascade of barriers is illustrative. The choice of language is often cited as a barrier relating to the individual level of proficiency in the language of instruction. Meanwhile, this allegedly individual barrier affects how interesting the curricula are perceived, primarily since scientific subjects are taught in foreign languages, and Arabic is used for the humanities at the U3A. In the end, turning an individual preference into a problem that teachers and administrators could solve at a time when their actions to promote specific languages in some subjects have the unintended consequence of excluding learners deficient in course languages.

Similarly, individual choices, decisions, and behaviors allude to some form of bias, as with the social experience of informants within this study. In this case, bias is more or less intentional since it aims to avoid contact with particular learners, but its structural effect on the U3A level seems less so. Exclusion occurs when some older learners are not welcome to join groups of friends, for whatever reason, or even are on the receiving end of mockery linked to how peers perceive their identities. Indeed, exclusionary forces are set out, including prejudice visible at the structural level when specific groups of older learners are underrepresented at the U3A. Even when learners from non-dominant profiles attempt to enroll, existing social bias threatens their ability to thrive. Often, new members are unfamiliar with existing rules and ways of being with which other learners are acquainted; their exclusion at the U3A by individuals reinforces exclusionary forces, where prejudice occurs at the institutional level.

7. Conclusion: Now what?

Although far from inventing the wheel, this paper addressed existing dichotomies in understanding individual and structural barriers to older adult learning across situational, dispositional, and institutional levels. It shed light on the relatively underexplored barriers arising from social interactions among older learners at a U3A. It proposed a new definition of these barriers, at least within the scope of this study, as (un)intended consequences to (inter)actions between institutional agents (learners, teachers, and administrators) — a perspective afforded via Giddens' structuration theory and its concepts of the duality of structure, latent and manifest functions of actions, but also reflexivity. The latter's significance is clarified in this conclusion as a tool for mitigating unintended consequences and further examining latent functions to actions enacted by older learners and other institutional agents, including so-called personal preferences, teaching methods, curricula, and protocols.

Embedding barriers in a structurationist perspective calls for continuous reflexivity over one's actions, attitudes, and beliefs and those of others within the U3A. Here, end-of-term or exit evaluations (Hachem & Vuopala, 2016; Silverstein *et al.*, 2002) may not change much, as institutional agents tend to responsibilize others instead of thinking of themselves as part of the problem and the solution. If older adult learning, and hopefully so, aims to empower older learners, partially responsibilizing them and other agents at U3As is needed, unless the point is to treat them as clients and consumers of educational experiences ceaselessly. Therefore, if U3As and HEIs strive to become age-friendly, they must create continuous educational channels and opportunities for dialog to increase reflexivity over barriers and promote self- and social questioning on the interplay between individual actions and their significance on the structural level and their active role in inducing personal and structural change.

Finally, future studies should examine how all institutional agents simultaneously experience barriers. The present study faced the limitation of solely examining the perspectives of older learners, whereby those teachers and administrators remain missing, even if reported second-hand. One exciting research endeavor is investigating how institutional agents mitigate the barriers to older adult learning. Finally, apart from targeting older learners, applying a structurationist perspective with non-participant older people is another possible way forward.

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The authors declare no conflicts of interest.

Author contributions

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Formal analysis: All authors
Methodology: All authors
Writing – original draft: All authors
Writing – review and editing: All authors

Ethical approval and consent to participate

Ethical approval was obtained from the Institutional Review Board, the American University of Beirut, Lebanon (case# SBS-2020-0219) and the Swedish Etikprövning, Sweden (case# 2019-05121). Each participant signed an online consent form.

Consent for publication

Consent was taken from participant before sit for an interview.

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References

Bjursell, C. (2019). Inclusion in education later in life: Why older adults engage in education activities? *European Journal for Research on the Education and Learning of Adults*, 10(3):215-230. https://doi.org/10.3384/rela.2000-7426.rela20192

Boulton-Lewis, G., Aird, R., & Buys, L. (2016). Older Australians: Structural barriers to learning in later life. *Current Aging Science*, 9(3):188-195. https://doi.org/10.2174/1874609809666160506122131

Brady, E.M., Cardale, A., & Neidy J.C. (2013). The quest for community in Osher lifelong learning institutes. *Educational Gerontology*, 39(9):627-639. https://doi.org/10.1080/03601277.2012.734147

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4):589-597.

https://doi.org/10.1080/2159676X.2019.1628806

Braun, V., & Clarke, V. (2021). Can I use TA? Should I use TA? Should I not use TA? Comparing reflexive thematic analysis and other pattern-based qualitative analytic approaches. *Counselling and Psychotherapy Research*, 21(1):37-47.

https://doi.org/10.1002/capr.12360

Braun, V., & Clarke, V. (2022). One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qualitative Research in Psychology*, 18(3):328-352.

https://doi.org/10.1080/14780887.2020.1769238

Bužgová, R., Kozáková, R., Bobčíková, K., & Kubešová, H.M. (2023). The importance of the university of the third age to improved mental health and healthy aging of community-dwelling older adults. *Educational Gerontology*, 1-12.

https://doi.org/10.1080/03601277.2023.2240663

Byrne, D. (2022). A worked example of Braun and Clarke's approach to reflexive thematic analysis. *Quality and Quantity*, 56:1391-1412.

https://doi.org/10.1007/s11135-021-01182-y

Cross, P.K. (1981). Adults as Learners. San Francisco: Jossey Bass.

Darkenwald, G.G., & Merriam, S.B. (1982). Adult Education: Foundations of Practice. New York: Harper and Row.

Findsen, B., & Formosa, M. (2011). Lifelong Learning in Later Life: A Handbook on Older Adult Learning. Vol. 7. Germany: Springer Science and Business Media.

Findsen, B., & Formosa, M. (2016a). Introduction. In: International Perspectives on Older Adult Education: Research, Policies, Practices. New York: Springer, p.1-9.

https://doi.org/10.1007/978-3-319-24939-1

Findsen, B., & Formosa, M. (2016b). Concluding remarks. In: International Perspectives on Older Adult Education: Research, Policies, Practices. New York: Springer, p.507-519.

https://doi.org/10.1007/978-3-319-24939-1

Formosa, M. (2006). A Bourdieusian interpretation of the university of the third age in Malta. *Journal of Maltese Education Research*, 4(2):1-16.

Formosa, M. (2019a). Educational gerontology. In: Gu, D., & Dupre, M.E. (eds.). Encyclopedia of Gerontology and Population Ageing. Cham, Switzerland: Springer, p.1564-1571.

https://doi.org/10.1007/978-3-319-69892-2_411-1

Formosa, M. (2019b). Active ageing in the fourth age: The experiences and perspectives of older persons in long-term care. *Geopolitical Social Security and Freedom Journal*, 2(1):78-92.

https://doi.org/10.2478/gssfj-2019-0008

Formosa, M. (2019c). Active ageing through lifelong learning: The university of the third age. In: The University of the Third Age and Active Ageing: European and Asian-Pacific Perspectives. Cham, Switzerland: Springer, p.3-18.

https://doi.org/10.1007/978-3-030-21515-6

Formosa, M. (2019d). Third age learning for active ageing in Malta: Successes and limitations. In: The University of the Third Age and active ageing: European and Asian-Pacific perspectives. Cham, Switzerland: Springer, p.81-93.

https://doi.org/10.1007/978-3-030-21515-6

Formosa, M. (2019e). Concluding remarks and future prospects. In: The University of the Third Age and active ageing: European and Asian-Pacific perspectives. Cham, Switzerland: Springer, p.259-272.

https://doi.org/10.1007/978-3-030-21515-6

Formosa, M. (2021a). Learning opportunities for older persons in residential long-term care: A systematic review. In: Mikulec, B., Kump, S., & Košmerl, T. (eds.). Reflections on adult education and learning: The adult education legacy of Sabina Jelenc Krašovec. Ljubljana: Faculty of Arts, Ljubljana University Press, p.109-122.

Formosa, M. (2021b). "Why doesn't this feel inclusive?" A feminist poststructuralist study of older women learners. *Global Lifelong Learning*, 1(2):15-35.

Formosa, M. (2021c). Late-life learning and older women learners: A feminist commentary. *Gender and Research*, 22(1):178-200.

https://doi.org/10.13060/gav.2021.007

Formosa, M. (2021d). From invisibility to inclusion: Opening the doors for older men at the University of the Third Age in Malta. *Gerontology and Geriatrics Education*, 43(4):443-455.

https://doi.org/10.1080/02701960.2021.1913413

Formosa, M. (2021e). Building evidence for the impact of older adult learning on active ageing: A quantitative study. *Studies in Adult Education and Learning*, 27(2):1-22.

https://doi.org/10.4312/as/9934

Formosa, M. (2021f). Manifestations of internalized ageism in older adult learning. *University of Toronto Quarterly*, 90(2):169-182.

https://doi.org/10.3138/utq.90.2.08

Formosa, M. (2022). Fourth age learning for persons living with dementia. In: Evans, K., Lee, W.O., Markowitsch, J., & Zukas, M. (eds.). Third International Handbook of Lifelong Learning. Cham: Springer.

https://doi.org/10.1007/978-3-030-67930-9_50-1

Giddens, A. (1976). New Rules of Sociological Method: A Positive Critique of Interpretative Sociologies. London: Hutchinson.

Giddens, A. (1984). The Constitution of Society: Outline of the Theory of Structuration. California: University of California Press.

Hachem, H. (2022a). Ask them why: Older learners' motivational

reasons for learning at a university for the third age. *Studies in the Education of Adults*, 55(1):82-100.

https://doi.org/10.1080/02660830.2022.2040347

Hachem, H. (2022b). Zooming in on life politics: Identity and reflexivity in a university for the third age. *Adult Learning*, 33(1):32-39.

https://doi.org/10.1177/10451595211024576

Hachem, H. (2023). Educating Older Adults: Theoretical and Empirical Examinations of the Learning Philosophies in Older Age (Doctoral Dissertation, Örebro University). Available from: https://oru.diva-portal.org/smash/record.jsf?pid=diva2%3A1718479&dswid=-3866 [Last accessed on 2023 Apr 14].

Hachem, H., & Manninen, J. (2020). Putting educational gerontology principles to the test: A quantitative confirmation of the empowering benefits of liberal arts courses. *Educational Gerontology*, 46(10):653-665.

https://doi.org/10.1080/03601277.2020.1805179

Hachem, H., & Vuopala, E. (2016). Older adults, in Lebanon, committed to learning: Contextualizing the challenges and the benefits of their learning experience. *Educational Gerontology*, 42(10):686-697.

https://doi.org/10.1080/03601277.2016.1218204

Hachem, H., Nikkola, E., & Zaidan, A. (2017). The case of educational gerontology in Lebanon: A harbinger of empowerment, emancipation and social change? *International Journal of Lifelong Education*, 36(6):713-729.

https://doi.org/10.1080/02601370.2017.1379565

Hansen, R.J., & Brady, E.M. (2013). Research in the Osher lifelong learning institute network. *The Journal of Continuing Higher Education*, 61(3):143-150.

https://doi.org/10.1080/07377363.2013.836812

Hansen, R.J., Brady, E.M., & Thaxton, S.P. (2016). Demographic and behavioral characteristics of Osher lifelong learning institute members. *The Journal of Continuing Higher Education*, 64(1):42-50.

https://doi.org/10.1080/07377363.2016.1131541

Hansen, R.J., Talmage, C.A., Thaxton, S.P., & Knopf, R.C. (2019). Barriers to age-friendly universities (AFU): Lessons from Osher lifelong learning institute demographics and perceptions. *Gerontology and Geriatrics Education*, 40(2):221-243.

https://doi.org/10.1080/02701960.2019.1572003

Hu, H.M. (2023). A qualitative study on why older adults may be reluctant to participate in learning activities. *Journal of Adult and Continuing Education*.

https://doi.org/10.1177/14779714231191354

Maginess, T. (2017). Enhancing the Wellbeing and Wisdom of Older Learners. A Co-researched Paradigm. London: Routledge.

McAllister, C. (2018). Developing inclusive later life learning environments: Insights form intersectional analysis of ageing and lesbian, gay, transgendered and bisexual identities. *European Journal for Research on the Education and Learning of Adults*, 9(1):45-60.

https://doi.org/10.3384/rela.2000-7426.rela9105

Montayre, J., Maneze, D., Salamonson, Y., Tan, J.D.L., & Possamai-Inesedy, A. (2022). The making of age-friendly universities: A scoping review. *Gerontologist*, 63(8):1311-1319.

https://doi.org/10.1093/geront/gnac084

Montepare, J.M. (2019). Introduction to the special issue-age-friendly universities (AFU): Principles, practices, and opportunities. *Gerontology and Geriatrics Education*, 40(2):139-141.

https://doi.org/10.1080/02701960.2019.1591848

Montepare, J.M., Farah, K.S., Bloom, S.F., & Tauriac, J. (2020). Age-friendly universities (AFU): Possibilities and power in campus connections. *Gerontology and Geriatrics Education*, 41(3):273-280.

https://doi.org/10.1080/02701960.2020.1726744

Montepare, J.M., Farah, K.S., Doyle, A., & Dixon, J. (2019). Becoming an age-friendly university (AFU): Integrating a retirement community on campus. *Gerontology and Geriatrics Education*, 40(2):179-193.

https://doi.org/10.1080/02701960.2019.1586682

O'Kelly, C. (2022). Developing the age-friendly university global network. In: Gardiner, C.M., & Webb, E.O. (eds.). The Age-friendly Lens. New York: Routledge, p.74-88.

Patterson, R., Moffatt, S., Smith, M., Scott, J., Mcloughlin, C., Bell, J., *et al.* (2016). Exploring social inclusivity within the university of the third age (U3A): A model of collaborative research. *Ageing and Society*, 36(8):1580-1603.

https://doi.org/10.1017/S0144686X15000550

Purdie, N., & Boulton-Lewis, G. (2003). The learning needs of older adults. *Educational Gerontology*, 29(2):129-149.

https://doi.org/10.1080/713844281

Silverstein, N.M., Choi, L.H., & Bulot, J.J. (2002). Older learners on campus. *Gerontology and Geriatrics Education*, 22(1):13-30.

https://doi.org/10.1300/J021v22n01_02

Von Humboldt, S. (2016). Conceptual and Methodological Issues on the Adjustment to Aging. Perspectives on Aging Well. New York: Springer.

Wang, R., De Donder, L., De Backer, F., Triquet, K., Shihua, L., Honghui, P., *et al.* (2018). Exploring the association of learning participation with the quality of life of older Chinese adults: A mixed methods approach. *Educational Gerontology*, 44(5-6):378-390.

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RESEARCH ARTICLE

Re-conceptualizing music education in the older adult life course: A qualitative meta-synthesis

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Abstract

The Seoul Agenda by UNESCO has set goals to develop arts education, ensuring that learners from all social backgrounds have lifelong access to arts education in a wide range of community and institutional settings. However, the purpose of lifelong learning for individuals beyond labor-market age has been largely overlooked, making it challenging to convince institutions, funders, and policymakers of its worth. The value accorded to the complex forms of lifelong learning in later life and the widely recognized health impacts of music on aging body and brain are the principal considerations to take into account when studying the effects of music education on older adults. In this study, we address the state-of-the-art research concerning older adults and music education in studies published in major peer-reviewed music education journals since the Seoul Agenda by UNESCO. We present the findings from a systematic literature review, followed by a qualitative meta-synthesis, focusing on the values, beliefs, and key concepts conveyed in the included studies. The findings of this study indicate that older adults are often portrayed narrowly and stereotypically, corroborating the issues in the sociology of aging. Our study highlights insights into the conceptualizations of music learning and participation in later life course and what these might mean for the policy and practice of later-life music education and the educational opportunities for older adults more broadly.

Keywords: Meta-synthesis; Music education; Older adults

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1. Introduction

Contemporary gerontological researchers (e.g., Estes *et al.*, 2003; Baars *et al.*, 2006; Cann & Dean, 2009; Walker, 2017) generally agree that attitudes toward aging in (Western) post-industrial societies have become harsh, positioning older persons as societal burdens rather than resources for social and cultural capital. Many people over the age of 60 are at risk of social isolation, often due to the loss of a work-related identity after retirement, coupled with a limited sense of purpose in the community and society at large (Landeiro *et al.*, 2017). As a result of the generally negative attitudes toward aging, new trends and phenomena are emerging in many fields that aim to treat aging as a problem or a deficiency. In the field of music, this deficit perspective has promoted an increasingly popularized focus on the health benefits of music for the aging body

and brain (e.g., Cohen, 2009). While cultural and musical participation opens wide possibilities for meaningful experiences and social connectedness (Creech *et al.*, 2014a; 2014b), a primary focus on social, emotional, cognitive, and physiological well-being would risk ignoring older adults' right to lifelong education, which may successively safeguard an experience of a meaningful later-life more effectively and sustainably than focusing on aging in terms of productivity and well-being (Pfaller & Schweda, 2019, p. 46). This study aims to interrogate the values and beliefs concerning lifelong music education, focusing on the latter part of the adult life course and exploring the ways, in which musical learning and creativity in later life have been positioned, researched, and discussed.

As observed through the UNESCO *Developmental Goals for Arts Education* (UNESCO, 2010, p2), as well as the Organization for Economic Cooperation and Development (OECD, 1996) *Lifelong Learning for All* report, the purpose of lifelong learning for individuals beyond labor-market age continues to be overlooked (Schuller & Watson, 2009), consequently making it difficult to convince policymakers of its worth. Indeed, "the fields of lifelong learning and later life tend to lead separate lives, and it is only recently that policies on lifelong learning and population aging have been awarding space to each other" (Findsen & Formosa, 2012, p. 1). Simultaneously, in 2010, UNESCO's Seoul Agenda set goals for the development of arts education, including ensuring that learners from all social backgrounds have lifelong access to arts education in a wide range of community and institutional settings. Aligned with the stated commitment to accessible, high-quality, and sustainable lifelong arts education, two goals that concern music education for older adults in particular were:

- Point 1a: Affirm arts education as the foundation for balanced creative, cognitive, emotional, esthetic and social development of children, youth *and life-long learners* (our emphasis)
- Point 1c: Establish systems of lifelong and intergenerational learning in, about and through arts education (UNESCO, 2010 pp. 3–4).

In the specific domain of music education, the ideas of lifelong and inclusive learning and participation, as expressed by the Seoul Agenda (2010), have been in contradiction tension with the traditional paradigms, where the scholarly focus has always been placed on training younger generations within a dominant European conservatory tradition with an emphasis on early identification of talented children and training toward professional paths. While informal environments for older adults' musical participation have been increasingly established, for example, through community music and so-called care or health music, formal music education institutions are still limited in their offer of wider lifelong opportunities for the aging populations (e.g., Dabback, 2010; Creech & Hallam, 2015; Laes & Schmidt, 2021). It is not clear who is given or taken away the opportunities for music learning and participation across the adult life course and specifically against the backdrop of the UNESCO goals for the development of arts education. Furthermore, much of the research associated with later-life music learning and participation, including non-professional adult learning programs, has emerged from dominant discourses concerned with potential links between music, health, and well-being (e.g., Creech *et al.*, 2013). It is now a timely moment, more than a decade since the publication of the Seoul Agenda (UNESCO, 2010), to explore the emergent research themes and questions concerning the ways older adults are portrayed in music education research.

In this article, we aim to address the state-of-the-art research concerning older adults and music education, published between 2010 and 2020 after the release of Seoul Agenda. Utilizing a sequential design comprising a systematic literature review followed by a qualitative meta-synthesis, we interrogate the primary phenomena of interest, the rationales, and the key concepts that comprise the recent research on later-life music learning and participation. Through an examination of the main focal points of this body of research, we consider the contribution of research focused on later-life music learning and participation to the wider international scholarship concerned with older adult education practices (Findsen & Formosa, 2016) as well as lifelong education perspectives, particularly in music education.

1.1. Theoretical and conceptual starting points

1.1.1. Life course perspective as a starting point for defining "old"

Conventionally, human life is divided into stages based on chronological age, to which many life course theorists have responded with more flexible alternatives (e.g., Bengtson *et al.*, 2012). While different stages from childhood and adolescence to middle age and old age may be viewed as socially defined and constructed, increased life expectancy, changes in work life and economy, and increased diversification of lifestyles and family relationships also require that the lifespan must be viewed differently. Thus, human lives are no longer regarded as linear, moving from childhood to adulthood, work career, retirement, and death. Instead, according to the life course approach, a human life course forms within transitions and important life events. Life course theory encompasses

the micro approach of understanding life as a personal experience alongside macro factors, such as historical time and place of individuals in particular age cohorts (Hunt, 2017). This ontological pluralism is advantageous also for the considerations of older adult music education, as it abandons the expectations of old age identity and considers social transformation and personal experience (Hunt, 2017).

Bengtson *et al.* (2012, pp. 10–12) designate five principles for the life course perspective. The first one is "linked lives," which refers to the recognition of interconnectedness and fluctuation in human relationships. Interestingly, it has been predicted that transformations in home and work relationships will foster more intergenerational friendships as people from different age groups may pursue similar lifestyles (Gratton & Scott, 2017, p.14). We find this concept of 'linked lives' relevant to music participation being related to life course experiences, and the idea of music being deeply embedded with social connection rather than excluding older adults in their own silo. The second principle emphasizes the impact of *social* and *historical* contexts on individuals' lives, which again strengthens our understanding of social connection as an underlying value attached to music learning and the idea of life history based on how earlier life-course experiences related to music influence later modes of participation.

The third principle reminds us of the (sometimes unpredictable) life transitions and their timing that connects to music as self-fulfillment and personal growth, for example, the potential of music learning in navigating significant transitions, such as retirement from work. Referring to the well-established health and well-being discourse in music (MacDonald *et al.*, 2016), we argue that music may have more substantial potential as a vehicle for protection, resilience, and strengthening self-knowledge rather than "traditional" health effects. The fourth principle stresses agency, in other words, the significance of having a sense of control over making decisions that affect personal change and continuity – hence, issues of identity become central to questions of navigating a long life, including the capacity to develop oneself, make individual choices, and navigate through transitions, self-fulfillment, personal growth, and also a developmental possibility. The fifth principle highlights that aging and personal development is cumulative: relationships, behaviors, and life events have consequences for later life statuses, relationships, and well-being. This principle seems to connect health and well-being with valuable lifelong experience, resulting in a self-defined definition of well-being derived from music learning and participation. These changes in experiences and perceptions of the life course are fostering increasing attention, including music educators, to focus on questions concerned with how this prolonged lifespan can be spent in a most self-determined and meaningful way.

There is no single definition of how a person experiences aging or when old age begins. Some aging theories articulate continuity and others change (Hunt, 2017, p. 259). Some older people might look for continuity, simultaneously finding it difficult to come to terms with the physical, psychological, and social changes of aging. They might develop a disintegrated identity or a passive-dependent identity, which means that they have little confidence in their own abilities to cope with on a daily basis. Some individuals develop a defended identity through which they live independently but are fearful of growing older and fight to stay fit and youthful in ways that may engender stress and disappointment. Change, on the other hand, refers to how many older people actively seek to meet new people and reappraise themselves through new challenges, which plausibly have positive or negative consequences, thus developing an integrated identity. They retain their personal integrity and optimism while accepting that growing old is inevitable (Hunt 2017, p. 265).

1.1.2. Justifications for music education in older adult life course

Adult education is becoming increasingly important for economic, social, and political reasons (Biesta *et al.*, 2011). At the same time, while lifelong learning has been acknowledged as an important part of educational policies and strongly recommended, for instance, by UNESCO (Faure *et al.*, 1972), it is increasingly understood in terms of economic development and formation of human capital, in other words, through a neoliberalist agenda, rather than as a personal good and an inherent aspect of democratic life. According to educational theorist Gert Biesta, this transformation "is not only visible at the level of policy; it also has had a strong impact on the learning opportunities made available to adults, partly through a redefinition of what counts as legitimate or 'useful' learning" (Biesta, 2006, p. 169).

The recent changes in the lifelong learning discourse also raise important questions for music educators as to why older learners remain so widely underserved by our educational institutions that generally are thought to be open and inclusive. While several projects providing musical activities for older adults are taking place, they are mostly residing within the field of community music. However, community music as such is lacking critical reflection and scholarly analysis of its pedagogical principles. The individual and social meanings of adult music learning that justify its *pedagogical* relevance have not yet been seen as so

distinct as to merit attention in music education research (e.g., Creech & Hallam, 2015). Therefore, we investigate in this study the discourse associated with music and older people, whether health and well-being benefits, evidenced by "music and health" networks, the emergence of "music in care," and "arts on prescription," have been considered in the research. The underlying risk in these discourses is that they might emphasize physical and cognitive decline and how music may fix or hide the natural processes and human characteristics of aging, thus perpetuating the pathologized identities assigned to older individuals. In other words, even if musical activities were made *available,* the justifications for older adult music education may remain narrow and limited.

Therefore, we ask the following research question: What is the state-of-the-art research on older adults and music education in the studies published since the Seoul Agenda?

This research task was approached by three sub-questions:

(1) Who are the older adult participants in these studies and how are they portrayed?
(2) What kinds of research methods and processes are used in the studies, and what are the principal phenomena of interest?
(3) How are music learning and participation in the older adult life course conceptualized in these studies?

2. Methodology

We adopted a sequential design, beginning with a systematic review and followed by a meta-synthesis. While systematic review offers filtered and unbiased information of the respective field as it comprises the systematic selection and appraisal of the quality of the included studies Jahan *et al*., 2016, p. 6; Page *et al*., 2021), meta-synthesis is used to yield a more comprehensive view i.e., "theory development, higher-level abstraction, and generalizability to make qualitative findings more accessible for application in practice" (Zimmer, 2006, p. 313). The systematic review paired with a meta-synthesis provided a methodological framework for interpretive analysis of the grand narratives or interpretive translations emerging from the integration and comparison of the key findings of the studies.

2.1. Systematic review

Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines provide the roadmap for the systematic review, including developing search protocol and establishing inclusion criteria to be applied in the screening of identified articles (Moher *et al.*, 2015). To evaluate the rigor of the studies, we used the JBI Checklist for Qualitative Research (JBI, 2017), for example, to check within each paper for coherence across research questions, theoretical framework, methods, and interpretation, establishing whether participants' voices were adequately represented, whether researcher positionality was acknowledged, and whether ethical issues were addressed (Lockwood *et al.*, 2015). Articles retained for full-text analysis were analyzed systematically, with extracted data being coded according to the SPIDER (Sample, Phenomenon of Interest, Design, Evaluation [i.e., key findings], Research Type) tool (Jahan *et al*., 2016).

2.1.1. Criteria for inclusion and search protocol

The criteria for inclusion and the search protocol were refined over several reflective discussions between the two researchers, grappling with the question of how to define with precision a search protocol within a topic area that itself is not well-defined. For example, the question of how to define "older adult" was critical yet ambiguous, leading us to abandon chronological age boundaries and instead rely on the language used to describe participants in each study. Where it was agreed that the language indicated study participants were deemed by the researcher to be in the later part of the adult lifespan, studies were included in the study (Table 1 for examples).

The retained articles were limited to peer-reviewed empirical studies published in English that addressed older adult music learning and/or participation in natural research settings. This analysis was conducted by two authors who are proficient in multiple languages, although studies published in non-English language were excluded from analysis. Besides, we also excluded theoretical articles, music therapy-related studies, or clinical studies focused on the cognitive, physical, or psychological effects of music and conducted in laboratory environments. Because our rationale for the study was framed by the goals expressed in the UNESCO's Seoul Agenda (2010), we limited our

Table 1. Inclusion criteria

Year of publication	2010 – 2021
Language	English
Type of article	Full-text peer-reviewed journal article reporting empirical study
Context	Music education in a real-world context (excluding professional training, professional development, music therapy in clinical contexts, clinical or experimental music interventions where the focus is on clinical outcomes and higher education)
Key concept	Music learning and/or participation among adults
Participants	Participants (learners and/or facilitators of learning) in music learning and/or participation. Participants identified as older adults (e.g., older adult, senior, elder, and retired).

search to articles published between 2010 and 2021 (when the search was finalized). The complete list of inclusion criteria is set out in Table 1.

We searched for abstracts in three relevant databases: (i) Academic Search Complete (multidisciplinary database); (ii) ERIC (education database); and (iii) Web of Science (multidisciplinary database). The full search protocol is set out **in** Table 2.

2.1.2. Screening of papers

The first search of three databases yielded 341 records. Following removal of 8 duplicates and a further 200 records whose titles indicated that the study did not meet the inclusion criteria, 143 records were retained. The abstracts of these records were read and a further 51 were excluded from the study. Ninety-two records were therefore retained, and these were read in full-text and assessed for eligibility by two researchers. Following detailed analysis of the papers according to the review criteria and extraction of the data using the SPIDER tool, the two researchers initially recommended retaining 60 of the 92 papers, excluding 22 papers, and marking the remaining ten as "unsure." Following further review and discussion, 68 papers were included and 24 papers were excluded from the study (Figure 1).

The reasons for excluding papers at the abstract and full-text stages of screening were varied, and some papers were excluded for more than one reason. First, 65 papers were not empirical but rather were theoretical discussions or accounts of practice, while four offered no account of a research methodology. Two papers were not concerned with music learning and participation, while eight papers were not studies on older adults or aging and ten papers did not specify the age of their participants.

2.1.3. Final retained papers

The final 68 articles were journal publications representing a variety of academic fields. The majority of them were in the field of music education or community music/leisure studies. Other represented fields were psychology and health studies, education and lifelong learning, musicology, aging studies, nursing, and qualitative research (Table 3).

2.2. Meta-synthesis as an approach to analysis

Meta-synthesis was used to interrogate and further synthesize, at a conceptual level, the findings from the 68 retained studies that had been retrieved through the systematic review and to use these as data for a third-level interpretation (Aspfors & Fransson, 2015). As such, meta-synthesis added a further level of analysis, allowing us to add an interpretive synthesis of the themes represented in the systematic review data set.

Our approach to the interpretive synthesis began with thematic coding of the key findings of each individual paper. Second, we undertook a "horizontal analysis," whereby relationships among the values and beliefs expressed in the papers were identified through the reciprocal translation of themes across the research papers. These themes were then collated, and, through a dialogic process, a consensus was reached regarding the labeling and definitions of higher-order concepts that united the themes.

3. Findings

3.1. Who are the older adult participants in these studies and how are they portrayed?

In this section, we set out the findings derived from the systematic review concerned with the contexts within which the research was carried out, the characteristics of research participants, and the ways in which "aging" was conceptualized in the retained studies.

3.1.1. Country where the studies took place

Most of the publications were studies carried out in the USA, UK, or Australia (52 in total). Three studies were collaborations that took place in more than one country (Figure 2).

3.1.2. Year of publication

The publication dates ranged from 2010 to 2020, with the median being 2017 and the mode being 2018 (Figure 3).

3.1.3. Research contexts

This group of 68 studies included research concerned with older adult music learning and participation in formal (2), informal (12), and non-formal (54) contexts (Table 4). In the non-formal category, the music learning and participation took place in further education, community music, music schools, senior centers, professional development, and everyday life settings. In the informal category, the music learning and participation took place in community music and everyday life settings, while the formal category was concerned with music learning in music schools.

Table 2. Search protocol

Aging OR Ageing or "Older people" or "Older Person*" or elder* or Senior or "Third age" or "Fourth age" or Adult* or "Later life" or "Later adulthood" or retir*	Music* Musicking Or Musicing	Pparticipat* ORor Llearn* or educat* or teach* or pedagog* Education	Life* Lifelong Lifewide Lifecourse

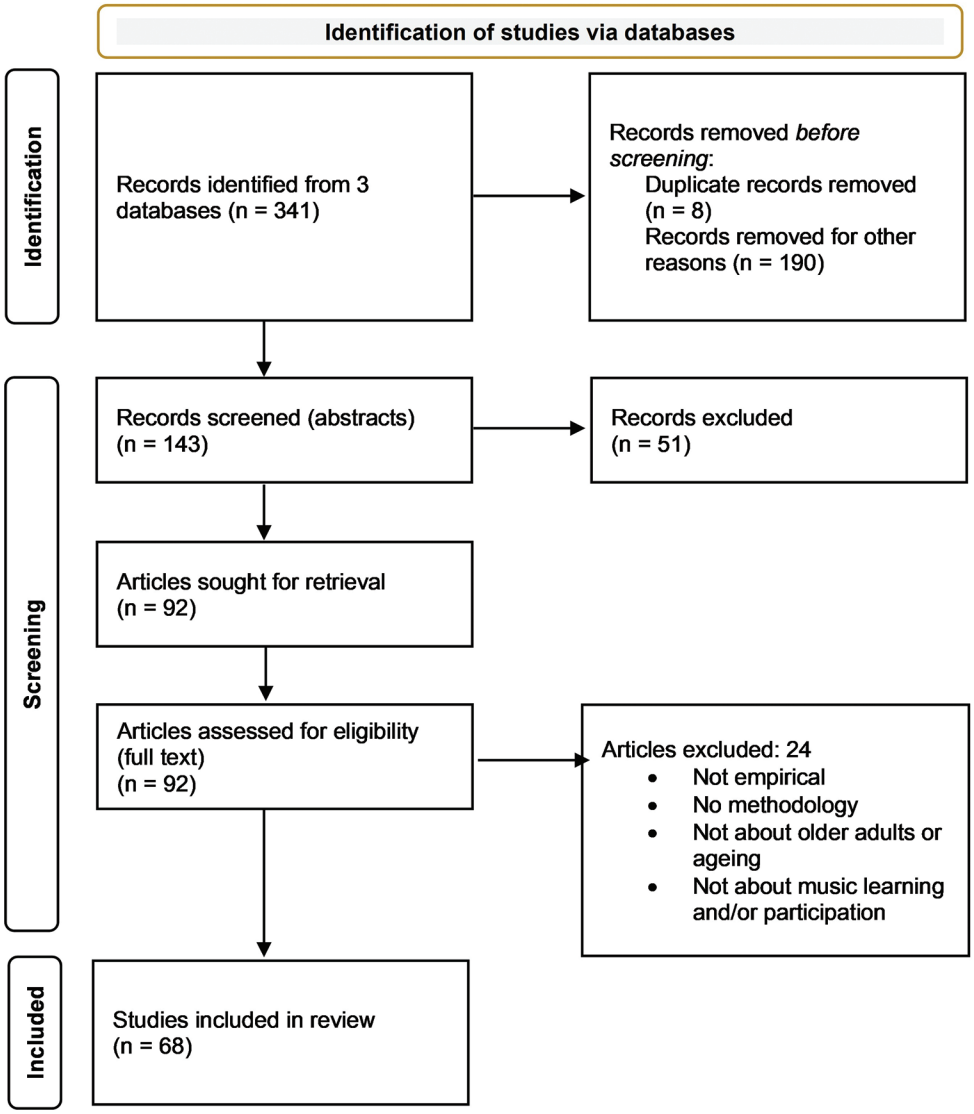

Figure 1. Identification of studies

Table 3. Journal main disciplines and number of publications (Total=68)

Journal discipline	Number of publications
Music education	29
Community music/leisure	22
Psychology/health	8
Education/lifelong learning	3
Musicology	2
Ageing/quality of life	2
Nursing/medicine	1
Qualitative research	1

Table 4. Research contexts

Context	Formal	Non-formal	Informal	Total
Further education	0	4	0	4
Community music	0	38	9	47
Music school	2	1	0	3
Senior center	0	5	0	5
Healthcare setting	0	1	0	1
Professional development	0	5	0	5
Music in everyday life	0	0	3	3
Total	2	54	12	68

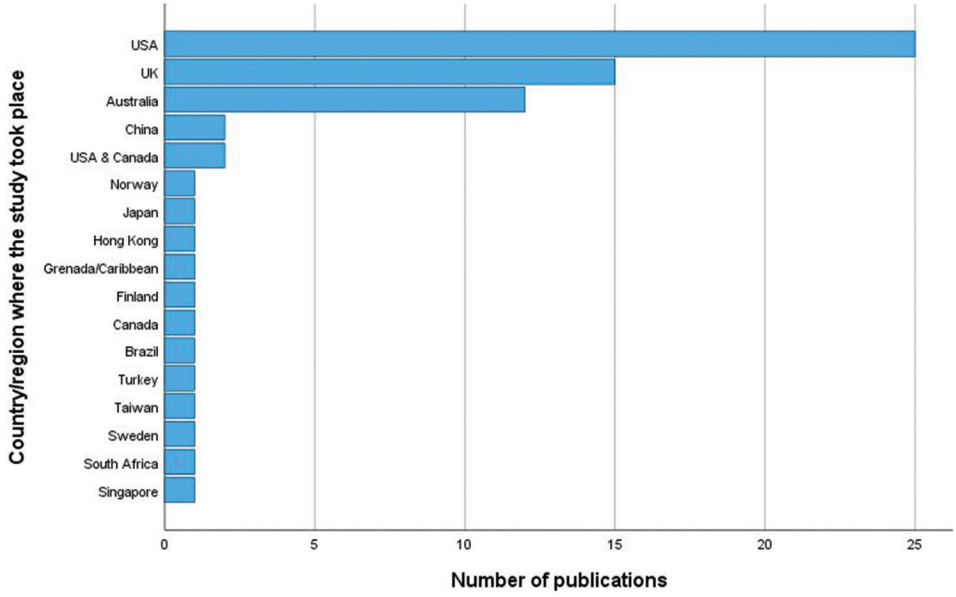

Figure 2. Origin of the retained papers

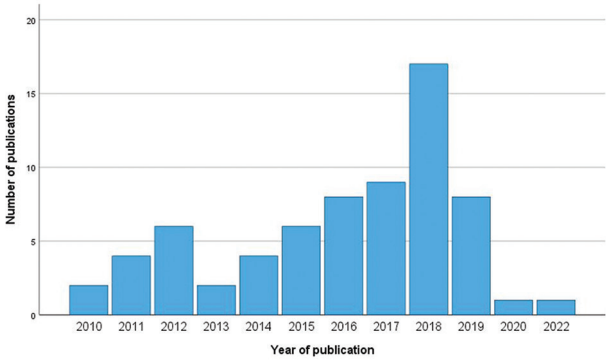

Figure 3. Year of publication

3.1.4. Research participants

Sample sizes were known in 67 out of the 68 studies. Among those 67 studies, sample sizes ranged from just one to 35,735 (one "outlier" study), with over half of the studies reporting sample sizes of 21 or less. The median (mid-point) sample size was 16, while the mode sample size (most frequent) was 11. Overall, among the 67 papers where sample size was reported, there were a total of 39,890 research participants. This total includes the one "outlier" study where data were analyzed from 35,735 survey respondents. Without that one study, the total number of participants in the research where sample size was reported was 1,152.

The number of male participants was reported in 43 papers comprising a total of 1,079 male research participants. Among the 41 papers where the number of female participants was reported, there were a total of 1,359 female research participants. No papers reported any other genders apart from male or female. The median number of male participants was 6, while the median number of female participants was 10. Means and standard deviations for the number of male (M = 25, SD = 85) and female (M = 33, SD = 89) participants were skewed, due to the one study with a very high sample size.

Twenty-one papers provided the mean age of their participants. Among those 21 papers, the mean age was 68 (SD = 6), with a median age of 70. Among those papers where data were provided concerning the specific ages of research participants, the mean lower age was 46 (SD = 19), with a median age of 52, while the mean upper age was 82 (SD = 10) with a median age of 82 (Table 5).

3.1.5. Constructions of aging

Within those contexts, older adult participants were defined in a number of different ways. The most common attributes related to their chronological age ("older" in 29 publications, "senior" in 8 publications, "Third Age" in 4 publications, and "elderly" in 1 publication). The participants were stated "lifelong learners" in 18 publications, "retired" in 6 publications, and older defined by chronic illness in 2 publications.

3.2. What kinds of research methods and processes are used in the studies, and what are the principal phenomena of interest?

In this section, we report findings from the systematic review concerned with the phenomena of interest

addressed in the retained studies, as well as the research paradigms, designs, methods, and approaches to analyses employed.

3.2.1. Topics and specific phenomena of interest

The broad topic areas and phenomena of interest addressed in the retained papers were categorized. Four overarching topic areas emerged (note that some studies addressed more than one phenomenon of interest): (i) Music, health, and well-being (53 studies); (ii) lifelong music learning (46 studies); (iii) continuing engagement (18 studies); and (iv) personal development (10 studies). These topic areas were further categorized into more specific phenomena of interest (Table 6).

3.2.2. Research paradigms and designs

The majority (49) of papers were carried out within a qualitative paradigm. Fifteen were mixed methods, while there were only four quantitative studies. Within those broad paradigms, a range of research designs (as defined by the authors) was detected, the most frequent being case study (31 studies); the second most frequent descriptive (6 studies); and the third most frequent quasi-experiment (5 studies). In addition, we detected qualitative exploratory studies (4), participatory action research studies (2), ethnography (2), correlational studies (2), narrative inquiry (2), and sequential studies (1). Research design was not discussed in 13 papers.

3.2.3. Methods of data collection

Methods of data collection, as described by the authors, included interviewing (semi-structured, in-depth, structured, narrative, open-ended, focus group), observations (video, in-person, participant), journals, documents and photographs, and questionnaires (Table 7). Twenty-six of the 68 papers included reference to, or discussion of, ethical issues or procedures for gaining approval from a research ethics board.

Table 5. Sample characteristics

	Mean age of sample	Lower age in the sample	Upper age in the sample	Number of males	Number of females
Number of publications providing data	21	39	36	43	41
Number of publications with missing data	47	29	32	25	27
Mean	68.20	46.21	81.64	25.09	33.15
Median	70	52	82.50	6	10
SD	6.06	19.07	10.05	84.64	88.74

Table 6. Topic areas and phenomena of interest

Topic category	Phenomenon of interest	Number of studies*	Total
Music, health, and well-being	Meaning of music-making	22	51
	Well-being	17	
	Health	6	
	Quality of life	6	
Lifelong music learning	Lifelong learning	15	46
	Musical development	11	
	Role of facilitator	8	
	Role of institution	2	
	Learning motivation	10	
Continuing engagement	Lifelong engagement	6	17
	Social engagement	1a	
Personal development	Identity work	5	10
	Confidence	2	
	Spirituality	2	
	Creativity	1	

Note: *Number does not add up to 67, as some studies identified more than one phenomenon of interest.

Table 7. Methods of data collection

Data collection category	Method	Number of studies	Total number of studies*
Interviews/focus groups	Semi-structured interview	33	57
	In-depth interview	4	
	Structured interview	2	
	Open-ended interview	2	
	Narrative interview	6	
	Focus group	10	
Questionnaire	Questionnaire	26	26
Observations	Participant observation	8	17
	Video observation	6	
	In-person onlooker observation	3	
Documents, journals and photographs	Journal	6	9
	Document analysis	2	
	Photographs	1	

Note: *Total exceeds 68, as many studies used more than one method.

3.2.4. Approach to analysis

Approaches to analysis of qualitative data (as reported by the authors) included thematic analysis, interpretive phenomenological analysis, narrative analysis, phenomenological analysis, content analysis, and comparative analysis. Quantitative approaches to analysis included time sampling and event sampling approaches to analysis of observational data, as well as inferential and descriptive statistics (Table 8).

Table 8. Approaches to analysis

Approach to analysis	Number of studies
Thematic analysis	27
Interpretive phenomenological analysis	15
Narrative analysis	5
Phenomenological analysis	5
Content analysis	4
Comparative analysis	1
Time sampling	1
Event sampling	1
Inferential statistics	2
Descriptive statistics	7

3.3. Summary of findings from the systematic review

Overall, the studies reported in this group of retained papers were typically derived from anglophone countries and carried out in the contexts of community music. Sample sizes were usually small, and the studies have an overrepresentation of female participants over male participants. The participants were generally described as: older, lifelong learners, retired, third age, elderly, senior, and/or chronically ill. Most of the studies revolved around music, health, and well-being, while a substantial number also investigated questions concerned with lifelong learning in music. A qualitative research paradigm prevailed, with a majority of studies employing qualitative designs, methods, and approaches to analysis.

3.4. How are music learning and participation in the older adult life course conceptualized in these studies?

In this section, we report the findings from our meta-synthesis, where analysis of the critical conclusions revealed that five higher-order conceptual themes that conveyed an account of how music learning and participation in the older adult life course have been conceptualized and discussed in the research literature (Figure 4).

3.4.1. Social connectedness derived from music participation

The social nature of music-making and resultant social connectedness derived from music participation was prominently communicated as a higher-order concept across 23 papers. For example, drawing on a qualitative methodology, Abell *et al.* (2017) reported that social connectedness was a key benefit attributed to group singing among 11 older adults (mean age 70) living with Parkinson's disease. This study echoes the findings of several others (e.g., Balsnes, 2017; Clements-Cortes, 2014, de Araujo & Rocha, 2019), who have reported that

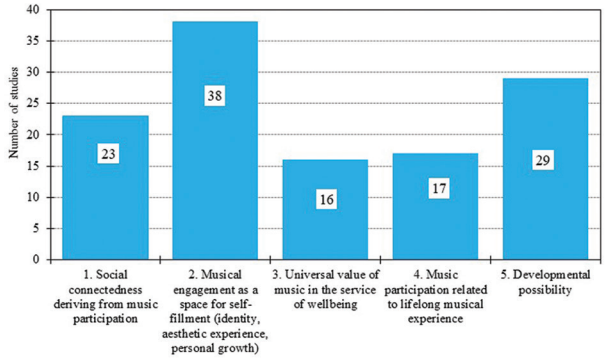

Figure 4. Higher-order conceptual themes. Numbers indicate the number of papers communicating each of the five themes. The numbers do not add up to 68, as some papers conveyed more than one of the five higher-order conceptual themes.

social interaction and an ensuing sense of belonging and connection are critical contributing factors to the positive quality of life benefits attributed to singing together. Social connection manifested as friendship, mutual respect, companionship, spiritual connection, a sense of belonging, and acceptance has likewise been described by participants in choirs researched by Kaynak (2018), Lee *et al.* (2016), and Joseph & Southcott (2014; 2015; 2017; 2018), Joseph *et al.*, 2018; Li & Southcott, 2018; Southcott & Nethsinghe, 2019). These studies have consistently reported that a sense of connection, fellowship, and social engagement motivate continued participation in later-life choral singing, promote social development and set a positive outlook on aging. One study highlighted the prominence of community and connection in the longer-term evolution of a choir; interviews and focus groups with older adult community choir participants, at two separate periods four years apart, revealed that connection with others was a core facet of the choir's identity and sustainability (Lamont *et al.*, 2018).

Social support in the form of companionship, emotional support, practical assistance, and sharing of information was similarly found to be experienced widely within the context of New Horizons Bands (Carucci, 2012) and other community instrumental ensembles. Community music-making within instrumental ensembles has reportedly functioned as a vehicle for mutual support (Glen, 2018). The social bonds and harmonious relationships forged within such contexts are fundamental to community-building (Giebelhausen & Kruse, 2018; Goodrich, 2019; Rohwer, 2017).

A few studies have used quantitative measures to explore potential relationships between social connections within choral contexts and well-being among older adults. For example, Pearce *et al.* (2016) reported that although singing, as compared with other leisure activities, did not directly result in a more significant improvement in health and well-being, the collective bonding experienced by choir participants "predicted increased flourishing, reduced anxiety and improved physical health" (p. 518). This reinforced earlier studies where, for example, Perkins & Williamon (2014) reported social connection to be one mechanism by which music learning could support enhanced well-being, and Varvarigou *et al.* (2013) reported that seniors experienced feelings of rejuvenation attributed to their participation in intergenerational songwriting and musical performance.

3.4.2. Musical engagement as a space for self-fulfillment

Thirty-eight of the retained studies explored and discussed how music learning and participation in later adulthood may be experienced as a space for self-fulfillment. In contrast to the first higher-order theme concerned with social connection, the second theme focuses on the individual level. It involves lifelong learning, exploration, or rediscovery of musical identity, aesthetic experience, and personal development. For example, community choral singing among adults aged 60–90 has reportedly fostered a sense of personal validation, purpose, fulfillment, and spiritual growth (Joseph & Southcott, 2014; 2017; 2018; Lee *et al.*, 2016). Similarly, 19 older adults from an inclusive elderly care center (serving older adults from lower socioeconomic groups) were found to derive a sense of purpose and joy from choral singing (Petrovsky *et al.*, 2020), while in other contexts, older adults have been found to experience music-making with a traditional instrument as an outlet for spiritual development (Matsunobo, 2018), to derive empowerment and agency from making music in a rock band (Laes, 2015), and to find that songwriting was a vehicle for emotional expression and healing among older adult male prisoners (Cohen & Wilson, 2017).

Self-fulfillment was also expressed as identity work achieved through music participation, in some cases related to strengthening cultural identity through music (e.g., De Araujo & De Rocha, 2019; Joseph & Southcott, 2018; Sirek, 2018), while in others, related to reinforcing, rediscovering, or developing musical identities through choral participation or instrumental groups (e.g., Jenkins and Southcott, 2016; Laes, 2015; Reese, 2019; Woody *et al.*, 2019). For example, Söderman and Westvall (2017) investigated the meaning of community music for older adult members of a Finnish association in Sweden. The music-making, which took the form of a three-piece band that wrote and performed their songs and accompanied a senior dance group, was a source of strengthened personal and cultural identity and provided a sense of purpose and empowerment.

Finally, self-fulfillment achieved through lifelong learning in music was a prominent theme among the retained papers. Several researchers have focused on adult piano learners (e.g., Haddon, 2017; Kang, 2016; Pike, 2011; Taylor, 2010; 2011; 2012), demonstrating that learners were highly engaged, open to learning new things, and self-directed and that personal growth and identity construction were closely entwined with the learning itself. Consistently, these studies have positioned lifelong learning in music as a space for self-fulfillment through aesthetic experience (Redman & Bugos, 2019), the achievement of personal goals (e.g., Schmidt-Jones, 2018), or as an expression of personal motivation (Lee, 2013; Li and Southcott, 2015; Pitts *et al.*, 2015; Pitts & Robinson, 2016; Varvarigou *et al.*, 2011; Woody *et al.*, 2019), in turn contributing to enhanced quality of life (e.g., Kaynak, 2018). For example, Perkins & Williamon (2014) argued that subjective feelings of pleasure and satisfaction in musical progress impacted positive well-being, while several studies (Southcott and Joseph, 2015; Southcott and Li, 2018; Southcott and Nethsinghe, 2019) exploring the perceptions and experiences associated with choir participation have reported that exploring new musical horizons and learning new things contributed to the quality of life. Almost no papers critiqued the narrative of self-fulfillment through music participation, although Barbeau & Mantie (2019) explored the phenomenon of music performance anxiety among 35 New Horizons Band participants. As expected at any age, those with higher trait anxiety did experience higher MPA. Nonetheless, the benefits, articulated as staying active cognitively and feeling self-fulfilled, were deemed to outweigh any negative experience of music performance anxiety.

3.4.3. The universal value of music in the service of well-being

Seventeen of the retained studies supported the idea of the universal value of music in the service of well-being. For example, Roy *et al.* (2019) investigated the implications of group drumming sessions for 27 older adults (mean age 76), 18 of whom lived with mild dementia. Through self-report measures, mood and demeanor among all participants improved. Focusing on singing, Abell *et al.* (2017) attributed improvements in well-being (comprising physical, mood, cognitive functioning, social connectedness, "flow-on" effects, and sense-of-self) to group singing among eleven older adults living with Parkinson's disease. Others have linked group singing to enhanced health and well-being among older adults, referring to positive outcomes such as enhanced cognitive, emotional, and physical well-being, spirituality, resilience, autonomy, fellowship, and overcoming disease and hardship (Balsnes, 2017; Joseph & Southcott, 2014; 2015; 2018; Li and Southcott, 2015; Southcott and Li, 2018; Southcott and Nethsinghe, 2019), including those living with cognitive impairment (Clements-Cortes, 2014).

Attempts have been made to compare music-making with other leisure activities. For example, Maury and Rickard (2022) explored whether choral participation yielded more significant benefits for well-being in the long term (7 months) compared with the effects of involvement in an exercise group similarly characterized by opportunities for social interaction and exposure to music. A choir comprising 27 adults with a mean age of 66 was compared with an exercise class with a mean age of 74. Quantitative measures indicated that the emotional well-being of both groups improved but that there were no significant differences between the groups. Qualitative data showed that choir members considered singing together an intrinsically rewarding activity that contributed positively to their overall well-being. Likewise, over 7 months, Pearce *et al.* (2016) compared group singing to other group activities (creative writing and crafts classes). While all groups, comprising adults with a mean age of 60, did experience improvements in mental and physical health and life satisfaction, there was no evidence that singing, in comparison with the other group activities, had a more significant impact on positive health and well-being. A further comparative study (Perkins & Williamon, 2014) explored the intersection of lifelong learning in music, well-being, and older adulthood, contrasting 32 older adult instrumental learners (drums, keyboard, recorder, learning in one-to-one or small group instruction or creative workshops) with 30 members of the University of the Third Age involved in a shared learning project. Quantitative measures suggested that all groups experienced increases in overall health-promoting behaviors over 10 weeks. Follow-up interviews were undertaken with 21 music learners, leading to the conclusion that enhanced well-being could be attributed to specific facets of music learning that included: "(i) subjective experiences of pleasure; (ii) enhanced social interactions; (iii) musically-nuanced engagement in day-to-day life; (iv) fulfillment of musical ambition; (v) ability to make music; and (vi) self-satisfaction through musical progress" (Perkins & Williamon, 2014, p. 559).

Finally, some studies have attributed more general well-being to music learning and participation (e.g., De Araujo & Da Rocha, 2019). In this vein, and drawing on 1 year of observation as a leader of a band for senior citizens, Smith (2012) discussed the therapeutic benefits of performance in later-life contexts, both for the band participants and the older adult audiences they performed for.

3.4.4. Coherence in lifelong musical experience

Several studies have highlighted a lifelong learning perspective in their later-life music learning and participation accounts. Accounts of lived experiences, including the link between specific moments and significant songs, have illuminated the complexity, depth, and uniqueness of meanings embedded in participants' musical lives, personhood, preferences, and history (Cho, 2018; Cohen & Wilson, 2017; Sirek, 2018), with lifelong musical experiences connecting past, current and future learning (Kang, 2016). Likewise, several studies have demonstrated how music may be entwined with meaning-making over time (Lamont *et al.*, 2018), nostalgia, or reminiscence (De Araujo & da Rocha, 2019).

Some researchers have investigated whether music education earlier in the life course may predict adult musical engagement. For example, 35,735 survey responses concerned with public participation in the arts revealed that "lifelong engagement with music and the arts is one measurable outcome of school-based music education in the United States … even after controlling for socioeconomic status, sex, and race/ethnicity" (Elpus, 2018, p. 155). In the context of a New Horizons Band for older adults, Glen (2018) too identified a potential relationship between early music education and later-life music participation. Likewise, participation in choral singing or instrumental learning as an older adult has been found to have roots in childhood experience and lifelong musical interests (Joseph & Southcott, 2015; 2018; Petrovsky *et al.*, 2020; Rohwer, 2017) and earlier musical ambitions (Perkins & Williamon, 2014). A Taiwanese survey study (Lee, 2013) similarly found that lifelong musical interest and pleasure in music-making was a characteristic of older adults who were most likely to engage with music learning. However, the relationship between early music education and lifelong learning in music is not necessarily predictable nor is it linear, with multiple issues such as opportunity, attitudes, and skills as well as "confidence, personality, emotional and social needs [and] as well as the complexities of everyday life" (Pitts *et al.*, 2015, p. 132) intersecting in complex ways (Pitts & Robinson, 2016).

3.4.5. Developmental possibility

The idea that there may be potential for lifelong musical development emerged from these studies as the fifth higher-order concept. This broad idea expressed in 29 of the retained papers, encompassed sub-themes somewhat in tension. For example, a belief in the possibility of development (e.g., Coutts, 2018; Creech *et al.*, 2014; Laes, 2015; Pike, 2011; Redman & Bugos, 2019; Woody *et al.*, 2019) co-existed alongside interrogations of age-related issues that were deemed to demand specific types of facilitation (e.g., Hallam *et al.*, 2016; Talbert & Edelman, 2018; Varvarigou *et al.*, 2013; Wehr & Coffman, 2018). Several studies focused on the specific expertise in facilitation that is, as it is positioned in these studies, necessary support for personal and social musical engagement in later life to be achieved fully (Bonshor, 2017; Coutts, 2018; Creech *et al.*, 2014; Giebelhausen & Kruse, 2018; Haddon, 2017; Harrington, 2018; Lee *et al.*, 2016; Lum, 2011). Overall, this higher-order concept of developmental possibility was founded on the idea that lifelong musical development can be achieved and sustained through later adulthood, but this is dependent on access to expert, differentiated facilitation and peer support, particularly about age-related physical, cognitive, or attitudinal constraints.

4. Discussion

In this article, we have addressed the state-of-the-art research on older adults and music education, identifying and analyzing studies published since the release of UNESCO's Seoul Agenda (2010). As stated in the agenda, the division into "children, young people, and lifelong learners" (UNESCO, 2010) inadequately addresses treating adults as the only lifelong learners – indeed, lifelong learning skills are already developed in childhood. Based on our findings, especially in the case of music, a previous musical engagement predicts active musical participation in later life, and correspondingly, a lack of musical experiences in earlier life makes musical participation difficult and/or less likely in old age. Furthermore, our findings show that majority of older adults' music learning takes place in informal/non-formal settings. Hence, the goal of establishing systems of lifelong and intergenerational learning in […] arts education" (UNESCO, 2010) continues to be relevant in the 2020s.

Throughout the research process, we confronted the challenge of defining an older adult. Research participants were consistently described as "older" or retired, but little information was found regarding other dynamics of their identities, such as socioeconomic status, educational background, professional identity, or previous roles in work life. Perspectives of Black, Indigenous, and People of Color (BIPOC) were completely missing from the data. In the same vein, gender was consistently conceptualized in a binary way, raising questions about the persistent lack of sex-gender and body politics discussions concerning older individuals (Woodward, 1999). An explicit limitation of this body of research concerning older adults in music learning and participation is that it reinforces a message of the aging population as a homogenous group whose identities are reduced to chronological age, thus perpetuating the numeric discourse of aging (Woodward, 1999, p. x). Although

identification of research participants as older adults was a criterion in the selection of studies in this study, this does not eliminate the fact that older people represent all forms of intersectional identities, not just their age, which seems to be ignored entirely in the field of research.

Alongside the analysis of the design of the studies included in the systematic review, we noted a lack of discussion about ethics and approaches to learning and teaching, in other words, the pedagogical needs of older adult participants. A great majority of the studies reported relatively positive findings without critically evaluating the possible anxieties or discomfort related to musical participation. Instead, it seemed to be a recurring surprise for the researchers that older people can successfully take part in learning processes and gain musical skills and knowledge. This finding highlights our critique that a well-being discourse alone does not necessarily recognize the varying needs of individuals and communities.

Regarding the conceptualization of lifelong learning in and through music, we found an emphasis on self-fulfillment and developmental possibility as critical parameters of a successful music learning experience. Second, social connectedness was distinctive in the analysis as a consistent signifier of meaningful learning in later life. We could compare this to music education with younger participants that often emphasizes more individualized meanings such as musical development or musical identity. Third, the universal value of music in service of well-being was a cutting-edge discourse in several studies, if not in terms of the study aims or main findings, at least as a general key outcome mentioned in musical activities with older adults. Finally, the coherence in lifelong musical experience can be summed up in key ideas about music as a bridge between the past and the present and as a builder (or preserver) of identity. Path dependence was also somewhat emphasized, that is, the fact that a previous musical background is thought to predict a more active commitment to music in old age. Much research has been about older adults as a distinct group that can be defined, categorized, and studied. As our focus in this study was on the later phase of the adult life course, we did not look deliberately for studies of intergenerational learning. However, it must be noted that in music education research in general, intergenerational contexts are often located in the field of community music, while research related to music *learning* — one of the main foci of this research — is largely based on the idea of age-specific pedagogy. For example, age-specific approaches to pedagogy are reinforced by silo thinking that is inspired by the conservatory tradition, where teaching activities aimed at children and young people typically have different aims and objectives than those for adults particularly as beginner learners. Hence, we call for more participatory intergenerational perspectives that could address the voice and the power of aged participants first and foremost as music learners among other dynamics of their intersectional identities (Holman & Walker 2021).

Our qualitative meta-synthesis offers a basis for further development of older adult music education research and practice (Aspfors & Fransson, 2015), which may, in turn, have a significant impact on currently changing societal attitudes, as manifested in the new discourses on aging that support the exploration of different types of political action and identity formation in later life (e.g., Powell & Gilbert, 2009) for which music and its different creative forms offer a fruitful ground (e.g., Dabback, 2010, Laes, 2015; Creech, 2019; Creech *et al.*, 2020). Furthermore, acknowledging that "understanding how older adults have been portrayed would provide a foundation on which future scholarship can build" (Chen *et al.*, 2008), this study presents a critical stance on the underlying assumptions and rationales relating to the later-life and the relevance of music learning and participation, as represented in the research literature. As a practical implication drawn from this study, we propose positively highlighting the older adults' right to age in terms of self-defined well-being and a sense of meaningfulness in and through music learning and musical participation. As life expectancy increases along with prolonged active leisure time, *re-creation* becomes more critical than *recreation* (Gratton & Scott 2017, p. 10). In other words, increased leisure time cannot be just idle waste of time, but filling life with *meaningful* experiences and creating a sense of purpose through social networks and devoted activities become central to the pursuit of "good aging."

5. Conclusions

Our systematic literature review of articles concerning older adults and music learning/participation published between 2010 and 2020 showed that the predominant values and beliefs were expressed through five higher-order concepts that conveyed the importance of social connection, the fulfillment of personal goals, the universal value of music as a promoter of well-being, music participation and its relationship to lifelong musical experience, and developmental possibility. The agency and the intersectional dynamics of identities regarding gender, sexual orientation, ethnicity, cultural background, or dis/ability among the older adult participants described in the studies appeared to be predetermined and narrow.

The findings of this study must be seen in the light of some limitations. The databases used as well as the selection

criteria set for the studies limit our study in many ways. First, we only searched for papers written in English, which may imply a bias related to academic publication systems and language spheres. Second, to guarantee scientific quality, we only included peer-reviewed empirical publications, thus omitting other types of publications which may have been relevant. However, our dataset of 68 final selected studies represents a significant body of the literature, considering that meta-synthesis usually comprises 10–12 studies (Aspfors & Fransson, 2015). Furthermore, meta-synthesis is not only a summary of existing research on a topic but *a third-level interpretation* (p. 84) that involves the researchers' critical evaluation and reflection, resulting in a new body of knowledge that offers a comprehensive and even generalizable view on the phenomenon.

In sum, we conclude that while developmental possibility and personal development are acknowledged in the predominant literature concerned with later-life music learning and participation, this is entwined with understandings of lifelong learning among older adults that are framed by the significance attached to social participation and a belief in the universal value of music in the service of well-being, coupled with intersectional perspectives on the later life course that are generally weak and narrow. These remarks are not necessarily a critique of the scholars in our field but, hopefully, point to new directions in generating research knowledge that considers the multiple needs of lifelong learners in music education and, more broadly, across the life course.

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Conflict of interest

The authors declare no conflict of interest.

Author contributions

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References

Abell, R.V., Baird, A.D., & Chalmers, K.A. (2017). Group singing and health-related quality of life in Parkinson's disease. *Health Psychology*, 36(1):55-64.

https://doi.org/10.1037/hea0000412

Aspfors, J., & Fransson, G. (2015). Research on mentor education for mentors of newly qualified teachers: A qualitative meta-synthesis. *Teaching and Teacher Education*, 48:75-86.

Baars, J., Dannefer, D., Phillipson, C., & Walker, A. (eds). (2006). Aging, Globalization and Inequality, the New Critical Gerontology. London: Routledge.

Balsnes, A. (2017). The silver voices: A possible model for senior singing. *International Journal of Community Music*, 10(1):59-69.

https://doi.org/10.1386/ijcm.10.1.59_1

Barbeau, A.K., & Mantie, R. (2019). Music performance anxiety and perceived benefits of musical participation among older adults in community bands. *Journal of Research in Music Education*, 66(4):408-427.

https://doi.org/10.1177/0022429418799362

Bengtson, V., Elder, G., & Putney, N. (2012). The life-course perspective on ageing: linked lives, timing, and history. In: Katz, J., Peace, S., & Spurr, S. (eds.) Adult Lives: A Life Course Perspective. Bristol: Policy Press, p. 9-17.

Biesta, G. (2006). What's the point of lifelong learning if lifelong learning has no point? On the democratic deficit of policies for lifelong learning. *European Educational Research Journal*, 5(3-4):169-180.

https://doi.org/10.2304/eerj.2006.5.3.169

Biesta, G., Field, J., Hodkinson, P., Macleod, F., & Goodson, I. (2011). Improving Learning through the Lifecourse. London: Routledge.

Bonshor, M. (2017). Conductor feedback and the amateur singer: The role of criticism and praise in building choral confidence. *Research Studies in Music Education*, 39(2): 139-160.

https://doi.org/10.1177/1321103X17709630

Cann, P., & Dean, M. (2009). Unequal Ageing. The Untold Story of Exclusion in Old Age. England: Policy Press.

Carucci, C. (2012). An investigation of social support in adult recreational music ensembles. *International Journal of*

Community Music, 5(3):237-252.

https://doi.org/10.1386/ijcm.5.3.237_1

Chen, L.K., Kim, Y.S., Moon, P., & Merriam, S.B. (2008). A review and critique of the portrayal of older adult learners in adult education journals, 1980–2006. *Adult Education Quarterly*, 59(1):3-21.

https://doi.org/10.1177/0741713608325169

Cho, E. (2018). Songs of their lives: A narrative study of three older Korean immigrants in Los Angeles. *Research Studies in Music Education*, 40(2):157-175.

https://doi.org/10.1177/1321103X18774346

Clements-Cortes, A. (2014). Sing-A-long DVD and activity package pilot study with older adults. *Journal of Music*, 7(2):123-139.

https://doi.org/10.1386/jmte.7.2.123_1

Cohen, G (2009). New theories and research findings on the positive influence of music and art on health with ageing. *An International Journal for Research, Policy and Practice*, 1(1):48-62.

https://doi.org/10.1080/17533010802528033

Cohen, M.L., & Wilson, C.M. (2017). Inside the fences: Pedagogical practices and purposes of songwriting in an adult male U.S. state prison. *International Journal of Music Education*, 35(4):541-553.

https://doi.org/10.1177/0255761416689841

Coutts, L. (2018). Selecting motivating repertoire for adult piano students: A transformative pedagogical approach. *British Journal of Music Education*, 35(3):285-299.

https://doi.org/10.1017/S0265051718000074

Creech, A. (2019). Using music technology creatively to enrich later-life: A literature review. *Frontiers in Psychology*, 10:117

https://doi:10.3389/fpsyg.2019.00117

Creech, A., & Hallam, S. (2015). Critical geragogy: A framework for facilitating older learners in community music. *London Review of Education*, 13(1):43-57.

Creech, A., Hallam, S., McQueen, H., & Varvarigou, M. (2013). The power of music in the lives of older adults. *Research Studies in Music Education*, 35(1):87-102.

https://doi.org/10.1177/1321103X13478862

Creech, A., Hallam, S., Varvarigou, M., & McQueen, H. (2014b). Active Ageing with Music: Supporting Wellbeing in the Third and Fourth Ages. London: Institute of Education Press.

Creech, A., Hallam, S., Varvarigou, M., Gaunt, H., McQueen, H., & Pincas, A. (2014a). The role of musical possible selves in supporting subjective well-being in later life. *Music Education Research,* 16(1):32-49.

https://doi.org/10.1080/14613808.2013.788143

Creech, A., Larouche, K., Generale, M., & Fortier, D. (2020). Creativity, music, and quality of later life: A systematic review. *Psychology of Music*, 51(4):1080-1100.

https://doi:10.1177/0305735620948114

Dabback, W. (2010). Music and identity formation in older adults. *Action, Criticism, and Theory of Music Education*, 9:60-69.

De Araujo, F., & Da Rocha, A. (2019). The redefining of later life through leisure: Music and dance groups in Brazil. *Leisure Studies*, 38(5):712-727.

https://doi.org/10.1080/02614367.2019.1636847

Elpus, K. (2018). Music education promotes lifelong engagement with the arts. *Psychology of Music*, 46(2):155-173.

https://doi.org/10.1177/0305735617697508

Estes, C., Biggs, S., & Phillipson, C (2003). Social Theory, Social Policy and Ageing. A Critical Introduction. Berkshire: Open University Press.

Faure, E., Herrera, F., Kaddoura, A.R., Lopes, H., Petrovski, A., Rahnema, M., *et al.* (1972). Learning to Be. The World of Education Today and Tomorrow. Paris: UNESCO.

Findsen, B., & Formosa, M. (2012). Lifelong Learning in Later Life. A Handbook on Older Adult Learning. Rotterdam: Sense Publishers.

Findsen, B., & Formosa, M. (eds.) (2016). International Perspectives on Older Adult Education. Research, Policies and Practice. Berlin: Springer.

Giebelhausen, R., & Kruse, A. (2018). "A smile on everybody's face": A multiple case study of community ukulele groups. *International Journal of Music Education*, 36(3):347-365.

https://doi.org/10.1177/0255761417744371

Glen, N.L. (2018). Music in a new key: The sociocultural impact of the new horizons band programme and its relationship to Baltes' selective optimization with compensation model. *International Journal of Community Music*, 11(2):199-212.

Goodrich, A. (2019). Spending their leisure time: Adult amateur musicians in a community band. *Music Education Research*, 21(2):174-184.

https://doi.org/10.1080/14613808.2018.1563057

Gratton, L., & Scott, A. (2017). The 100-year Life. Living and Working in an Age of Longevity. London: Bloomsbury.

Haddon, E. (2017). Piano Performance: Group classes for the lifelong learner. *Research Studies in Music Education*, 39(1):57-71.

https://doi.org/10.1177/1321103X17702972

Hallam, S., Creech, A., McQueen, H., Varvarigou, M., & Gaunt, H. (2016). The facilitator of community music-making with older learners: Characteristics, motivations and challenges. *International Journal of Music Education*, 34(1):19-31.

https://doi.org/10.1177/0255761415617039

Harrington, A.M. (2018). An exploration of the self-selection of musical parts by members of a New Horizons concert band. *International Journal of Community Music*, 11(2):183-198.

https://doi.org/10.1386/ijcm.11.2.183_1

Holman, D., & Walker, A. (2021). Understanding unequal ageing: Towards a synthesis of intersectionality and lifecourse analyses. *European Journal of Ageing*, 18:239-255.

https://doi.org/10.1007/s10433-020-00582-7

Hunt, S. (2017). Life-course. A Sociological Introduction. 2nd ed. London: Bloomsbury.

Jahan, N., Naveed, S., Zeshan, M., & Tahir, M.A. (2016). How to conduct a systematic review: A narrative literature review. *Cureus*, 8(11):e864.

https://doi.org/10.7759/cureus.864

JBI (Joanna Briggs Institute). (2017). Critical Appraisal Tools for use in JBI Systematic Reviews: Checklist for Qualitative Research. Available from: https://jbi.global/sites/default/files/2019-05/jbi_critical_appraisal-checklist_for_qualitative_research2017_0.pdf [Last accessed on 2023 Sep 18].

Jenkins, L., & Southcott, J. (2016). When I see a note I like, I play it: Musical identity enacted in a community orchestra. *International Journal of Community Music*, 9(3):273-289.

https://doi.org/10.1386/ijcm.9.3.273_1

Joseph, D., & Southcott, J. (2014). "The show must go on": Older entertainers making music in the community in Melbourne, Australia. *Australian Journal of Music Education*, 1: 66-76.

Joseph, D., & Southcott, J. (2015). Singing and companionship in the Hawthorn University of the third-age choir, Australia. *International Journal of Lifelong Education*, 34(3):334-347.

https://doi.org/10.1080/02601370.2014.991951

Joseph, D., & Southcott, J. (2017). Older people in a community gospel choir: Musical engagement and social connection. The Qualitative Report, 22(12): 3209-3223.

https://doi.org/10.46743/2160-3715/2017.2909

Joseph, D., & Southcott, J. (2018). Music participation for older people: Five choirs in Victoria, Australia. Research Studies in Music Education, 40(2):176-190.

https://doi.org/10.1177/1321103X18773096

Joseph, D., Page-Shipp, R., & Van Niekerk, C. (2018). Singing and spirituality in a South African male voice group. International Journal of Community Music, 11(1):21-38.

https://doi.org/10.1386/ijcm.11.1.21_1

Kang, S. (2016). Navigating the experience of an adult piano student. *Bulletin of the Council for Research in Music Education*, 210-211:101-118.

Kaynak, T. (2018). Chorus chiefs' views about chorists' lifelong learning skills. *Journal of Education and Training Studies*, 6(11):172-180.

https://doi.org/10.11114/jets.v6i11a.3814

Laes, T. (2015). Empowering later adulthood music education: A case study of a rock band for third age learners. *International Journal of Music Education Research*, 33(1):51-65. https://doi:10.1177/0255761413515815

Laes, T., & Schmidt, P. (2021). Promoting a musical lifecourse towards sustainable ageing: A call for policy congruence. *International Journal of Community Music*, 14(1):103-119.

https://doi.org/10.1386/ijcm_00040_1

Lamont, A., Murray, M., Hale, R., & Wright-Bevans, K. (2018). Singing in later life: The anatomy of a community choir. *Psychology of Music*, 46(3):424-439.

https://doi.org/10.1177/0305735617715514

Landeiro, F., Barrows, P., Nuttall Musson, E., Gray, A.M., & Leal, J. (2017). Reducing social isolation and loneliness in older people: A systematic review protocol. *BMJ Open*, 7:e013778.

https://doi.org/10.1136/bmjopen-2016-013778

Lee, A. (2013). The music al experiences, motivations and preferences of positive ageing in Taiwan. International Journal of Community Music, 6(1):72-92.

https://doi.org/10.1386/ijcm.6.1.79_1

Lee, J., Davidson, J., & Krause, A. (2016). Older people's motivations for participating in community singing in Australia. *International Journal of Community Music*, 9(2):191-206.

https://doi.org/10.1386/ijcm.9.2.191_1

Li, S., & Southcott, J. (2015). The meaning of learning piano keyboard in the lives of older Chinese people. *International Journal of Lifelong Education*, 34(3):1-18.

https://doi.org/10.1080/02601370.2014.999361

Lockwood, C., Munn, Z., & Porritt, K. (2015). Qualitative research synthesis: Methodological guidance for systematic reviewers utilizing meta-aggregation. *International Journal of Evidence Based Healthcare*, 13(3):179-187.

https://doi.org/10.1097/XEB.0000000000000062

Lum, C. (2011). Reflective Dialogues in community music engagement: An exploratory experience in a Singapore nursing home and day-care centre for senior citizens. *International Journal of Community Music*, 4(2):185-197.

MacDonald, R., Kreutz, G., & Mitchell, L (eds.). (2016). Music, Health, and Wellbeing. Oxford: Oxford University Press.

Maury, S., & Rickard, N. (2022). The benefits of participation in a choir and an exercise group on older adults' wellbeing in a naturalistic setting. *Musicae Scientiae*, 26(1):144-171.

https://doi.org/10.1177/1029864920932633

Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., *et al.* (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematic Reviews*, 4(1):1.

https://doi.org/10.1186/2046-4053-4-1

OECD. (1996). Lifelong Learning for All: Meeting of the Education Committee at Ministerial Level. Paris: OECD. Available from: http://hdl.voced.edu.au/10707/97779 [Last access on 2023 Sep 26].

Page, M.J., Moher, D., Bossuyt, P., Boutron, I., Hoffmann, T.C., Mulrow, C.D., *et al.* (2021). PRISMA 2020 explanation and elaboration: Updated guidance and exemplars for reporting systematic reviews. *BMJ*, 372:n160. https://doi:10.1136/bmj.n160

Pearce, E., Launay, J., Machin, A., & Dunbar, R.I.M. (2016). Is group singing special? Health, well-being and social bonds in community-based adult education classes. *Journal of Community and Applied Social Psychology*, 26(6):518-533.

https://doi.org/10.1002/casp.2278

Perkins, R., & Williamon, A. (2014). Learning to make music in older adulthood: A mixed-methods exploration of impacts on wellbeing. *Psychology of Music*, 42(4):550-567.

https://doi.org/10.1177/0305735613483668

Petrovsky, D.V., Sefcik, J.S., & Cacchione, P.Z. (2020). A qualitative exploration of choral singing in community-dwelling older adults. *Western Journal of Nursing Research*, 42(5):340-347.

https://doi.org/10.1177/0193945919861380

Pfaller, L., & Schweda, M. (2019). Excluded from the good life? An ethical approach to the conceptions of active ageing. *Social Exclusion*, 7(3):44.

https://doi.org/10.17645/si.v7i3.1918

Pike, P.D. (2011). Using technology to engage third-age (retired) leisure learners: A case study of a third-age MIDI piano ensemble. *International Journal of Music Education*, 29(2):116-123.

https://doi.org/10.1177/0255761410396965

Pitts, S.E., & Robinson, K. (2016). Dropping in and dropping out: Experiences of sustaining and ceasing amateur participation in classical music. *British Journal of Music Education*, 33(3):327-346.

https://doi.org/10.1017/S0265051716000152

Pitts, S.E., Robinson, K., & Goh, K. (2015). Not playing any more: A qualitative investigation of why amateur musicians cease or continue membership of performing ensembles. *International Journal of Community Music*, 8(2):129-147.

Powell, J., & Gilbert, T. (2009). Aging and Identity: A Dialogue with Postmodernism. United States: Nova Science.

Redman, D.J., & Bugos, J.A. (2019). Motivational factors in adult, auditioned community choirs: The power of aesthetic experiences. *Psychology of Music*, 47(5):694-705.

https://doi.org/10.1177/0305735618774900

Reese, J. (2019). Uke, flow and rock'n'roll. *International Journal of Community Music*, 12(2):207-227.

https://doi.org/10.1386/ijcm.12.2.207_1

Rohwer, D. (2017). A narrative investigation of adult music engagement. *International Journal of Music Education*, 35(3):369-380.

https://doi.org/10.1177/0255761416667466

Roy, M., Devroop, K., & Bohn, A. (2019). The positive impact of African drumming on elderly participants' mood and demeanour. *Muziki*, 16:113-125.

https://doi.org/10.1080/18125980.2020.1794945

Schuller, T., & Watson, D. (2009). Learning through Life: Inquiry into the Future for Lifelong Learning: Summary. Leicester: National Institute of Adult Continuing Education.

Sirek, D. (2018). Our culture is who we are! "Rescuing" Grenadian identity through musicking and music education. *International Journal of Music Education*, 36(1):47-57.

https://doi.org/10.1177/0255761417703783

Smith, D.S. (2012). A year with the senior center band: Facing aging head on. *International Journal of Community Music*, 5(3):279-287.

Söderman, J., & Westvall, M. (2017). Community music as folkbildning: A study of a Finnish Cultural Association in Sweden. *International Journal of Community Music*, 10(1):45-58.

https://doi.org/10.1386/ijcm.10.1.45_1

Southcott, J., & Li, S. (2018). Something to live for: Weekly singing classes at a Chinese university for retirees. *International Journal of Music Education*, 36(2):283-296.

https://doi.org/10.1177/0255761417729548

Southcott, J., & Joseph, D. (2015). Singing in la voce Della Luna Italian women's choir in Melbourne, Australia. International Journal of Music Education, 33(1):91-102.

https://doi.org/10.1177/0255761414546244

Southcott, J., & Nethsinghe, R. (2019). Resilient senior Russian-Australian voices: "We live to sing and sing to live". Applied Research in Quality of Life, 14(1):39-58.

https://doi.org/10.1007/s11482-017-9580-1

Talbert, M.D., & Edelman, P.B. (2018). An investigation into current practices and participation in New Horizons chamber music. *International Journal of Community Music*, 11(2):213-223.

Taylor, A. (2010). Participation in a master class: Experiences of older amateur pianists. *Music Education Research*, 12(2):199-217.

https://doi.org/10.1080/14613801003746576

Taylor, A. (2011). Continuity, change and mature musical identity construction: Using 'Rivers of Musical Experience' to trace the musical lives of six mature-age keyboard players. *British Journal of Music Education*, 28(2):195-212.

https://doi.org/10.1017/S0265051711000076

Taylor, A. (2012). Using repertory grids to explore musical skills and attitudes in a mature-age adult at the early stages of learning for self-fulfilment: A case study of James. *British Journal of Music Education*, 29(2):233-250.

https://doi.org/10.1017/S0265051712000010

UNESCO. (2010). Seoul Agenda: Goals for the Development of Arts Education. Available from: https://unesdoc.unesco.org/ark:/48223/pf0000190692/PDF/190692eng.pdf.multi [Last access on 2023 Sep 26].

Varvarigou, M., Hallam, S., Creech, A., & McQueen, H. (2013). Different ways of experiencing music-making in later life: Creative music sessions for older learners in East London. *Research Studies in Music Education*, 35(1):101-118.

https://doi.org/10.1177/1321103X13478863

Walker, A. (2014). The New Science of Ageing. England: Policy Press.

Wehr, E.L., & Coffman, D.D. (2018). Vision experiences and participation in a New Horizons Band. *International Journal of Community Music*, 11(2):225-235.

Woodward, K. (1999). Figuring Age. Women, Bodies, Generations. Indiana: Indiana University Press.

Woody, R.H., Fraser, A., Nannen, B., & Yukevich, B. (2019). Musical identities of older adults are not easily changed: An exploratory study. *Music Education Research*, 21(3):315-330.

Zimmer, L. (2006). Qualitative meta-synthesis: A question of dialoguing with texts. *Journal of Advanced Nursing*, 53: 11-18.

https://doi.org/10.1111/j.1365-2648.2006.03721.x.

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RESEARCH ARTICLE

The right to lifelong learning: Addressing policy challenges for late-life learning in Canada

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Abstract

Lifelong learning is essential to support optimum development, cope with life challenges, improve healthy autonomy and contribute to a just, sustainable, and prosperous society. The value of the legal right to lifelong learning is not well understood, tested, or applied, as lifelong learning is rarely extended to all people till the end of life. Education or learning was formally accepted as a human right under the Universal Declaration of Human Rights of 1948. Together with UNESCO Recommendation against Discrimination in Education (1960), these two international agreements ensure access, relevance, and equity of lifelong learning. Possible reasons for low compliance and slow implementation of lifelong learning to the end of life are discussed. Canada's efforts can serve as a model for lifelong learning policies for later life because, as a federated country, it requires national and provincial laws to work together to achieve the same desired outcome for lifelong learning across thirteen different provinces and territories. Furthermore, for the first time, the 2021 Canadian census provided detailed data for the population aged 65–100 years, and it supports evidence-based policy development regarding for whom, when, what, when, where, and how lifelong learning outcomes can be provided nationally. A combination of need and capacity is a better measure than determining eligibility by age 65–100 years, and the quality of learning should be based on responsiveness to specific needs and its relevance to learners in the last four decades of life. The needs for knowledge range from life management, personal growth, societal contributions, and legacy for the future. Learning options should be continuous, encourage individual choice, and rely on geragogy. To be equitable, learning in later life should be delivered in formal, non-formal, or informal means in residential and institutional settings.

Keywords: Late-life learning; Human rights; Disaggregated data; National policy

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1. Introduction

Lifelong learning is, by definition, a learning process that lasts till the end of life. It was not a concern when human life expectancy after World War II was around 65 years, covering the working years. However, the life span is growing globally due to better health and living conditions. The number of centenarians is projected to grow from about half a million today to almost 3.7 million in 2050 (Stepler, 2016). Life expectancy after retirement is projected to be as much as 25 years (OECD, 2011), and lifelong learning has to continue throughout life.

As longevity grew, it was possible to delay the provision of learning for people in the later years while gaining a better understanding of the need for learning during the later years and the appropriate process to provide it. Research was conducted to determine if learning was even necessary at this stage and, if so, what purposes it would serve for older persons and society. However, the context has changed. The imperative for late-life learning policy is now additionally impelled by human rights rather than purely societal requirements or optional policies. It is clear that the current learning infrastructure and practices are not designed for the later decades in a century of life. The right to learning requires a systemic approach to learning provision throughout life for all citizens.

1.1. Two international instruments for the right to education

When the Universal Declaration of Human Rights was adopted in 1948, education or learning was formally recognized as a human right – The first international instrument. Article 26 stated that learning should be provided through the stages of life, though it did not specify until the end of life (United Nations, 1948). The right to learning values the individual's dignity and ensures optimum development. Learning was seen as vital for all individuals, particularly because knowledge is necessary for accessing other interdependent civil, political, economic, and social rights (United Nations, 1948). Individuals are seen as active agents in their own learning to thrive, participate and contribute to the societies in which they live. As a legal right, compliance by signatory countries was obligatory.

Universal human rights have specified principles that must be understood for policy development and national governance. They are: (i) Universality and inalienability; (ii) indivisibility; (iii) interdependence and inter-relatedness; (iv) equality and non-discrimination; (v) participation and inclusion; (vi) empowerment; and (vii) accountability and the rule of law (United Nations Population Fund, 2005). These overarching principles govern the way in which other related United Nations (UN) treaties that govern human rights are conceived and implemented.

The Universal Declaration adopted in 1948 states that human rights are the rights inherent to all human beings, regardless of race, sex, nationality, ethnicity, language, religion, or any other status but does not specifically mention age and other conditions such as disability. Later, additional international conventions, such as the Convention on the Rights of the Child (1989), offered protection for vulnerable groups such as girls and women, children, and persons with disabilities. There are efforts currently to formulate a convention on the rights of older persons so that there will be one comprehensive legal international treaty for their protection (Coalition to Strengthen the Rights of Older People, n.d.).

The second international instrument focuses on discrimination in education. This convention against discrimination in education contains 19 articles that define discrimination and the goals and policies of education systems free from discrimination. The Recommendation against Discrimination in Education was adopted by UNESCO's General Conference on December 14, 1960. Countries agree to respect, protect and fulfill this right, and they are obliged to make national commitments for compliance. One hundred and seven countries have ratified the convention and enshrined the right to education without discrimination in their constitutions (UNESCO, n.d.). All countries in the world have ratified at least one treaty covering certain aspects of the right to education. UNESCO regularly monitors the implementation of the Convention and the Recommendation against Discrimination in Education to hold all countries accountable through legal mechanisms. At the international level, human rights mechanisms are competent to receive individual complaints and have settled the right to education breaches. Where the right to education has been violated, citizens are able to have legal recourse before the courts of law (United Nations, 1999).

There is increasing clarity in the way the rights are expressed with time. The right to education and learning are not the same, and the UN Sustainable Development Goals (SDG) list them both (UNESCO, 2015). The right to lifelong learning is associated with the life outcomes of individuals, while the right to education is a societal or institutional means to assure it. The United Nations expects each country to choose its own approach to resource and implement the way these rights are guaranteed to its citizens.

In 2015, world leaders agreed to 17 interrelated SDGs to create a better, fairer world by 2030 (United Nations, 2015). SDG 4 states: "Ensure inclusive and equitable quality education and promote lifelong opportunities for all" (United Nations, 2015). Target 4.7 reads: "By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and culture's contribution to sustainable development" (United Nations, 2015).

However, the value of the legal right to lifelong learning is not well understood, tested, or applied. Some advocates

are working to make the rights for lifelong learning stronger and legally binding.

1.2. Low compliance and slow implementation of lifelong learning

Several shortcomings and gaps in the protection of the human rights of older persons have been noted. The human rights of individuals are to be respected until the end of life. However, the obligation of countries is not established internationally, nor are they confirmed in national laws. Among the top reasons are that the rights are in multiple international treaties, promulgated by different UN agencies without a common legal framework. There are no specified norms, penalties for infractions, or standards in international law, which are described as "the normative gap" (Coalition to Strengthen the Rights of Older People, n.d.). Due to this multiple and fragmented systems of laws, countries opt out of some. Compliance becomes voluntary and not legally binding. Furthermore, countries could be exempt from the monitoring and reporting regimes that are associated with only some of the treaties. For instance, in many countries, it is unlikely that Target 4.7 of SDG 4 will be met so that lifelong learning will be available to the end of life by 2030. Older people could go to court in a class action lawsuit to claim non-compliance and a violation of human rights to ensure equal access to lifelong learning, but currently, the legal options are complicated.

2. The right to lifelong learning in Canada

Canada is a large federated country, with ten provinces and three territories, with a diverse multicultural population speaking two official languages. Canada has a national Charter of Rights and Freedoms, as well as human rights legislation (Canadian Charter of Rights and Freedoms, 1982). Every province and territory has its own set of legislation governing human rights and education. Due to the complexity of the federation, Canada is not a signatory of the Convention against Discrimination in Education but complies with the recommendations and reports regularly to UNESCO (Council of Ministers of Education Canada [CMEC], 2018).

Education is a significant human right in Canada. Governments in Canada have established a solid legal framework through legislation at the federal, provincial, and territorial levels that firmly entrenches equality in all spheres of life, including education or learning. Rather than focus on discrimination, Canadian governments recognize education as a fundamental social good, striving for a system which provides equitable and fair access to quality education for all at every level (CMEC, 2018). The effort is directed at ensuring investment and equal opportunities for success. The goal is to provide quality education through collaborative efforts by governments, civil society, and actors in the education system to ensure Canadians are equipped for life in modern society and can contribute to society throughout their lives.

2.1. Objectives

Some promising conditions make Canada unusually well-placed to pioneer a framework for lifelong learning that includes people 65–100 years. Such upstream thinking can be helpful for the international sharing of ideas regarding policy and infrastructure for full-fledged lifelong learning till the end of life. First, there are 7 million people aged 65–100 years in Canada, forming 18% of the population (Table 1). It would not be possible to claim a policy for lifelong learning if almost one-fifth of the population had no provision for learning. Societal costs are high if there is an asymmetry in knowledge and skills between cohorts resulting in a generation gap. Second, the policy would have to serve a multicultural and multilingual population which requires a level of complexity for delivery. Many other countries are experiencing increased migration, too, and are likely to face similar situations. Third, Canada has a fairly well-developed education system (CMEC, 2018), and those aging out of the system into old age would demand such services. Fourth, while the UN Declaration of Human Rights does not specify age as a basis for discrimination, the Canadian Charter of Rights and Freedom does. Fifth, developing a policy framework without granular data for the population aged 65–100 years would be difficult.

In 2021, for the first time, the Canadian Census provided preliminary disaggregated data on this population group (Statistics Canada, 2022a). These data can drive discussion on a policy framework regarding whom, what, when, where, and how lifelong learning can be provided in later life. Most countries only report aggregated data on the population aged 65 years and over. With these points

Table 1. Age distribution of the Canadian population aged 65–100 years and over by 5-year cohorts, Census 2021

Age	Total	Men	Women
65 years and over	7,021,430	3,224,680	3,796,745
65–69 years	2,210,975	1,065,305	1,145,670
70–74 years	1,847,580	879,845	967,735
75–79 years	1,260,935	589,090	671,845
80–84 years	840,550	370,900	469,645
85–89 years	525,440	212,740	312,700
90–94 years	258,035	87,305	170,730
95 – 99 years	68,385	17,670	50,710
100 years and over	9,540	1,825	4,660

Source: Statistics Canada (2022c): Canadian census 2021.

in mind, a policy framework in compliance with the human right to education could be developed for lifelong learning. The objective of the present study is to develop a preliminary model framework of rights-based lifelong learning based on national statistics that would extend lifelong learning to the end of life.

2.2. Principles for a rights-based approach to late-life learning

Since learning is one of the universal rights, every individual is entitled to it. It is inalienable, which means that once granted to an individual, it cannot be extinguished or removed due to age. As entitled individuals, they do not need to claim it or activate it. Strong evidence is that late-life learning improves economic, social, and civic outcomes (AARP Research, 2022; Boulton-Lewis, 2010). Therefore, the right to learning is strongly interrelated with other rights. Since all individuals are equal under human rights law, neglecting people's late-life learning would be considered discrimination due to age. Older persons could make free and autonomous decisions regarding their learning and be entitled to meaningful societal participation and opportunities for contribution to other spheres of life, such as paid or unpaid work, civic activities, and social engagement. Compliance with learning rights by governments and education-related organizations will be a challenge because completely new learning opportunities may have to be created for later life within these strict requirements. A rights-based approach should ensure access, relevance, and equity of lifelong learning opportunities for all members of this population group, and governments can be held accountable for such provision.

2.3. Data evidence for the policy framework

Statistical data systems were set up decades ago, and the general standard since then was to present aggregated data on those 65 years and over since it was a minor proportion of the population. Due to population aging, this segment is now large and continues to grow. For the first time, preliminary Canadian census 2021 data were used to provide a more comprehensive picture of the population aged 65–100 years. Although the granularity and variables are not as rich as for other age groups, this is a great advancement recognizing the importance of such data for many policies of all levels of government for this population group. More detailed disaggregated data for statistical analysis would be required for the development of evidence-based learning policies and programs for later life for action by governments.

A descriptive analysis of these preliminary data is used in this paper to discuss objectives for policy goals for late-life learning and the potential infrastructure for delivery.

2.3.1. Available data on the population aged 65–100 years (and over) from the Canadian Census 2021 and related collections

The policy framework requires the analysis of available data to determine the size of the policy target group, the diversity of the population segment, the relative distribution of needs and demands, the potential nature of the response, equity in provision and outcome compared with other population groups, and the degree of defensible legal compliance.

2.3.1.1. Size and proportion of the population aged 65–100 years

The size and relative proportion of the population aged 65 – 100 years is essential to plan for the target clientele to be served and to ensure fairness and equity relative to other groups since they all enjoy the same right. The provision of learning opportunities, however, has to be related to the priorities of their stage of life.

There were 7 million Canadians aged 65–100 years, compared to 6 million children under the age of 15 years. In 2020, 15.9% of the population was aged 0 to 14 years, 66.1% fell into the 15 to 64 age group, and 18.0% were 65 years and over (Statistics Canada, 2021b).

2.3.1.2. Age distribution of the population aged 65–100 years

Eligibility for a targeted policy will depend on the age distribution within this older population. There is a vast difference in the need and purpose for learning between 65 year olds and 95 year olds. Further, they are likely the most diverse population group because of their varied work and learning backgrounds and because they develop additional intersectionalities such as disability and changed economic status (including retirement) over decades of life. Living "century lives" is no longer rare. There were over 9500 centenarians living in Canada in 2021–a 16% increase from 2016. Centenarians represent 0.03% of the Canadian population (Statistics Canada, 2022c). Table 1 presents the age distribution of the population aged 65–100 years and over from the Canadian Census 2021.

The data were also available by single years of age and gender. Table 2 presents the data for the subsample of Canadians aged 90–100 years. Single-years-of-age data are useful for examining policy impacts. For example, the number of Canadians impacted at 71 years, when they have to stop contributing to tax-free savings and start withdrawing funds which are taxed as income, can be seen. The average national life expectancy at birth in 2020 was estimated to be 81.7 years, down from 82.3 years the year before due to the COVID pandemic but is expected to return to pre-pandemic levels once the health crisis recedes (Canadian Broadcasting Corporation, 2022;

Table 2. Number of Canadians 90 years and over by single age, Census 2021

Age	Total	Men	Women
90	73,790	27,050	46,740
91	60,655	21,065	39,585
92	49,550	16,215	33,335
93	41,235	12,880	28,355
94	32,805	10,095	22,715
95	25,445	7,245	18,200
96	16,320	4,250	12,070
97	12,125	2,940	9,185
98	8,555	1,960	6,590
99	5,940	1,280	4,660
100 years and over	9,540	1,825	7,705

Source: Statistics Canada (2022d): Canadian Census 2021.

Statistics Canada, 2022b). However, Canadians are likely to live for two decades after age 65, and they need knowledge about the world in which they live. The age distribution is important because, though some characteristics and conditions increase with age, individual needs may not be strictly associated with age, and learning opportunities must be matched with need rather than age.

By 2030, one in four Canadians will be 65 years and over, and those in this age group will have aged during this time period. A measure of the growth rate of the population aged 65 – 100 years and over is essential so that provision of appropriate learning opportunities keeps pace with the increase in age cohorts. The population aged 85 and older is one of the fastest-growing age groups, increasing by 12% from 2016 to 2021. Furthermore, it is projected to grow at an even faster pace, growing at a rate of 15.9% between 2021 and 2026, 24.7% between 2026 and 2031, and 32.7% between 2031 and 2036 (Statistics Canada, 2022). Learning infrastructure will have to first meet current needs and then grow at the same graduated pace with a focus on opportunities for those aged over 85 who are growing the fastest.

Since women tend to outlive men, many end up living alone, affecting their access to learning opportunities. The majority of people aged 65 – 100 years and over are women, but the number of men in this age group is increasing at a faster pace, particularly at older ages. In 2021, for those aged 85 and over, there were 1.7 women for every man, compared to 1.9 women for every man in 2016. This trend is more evident among centenarians. In 2016, there were over five women for every man aged 100 and over, but by 2021, the ratio had declined to four women for every centenarian man (Statistics Canada, 2022a). See also

Table 3. Percentage of population aged 65 and over in Canadian provinces and territories, 2021

Canadian provinces and territories	Percentage of population aged 65 and over
Newfoundland and Labrador	23.1
Prince Edward Island	20.2
Nova Scotia	21.8
New Brunswick	22.5
Quebec	18.0
Ontario	18.8
Manitoba	16.5
Saskatchewan	16.7
Alberta	14.4
British Columbia	19.7
Yukon	13.8
Northwest Territories	9.3
Nunavut	4.1

Source: Statistics Canada (2021c).

gender data in Table 1. Still, opportunities must meet the specific needs of widows or women living alone.

2.3.1.3. Geographic distribution

The spatial distribution shows the number of older people in each province. Except for the three northern Territories (Yukon, Northwest Territories and Nunavut), every province had more than 10% of their population aged 65 and over in 2021. In the Atlantic provinces (Nova Scotia, New Brunswick, Prince Edward Island, and Newfoundland and Labrador), a fifth of the population was aged 65 and over (Table 3). The lack of learning opportunities for this group would cause not only inequitable access between generations but also affect the economic and social outcomes of the whole population.

2.3.1.4. Selected health conditions experienced by Canadians 65–100 years and over

The aging process can have varying impacts on Canadians 65–100 years and over in terms of health. The vast majority of them are able to conduct activities of normal life, including learning, despite experiencing aging-related health conditions and changing mobility capabilities. Under the human rights approach, no assumptions can be made that those with health conditions or limitations will not be learners. Although small minorities (under 5%) suffer from illnesses such as dementia that could prevent them from taking advantage of learning opportunities, the vast majority are eligible for them. Illnesses that could impact cognitive development and chronic conditions

Table 4. Selected illnesses and chronic conditions of Canadians 65 and over (2019/2020)

Health condition	Total		Men		Women	
	Number	%	Number	%	Number	%
Illnesses						
Parkinson's disease	56,200	0.9	36,300	1.2	19,900	0.6
Alzheimer's disease	140,400	2.2	58,500	2	81,900	2.4
Stroke effects	262,900	4.1	140,400	4.7	122,500	3.6
Chronic conditions						
High cholesterol	2,855,900	29.2	966,100	12.7	889,800	26.2
High blood pressure	2,810,700	43.8	1,293,400	43.4	1,517,300	44.2
Osteoporosis	893,400	14.0	138,700	4.6	754,700	22.2
Arthritis	2,980,700	46.5	1,142,800	38.3	1,837,900	53.6
Diabetes	1,217,200	18.9	680,700	22.7	536,600	15.6
Heart disease	973,300	15.2	557,000	18.8	416,300	12.2

Source: Statistics Canada (2021a). Note: Illnesses that could impact cognitive development and chronic conditions (prevalence of over 10%), which could affect residential decisions of people 65 years, were selected.

(prevalence of over 10%), which in turn could affect residential decisions of people 65 years and over, are presented in Table 4.

2.3.1.5. Location

The provision of learning can occur in institutions of learning, community facilities, or dwellings (Findson & Formosa, 2011). To plan for equal access, it is necessary to know where members of this population segment live and how capable they are of accessing learning in locations outside their homes.

The vast majority of people 65 and over prefer to age in place in their own dwellings. Table 5 shows the number of Canadians aged 65 and over who continue to live in their own homes with the help of home adaptations and care from family and community sources. About two million of them have adapted their homes. There are more women than men in every category, indicating that more women live in the community than men.

A significant number of people aged 65 and over possess a valid driver's license, but it likely declines as individual's age. Furthermore, some older drivers tend to drive short distances and prefer not to drive at night. The number of Canadians aged 65 and over with a valid driver's license is shown in Table 6.

Due to health status and need for care, the move to collective dwellings increases with age. In 2021, almost 238,000 Canadians aged 65 and over (28%) lived in retirement residences, long-term care facilities, or nursing homes. While 20.5% of those 85–89 years lived in such collective dwellings, the percentage rose to 36.4% among 90–95 year olds and 45.8% among 96–99 year olds (Statistics Canada, 2022a). Among centenarians, about half (53.7%) lived in collective dwellings. The learning needs of those living in collective dwellings may differ from those aging in place, in terms of both content and provision.

2.3.1.6. Productive activity and contribution to society

Continuous learning is important for individuals to function in a dynamic society and make meaningful contributions to the community. During the 20 to 40 years between age 65 and the end of life, Canadians in this age range logged the most average volunteer hours (221), although they had a lower volunteer rate (32%) as shown in Table 7.

3. Framework for late-life learning policy development

A policy framework examines the objectives against statistical information to better develop policy initiatives with high odds of success. The preliminary data from the Canadian Census 2021 can be used to draft such a policy framework. The framework is based on a system which would rely on the independent learning decisions of the learner rather than the provider and not be associated with a process such as rehabilitation. It provides some guidelines that indicate the level of policy effort that would be required, the factors, such as functional ability, geographic location, and living arrangements) that would affect the cost per person for developing a budget, and the potential indicators for monitoring and evaluation when designing potential policy actions or programs. While later policy development will be based on detailed data analysis and research evidence, the framework narrows down the canvas and provides some indications of the potential types of client demand.

Table 5. Use of dwellings and services by Canadians aged 65 and over (2019/2020)

Descriptor	Total		Men		Women	
	Number	%	Number	%	Number	%
Home has adaptations	1,985,400	31.0	762,000	25.6	1,223,400	35.7
Assistance from family, friends, or neighbors for health problems or limitations in the past 12 months	1,058,300	16.5	354,700	11.9	703,600	20.5
Assistance from community support services in the past 12 months	579,800	9.0	208,100	7.0	371,700	10.8

Source: Statistics Canada (2022d).

Table 6. Canadians 65 and over who possess a valid driver's license (2019/2020)

Descriptor	Total		Men		Women	
	Number	%	Number	%	Number	%
Valid driver's license	5,274,400	82.0	2,685,100	89.7	2,589,300	75.4

Source: Statistics Canada (2021a).

3.1. Rationale

During the last 20 years of life, learning cannot be denied to Canadians because they have to understand the world they live in (for example, climate change), adapt to societal changes that affect their quality of life (for example, online grocery shopping), participate as Canadian citizens (for example, voting) and continue their personal growth to ensure a meaningful life.

Furthermore, by 2030, a quarter of the population will fall into this age group. From a practical standpoint, ensuring an inclusive policy that allows meaningful societal participation and contributions from this group makes sense. They are also active voters.

Learning is a human right: Canadian human rights legislation prohibits discrimination by age. Access to knowledge for all citizens is a right, particularly because knowledge is necessary to access other interdependent civil, political, economic, and social rights.

3.2. Target clientele

Canadians in later life are a large and under-served group in terms of learning opportunities, particularly those in the older decades. There are about 7 million potential learners in this population group aged 65 years to 100 (and over) (Table 1), and only about 500,000 of them could have conditions that would affect their cognitive capabilities. Their numbers are projected to grow to 9.5 million by 2030 when they will be one-fourth of the population. There are insufficient learning opportunities at present, but any new or augmented system for late-life learning has to be scaled up rapidly to meet current needs and continue to increase until 2030.

3.3. Equity

While equity results from the fair sharing of benefits through policy, inequities can be created either by a lack of policies or through poor policies disadvantaging a particular population group compared to others. Inequities can also result from poor policy performance due to the inability to handle the volume of demand or appropriate provision. For instance, there are consequences to aging persons and society if learning does not sufficiently support successful aging and the ability to contribute to society. Normal aging does not include cognitive deterioration but rather changes in the way the brain functions. This was demonstrated by the Seattle long-run longitudinal study of older adults (Schaie & Willis, 2010). The lack of necessary learning can reduce their autonomy, life expectancy, and quality of life. The value of the cognitive reserve of older people to society is diminished. Furthermore, in addition to the lost opportunity, learning poverty results in additional costs to society due to higher demands for healthcare, social services, and financial support.

Equity between generations and within the generation has to be considered. The learning needs of the population of children under 15 are well developed and funded, though it is smaller (16%) compared to the group 65 years to 100 years and over, which is larger (18%) (Statistics Canada, 2023). It can be argued that since everyone ages, investments in late-life learning benefit everyone when examined from a lifetime perspective. The current learning infrastructure progressively weakens from K-12 education and higher education when supporting the needs of adults in the workforce and post-retirement. For example, while almost all children attend school, less than a third of adults participate in training (Munro, 2019). Equity within this population group is also an issue because those in the 60–69 age group may have better opportunities than those older.

3.4. Access

Access is a measure of the ability of the targeted population group to find, choose, and use the learning options in a manner that meets their needs and ability. This means that information about late-life learning must be available to this group. At present, there are a few channels to reach them.

Table 7. Formal volunteer rates and hours by the Canadian baby boomer generation and the mature generation (2018)

Participation in formal volunteer activities	Baby boomers, born 1946–1965, currently aged 56–75 years	Mature generation born 1918–1944, currently aged 76–103 years
Total population (thousands)	9348	3148
Number of volunteers (thousands)	3608	996
Volunteer rate (%)	39	32
Total hours volunteered (thousands)	552	221
Full-time, year-round job equivalents (jobs)	287,451	115,114
Average hours volunteered per year (hours)	153	222

Source: Hahmann (2018).

For instance, the Government of Canada used full-page newspaper advertisements (covering the importance of exercise and avoiding internet scams) to reach them, which is generally inefficient compared to targeted dissemination. For this group, both accessible location and mode have to be considered. Private or public transportation to the learning location and a barrier-free learning venue would be essential. Although 82% of the people in this group have a valid driver's license (Table 6), they may be reluctant to drive if the options are located far away or at night. Remote learning may not be a reliable strategy for this group as they may not have broadband internet or digital appliances. Many of them have never learned digitally and may not have the required skills. Furthermore, a substantial proportion, ranging from 20% of the generation in their sixties – 50% of those in their nineties, lives in collective dwellings. They may be captive to only offers in their institution and may not be able to engage in self-directed learning or have the skills for remote learning.

The British Inquiry into the Future of Lifelong Learning (Schuller & Watson, 2009) showed that <15% of people over 75 take advantage of learning opportunities, based on research in the UK. Many older adults may find it difficult to participate in formal learning (Bjursell *et al.*, 2017). In general, older people with more education make an effort to engage in learning. Institutions such as Universities of the Third Age serve an important role, but their clients tend to be white, middle class, often women, and obviously mobile enough to attend the institution (Formosa, 2019). Access strategies for late-life learning may require that the same learning products may require a mix of modalities such as formal learning in institutions or community locations, learning opportunities brought into collective dwellings as well as some remote learning.

3.5. Appropriateness

The provision of learning opportunities must be appropriate to the needs of this population segment to ensure uptake as well as positive learning outcomes. The learning system is generally based on products and processes for a single age or single generation, for example, pre-schoolers. When needs are diverse in terms of content, timing, methods, and purpose, as it is for working adults, ensuring appropriateness is a challenge. In the late-life population segment, chronological age is a poor indicator of need. Furthermore, the group is extremely diverse in terms of past education, life experience, intersectionality, cognitive and sensory capacities, and needs, so a customization strategy rather than client segmentation would be practical. This means that the array of choices has to be wide to meet the needs of the entire 7 million in later life. Taking gender as an example, it is well known that women live longer, which means that more women are likely to be widowed and live alone than men, and their needs change with age. More women tend to have chronic conditions such as osteoporosis (22%) and arthritis (54%) (Table 4), both of which can affect mobility and the need for barrier-free environments for both living and learning. Hence, it is unsurprising that 10% more women live in homes that have been adapted than men (26%, compared to 36% of women). Perhaps due to their longer life expectancy, 100,000 fewer women than men have driver's licenses (Table 6). It is likely that older cohorts in this group have less education and less income, too. Physical ability among both men and women could range from marathon runners to those with very limited mobility who spend most of their time in bed. For the latter, private tutoring or bedside consultation may provide information on topics such as bed exercises and palliative care. These gender factors could be considered in combination for an effective product. Regardless of prior knowledge or education of the learner, a formal course would be appropriate if learning is based on easy-to-understand progression using repetition and reinforcement (varying cognitive skills), relies on discussion and sharing in a small group (the ability for reflection and integration), visual aids adapted in terms of font size, sound quality, volume, and speed of scrolling (sensory limitations), and have the possibility for self-pacing (low stamina and concentration).

The potential for digitally supported learning and online learning can potentially grow in popularity as more people gain digital skills before aging. Older people are one of the fastest-growing clients to use digital gadgets and the internet. Statistics Canada reported that between 2013 and 2016, internet use rose from 65% to 81%, while among those aged 75 and older, usage rose from 35% to 50% (Statistics Canada, 2017). Online learning could be a solution for older people who are less mobile, who use wheelchairs, or who are in bed, but the long screen times can be difficult. Personal scheduling flexibility is offered so that learners can log on at convenient times, from any location and different digital gadgets, and they can learn at their own pace. However, the older learner may be hampered by poor or unstable connectivity or expensive Wi-Fi connections. Furthermore, because of technical advances, there would be a need for continuous upgrading of digital skills.

3.6. Relevance

According to the World Health Organization, healthy aging is the process of developing and maintaining the functional ability that enables well-being in older age (Fallon & Karlawish, 2019). Learning must address the multiple roles people play in later life, not only for their own personal development but also for the benefit of society. People in later life volunteer a lot of time (equivalent to 402,565 full-time jobs (Hahmann, 2018), and learning can help them to make important choices to make their contributions worthwhile.

Four relevant learning goals are proposed for people in this population segment. These learning goals are linked with roles and examples of needs that are especially relevant to this segment and may be less interesting to younger people. So long as, there are good outcomes, the learning opportunities can be formal, non-formal, or informal. The offers have to include culture-sensitive products in official languages and, where necessary, other languages. Examples for each goal are provided below (Brink, 2021).

(i). Life management: For a successful later life, learning to understand aging in relation to an individual's specific situation to adapt to changes in the living context.
- *Managing health and well-being*: Understanding age-related health conditions; self-care, including diet and medication; exercise; fall avoidance; information on sensory loss and mitigation; palliative care; and maintaining an active social network.
- *Prudent financial management*: Personal finance–budgets, loans, taxes; pension management; investment instruments; divestment; prepaid funerals and burials; safe use of banking services; protection against scams, and fraud.
- *Wise consumption*: Cost and energy saving purchases–car, home insulation; informed decision about when and where to downsize or to move to collective housing; online purchasing of age-related products; medically assisted death.
- *Legal*: Purchase or sale of property; wills and estate planning, bequests, and donations.

(ii). Personal development: To lead a life of purpose by directing personal growth, first by understanding the economic and social context of their living environment to age successfully, and second, to develop one's interests, talents, and natural abilities to flourish in that context.
- *Understand the life-world context*. Information on political, social, and environmental matters; scientific advances related to health and aging; evaluate the accuracy, reliability, and credibility of information; media literacy.
- *Personal interests*. Updating skills; improving digital competence; passion projects such as memoir writing, genealogy, or painting; learning a second language.
- *Recreation and culture*. Visits to art museums, libraries; choices that increase social activity such as choirs and book clubs; learning through travel.

(iii). Societal contributions: To learn to maximize knowledge and abilities to contribute to family, community, and society commensurate with personal capacity.
- *Caregiving*. Caring for a spouse with special needs; seeking complementary professional and social services care (e.g., respite care).
- *Grandparenting*. Care and nurturing for the mutual benefit of child and grandparent.
- *Work*. Knowledge and skills that can be used for current occupation (full or part-time or consulting) or for a second (encore) career.
- *Volunteering*. Skills in demand in the community or online such as editing, teaching English/or other as a second language.

(iv). Legacy for the future: To transmit experience, ideas, and infrastructure for future generations.
- *Next generation*. Provide a family history, photographic record, inherited health conditions, family artifacts, and genealogy to younger generations.
- *Carriers of culture and tradition*. Transmit special knowledge, skills or trade, family traditions, traditional language, music, and cuisine to the larger family.

Table 8. Federal government's roles to establish and operate a late-life learning system to ensure lifelong learning

Role	Example potential policy actions for lifelong learning
Leadership	Make national pronouncements about vision and goals; facilitate the creation of late-life learning to complete the lifelong learning system; stable efforts for long term policy.
Coordinator	Integrate multi-sectoral late-life learning provisions by other actors such as municipalities, learning institutions, unions, employers, private companies, etc.
Interlocutor	Public consultations and consensus building; manage relationships with national organizations, mediate issues; build active networks.
Intergovernmental linkage	Alignment between multilateral government efforts for late-life learning; facilitate exchanges; sharing of resources.
Inform and educate	Exhort universal participation while explaining life-altering benefits; publicize opportunities; public information campaigns; highlight success stories.
Evidence generation	Collect data, conduct, and finance research to create evidence to support decision-making by all actors; evaluation of late-life learning programs; regular dissemination of research results.
Assuror	Assure the provision of choice and opportunities for all stages of life.
Quality assurance	Standards of provision, credentials, proficiency recognition; consumer protection; ensure a reasonable return on investment (fees, time, and effort).
Funder	Support the creation of late-life learning content; cost sharing with other levels of government, incentives to create a diversity of providers, grants, and subsidies to learners.
Operations	Operate late-life learning demonstration programs in public institutions.

Source: Brink, 2023.

- *Citizenship responsibilities*. Knowledge about current issues such as climate change; information to make good voting choices; socially responsible investment.
- *World citizen*. National and international philanthropy; activism for collective well-being and against ageism.

3.7. Infrastructure for learning provision

While it is clear that people in their later years are rights holders, it is more complicated to identify the duty bearers. Such comprehensive provision for late-life learning in a short time cannot be provided by any one sector; but rather by private, public, non-profit, and volunteer sectors combined. However, for successful provision, other supports are also necessary, such as training in geragogy available to teachers and a wide variety of professionals who provide expert and professional information.

3.8. Role of government

It is unlikely that the federal government will run a national program of late-life learning, particularly because education is a provincial responsibility. Such a complex and varied initiative requiring a diverse and trained workforce cannot be undertaken by the public sector alone; however, the federal government can actively play multiple roles to ensure that its responsibilities for lifelong learning rights are met. Table 8 enumerates the roles that government can undertake in establishing and operating a well-functioning lifelong learning system which includes later life.

4. Conclusions

The development of the policy framework for late-life learning with the help of preliminary census data has shown that it is a huge though worthwhile task to provide late-life learning for the successful development of Canadian citizens throughout life, resulting in national benefits. Ensuring that lifelong learning extends to include late-life learners is not a matter of including late-life learners in existing learning opportunities; rather, because of rising longevity, it is the creation of an effective late-life learning sector. This means additional public funds have to be allocated to partially finance late-life learning. Such investment is likely to find public acceptance for two reasons. First, people in later life are major contributors to the economy as consumers and taxpayers. Second, Canadians will benefit from late-life learning as they age. Though governments can take a leadership role, this would require multiple professionals and all sectors to work in a coordinated way to ensure learning for successful aging. While the framework provides guidance, the heavy work of policy development based on evidence, including the costs of policy options and the sharing of delivery, will have to be the next endeavor. Since the right to learning has been accepted, national governments are obliged to act to ensure compliance.

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Further disclosure

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References

AARP Research. (2022). Lifelong Learning among 45+Adults. Washington, D.C.: AARP National Office. Availble from: https://www.aarp.org/content/dam/aarp/research/surveys_statistics/life-leisure/2022/lifelong-learning-older-adults.doi.10.26419-2Fres.00526.001.pdf [Last accessed on 2023 Jun 02].

Bjursell, C., Nystedt, P., Björklund, A., & Sternäng, O. (2017). Education level explains participation in work and education later in life. *Educational Gerontology*, 43(10): 511-521.

Boulton-Lewis, G.M. (2010). Education and learning for the elderly: Why, how, what. Educational Gerontology, 36(3): 213-228.

https://doi.org/10.1080/03601270903182877

Brink, S. (2021). Lifelong Learning in Later Life: Active Aging Through Learning. EPALE Open Education Resource Blog. Available from: https://epale.ec.europa.eu/en/blog/lifelong-learning-later-life-active-aging-through-learning [Last accessed on 2023 Jun 02].

Brink, S. (2023). The Longevity Dividend: Later Life, Lifelong Learning and Productive Societies. Berlin: Springer.

Canadian Broadcasting Corporation. (2022). COVID-19 Blamed for Greatest Drop in Life Expectancy in Canada Since 1921. Available from: https://www.cbc.ca/news/canada/life-expectancy-covid-decrease-1.6326089 [Last accessed on 2023 Jan 24].

Canadian Charter of Rights and Freedoms, s 7, Part 1 of the Constitution Act. (1982). Being Schedule B to the Canada Act 1982 (UK) c 11.

Coalition to Strengthen the Rights of Older People. Strengthening Older Persons Rights: Towards a UN Convention. Availble from: https://www.ngocoa-ny.org/resources/documents/strengthening-rights/strengthening-rights-2--.pdf [Last accessed on 2023 Jun 02].

Council of Ministers of Education Canada (CMEC). (2018). Quality Education for All: Canadian Report for the UNESCO Ninth Consultation of Member States on the Implementation of the Convention and Recommendation against Discrimination in Education. Toronto, Canada: CMEC.

Fallon, C.K., & Karlawish, J. (2019). Is the WHO definition of health aging well? Frameworks for "Health" after three score and ten. *American Journal of Public Health,* 109(8): 1104-1106.

https://doi.org/10.2105/AJPH.2019.305177

Findson, B., & Formosa, M. (eds.). (2011). Formal and third age learning. In: Lifelong Learning in Later Life: A Handbook on Older Adult Learning. Rotterdam: Sense Publisher, p. 131-143.

Formosa, M. (2019). Universities of the third age. In: Gu, D., & Dupre, M.E. (eds.). Encyclopedia of Gerontology and Population Aging. Cham: Springer.

https://doi.org/10.1007/978-3-319-69892-2_412-1

Hahmann, T. (2018). Volunteering Counts: Formal and Informal Contributions of Canadians in 2018. Report 75-006-X. Canada: Statistics Canada. Available from: https://www150.statcan.gc.ca/n1/pub/75-006-x/2021001/article/00002-eng.htm [Last accessed on 2023 Jun 02].

Munro, D. (2019). Skills, Training and Lifelong Learning. Canada: Public Policy Forum.

OECD. (2011). Pensions at a Glance 2011: Retirement Income Systems in OECD and G20 Countries. Washington, D.C.: OECD Publishing. https:/doi/10.1787/pensions_glance-2011-en

Schaie, K.W., & Willis, S.L. (2010). The Seattle longitudinal study of adult cognitive development. ISSBD. Bull 2010;57:24-9.

Schuller, T., & Watson, D. (2009). NIACE Adult Participation in Learning Survey, 2009. United Kingdom: NIACE.

Statistics Canada. (2017). Life in the Fast Lane: How are Canadians Managing? 2016 The Daily. Available from: https://www150.statcan.gc.ca/n1/daily-quotidien/171114/dq171114a-eng.htm [Last accessed on 2017 Nov 24].

Statistics Canada. (2021a). Available from: https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310085001 [Last accessed on 2023 Jun 02].

Statistics Canada. (2021b). Distribution of Population by Age Group and Census Metropolitan Area, Canada. Available from: https://www150.statcan.gc.ca/n1/daily-quotidien/210114/cg-a002-png-eng.htm [Last accessed on 2020 July 01].

Statistics Canada. (2021c). Demographic Estimates by Age and Sex, Provinces and Territories. Available from: https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2020018-eng.htm [Last accessed on 2023 Jun 02].

Statistics Canada. (2022a). A Portrait of Canada's Growing Population Aged 85 and Older from the 2021 Census. Available from: https://www12.statcan.gc.ca/census-recensement/2021/as-sa/98-200-X/2021004/98-200-x2021004-eng.cfm [Last accessed on 2022 Apr 27].

Statistics Canada. (2022b). Deaths 2020: The Daily. Canada: Statistics Canada. Available from: https://www150.statcan.gc.ca/n1/daily-quotidien/220124/dq220124a-eng.htm [Last accessed on 2023 Jun 02].

Statistics Canada. (2022c). Table: 17-10-0005-01 (Formerly CANSIM 051-0001). Available from: https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710000501 [Last accessed on 2023 Jun 02].

Statistics Canada. (2022d). Age (in Single Years). Age and Median Age and Gender: Canada, Provinces and Territories, Census Divisions and Census Subdivisions. Available from: https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=9810002201 [Last accessed on 2023 Jun 02].

Statistics Canada. (2023). Older Adults and Population Aging: Statistics. Available from: https://www.statcan.gc.ca/en/subjects-start/older_adults_and_population_aging [Last accessed on 2023 Jun 02].

Stepler, R. (2016). World's Centenarian Population Projected to Grow Eightfold by 2050. Pew Research Center. Available from: https://www.pewresearch.org/fact-tank/2016/04/21/worlds-centenarian-population-projected-to-grow-eightfold-by-2050/ [Last accessed on 2023 Jun 02].

UNESCO. What You Need to Know about the Right to Education. Available from: https://www.unesco.org/en/articles/what-you-need-know-about-right-education [Last accessed on 2023 Jun 02].

UNESCO. (2015). SDG4-Education 2030, Incheon Declaration (ID). and Framework for Action. For the Implementation of Sustainable Development Goal 4, Ensure Inclusive and Equitable Quality Education and Promote Lifelong Learning Opportunities for All, ED-2016/WS/28. Available from: http://uis.unesco.org/sites/default/files/documents/education-2030-incheon-framework-for-action-implementation-of-sdg4-2016-en_2.pdf [Last accessed on 2023 Jun 06].

United Nations Population Fund. (2005). Human Rights Principles. Available from: https://www.unfpa.org/resources/human-rights-principles [Last accessed on 2023 Jun 02].

United Nations. (1948). Universal Declaration of Human Rights. Geneva: United Nations.

United Nations. (1999). Economic, Social and Cultural Rights. Preliminary Report of the Special Rapporteur on the Right to Education, Ms. Katarina Tomasevski, Submitted in Accordance with Commission on Human Rights Resolution 1998/33 (E/CN.4/1999/49). Switzerland: Economic and Social Council. Available from: https://digitallibrary.un.org/record/1487535?ln=en [Last accessed on 2023 Jun 02].

United Nations. (2015). Transforming Our World: The 2030 Agenda for Sustainable Development. A/RES/70/1. New York, NY: United Nations. Available from: https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf [Last accessed on 2023 Jun 02].

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RESEARCH ARTICLE

An intentional random mathematical model for immigration: A case study of Spain

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Abstract

This paper presents a random discrete mathematical population model for immigration. This model incorporates not only rational factors, such as the economic gradient between destination and origin countries, geographical factors, and regulatory laws but also hidden intentional factors, such as the political interests of governments and the involvement of migrant smuggling by criminal organizations, which exploit immigration as a strategic tool. These non-rational factors are modeled as sudden, random arrival flow waves, represented by a Poisson distribution. The study's time frame is short to ensure the reliability of economic forecasts for the coming years. Although the study focuses on Spain, the proposed approach is applicable to other geographic areas with appropriate data. The results obtained from this model can be applied to predict the national budget necessary for host countries to address this complex social phenomenon.

Keywords: Immigration mathematical modeling; Random discrete dynamics; Population dynamics; Intentional randomness; Unaccompanied minor

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1. Introduction

The movement of human populations is a phenomenon as old as mankind itself, and it can be observed among irrational animals in search of better living conditions. Nomadic ways of living can be either voluntary or forced, as seen in cases resulting from warfare consequences. There are two primary types of human migration: economic migration, aimed at improving living conditions, and migration motivated by the fear of death due to conflicts among neighboring regions. Human migration is now being leveraged as a viable weapon by many state and non-state actors pursuing unconventional means to increase regional influence and achieve their political or economic objectives. While some old migration phenomena can be considered as precursors to the weaponization of migration, this new strategy is gaining increasing relevance due to the use of migration as an instrument to obtain political benefits or economic pawns from the affected countries (Greenhill, 2010; Greenhill, 2016; Ho & Wijnkoop, 2022; Steger, 2017). The pursuit of these pawns is not limited to issuing countries; it is also possible in host countries through open-door strategies (Cymbranowicz, 2018; Koca, 2015).

Given that the weaponization of immigration flows is initiated externally to the decision to immigrate by the population itself, and such strategies may be driven by sudden and circumstantial possibilities arising from random events such as wars or conflicts, it is worthwhile to introduce a random component into the immigration modeling process. Consequently, immigration population phenomena exhibit a deterministic and predictable component, at least within a short timeframe, which is influenced by the host country's economic conditions and the regulations governing regular immigration, as illustrated in Figure 1. Recent data demonstrate the occurrence of significant immigration surges coinciding with disputes among neighboring countries (Ho & Wijnkoop, 2022; Steger, 2017).

Weaponized immigration populations can manifest as a mass population fleeing from the ravages of war, as seen in the case of Syrian refugees, whom Turkey has leveraged as an instrument to gain social, political, and economic advantages from the European Union. Beyond the public political interests of governments, there also exists a private business of migrant smuggling conducted by criminal organizations, who profit by facilitating the movement of immigrants from distant regions to locations near the borders of the issuing countries (United Nations Office on Drugs and Crime, 2017).

The occurrence of several immigration waves at specific times suggests the use of Poisson distribution to model the random component. Antecedents of deterministic mathematical immigration models can be found in Torres *et al.* (2022) and the references cited therein.

Population migration has traditionally been analyzed through gravity models, which consider physical factors while excluding psychological or intentional influences. These models operate on the assumption that the probability of population movement between two locations decays in direct proportion to the distance between them and the sizes of the populations involved (Clark & Ballard, 1980; Greenwood, 1985; Lee, 1966; Letouzé *et al.*, 2009; Schneider, 1959; Stouffer, 1940 Zipf, 1946).

Since 2012, radiation models have assumed that the probability of a trip decays with the distance of intervening opportunities (Masucci *et al.*, 2013; Noulas *et al.*, 2012; Yang *et al.*, 2014). Both gravity and radiation models disregard intentionality, emotions, interest, and other human factors (Beyer *et al.*, 2022). More recently, machine learning models have emerged that are capable of incorporating any number of exogenous features to predict human migration flows from origin to destination (Robinson & Dilkina, 2018).

This paper is organized as follows: Section 2 focuses on model construction, which includes historical trends, Poisson modeling of immigration influx, and the statement of the vector mathematical model. Section 3 covers results, robustness, and applications to social budgeting. Conclusions are drawn in Section 4.

2. Methods

2.1. Model construction

War conflicts and sudden transitions to dictatorship in neighboring countries are natural sources of immigration flows, in addition to the traditional regular immigration

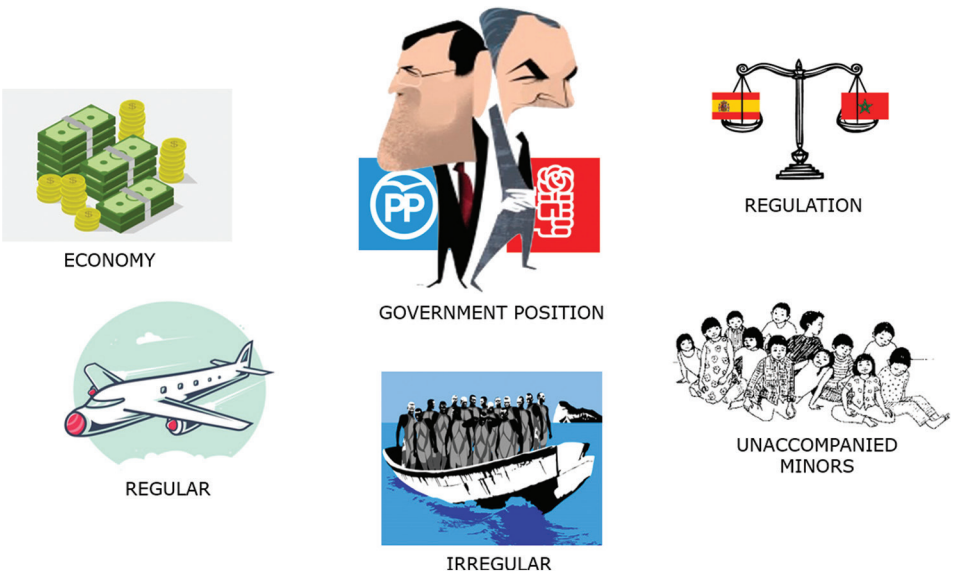

Figure 1. Main factors of the immigration process.

flow driven by economic reasons. However, new strategies are emerging from non-democratic countries, which use immigration as a political tool to exert pressure on boundary countries with the aim of gaining political or economic advantages (Greenhill, 2010; Greenhill, 2021).

Well-known cases related to the European context include examples from Turkey and the Republic of Belarus. In the case of Spain, the main countries involved are Morocco and Algeria. This coercive political factor can be somewhat unpredictable, as it depends on the timely decisions made by governments seeking advantages, often arising from diplomatic tensions between countries. Regular immigration is closely related to the economic behavior of the host country and is measured using the unemployment rate as an economic indicator. In this paper, we categorize the immigration population into four groups: unaccompanied minors under the age of fourteen (CH), unaccompanied minors aged between 14 and 18 (M), adult irregular immigrants (I), and regular immigrants (L).

We intentionally chose a short study period to better assess hypotheses regarding future economic indicator estimations and potential relevant changes in conflicts or tensions among boundary countries. The study period spans from 2019 to 2027 and is discretely divided into early time steps, starting with $n = 0$ corresponding to 2019 and ending at the final time step, $n = 8$. The relevant population vector (n) takes the following form:

$$Z(n)=\left[CH(n),M(n),I(n),L(n)\right]^{T} \quad \text{(I)}$$

where $CH(n)$ represents the number of unaccompanied minors under the age of 14 (9 – 14 years) at the end of year n; while $M(n)$ indicates the number of unaccompanied minors aged between 14 and 18 years old; $I(n)$ denotes the number of irregular adults at the end of year n, and $L(n)$ signifies the number of regular immigrants at the end of year n. The population's transition from year n to the $(n+1)$-*th* depends on various relevant factors, with the host country's economy, in this case, Spain, being measured by the unemployment rate.

Another important factor is of a political nature, and it is heavily dependent on the issuing countries, mainly Morocco and Algeria in our case. This political factor exhibits a deterministic historical trend, but it also possesses a random component stemming from the coercive use of immigration as a strategic weapon to gain advantages in the political relationships among the boundary countries.

From the perspective of the host country, regulatory laws depend on political agreements with the issuing countries. However, random events, such as neighboring war conflicts like the one in Ukraine, can worsen living conditions in large areas, leading to the risk of famine, along with rising energy prices and overall inflation. These exceptional factors, characterized by their random nature, result in sudden waves of immigration that should be taken into account in the model. Each population category or entry of the vector (n) as given in Equation I depends on the factors in a different way, but they always follow a similar pattern:

$$Z(n+1)=Z(n)+\Delta[Z(n),Z(n+1)] \quad \text{(II)}$$

where $\Delta[Z(n),\ Z(n\ +\ 1)]$ denotes the population transition from $Z(n)$ to $Z(n+1)$.

2.2. Deterministic historical trends

Table 1 compiles yearly historical data on irregular immigration during the period 2013–2021 (Ministerio del Interior, 2023). Our model's hypothesis assumes certain characteristics that match this historical data. The arrival of irregular immigration is influenced by two main factors. One factor is predictable and deterministic, depending on the political orientation of the Spanish Government, which is influenced by the differences between the main parties: the Spanish Socialist Workers' Party (PSOE) and the conservative People's Party (PP) in their approach to the immigration phenomenon. These differences are evident in Table 1, as immigration tends to increase more during PSOE governments compared to PP governments, with the data from 2013 – 2017 in Table 1 corresponding to socialist governments, while 2018 – 2021 is linked to conservative governments. The non-predictable irregular immigration has two different sources, both of a political nature, but they depend on the host countries and the issuing countries. In fact, the so-called "call effect" corresponds to a relaxation in the irregular immigration controls. This effect induces a stable trend of irregular immigration. Once the "call effect" occurs, the irregular business of transporting and facilitating the entry of irregular immigrants follows market rules: when there is an expectation of benefit, the offer grows. For instance, with the arrival of the PSOE party to government, following a censure motion in May 2018, a "call effect" was produced, leading to a significant increase in the number of irregular immigrants in Spain, jumping from 21,971 in 2017 to 57,498 in 2018. This explains the outlier data in Table 1 corresponding to 2018. The second non-predictable or random source arises from the political interests of issuing countries seeking political or economic advantages using the immigration process as a political weapon (Greenhill, 2010; Greenhill, 2021). Consequently, our model assumes a random component in the incoming immigration process due to random events, such as sudden changes in political relationships between Spain and Morocco or Algeria, unexpected inflation spikes, and political upheavals in neighboring countries. This was particularly evident in 2020 and 2021,

Table 1. Historical Spanish irregular immigration

Government (year)	Steady irregular immigration	Sudden influx immigration	Overall entries
Conservative Spanish Governments			
2013	3,237	-	3,237
2014	4,552	-	4,552
2015	5,312	-	5,312
2016	8,162	-	8,162
2017	21,917	-	21,917
Socialist Spanish Governments			
2018	-	-	57,498
2019	26,103	-	26,103
2020	31,949	8,157	40,106
2021	40,100	8,000	48,100

Notes: The data for 2013–2017 corresponds to periods of conservative Spanish Governments, while the data for 2018–2021 corresponds to periods of socialist Spanish Governments.

marked by the sudden influx of immigrants in the Canary Islands in November 2020 (La Información, 2020) and the unregulated influx of immigrants in Ceuta in May 2021 (Faus & Landauro, 2021), motivated by an "open door" strategy of the Morocco government. This is why we present the amount of irregular immigrants for these two years in two separate columns in Table 1.

We address the modeling of the deterministic component of the incoming immigration process using a linear regression function. To capture this predictable tendency, we removed the outlier data corresponding to the years 2018 and 2020 in Table 1.

Let (t) be the least squares regression line:

$$y = f(t) = a\,(t - 2019) + b \quad \text{(III)}$$

where t represents the time within the period 2013 – 2021, and y denotes the steady incoming irregular immigration population. The resulting values of a and b based on the data are:

$$a = 4{,}768.34;\ b = 27{,}805.98 \quad \text{(IV)}$$

These values are accompanied by a reliable correlation coefficient $R = 0.97$. Figure 2 shows the linear correlation of the yearly arrival of the immigrant population distributed during the period 2013 – 2021.

Another predictable trend in the immigration process is the variation in the regular immigration flow in response to the economic condition in the host country, Spain, which is modeled by the unemployment rate. Since the flow can be in two directions, which encompass incoming and outgoing foreigners, the next analysis focuses on the net balance of regular immigration concerning the unemployment rate. Table 2 shows the net balance of the regular foreign migrant population flow, based on data from the Spanish National Statistical Institute (INE, 2023), covering the period 2013 – 2021. Table 2 also includes the yearly unemployment rate, sourced from the official data provided by the Ministerio del Interior (2023).

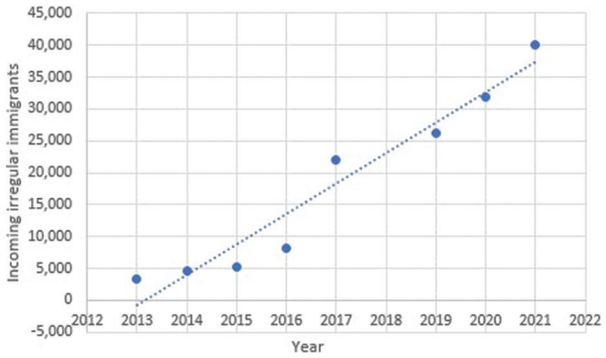

Figure 2. Least-squares regression line of the incoming irregular immigration.

We assume that the net balance of regular migration changes linearly with the unemployment rate. This assumption was confirmed with the Pearson correlation coefficient, R. Let (x) be the least-squares regression line:

$$z = g(x) = \mathrm{A}x + \mathrm{B} \quad \text{(V)}$$

where x represents the Spanish unemployment rate and $z = g(x)$ quantifies the expected regular migration net balance. Based on the data in Table 2, the values are as follows:

$$A = -40{,}905,\ B = 880{,}723 \quad \text{(VI)}$$

with a Pearson correlation coefficient $R = 0.9$. The linear correlation is shown in Figure 3.

The linear correlation trends described in Equations III–VI were used to forecast the future evolution of the irregular and regular immigration populations during the period 2022 – 2027, considering the variables of time and unemployment rate, respectively. In the case of Equation IV, future unemployment rates were obtained from reliable short-time predictions of the Spanish unemployment rate (Torres & Fernández, 2021).

2.3. Poisson-type random immigration influx

Section 2.3 provides the modeling process of the unpredictable human immigration influx that occurs in the unregulated immigration process. We observed that they occurred when governments of issuing countries use immigration as a political weapon. We assumed that this unpredictable immigration component follows a truncated Poisson distribution with up to four events, J=4, and an expected rate λ. Thus, the global arrival immigration population (n) can be decomposed in two terms:

$$B(n,\lambda) = B_1(n) + B_2(\lambda) \quad \text{(VII)}$$

where $B_1(n) = an + b$ represents the predictable irregular immigration arrivals, while $B_2(\lambda)$ represents the expected incoming irregular immigration following a right-truncated Poisson distribution (Yiğiter & İnal, 2006; David & Johnson, 1952). In this context, n denotes the year after 2019. Given the study period is 2020 – 2027, n takes values n = 1, 2, 3, 4, 5, 6, 7, 8, corresponding to n = 0 for the year 2019. Considering historical data, we assume up to three possible scenarios for λ: λ = 0, λ = 1, λ = 2. For instance, λ = 0 signifies that there are no sudden migration influx in a year, as observed in the years from 2013 to 2018 in Table 1. In this case, $B(n, 0) = B_1(n)$, and all arrivals are predictable. The probability of having events k in a year, with an expected rate λ, is given by:

$$P(k,\lambda) = \frac{\lambda^k}{k!\sum_{j=0}^{J}\frac{\lambda^j}{j!}}, \quad k \in \{0,1,2,3,4\},\ J = 4 \quad \text{(VIII)}$$

The higher the value of k, the lower the jump intensity of the arrival immigration. We assume this relationship between the number of events (migration flow) in a year and intensities (Table 3).

From Equation VIII and the hypothesis compiled in Table 3:

$$B_2(\lambda) = \sum_{k=0}^{4} kN(k)P(k,\lambda), \quad \lambda = 1,\ \lambda = 2 \quad \text{(IX)}$$

Thus, $B_2(0) = 0$, and:

$B_2(1) = 4{,}369$

Table 2. Regular migration net balances and unemployment rates during 2013 – 2021

Year	Unemployment (%)	Regular migration net balance
2013	0.73	−210,936
2014	23.70	−64,802
2015	20.90	383,180
2016	18.63	112,666
2017	16.55	174,231
2018	15.25	330,197
2019	13.90	444,587
2020	16.30	230,026
2021	13.30	153,094

Table 3. Distribution hypothesis among the number of events in a year and amount of immigrants per sudden migration influx

Number of events, k	Jump intensity, $N(k)$	Overall incoming population, $kN(k)$
1	6000	6000
2	4000	8000
3	3000	9000
4	2000	8000

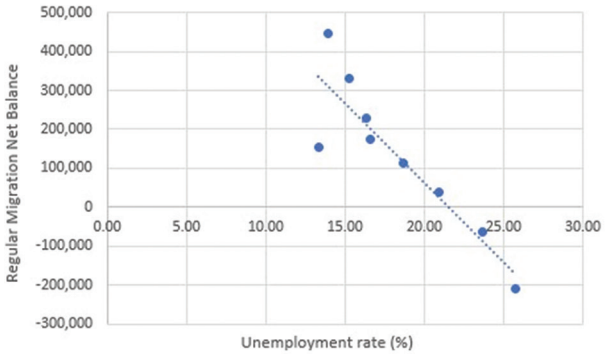

Figure 3. Regular migration net balance versus unemployment rate.

$B_2(2) = 6{,}476$ (X)

Table 4 shows the global incoming irregular immigration (n, λ) for each scenario (λ = 0, λ = 1 and λ = 2).

2.4. Immigration mathematical model

To model the dynamics of the immigration population, symbolically represented by Equation II, it is important to consider the age distribution of immigrants and changes in the host country's regulatory laws, in this case, Spain. The first relevant transition coefficient, β_1, represents the proportion

Table 4. Irregular immigration influx scenarios

Year (n)	$B(n, \lambda = 0) = B1(n)$	$B(n, \lambda = 1)$	$B(n, \lambda = 2)$
2020	32,574	36,943	39,050
2021	37,343	41,712	43,819
2022	42,111	46,480	48,587
2023	46,879	51,248	53,355
2024	51,648	56,017	58,124
2025	56,416	60,785	62,892
2026	61,184	65,553	67,660
2027	65,952	70,321	72,428

Notes: $B(n, \lambda)$ denotes the expected global arrival immigration population in a year n in the case of an expected rate λ=0, 1, or 2 of the number of sudden immigration influx events in a year

of unaccompanied minor immigrants aged between 9 and 14, denoted by $CH(n)$, who turn 14 years old and consequently move to the subpopulation M (n+1). The next coefficient, β_2, reflects the proportion of people in (n) who reach adulthood in the year n+1. β_2 is particularly relevant due to recent changes in Spanish regulatory laws (Real Decreto, 2021), which provide regularization of immigrants, granting residence, and labor rights. Both coefficients β_1 and β_2 change yearly in reality, depending on the age distribution of people within the categories (n) and $M(n)$, respectively. In studies related to violence, delinquency, or legality, it is often impossible to obtain accurate data due to intentional misreporting, for instance, to attain official adulthood as quickly as possible. Therefore, we propose a reasonable hypothesis that the age distribution within these population categories is uniform. This hypothesis implies that coefficients β_1 and β_2 remain constant and independent of n, which are the parameters of the model. As there are five possible age groups within category (n), we assume that β_1 is 20%, so:

$$\beta_1 = 0.2 \quad \text{(XI)}$$

In an analogous way, with four possible age groups within category (n), we assume:

$$B_2 = 0.25 \quad \text{(XII)}$$

Combining Equations I–II and XI–XII, we can express:

$$CH(n + 1) = CH(n) - \beta_1 CH(n) + \alpha_1 B(n, \lambda) \quad \text{(XIII)}$$

$$M(n + 1) = M(n) - \beta_2 M(n) + \beta_1 CH(n) + \alpha_2 B(n,\lambda) \quad \text{(XIV)}$$

where α_1 and α_2 represent the proportions of the incoming immigration population $B(n, \lambda)$ that belong to the categories CH and M, respectively. Like in the case of coefficients β_1 and β_2, these coefficients α_1 and α_2 are not fixed and may vary slightly with n. According to Ministerio del Interior (2023) and Torres *et al.* (2022), we assume that α_1+α_2=0.4. In addition, we assume that only 10% of the arriving unaccompanied minors belong to (n), while 90% fall within the 14 – 18 age interval corresponding to the category $M(n)$. Thus,

$$\alpha_1 = 0.04; \alpha_2 = 0.36 \quad \text{(XV)}$$

In addition to gaining regular status through reaching adulthood, irregular immigrants can also obtain regular status through social, labor, family, or political asylum criteria. The new Spanish regulation law, which has been in operation since August 2022 (Real Decreto, 2022), facilitates and expedites access to regular status, incorporating training experience. Therefore, in contrast to Torres *et al.* (2022), we assume:

$$\beta_3 = 0.03 \quad \text{(XVI)}$$

Using Equations I–II and XVI, the dynamics of subpopulation (n) of unregulated adult immigrants can be described as:

$$I(n + 1) = I(n) - \beta_3 I(n) + (1-\alpha_1-\alpha_2) B (n, \lambda) \quad \text{(XVII)}$$

To describe the dynamics of (n), it is important to point out that there is a possible flow from both (n) and $I(n)$ to $L(n$+1), apart from the regular incoming immigration arrival. Thus, we can write:

$$L(n + 1) = L(n) + \beta_2 M(n) + \beta_3 I(n) + G(n) \quad \text{(XVIII)}$$

where $G(n)$ denotes the amount of regular incoming immigration arrival obtained from Equation V. From Equations I, II, XIII, XVII, and XVIII, the model can be written in vector form as:

$$Z(n + 1)=A\ Z(\mathrm{n}) + C(n,\lambda) \quad \text{(XIX)}$$

$$A(n)=\begin{bmatrix} 1-\beta_1 & 0 & 0 & 0 \\ \beta_1 & 1-\beta_2 & 0 & 0 \\ 0 & 0 & 1-\beta_3 & 0 \\ 0 & \beta_2 & \beta_3 & 1 \end{bmatrix} \quad \text{(XX)}$$

$$C(n,\lambda)=\begin{bmatrix} \alpha_1 B(n\lambda) \\ \alpha_2 B(n\lambda) \\ (1-\alpha_1-\alpha_2)B(n,\lambda) \\ G(n) \end{bmatrix} \quad \text{(XXI)}$$

Since the random behavior affects all subpopulations throughout the external term (n, λ) (Yang *et al.*, 2014), we have a random discrete mathematical model with Poisson jumps, where (n)=$Z(n,\lambda)$ is a vector population process depending on the year n and the expected rate λ of the Poisson distribution of migrant influx. Thus, finally, we have:

$$Z(n + 1, \lambda) = A\ Z(n,\lambda) + C(n,\lambda) \quad \text{(XXII)}$$

where the subpopulations become $CH(n, \lambda)$, $M(n, \lambda)$, $I(n, \lambda)$, and $L(n, \lambda)$, assuming the expected rate $\lambda \in \{0, 1, 2\}$.

3. Results, robustness, and applications for social budgeting

It is worth noting that the explicit vector difference equation has a closed-form solution, which can be expressed as follows:

$$Z(n,\lambda) = A^n Z(0,\lambda) + \sum_{j=0}^{n-1} A^j C(n-1-j,\lambda), \quad n>0 \quad \text{(XXIII)}$$

For detailed results, Tables 5-7 provide the values of each entry in $(n,)$ for λ=0, λ=1, and λ=2, respectively.

In addition, Figures 4-7 represent the changes in each subpopulation for the different values of the expected rate λ of the truncated Poisson distribution.

Table 8 shows the effect of Poisson immigration influx modeling at the end of the study period on different subpopulations. As shown in Table 8, this Poisson effect has a similar influence on the two irregular minor subpopulations, (n) and $M(n)$, and is approximately four times more pronounced for adult irregular immigrants, $I(n)$, while it is virtually negligible for regular immigrant, $L(n)$. The entries in Table 8 are calculated using the following expression:

$$\%\Delta P_i = \frac{P_i(8,\lambda) - P_i(8,0)}{P_i(8,0)} \times 100 \quad \text{(XXIV)}$$

where $P_i \in \{CH, M, I, L\}$.

The subpopulation of regular immigrants is unaffected by the Poisson effect because it is primarily driven by economic factors, and there is no direct immigration influx effect. The difference in the magnitude of change between irregular adult immigrants and minors can be explained by the fact that unaccompanied minors transition directly to legal status when they reach adulthood. In addition, the coefficients β_1 and β_2, as described in Equations XI and XII, are similar.

The computation of immigration populations serves to estimate the social budget for the host country, in this case, Spain, with a primary focus on the subpopulation of unaccompanied adolescents, $M(n)$. Given the significant variation in the cost of living in Spain, ranging from big, expensive cities like Madrid and Barcelona to more affordable regions like Andalucía or Extremadura, we

Table 5. Immigrant population for λ = 0

Year	*n*	*CH (n)*	*M (n)*	*I (n)*	*L (n)*
2020	1	2,184	19,346	779,899	5,526,954
2021	2	3,050	26,673	776,046	5,769,159
2022	3	3,934	34,058	775,170	6,135,795
2023	4	4,832	41,491	777,182	6,535,989
2024	5	5,740	48,961	781,994	6,836,825
2025	6	6,658	56,462	789,523	7,160,126
2026	7	7,583	63,988	799,687	7,493,708
2027	8	8,514	71,534	812,407	7,821,296

Notes: *CH (n)*, *M (n)*, *I (n)*, and *L (n)* denote the number of unaccompanied minors under 14 years old, unaccompanied minors aged 14 – 18, irregular adult immigrants, and regular immigrants, respectively.

Table 6. Immigrant population for λ = 1

Year	*n*	*CH (n)*	*M (n)*	*I (n)*	*L (n)*
2020	1	2,184	19,346	779,899	5,526,954
2021	2	3,225	28,246	778,667	5,769,159
2022	3	4,248	36,846	780,335	6,136,267
2023	4	5,258	45,217	784,813	6,537,313
2024	5	6,256	53,414	792,017	6,839,309
2025	6	7,246	61,478	801,867	7,164,024
2026	7	8,228	69,440	814,282	7,499,230
2027	8	9,205	77,325	829,185	7,828,619

Notes: *CH (n)*, *M(n)*, *I (n)*, and *L (n)* denote the number of unaccompanied minors under 14 years old, unaccompanied minors aged 14 – 18, irregular adult immigrants, and regular immigrants, respectively.

Table 7. Immigrant population for λ = 2

Year	*n*	*CH (n)*	*M (n)*	*I (n)*	*L (n)*
2020	1	2,184	19,346	779,899	5,526,954
2021	2	3,309	29,005	779,932	5,769,159
2022	3	4,400	38,190	782,825	6,136,495
2023	4	5,464	47,014	788,493	6,537,951
2024	5	6,505	55,561	796,851	6,840,507
2025	6	7,529	63,896	807,820	7,165,903
2026	7	8,539	72,069	821,320	7,501,894
2027	8	9,538	80,117	837,277	7,832,151

Notes: *CH (n)*, *M (n)*, *I (n)*, and *L (n)* denote the number of unaccompanied minors under 14 years old, unaccompanied minors aged 14 – 18, irregular adult immigrants, and regular immigrants, respectively.

Table 8. Percentage of change (%Δ) during the period

λ	%ΔCH (8,λ)	%ΔM (8,λ)	%ΔI (8,λ)	%ΔL (8,λ)
1	8.1	8.1	2.1	0.01
2	12	12	3.1	0.1

Notes: $\%\Delta CH\ (8,\lambda)$, $\%\Delta M\ (8,\lambda)$, $\%\Delta I\ (8,\lambda)$, and $\%\Delta L\ (8,\lambda)$ denote the percentage of change from 2020 to 2027 in the populations of unaccompanied minors under 14 years old, unaccompanied minors aged 14–18, irregular adult immigrants, and regular immigrants, respectively. These values are calculated for both scenarios of λ = 1 and λ = 2, which represent different expected rate of immigration influx events in a year.

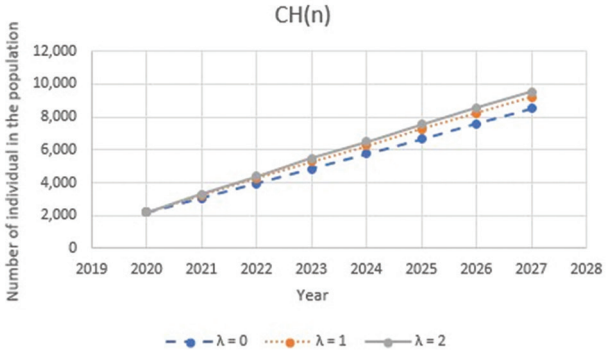

Figure 4. Unaccompanied minors under 14 years old, *CH(n)*.

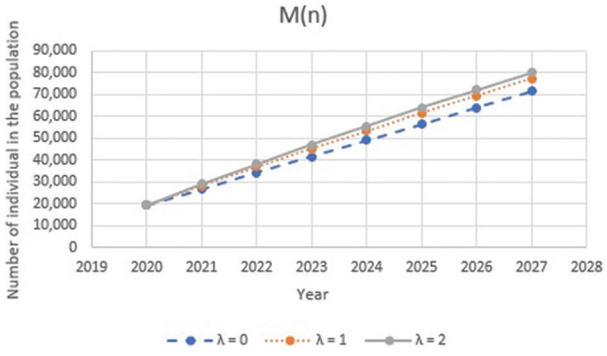

Figure 5. Unaccompanied minors aged 14 – 18, *M(n)*.

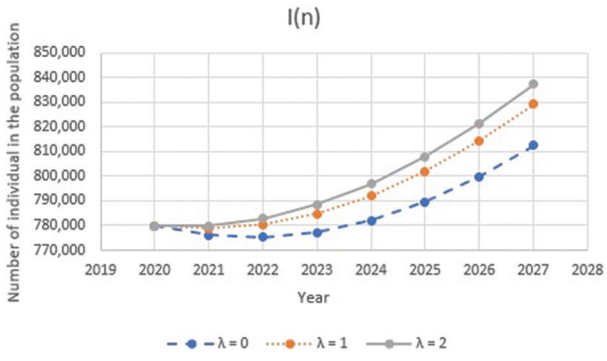

Figure 6. Irregular adult immigrants, *I(n)*.

approximate the cost of the assistance (accommodation, nutrition, medical services) based on an average Spanish region, like Aragón. In accordance with the data from the Social Affairs Institute of Aragón, the daily cost per capita for individuals in the category $M(n)$ is approximately 75 euros. Using the population data for $M(n)$ for each year, we can estimate the social budget required for their assistance in the incoming years. Tables 5-7 provide data for three different scenarios, and the respective yearly budgets are presented in Tables 9-11, corresponding to the values of the expected rate λ.

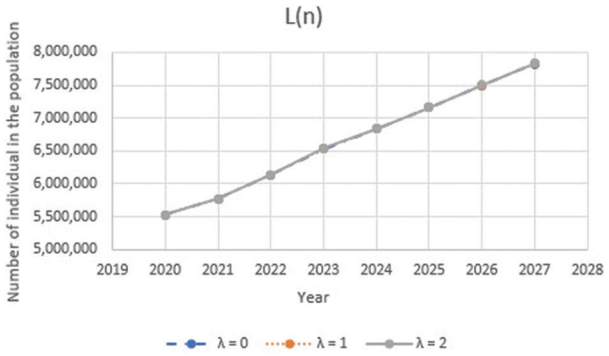

Figure 7. Regular immigrants, *L*(*n*).

Table 9. Budgeting for unaccompanied minors when $\lambda = 0$

Year	*n*	*M(n)*	Budget (€, in millions)
2020	1	19,346	529.605
2021	2	26,673	730.178
2022	3	34,058	932.349
2023	4	41,491	1,135.804
2024	5	48,961	1,340.298
2025	6	56,462	1,545.643
2026	7	63,988	1,751.666
2027	8	71,534	1,958.236

Table 10. Budgeting for unaccompanied minors when $\lambda = 1$

Year	*n*	*M(n)*	Budget (€, in millions)
2020	1	19,346	529.605
2021	2	28,246	730.235
2022	3	36,846	1,008.655
2023	4	45,217	1,237.812
2024	5	53,414	1,462.195
2025	6	61,478	1,682.947
2026	7	69,440	1,900.917
2027	8	77,325	2,116.761

Table 11. Budgeting for unaccompanied minors when $\lambda = 2$

Year	*n*	*M(n)*	Budget (€, in millions)
2020	1	19,346	529.605
2021	2	29,005	793.999
2022	3	38,190	1,045.454
2023	4	47,014	1,287.006
2024	5	55,561	1,520.981
2025	6	63,896	1,749.164
2026	7	72,069	1,972.895
2027	8	80,117	2,193.211

4. Conclusion

In this paper, we present an intentional random discrete dynamic mathematical model that integrates human and hidden intentional variables, influencing the migration phenomenon. This approach is distinctly different from other physical models, such as gravity or radiation models, which disregard the hidden human intentions driven by governments or criminal organizations. Modeling these uncertain behaviors requires historical data, and it is accomplished by employing a Poisson distribution to capture the random flow waves of immigrants at the times when such decisions are made.

In our opinion, the strength of the model lies in its ability to address non-rational factors and the challenges associated with quantifying them. However, the weakness of the model is that it involves non-rational factors that are often obscured in real data due to hidden motivations and a lack of transparency. This limitation is inherent in studies of all social human problems that involve hidden intentions, delinquency, or crimes (drug trafficking, suicide, and crime). Consequently, the results represent approximations rather than verifiable results.

The immigrant population is computed to estimate the necessary social budget for the host country, mainly focusing on unaccompanied minors and adolescents. As we estimated in Section 3, the social assistance budget for the population, (n), in the past year of the study period (2027) amounted to approximately two billion euros. This constitutes approximately 60% of the present national social affairs budget allocated to supporting all Spanish citizens in situations of dependence. While our case study is in Spain, the model can be applied to other regions with access to recent historical immigration flow data.

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Conflict of interest

The authors declare that they have no competing interests.

Author contributions

Conceptualization: All authors
Investigation: All authors
Writing – original draft: All authors
Writing – review and editing: All authors

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Availability of data

Some data used in the paper can be downloaded from the Spanish National Statistical Institute (INE), web site: https://www.ine.es/and Statista, web site: https://es.statista.com/.

Further disclosure

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References

Beyer, R.M., Schewe, J., & Lotze-Campen, H. (2022). Gravity models do not explain, and cannot predict, international migration dynamics. *Humanities and Social Sciences Communications*, 9(1):56.

https://doi.org/10.1057/s41599-022-01067-x

Clark, G.L., & Ballard, K.P. (1980). Modeling out-migration from depressed regions: The significance of origin and destination characteristics. *Environment and Planning A*, 12(7):799-812.

https://doi.org/10.1068/a120799

Cymbranowicz, K. (2018). "Fortress Europe" or "Open Door Policy"-attempts to solve the refugee and migration crisis in the European union in 2011-2017. *International Business and Global Economy*, 37(1):53-70.

https://doi.org/10.4467/23539496IB.18.004.9377

David, F.N., & Johnson, N.L. (1952). The truncated poisson. *Biometrics*, 8(4):275-285.

https://doi.org/10.2307/3001863

Faus, J., & Landauro, I. (2021). Spain Vows to Restore Order After Thousands Swim into Ceuta from Morocco. Reuters. Available from: https://www.reuters.com/world/europe/spain-deploys-army-ceuta-patrol-border-with-morocco-after-migrants-break-2021-05-18 [Last accessed on 2023 Mar 03].

Greenhill, K.M. (2010). Weapons of Mass Migration: Forced Displacement, Coercion, and Foreign Policy. New York: Cornell University Press.

Greenhill, K.M. (2016). Migration as a weapon in theory and in practice. *Military Review*, 96(6):23-36.

Greenhill, K.M. (2021). Morocco "Weaponized" Migration to Punish Spain. That's More Common than you Think. The Washington Post. Available from: https://www.washingtonpost.com/politics/2021/06/01/morocco-

weaponized-migration-punish-spain-thats-more-common-than-you-think [Last accessed on 2023 Mar 02].

Greenwood, M.J. (1985). Human migration: Theory, models, and empirical studies. *Journal of Regional Science*, 25(4):521-544.

https://doi.org/10.1111/j.1467-9787.1985.tb00321.x

Ho, M.S.D., & Wijnkoop, M. (2022). The Instrumentalization of Migration. A Geopolitical Perspective and Toolbox. Clingendael. Netherlands Institute of International Relations. Available from: https://www.clingendael.org/sites/default/files/2022-12/report_the_instrumentalization_of_migration.pdf [Last accessed on 2023 Oct 25].

INE. (2023). Foreign Migrations. National Results. Available from: https://www.ine.es/jaxit3/tabla.htm?t=24306&l=1 [Last accessed on 2023 Mar 13].

Koca, B.T. (2015). Deconstructing Turkey's "open door" policy towards refugees from Syria. *Migration Letters*, 12(3):209-225.

https://doi.org/10.33182/ml.v12i3.275

La Información. (2020). Noviembre Marca Récord de Llegadas de Migrantes a Canarias en un mes: 8.157. [November Marks a Record for Migrant Arrivals to the Canary Islands in One Month: 8,157]. Available from: https://www.lainformacion.com/asuntos-sociales/noviembre-marca-record-llegadas-inmigrantes-canarias/2822712 [Last accessed on 2023 Oct 25] [Article in Spanish].

Lee, E.S. (1966). A theory of migration. *Demography*, 3(1):47-57.

https://doi.org/10.2307/2060063

Letouzé E, Purser M, Rodríguez F, *et al*., 2009, Revisiting the Migration-Development Nexus: A Gravity Model Approach. United Nations Development Programme. Human Development Research Paper (HDRP) Series, Vol. 44. p1–42. Available from: https://hdr.undp.org/system/files/documents/hdrp200944pdf.pdf [Last accessed on 2023 Oct 25].

Masucci, A.P., Serras, J., Johansson, A., & Batty, M. (2013). Gravity versus radiation models: On the importance of scale and heterogeneity in commuting flows. *Physical Review E, Statistical, Nonlinear, and Soft Matter Physics*, 88(2):022812.

https://doi.org/10.1103/physreve.88.022812

Ministerio del Interior (España). (2023). Number of Foreigners Entering Spanish Territory by Sea without Authorization Between 1999 and 2022 [Graph]. Statista. Available from: https://www.statista.com/statistics/1187510/irregular-immigrants-arriving-in-spain-by-sea [Last accessed on 2023 Mar 03].

Noulas, A., Scellato, S., Lambiotte, R., Pontil, M., & Mascolo, C. (2012). A tale of many cities: Universal patterns in human urban mobility. *PLoS One*, 7(9):e37027.

https://doi.org/10.1371/journal.pone.0037027

Real Decreto 629/2022 de 26 de Julio, por el que se modifica el Reglamento de la Ley Orgánica 4/2000, sobre derechos y libertades de los extranjeros en España y su integración social, tras su reforma por Ley Orgánica 2/2009, aprobado por el Real Decreto 557/2011, de 20 de Abril. [Royal Decree 629/2022 of July 26, which modifies the Regulation of Organic Law 4/2000, on the rights and freedoms of foreigners in Spain and their social integration, after its reform by Organic Law 2/2009, approved by Royal Decree 557/2011, of April 20]. *Boletín Oficial del Estado*, 27 de julio de 2022, num. 179:107697-107715. Available from: https://www.boe.es/eli/es/rd/2022/07/26/629 [Last accessed on 2023 Mar 05]. [Article in Spanish].

Real Decreto 903/2021 de 19 de Octubre, por el que se modifica el Reglamento de la Ley Orgánica 4/2000, sobre derechos y libertades de los extranjeros en España y su integración social, tras su reforma por Ley Orgánica 2/2009, aprobado por el Real Decreto 557/2011, de 20 de abril. [Royal Decree 903/2021 of October 19, which modifies the Regulation of Organic Law 4/2000, on the rights and freedoms of foreigners in Spain and their social integration, after its reform by Organic Law 2/2009, approved by Royal Decree 557/2011, of April 20]. *Boletín Oficial del Estado*, 19 de Diciembre de 2021, núm. 303 (2015), 119702-119716. Available from: https://www.boe.es/eli/es/rd/2021/10/19/903 [Last accessed on 2023 Mar 04] [Article in Spanish].

Robinson, C., & Dilkina, B. (2018). A Machine Learning Approach to Modeling Human Migration. In: Proceedings of the 1st ACM SIGCAS Conference on Computing and Sustainable Societies. COMPASS '18. Association for Computing Machinery, Menlo Park and San Jose, USA, pp.1-8.

https://doi.org/10.1145/3209811.3209868

Schneider, M. (1959). Gravity models and trip distribution theory. *Papers in Regional Science*, 5(1):51-56.

https://doi.org/10.1111/j.1435-5597.1959.tb01665.x

Steger, N.D. (2017). The Weaponization of Migration: Examining Migration as a 21st Century Tool of Political Warfare [Master's Thesis, Naval Postgraduate School, Monterey, California]. Available from: https://apps.dtic.mil/dtic/tr/fulltext/u2/1053475.pdf [Last accessed on 2023 Oct 25].

Stouffer, S.A. (1940). Intervening opportunities: A theory relating mobility and distance. *American Sociological Review*, 5(6):845-867.

https://doi.org/10.2307/2084520

Torres, R., & Fernández, M.J. (2021). La economía Española en recuperación: Oportunidades y desafíos [The Spanish economy in recovery: Opportunities and challenges]. *Cuadernos de Información Económica*, 283:1-10. Available from: https://www.funcas.es/articulos/la-economia-espanola-en-recuperacion-oportunidades-y-desafios [Last accessed on 2023 Mar 13] [Article in Spanish].

Torres, S., Company, R., & Jódar, L. (2022). Modeling immigration in Spain: Causes, size and consequences. *Mathematics*, 10(9):1371.

https://doi.org/10.3390/math10091371

United Nations Office on Drugs and Crime. (2017). The Concept of "Financial or Other Material Benefit" in the Smuggling of Migrants Protocol. Available from: https://www.unodc.org/documents/human-trafficking/migrant-smuggling/issue-papers/unodc_issue_paper_the_profit_element_in_the_smuggling_of_migrants_protocol.pdf [Last accessed on 2023 Mar 01].

Yang, Y., Herrera, C., Eagle, N., & González, M.C. (2014). Limits of predictability in commuting flows in the absence of data for calibration. *Scientific Reports*, 4(1):5662.

https://doi.org/10.1038/srep05662

Yiğiter, A., & İnal, C. (2006). Right truncated homogeneous poisson process. *Pakistan Journal of Statistics*, 22(1):69-78.

Zipf, G.K. (1946). The P_1 P_2/D hypothesis: On the intercity movement of persons. *American Sociological Review*, 11(6):677-686.

https://doi.org/10.2307/2087063

ACCSCIENCE PUBLISHING

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RESEARCH ARTICLE

Parent burnout in the COVID-19 pandemic: In the context of personality traits, perfectionism, and demographic variables

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Abstract

The aim of this study is to examine the burnout levels of parents during the COVID-19 pandemic within the framework of personality traits, perfectionism, and demographic variables. Data were derived from Personal Information Form, International Personality Inventory Short Version, the Big Three Perfectionism Scale–Short Form, and Parent Burnout Assessment. In total, 584 parents (333 mothers, 251 fathers, M_{age} = 39.93; *SD* = 6.33) living in Türkiye during COVID-19 lockdown participated in the survey. Results showed that the level of parent burnout differs according to the parent's gender, the child's age, the time spent with the child, the perception of the emotional relationship with the spouse, and the work form during the pandemic. Personality differences in parent burnout were explored according to the Five Factor Theory of Personality. A high level of neuroticism, a high level of introversion, and a low level of conscientiousness were found to be risk factors for parent burnout. Results indicated that parent burnout is also positively related to perfectionism, in particular self-critical perfectionism, and does not differ according to parents' COVID-19 experiences. This study provides some useful information and guidelines for mental health professionals in preventive and therapeutic practices for parent burnout that may have negative effects on parents, children, and families. It is also a rare study that included the representation of fathers in the context of parent burnout.

Keywords: COVID-19; Parent burnout; Five-factor theory of personality; Personality traits; Perfectionism

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1. Introduction

The coronavirus disease 2019 (COVID-19) pandemic has severely affected the health and well-being of millions of people around the world, resulting in significant loss of life (Barboza *et al.*, 2021). Studies around the world and in Türkiye show that people have experienced various psychological problems such as depression (Ettman *et al.*, 2020; Liu *et al.*, 2020; Özdin & Bayrak Özdin, 2020), post-traumatic stress disorder (Liu *et al.*,

2020), anxiety disorders (Liu *et al.*, 2020; Özdin & Bayrak Özdin, 2020; Zhou *et al.*, 2020), sleep problems (Zhou *et al.*, 2020), and burnout (Barello *et al.*, 2020; Sung *et al.*, 2020) during the pandemic. In addition, studies show that COVID-19 may be a risk factor for parent burnout. Based on a study by Prikhidko *et al.* (2020), parents with higher levels of anxiety about COVID-19 and who believe they are at higher risk of getting sick tend to experience higher levels of parent burnout.

Globally, various restrictions and regulations have been implemented in an attempt to curb the spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus responsible for COVID-19, in the populations. In March 2020, when first case of SARS-CoV-2 infection was confirmed in Türkiye (Türkiye Ministry of Interior, 2020), a series of significant changes were executed in almost every aspect of daily life during the pandemic. Many people had to work from home due to the quarantines and restrictions applied to control the epidemic, and they were kept away from their relatives and social support networks due to social isolation. While most of the people were mandated to stay inside their residences, parents had to deal with the increasing housework and parenting duties at home, as well as the education of their children who could not go to school but attended online lessons at home (Prikhidko *et al.*, 2020). In addition to this functioning of daily life routine, it seems possible that the COVID-19 epidemic, which causes economic, physical, and mental distress, may cause chronic stress and later burnout in parents (Griffith, 2020).

Parent burnout is defined as a feeling of exhaustion about parent responsibilities and burnout in the parental role, perceiving that current parenting ability is worse than what it was before, being fed up as a parent, no longer enjoying being with their child, and emotionally withdrawing from their children (Roskam *et al.*, 2018). In the context of the pandemic, parents may experience feelings such as feeling tired because they do not have enough resources to fulfill their responsibilities during the pandemic, feeling ashamed of not being a good enough parent when they compare themselves with their pre-pandemic parenting style, and feeling tired of being a parent. Changing routines, given their limited mobility and increased parenting demands, can emotionally distance them from their children (Prikhidko *et al.*, 2020). Factors behind parent burnout may include sociodemographic characteristics (family financial status, parent's age/unemployment and number of children, *etc.*) and children's characteristics (children's age, developmental delays or illnesses, *etc.*) (Lindahl Norberg, 2007; Lindström *et al.*, 2011; Sorkkila & Aunola, 2020).

Personality traits may play a role in the development of burnout in parents (Le Vigouroux *et al.*, 2017; Le Vigouroux & Scola, 2018). Research showed that parents with high levels of neuroticism and low levels of conscientiousness and agreeableness are at risk for parental burnout. Considered in the context of parenting, parents with high levels of neuroticism (having difficulty in initiating and maintaining positive emotional interactions with their children) and low levels of agreeableness (having difficulty in identifying and responding to their children's needs) or low levels of conscientiousness (having difficulty in providing a coherent and structured environment) are thought to be at higher risk of experiencing parent burnout (Le Vigouroux *et al.*, 2017).

One personality trait that may be particularly important in the emergence of parent burnout is perfectionism. It has been reported that parental perfectionism is one of the risk factors for parent burnout (Kawamoto *et al.*, 2018), and a higher level of perfectionism leads to a higher level of parent burnout (Sorkkila & Aunola, 2020). Based on the multidimensional conceptualization, Smith *et al.* (2016) categorized perfectionism into three dimensions: rigid, self-critical, and narcissistic perfectionism. Rigid perfectionism is characterized by the behavior of demanding flawless performance from oneself and setting high standards for oneself. Self-critical perfectionism refers to the anxiety and self-critical evaluation of one's mistakes and imperfect performance; self-critical perfectionists believe that other people have high expectation of them. Narcissistic perfectionism is the tendency and expectation of demanding perfection from others in a narcissistic, overly critical, and self-justifying way.

The aim of this study is to examine the level of parental burnout in the context of the COVID-19 epidemic in terms of personality traits, perfectionism, and demographic variables. The previous studies on parental burnout have a biased emphasis on mothers of children with chronic diseases or physical/mental disabilities, while studies involving parents of healthy children, especially fathers, are limited. In this respect, this study contributes to the literature by highlighting the protective and risk factors of parental burnout. In addition, studying the relationship of these variables in the context of a pandemic provides important insights for future studies that aim to protect and improve mental health of parents during a pandemic.

2. Data and methods

2.1. Participants and procedures

After obtaining the approval of Maltepe University Institute of Social Sciences Ethics Committee for the research, necessary permissions were obtained on

February 2, 2021, for the research related to COVID-19 from the Türkiye Ministry of Health's Scientific Research Platform. Data collection was carried out through online questionnaire platforms (Google Forms). Self-report scales were distributed on social media (*e.g.*, on Instagram) and among the social networks with E-mail. Research data were collected using Google survey method. An informed consent form explaining the aims and procedures of the study was provided online to the participants before collecting the data. The Google survey was designed to allow participants to read the questions of the scales used in the research after they read the informed consent form and ticked the button stating that they agreed to participate in the research. Participants who gave consent completed the scales in approximately 20 – 25 min. No personally identifiable information was requested from the participants. The research group consists of a total of 584 participants, of which 333 (57.0%) are mothers and 251 (43.0%) are fathers, who were between the ages of 25 and 61 (M_{age} = 39.93; *SD* = 6.33). A big majority of the participants (91%) lived in the metropolitan cities (Istanbul, Ankara, Bursa, Antalya, Izmir, and others), while 9% resided in other cities. Parents were included in the study on the condition that they had at least 1 child living with them, who were over 18 years old, at the time of survey. The forms of the participants from outside of Türkiye were not included in the analysis. Research data were collected from March 2021 to April 2021, when the COVID-19 restrictions in Türkiye were still in effect. Detailed information about the demographic characteristics and COVID-19 experiences of the participants is presented in Table 1.

Table 1. Participant characteristics

Characteristics	%
Sample size	584
Gender	
Mother	57.0
Father	43.0
Parent's age	
25 – 35	23.1
36 – 45	58.0
46 – 61	18.8
Number of children	
1	25.7
2	44.2
≥3	30.1
Youngest child's age	
0 – 5	47.3
≥6	52.7
Gender of children	
Only girls	24.7
Only boys	30.8
Both girl/boy	44.5
Education level	
High school and below	22.3
University	56.5
Postgraduate	21.2
Perception of emotional relationship with spouse	
Fair to very poor	13.4
Good	46.7
Excellent	38.0
Employment status	
Employed	61.6
Unemployed	38.4
Work form during the COVID-19 pandemic	
Full-time or part-time from home or work place	34.8
Full-time from work place	26.9
Work hours per day during the COVID-19 pandemic	
0 – 4 h	11.3
5 – 8 h	33.2
≥ 9 h	17.1
Diagnosis of COVID-19 in the person and/or his/her family	
Yes	46.1
No	53.9
Death in family/relatives due to COVID-19	
Yes	17.6
No	82.4

(Cont'd...)

2.2. Measuring instruments

2.2.1. Personal information form

Participants were asked about their gender, age, number of children, age of children, gender of children, employment status, education level, and their perception of the emotional relationship with their spouse. In addition to sociodemographic information, questions about the COVID-19 experiences were asked to examine the effect of COVID-19 on parent burnout. These questions include whether they or their relatives had been diagnosed with COVID-19, whether one or more of their relatives died from COVID-19, forms of work (full-time or part-time, work from home, and work place), working hours per day, and the time they spent with their children.

2.2.2. International Personality Inventory Short Version (IPISV)

The IPISV is a self-report scale consisting of 50 questions, which was developed by Lewis Goldberg within the scope of

Table 1. *(Continued)*

Characteristics	%
Perception of the impact of COVID19 restrictions and regulations on daily life	
Affected very negatively	11.1
Affected negatively	53.8
Not sure	19.5
Affected positively/very positively	15.8
Time spent with children, except sleeping	
0 – 4 h	36.6
5 – 8 h	29.5
≥9 h	33.9

the International Personality Inventory Pool project based on the Five Factor Theory of Personality created by Robert McCrae and revised by Costa and McCrae (Goldberg, 1999; Goldberg *et al.*, 2006; Yöyen, 2016). The Turkish validity and reliability study of the scale was conducted by Yöyen (2016) and consisted of 40 items in its final form. Each item was rated on a five-point Likert scale from "I do not agree" to "I agree." On the opposite end of each dimension, there are dimensions that describe the opposite characteristics: introversion for extroversion, emotional instability for emotional stability, hostility for agreeableness, closedness for openness, and disorganization for conscientiousness. It is thought that *IPISV* is preferred in research as a reliable tool in the short, fast and practical psychometric measurement, and evaluation of personality (Yöyen, 2016). In this study, Cronbach's alpha was 0.78 for emotional instability, 0.67 for extraversion, 0.67 for introversion, 0.66 for agreeableness, 0.68 for the hostility subscale, 0.60 for conscientiousness, 0.50 for unconscientious, and 0.64 for openness to experience. The total Cronbach's alpha coefficient of the scale was determined as 0.82.

2.2.3. The Big Three Perfectionism Scale–Short Form (BTPS-SF)

The BTPS was developed by Smith *et al.* (2016) for the evaluation of perfectionism using 45 items, whereas a SF consisting of 16 items was created by Feher *et al.* (2020) and adapted into Turkish by Kaçar-Başaran *et al.* (2020). It consists of three subdimensions: "Rigid Perfectionism," "Self-Critical Perfectionism," and "Narcissistic Perfectionism." Each item was rated on a five-point Likert scale from "strongly disagree" to "strongly agree." An increase in the total score indicates an increase in the perfectionist personality trait. Cronbach's alpha for the current sample was 0.78 for the rigid perfectionism, 0.75 for the self-critical perfectionism, 0.70 for the narcissistic perfectionism, and 0.88 for the total score of perfectionism.

2.2.4. Parent Burnout Assessment (PBA)

Parent burnout was measured using the scale developed by Roskam *et al.* (2018). The scale consists of 23 items and is scored with a seven-point Likert scale ranging from "never" to "every day." The Turkish adaptation of the scale was carried out by Arikan *et al.* (2020). The scale consists of four subdimensions, namely, "Emotional Exhaustion," "Contrast," "Feelings of Being Fed Up," and "Emotional Distancing." The total score of the scale was used in the analysis in this study. Cronbach's alpha was.86 for the overall parent burnout scale.

2.3. Statistical analysis

Normality and linearity tests were conducted to ensure that assumptions of normality and linearity were met. Normality was evaluated according to Skewness and Kurtosis values. Values between −1 and +1 were considered sufficient for the normality distribution; thus, parametric tests were used. Extreme values were excluded from the data set. The mean, standard deviation values, and minimum and maximum values of the total and subscales of the scales were calculated. Cronbach's alpha values for reliability were calculated. Pearson correlation analysis was used to analyze the relationships between variables. Independent *t*-test and one-way analysis of variance (ANOVA) were performed for the intergroup comparative analysis. Sequential linear regression analyses were conducted for the predictive power of related variables for parent burnout.

3. Results

3.1. Comparison of parent burnout mean scores between groups

The differentiation status of parent burnout according to demographic variables and COVID-19 experiences was examined by means of independent *t*-test and one-way ANOVA. The results are presented in Table 2. As shown in Table 2, it was determined that the average scores of parent burnout did not differ statistically according to the number of children, gender of children, educational level, work status, being diagnosed with COVID-19, death due to COVID-19, and perceptions of restrictions ($p > 0.05$). Results showed that the mean score of the mothers ($\bar{X} = 14.75$) was significantly higher than that of the fathers ($\bar{X} = 9.62$). The mean score of the participants aged 25 – 35 ($\bar{X} = 14.24$) was found to be significantly higher than that of the participants aged 46 – 61 ($\bar{X} = 9.12$). The mean score of the parents whose youngest child was between the ages of 0 – 5 ($\bar{X} = 13.62$) was significantly higher than that of the parents whose children were older ($\bar{X} = 11.58$). The mean scores of the participants who rated their emotional relationship with their partners as excellent

Table 2. Comparisons of parent burnout mean scores between groups by study variable

Variables	Categories	n	$\bar{x}$	s.d.	Values of test	*p*
Gender	Mother	333	14.75	12.35	t (582) = 5.436	0.000**
	Father	251	9.62	9.68		
Parent's age	25 – 35	135	14.24	12.97	F (2.581) = 6.664	0.001**
	36 – 45	339	12.98	11.48		
	46 – 61	110	9.12	9.07		
Number of children	1	150	11.64	11.03	F (2.581) = 1.283	0.278
	2	258	12.33	11.34		
	≥3	176	13.63	12.26		
Youngest child's age	0 – 5	276	13.62	11.67	t (582) = 2.128	0.034*
	≥6	308	11.58	11.38		
Gender of children	Only girls	144	11.72	10.95	F (2.581) = 1.053	0.350
	Only boys	180	13.52	11.60		
	Both girl/boy	260	12.33	11.84		
Education level	High school and below	130	11.04	10.81	F (2.581) = 1.453	0.235
	University	330	12.89	11.74		
	Postgraduate	124	13.19	11.77		
Perception of emotional	Fair to very poor	78	14.41	12.49	F (2.570) = 15.362	0.000**
Relationship with spouse	Good	273	14.69	12.00		
	Excellent	222	9.25	9.93		
Employment status	Employed	360	12.58	11.73	T (582) = 0.081	0.936
	Unemployed	224	12.50	11.29		
Work form during the COVID-19 pandemic	Full-time or part-time from home or work place	203	14.91	12.41	t (582) = 4.524	0.000**
	Full-time from work place	157	9.55	10.05		
Work hours per day	0 – 4 h	66	15.58	13.75	F (2.357) = 6.445	0.002*
During the COVID-19 pandemic	5 – 8 h	194	13.22	11.49		
	≥9 h	100	9.34	10.01		
Diagnosis of COVID-19 in the person and/or his/her family	Yes	269	11.81	11.23	t (582) = −1.413	0.158
	No	315	13.17	11.81		
Death in family/relatives due to COVID-19	Yes	103	14.36	12.51	t (582) = 1.759	0.079
	No	481	12.16	11.31		
Perception of the impact of COVID-19 restrictions/	Affected very negatively	65	12.35	11.56	F (3.580)=1.066	0.363
Regulations on daily life	Affected negatively	314	13.28	12.05		
	Not sure	114	11.21	10.35		
	Affected positively/very positively	91	11.80	11.23		
Time spent with children,	0 – 4 h	214	11.89	10.54	F (2.581) = 3.114	0.045*
Except sleeping	5 – 8 h	172	11.47	11.66		
	≥9 h	198	14.19	12.36		

Notes: $\bar{x}$: Mean; s.d.: Standard deviation; *p<0.05; **p<0.01.

($\bar{X}$ = 9.25) were found to be significantly lower than the other subcategories ($\bar{X}$ = 14.69; $\bar{X}$ = 14.41). The mean score of those working at home part-time or full-time during the pandemic ($\bar{X}$ = 14.91) is significantly higher than those working at a full-time in the workplace ($\bar{X}$ = 9.55). The average score of the participants who worked for 9 h or more ($\bar{X}$ = 9.34) was found to be significantly lower than the others ($\bar{X}$ = 15.58; $\bar{X}$ = 13.22). Finally, the mean score ($\bar{X}$ = 14.19) of the participants who spent more than 9 h with their child was significantly higher than the others ($\bar{X}$ = 11.89; $\bar{X}$ = 11.47).

3.2. Correlations between study variables

The relationships between parent burnout and personality traits and perfectionism were examined using Pearson correlation analysis. The results are presented in Table 3. There is a low level, positive, statistically significant correlation between PBA and emotional instability (r = 0.28; $p < 0.001$), introversion (r = 0.19; $p < 0.01$), hostility (r = 0.10; $p < 0.001$) BTPS-SF (r = 0.12; $p < 0.01$), and self-critical perfectionism (r = 0.16; $p < 0.001$). There is a low, negative, statistically significant relationship between PBA and extraversion (r = −0.16; $p < 0.01$), and conscientiousness (r = −0.15; $p < 0.01$).

To obtain more statistically significant results, the "unconscientious" subdimension of IPISV was not included in the analysis because it has low reliability and was thought that the "conscientiousness," the other end of the dimension, might explain the relationship between this personality trait and other variables. Since the study sample was large, values with a correlation coefficient of 0.10 and above were interpreted as significant.

3.3. Predictors of parent burnout

Sequential regression analysis was conducted to determine the predictors of the parent burnout. The results are displayed in Table 4. As shown in Table 4, the established regression model was found to be statistically significant (F(3,580) = 23,647; $p < 0.001$). The big five personality traits were entered into Step 1. In the established model, emotional instability (t(580) = 6.221; $p < 0.001$), conscientiousness (t(580) = −3.127; $p < 0.01$), and introversion (t(580) = 2.760; $p < 0.01$) were found to be significant parameters. The perfectionism, which was entered into Step 2 after personality traits, was not included in the model. About 8% of the total PBA score is explained by the emotional instability, 2% by the conscientiousness, and 1% by the introversion scores. Three variables together explain 11% of the variance. According to these results, the level of parent burnout was positively predicted by the increase in the emotional instability and introversion scores, but negatively predicted by the increase in the level of responsibility. Perfectionism and self-critical perfectionism, which were related in the correlation analysis, did not contribute to the prediction of burnout after controlling for personality traits.

4. Discussion

The present study was the first, to the best of our knowledge, to examine the influence of both sociodemographic and COVID-19 related factors, as well as dispositional factors (personality traits of parent), on parent burnout for Turkish parents. Our results showed that the level of parent burnout differed according to gender. Parent burnout among mothers was higher than among fathers.

Table 3. Pearson correlations between study variables

	1	2	3	4	5	6	7	8	9	10	11	12
1	1											
2	0.66[c]	1										
3	0.71[c]	0.56[c]	1									
4	0.89[c]	0.86[c]	0.86[c]	1								
5	0.05	0.16[c]	0.07	0.12[b]	1							
6	0.27[c]	0.42[c]	0.33[c]	0.40[c]	0.28[c]	1						
7	0.03	−0.13[b]	−0.03	−0.06	−0.16[c]	−0.21[c]	1					
8	0.01	0.22[c]	0.03	0.11[c]	0.19[c]	0.22[c]	−0.55[c]	1				
9	0.08	0.01	−0.09[a]	−0.01	−0.04	−0.01	0.52[c]	−0.26[c]	1			
10	−0.00	0.07	0.12[b]	0.07	0.10[a]	0.09[a]	−0.34[c]	0.33[c]	−0.46[c]	1		
11	0.28[c]	0.09[a]	0.11[b]	0.18[c]	−0.15[c]	−0.02	0.22[c]	−0.15[c]	0.25[c]	−0.16[c]	1	
12	0.27[c]	0.15[c]	0.25[c]	0.25[c]	−0.03	0.06	0.24[c]	−0.08	0.18[c]	−0.10[a]	0.24[c]	1

Notes: 1: Rigid perfectionism; 2: Self-critical perfectionism; 3: Narcissistic perfectionism; 4: BTPS-SF; 5: PBA; 6: Emotional instability; 7: Extroversion; 8: İntroversion; 9: Agreeableness; 10: Hostility; 11: Conscientiousness; 12: Openness to experience. *p<0.05, **p<0.01, ***p<0.001.

Table 4. Predictors of parent burnout

Sequential linear regressions	Predictive variables	B (b)	SH	Beta	t	*p*
1	*Constant (a)*	1.135	1.695		0.669	0.503
	Emotional instability	0.511	0.073	0.278	6.992	0.000
R^2=0.077; $F_{(1,582)}$ = 48.894; *P*=0.000						
2	*Constant (a)*	12.057	3.491		3.454	0.001
	Emotional instability	0.505	0.072	0.275	6.972	0.000
	Conscientiousness	−0.543	0.152	−0.141	−3.568	0.000
R^2=0.116; $F_{(2,581)}$ = 38.277; *P*=0.000						
3	*Constant (a)*	7.790	3.800		2.050	0.041
	Emotional instability	0.459	0.074	0.250	6.221	0.000
	Conscientiousness	−0.479	0.153	−0.124	−3.127	0.002
	Introversion	0.398	0.144	0.112	2.760	0.006

Notes: R^2=0.128; $F_{(3,580)}$ = 23.647; *P*=0.000.

Past studies have presented results highlighting the gender differences in parent burnout. Besides, the studies revealing that there are no gender differences in parent burnout (Arıkan *et al.*, 2020; Roskam *et al.*, 2017); several studies showed that it differs according to gender (Roskam & Mikolajczak, 2020; Sorkkila & Aunola, 2020). Compared to the study conducted by Arıkan *et al.* (2020), the burnout level of mothers was found to be higher in our study. This may be because our study was conducted during the COVID19 pandemic. State-imposed COVID-19 lockdown measures likely increased levels of parent burnout and parents had to deal with both home, work, and school duties and more all at the same time (Bastiaansen *et al.*, 2021). The increase in the number of people working from home during the pandemic, the closure of schools, and the shutdown of workplaces reduced the external support (nursery, caregiver, family elders, etc.), placing more burdens and responsibilities related to housework and childcare on the parents. On the other hand, it was observed that fathers' involvement in housework and childcare increased slightly, but most of the burden was on women who had already done most of the housework before the quarantine began (Farre *et al.*, 2020). Similar to the present study, in some studies conducted during the COVID-19 period, mothers' parent burnout was found to be at a higher level (Bastiaansen *et al.*, 2021). Therefore, this suggests that mothers with an increased burden during the pandemic experienced higher levels of burnout.

Our results showed that the level of burnout among the parents aged 46 – 61 was lower than that among the parents aged 25 – 35. This result is in line with the findings of studies conducted in Japan (Kawamoto *et al.*, 2018) and France (Le Vigouroux & Scola, 2018), which showed that parent burnout was associated with younger age. However, our findings did not concur with the findings by Arıkan *et al.* (2020) and Mikolajzcak *et al.* (2020), who found that parent burnout did not differ according to the age of the parent. Sorkkila & Aunola (2020) suggested that a mismatch between the need for freedom and the responsibilities of family life may lead to burnout for young parents. Considering that the present study was conducted during COVID-19 pandemic, younger participants may have been affected by COVID-19 regulations and social isolation by a larger extent, since their freedom was restricted. Furthermore, lower levels of burnout afflicting the older parents suggest that maturity and expertise in parenting may be protective factors against parent burnout.

In the present study, we also found that the number of children of the participants did not have a significant impact on the level of parent burnout. This finding is congruent with other studies highlighting that the level of parent burnout does not differ according to the number of children (Arıkan *et al.*, 2020; Yönel, 2021). There are also studies showing that burnout increases as the number of children increases (Kawamoto *et al.*, 2018; Roskam *et al.*, 2018). In some studies conducted during the pandemic, it was found that the burnout level increased with the number of children (Bastiaansen *et al.*, 2021; Parlak, 2021). Although the existing literature suggests that the number of children may be a risk factor for parent burnout, especially during the pandemic, it seems that the same effect is not in question for the participants in the present study. The support environment created by the whole family being at home together and the sharing of responsibilities with the spouse and other children may negate the impact of the number of children on the parent burnout level. The lack of consistency between studies in the findings regarding the relationship between the number of children and parent

burnout can be explained by the fact that the study groups differ from each other in terms of cultural differences, sociodemographic characteristics, and pandemic experiences.

The findings showed that the burnout of parents whose youngest child was <5 years old was higher than that of parents whose youngest child was older than 5. This finding is consistent with the studies showing that parents with young children are more burnt out (Roskam *et al.*, 2018) and that parents of children younger than 5 are more likely to be burnt out (Le Vigouroux *et al.*, 2017). A plausible explanation is that young children need their parents more in terms of care to meet their basic needs. As a child gets older, the child learns to tend to his/her own needs. Thus, parent burnout could be reduced when the burden and the stress of the parents decrease and more time is allocated to the parents themselves. In addition, the findings showed that there was no difference in burnout between those whose children were all girls or all boys and those who had both boys and girls. The result that the level of parent burnout does not differ according to the gender of the children is consistent with the literature (Yönel, 2021).

Our finding that parents who spend more time with their children succumbed to higher level of burnout is contrary to the finding by Arıkan *et al.* (2020), suggesting that the two variables were not related. The inconsistency may be due to the fact that the present study was conducted during a pandemic where the quality of the time spent with children changed significantly because the parents had to deal with both home education, working from home, and housework during the time they stayed at home and spent with children (Bastiaansen *et al.*, 2021).

Consistent with several studies, the present study pinpointed that the level of parent burnout does not differ according to education level (Arıkan *et al.*, 2020; Le Vigoroux & Scola, 2018). Nevertheless, education level of parent seems to affect the burnout level. For instance, Bastiaansen *et al.* (2021) found that highly educated parents are more exhausted; this finding is however in conflict with the study by Sodi *et al.* (2020), which regards higher education level as a protective factor against burnout. The lack of consistency in the findings among these studies on the relationship between educational status and parent burnout can be explained by the fact that the study groups differ from each other in terms of cultural differences, sociodemographic characteristics, and pandemic experiences. For the present study group, it is evident that burnout in the COVID-19 period occurred independently of education level.

Our finding also showed that parents who rated their emotional relationship with their partners as excellent exhibited significantly lower levels of parent burnout compared to others. This finding is in line with the previous studies that having marital satisfaction is a protective factor against parent burnout (Mikolajzcak *et al.*, 2017; Mikolajzcak *et al.*, 2018; Parlak, 2021), and corroborated the protective role of love and especially intimacy (Lebert-Charron *et al.*,2021) in the relationship with the spouse, which is crucial for mitigating the parent burnout. Studies showed that a good emotional relationship with the spouse is protective against parent burnout. In addition, the presence of external support in childcare, provided by grandmothers, caregivers, *etc.*, may play a protective role against burnout. However, the inability to get help for childcare from outside under restrictive conditions such as quarantine, combined with the poor parental relationship, can increase burnout. In this context, a good spousal relationship offers protection from parent burnout.

Furthermore, this study found that the parents who worked and did not work in a paid job did not differ in terms of burnout. Similarly, although there are studies showing that working status is not associated with burnout (Kawamoto *et al.*, 2018; Le Vigouroux & Scola 2018), being unemployed is associated with parent burnout. There are studies showing that non-working parents experience higher levels of parent burnout (Mikolajczak *et al.*, 2020; Sorkkila & Aunola, 2020) and that it is an important predictor of maternal burnout (Lebert-Charron *et al.*, 2018). In addition, those who work full-time in the workplace reported lower levels of burnout than others. This finding is consistent with studies showing that mothers who work full-time are less burnt out than mothers who work part-time (Mikolajczak *et al.*, 2020; Lebert-Charron *et al.*, 2018). In addition, our results also showed that those working for 9 h or more per day reported a lower level of burnout. When these findings are evaluated together with the finding that the burnout levels of the working and non-working participants do not differ, the increase in the time spent at home, rather than the working status during the pandemic, may be related to the elevated burnout levels. In addition, working and living conditions at home during the COVID-19 can also have a significant impact on burnout. A pre-pandemic study on work-family-life balance and burnout in women found that women's burnout may explain the inability of working women to establish a work-life balance and to spare time for themselves, the disproportionately greater effort they invest to achieve the balance, and the negative effects of their work on family life (Umutlu, 2021). The rate of people working from home was very low before the pandemic but increased dramatically for both women and men during the pandemic (Farré *et al.*, 2020). Considering that it is difficult to achieve a work-family-life balance even under

normal conditions, it is not hard to fathom that working from home during the pandemic would further make this even more difficult. Working parents had to take care of their children's education while they were at home, along with their home- and work-related responsibilities. For parents working from home, it may not always be possible to maintain the work-home boundaries and balance the family, work, and home responsibilities. Therefore, working in the workplace in such a situation may be a protective factor for parent burnout. Although going to the workplace during the pandemic poses a hazard to physical health, working away from home at the conventional workplace, having the opportunity to socialize with other people, and having their social support needs met could have a positive effect on parents (Günlü *et al.*, 2021). In summary, the workplace, rather than the working status, during the pandemic seems to have a significant impact on parent burnout.

The levels of burnout did not differ by the parent's perception of whether the parent and/or his/her family had a diagnosis of COVID-19, and whether someone in the family and/or a relative died from COVID-19. These results are consistent with the findings of Le Vigouroux *et al.* (2021) who determined that there was no increase in the level of parent burnout during the COVID-19 period compared to the pre-pandemic period, suggesting that the effect of susceptibility factors (e.g., personality, emotional competencies, and attachment style) on the development of parent burnout was greater than that of other demographic and contextual factors. Taken together, parent exhaustion may be engendered by the parent's personality traits, emotional competencies, and quality and quantity of interaction with the child, instead of the pandemic experiences. In addition, these results are in line with the findings of a study that found that COVID-19 quarantine restrictions did not predict parent burnout (Swit & Breen, 2022).

Our results showed that a high level of emotional instability and introversion, and a low level of conscientiousness were all found to be risk factors for parent burnout. The notion that these personality traits are associated with burnout is consistent with literature review studies dealing with the relationship between burnout in the professional field and personality traits (Alarcon *et al.*, 2009; Swider & Zimmerman, 2010). However, openness to experience, which was found to be related in the aforementioned studies, was not found to be relevant in this study. Unlike the study of Le Vigouroux *et al.* (2017), which showed that parent burnout was associated with high neuroticism and low level of conscientiousness and agreeableness, parent burnout was also found to be associated with extroversion. Cultural differences may also have an effect on burnout, especially in a culture with collectivist features such as the culture in Türkiye (Arıkan *et al.*, 2020), where different personality traits of Turkish parents may be associated with burnout. Knowing that extroverts are social people who love cooperation, while introverts are people who like loneliness, keep their feelings inside, and remain distant from others (İnanç & Yerlikaya, 2012), being introverted in a collectivist culture may be a risk factor for parent burnout. Considering that extroversion is a dimension of personality related to interpersonal behavior and being socially active with others, people who are introverted may benefit less from social support, which is an important protective factor in parent burnout (Sorkkila & Aunola, 2020). In other words, introverts use fewer behaviors to get social support or establish interpersonal relationships than extroverts. In addition, introverts may not share the difficulties of being a parent because they do not like to share their feelings and may feel inadequate and exhausted by the thought that their experiences are isolated cases that not many people have endured. These results support the views and findings of Le Vigouroux *et al.* (2017) who suggested that personality plays a role in the development of parent burnout. Based on the meta-analysis findings by Prinzie *et al.* (2009), personality and parenting practices are related. Parents who show more frequent and intense negative effect are anxious, and having frequent emotional ups and downs (high emotional instability) will increase their negative emotional interactions with their children and decrease the possibility of adequately responding to their children's feelings and needs. Parents with higher self-discipline, regulation, and planning skills (high conscientiousness) will be able to create a more structured and coherent environment for their children, and to achieve work-life balance better. It has been suggested that extroversion, which portrays an open-to-interaction, active and talkative personality that enjoys interpersonal communication, positively affects parenting. Extroverted parents will have a more active and positive interaction with both their children and social support resources, and the extroverted personality may increase the possibility of receiving positive reactions from them (Le Vigouroux *et al.*, 2017). Taken together, our results showed that emotional instability is a risk factor for parent burnout, while extroversion and conscientiousness are protective factors. In summary, the parents who will most likely experience parent burnout are those with the highest levels of emotional instability and introversion and the lowest levels of conscientiousness.

Perfectionism, which was included in the regression analysis in Step 2 after personality traits, did not predict

parent burnout. In a Japanese study, Kawamoto *et al.* (2018) reported that the perfectionism scale modified for studying parenting explained 22% of the variance in parent burnout. Although perfectionism, especially self-critical perfectionism, was found to be associated with burnout in the present study, this relationship had a negligible effect on the prediction of burnout in the hierarchical regression analysis. This may have resulted from not using a parenting-specific perfectionism scale since it has been confirmed that only tailored scale can yield accurate results or illustrate the effects of perfectionism in the context of investigating perfectionism specific to a particular field (Dunn *et al.*, 2011; Stoeber & Yang, 2015; Kawamoto *et al.*, 2018). The conclusion obtained in this study that perfectionism, especially self-critical perfectionism, is associated with burnout is supported by the literature. There are studies showing that socially determined perfectionism and perfectionist concerns are a risk factor for parental burnout (Kawamoto *et al.*, 2018). Self-critical perfectionism, which is defined as heavy self-criticism toward oneself, thinking that others demand perfection from him, anxiety after making mistakes, and doubting about actions, can be accepted as a factor that increases stress in the context of parenting. Parents trying to do "very well" may also exhaust themselves, especially if they think that their environment expects them to be "perfect" parents.

There are several limitations of the present study that should be considered. First of all, this research was carried out within a study group, which was formed by convenient sampling method, and the participants were reached over the internet. Thus, the nature of this study limits the generalizability of the results. In future studies, a sample of participants recruited by means of a random sampling method and a face-to-face interview can be used. Second, considering that our findings were based on self-report measures, some parents might under-report the frequency of experiencing various symptoms/items, especially in PBA, due to social desirability. Furthermore, a pre-disclosure about the theme of this study, that is, parent burnout, to the participants might influence their interest in the survey in a non-neutral way, thus bolstering the self-selection bias. Another limitation of this study is that the groups compared were different in number. In addition, the current research was cross-sectional, and therefore, the variation of the findings over the period was not evaluated. Longitudinal studies can give detailed information about the causes and consequences of burnout. In addition, studies using qualitative methods may be beneficial for better understanding the context of parent burnout and the associated thoughts, feelings, and situations of parents in Türkiye.

5. Conclusion

This study reveals that emotional instability, introversion, and conscientiousness can predict parent burnout. In addition, parent burnout is associated with sociodemographic variables and COVID-19 experiences. When the literature on parenting in Türkiye is examined, it is seen that the studies are mostly conducted on the "mother" but 43% of the participants in this study are fathers. Therefore, this research also represents the fathers in the context of parent burnout. By shedding light on the personality traits, demographic features, risk, and protective factors associated with burnout, the present study provides mental health professionals with crucial insights into the preventive and therapeutic strategies for parent burnout. The Cronbach's alpha values of subscales of the IPISV scale used in the study were lower than 0.70, which was considered a limitation for this study.

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Conflict of interest

The authors declare that they have no competing interests.

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Writing – review & editing: Elif Yöyen

Ethics approval and consent to participate

The study was conducted according to the guidelines of the Declaration of Helsinki, and approved by the Ethics Committee of University of Maltepe (protocol code 2021/07-13; 05.03.2021).

Consent for publication

Written informed consent was obtained from all subjects involved in the study and permission was obtained from each of the subjects to publish their data.

Availability of data

Data can be shared following formal request from the corresponding author.

References

Alarcon, G., Eschleman, K.J., & Bowling, N.A. (2009). Relationships between personality variables and burnout: A meta-analysis. *Work and Stress*, 23(3):244-263.

https://doi.org/10.1080/02678370903282600

Arikan, G., Üstündağ-Budak, A.M., Akgün, E., Mikolajczak, M., & Roskam, I. (2020). Validation of the Turkish version of the parental burnout assessment (PBA). *New Directions for Child and Adolescent Development*, 2020(174):15-32.

https://doi.org/10.1002/cad.20375

Barboza, G.E., Schiamberg, L.B., & Pachl, L. (2021). A spatiotemporal analysis of the impact of COVID-19 on child abuse and neglect in the city of Los Angeles, California. *Child Abuse and Neglect*, 116:104740.

https://doi.org/10.1016/j.chiabu.2020.104740

Barello, S., Palamenghi, L., & Graffigna, G. (2020). Burnout and somatic symptoms among frontline healthcare professionals at the peak of the Italian COVID-19 pandemic. *Psychiatry Research*, 290:113129.

https://doi.org/10.1016/j.psychres.2020.113129

Bastiaansen, C., Verspeek, E., & van Bakel, H. (2021). Gender differences in the mitigating effect of co-parenting on parent burnout: The gender dimensión applied to COVID-19 restrictions and parent burnout levels. *Social Sciences*, 10(4):127.

https://doi.org/10.3390/socsci10040127

Dunn, J.G.H., Craft, J.M., Dunn, J.C., & Gotwals, J.K. (2011). Comparing a domain-specific and global measure of perfectionism in competitive female figure skaters. *Journal of Sport Behavior*, 34(1):25-46.

Ettman, C.K., Abdalla S.M., Cohen, G.H., Sampson, L., Vivier, P.M., & Galea, S. (2020). Prevalence of depression symptoms in US adults before and during the COVID-19 pandemic. *JAMA Network Open*, 3(9):e2019686.

https://doi.org/10.1001/jamanetworkopen.2020.19686

Farre, L., Fawaz, Y., González, L., & Graves, J. (2020). How the COVID-19 lockdown affected gender inequality in paid and unpaid work in Spain. IZA Discussion Paper, No. 13434.

https://doi.org/10.2139/ssrn.3643198

Feher, A., Smith, M.M., Saklofske, D.H., Plouffe, R.A., Wilson, C.A., & Sherry, S.B. (2020). The Big three perfectionism scale-short form (BTPS-SF): Development of a brief self-report measure of multidimensional perfectionism. *Journal of Psychoeducational Assessment*, 38(1):37-52.

https://doi.org/10.1177%2F0734282919878553

Goldberg, L.R. (1999). A Broad-Bandwidth, Public Domain, Personality Inventory Measuring the Lower-Level Facets of Several Five-Factor Models: Personality Psychology in Europe. Netherlands: Tilburg University Press.

Goldberg, L.R. Johnson, J.A., Eber, H.W, Hogan, R., & Ashton, M. (2006). International personality item pool and the future of public-domain personality measures. *Journal of Research in Personality*, 40:84-96.

Griffith, A.K. (2022). Parent burnout and child maltreatment during the COVID-19 pandemic. *Journal of Family Violence*, 37:725-731.

https://doi.org/10.1007/s10896-020-00172-2

Günlü, A., Asici, E., & Çetinkaya, M. (2021). Türkiye'de COVID-19 salgininin ikinci evresinde ebeveynlerde depresyon, anksiyete, stres ve travma sonrasi stres bozukluğunun incelenmesi. *Aile Psikolojik Danışmanliği Dergisi*, 4(1):94-124.

İnanç, B.Y., & Yerlikaya, E.E. (2012). Kişilik Kuramlari. 1st ed. Ankara: Pegem Akademi.

Kaçar-Başaran, S., Gökdağ, C., Erdoğan-Yildırım, Z., & Yorulmaz, O. (2020). A different view to perfectionism: An investigation of the psychometric properties of the big three perfectionism scale in a Turkish community sample. *Current Psychology*, 41(12):1-11.

https://doi.org/10.1007/s12144-020-01131-2

Kawamoto, T., Furutani, K., & Alimardani, M. (2018). Preliminary validation of Japanese version of the parental burnout inventory and its relationship with perfectionism. *Frontiers in Psychology*, 9:970.

https://doi.org/10.3389/fpsyg.2018.00970

Le Vigouroux, S., & Scola, C. (2018). Differences in parent burnout: Influence of demographic factors and personality of parents and children. *Frontiers in Psychology*, 9:887.

https://doi.org/10.3389/fpsyg.2018.00887

Le Vigouroux, S., Lebert-Charron, A., Wendland, J., Boujut, E., Scola, C., & Dorard, G. (2021). COVID-19 and parent burnout: Parents locked down but not more exhausted. *Journal of Family Issues*, 43(7):1705-1720.

https://doi.org/10.1177/0192513X211030038

Le Vigouroux, S., Scola, C., Raes, M.E., Mikolajczak, M., & Roskam, I. (2017). The big five personality traits and parent burnout: Protective and risk factors. *Personality and Individual Differences*, 119:216-219.

https://doi.org/10.1016/j.paid.2017.07.023

Lebert-Charron, A., Dorard, G., Boujut, E., & Wendland, J. (2018). Maternal burnout syndrome: Contextual and psychological associated factors. *Frontiers in Psychology*, 9:885.

https://doi.org/10.3389/fpsyg.2018.00885

Lebert-Charron, A., Dorard, G., Wendland, J., & Boujut, E. (2021). Who are and are not the burnout moms? A cluster analysis study of French-speaking mothers. *Journal of Affective Disorders Reports*, 4:100091.

https://doi.org/10.1016/j.jadr.2021.100091

Le Vigouroux, S., & Scola, C. (2018). Differences in parental burnout: Influence of demographic factors and personality of parents and children. *Frontiers in Psychology*, 9(JUL).

https://doi.org/10.3389/fpsyg.2018.00887

Lindahl Norberg, A. (2007). Burnout in mothers and fathers of children surviving brain tumour. *Journal of Clinical Psychology in Medical Settings*, 14(2):130-137.

https://doi.org/10.1007/S10880-007-9063-X

Lindström, C., Åman, J., & Norberg, A.L. (2011). Parental burnout in relation to sociodemographic, psychosocial and personality factors as well as disease duration and glycaemic control in children with Type 1 diabetes mellitus. *International Journal of Paediatrics*, 100(7):1011-1017.

https://doi.org/10.1111/j.1651-2227.2011.02198.x

Liu, C.H., Zhang, E., Wong, G., Hyun, S., & Hahm, H.C. (2020). Factors associated with depression, anxiety, and PTSD symptomatology during the COVID-19 pandemic: Clinical implications for U.S. young adult mental health. *Psychiatry Research*, 290:113172.

https://doi.org/10.1016/j.psychres.2020.113172

Mikolajczak, M., Raes, M.E., Avalosse, H., & Roskam, I. (2017). Exhausted parents: Sociodemographic, child-related, parent-related, parenting and family-functioning correlates of parental burnout. *Journal of Child and Family Studies*, 27(2):602-614.

https://doi.org/10.1007/s10826-017-0892-4

Mikolajczak, M., Brianda, M.E., Avalosse, H., & Roskam, I. (2018). Consequences of parental burnout: Its specific effect on child neglect and violence. *Child Abuse and Neglect*, 80:134-145.

https://doi.org/10.1016/j.chiabu.2018.03.025

Mikolajczak, M., Gross, J.J., Stinglhamber, F., Lindahl Norberg, A., & Roskam, I. (2020). Is parent burnout distinct from job burnout and depressive symptoms? *Clinical Psychological Science*, 8(4):673-689.

https://doi.org/10.1177%2F2167702620917447

Özdin, S., & Bayrak Özdin, Ş. (2020). Levels and predictors of anxiety, depression and health anxiety during COVID-19 pandemic in Turkish society: The importance of gender. *International Journal of Social Psychiatry*, 66(5):504-511.

https://doi.org/10.1177%2F0020764020927051

Parlak, Ü. (2021). Çalişan Annelerde Depresyon Düzeyini Yordamada Evlilik Uyumu, iş-Aile Çatişmasi ve Ebeveyn Tükenmişliğinin Rolü. [Master's Thesis]. Turkey Digital Thesis Database, Işik University.

Prikhidko, A., Long, H., & Wheaton, M.G. (2020). The effect of concerns about COVID-19 on anxiety, stress, parent burnout, and emotion regulation: The role of susceptibility to digital emotion contagion. *Frontiers in Public Health*, 8:567250.

https://doi.org/10.3389/fpubh.2020.567250

Prinzie, P., Stams, G.J., Deković, M., Reijntjes, A.H., & Belsky, J. (2009). The relations between parents' Big Five personality factors and parenting: A meta-analytic review. *Journal of Personality and Social Psychology*, 97(2):351-362.

https://doi.org/10.1037/a0015823

Roskam, I., & Mikolajczak, M. (2020). Gender differences in the nature, antecedents and consequences of parent burnout. *Sex Roles*, 83(7):485-498.

https://doi.org/10.1007/s11199-020-01121-5

Roskam, I., Brianda, M.E., & Mikolajczak, M. (2018). A step forward in the conceptualization and measurement of parent burnout: The parent burnout assessment (PBA). *Frontiers in Psychology*, 9:758.

https://doi.org/10.3389/fpsyg.2018.00758

Roskam, I., Raes, M.E., & Mikolajczak, M. (2017). Exhausted parents: Development and preliminary validation of the parent burnout inventory. *Frontiers in Psychology*, 163.

https://doi.org/10.3389/FPSYG.2017.00163

Smith, M.M., Saklofske, D.H., Stoeber, J., & Sherry, S.B. (2016). The big three perfectionism scale: A new measure of perfectionism. *Journal of Psychoeducational Assessment*, 34(7):670-687.

https://doi.org/10.1177/0734282916651539

Sodi, T., Kpassagou, L.B., Hatta, O., Ndayizigiye, A., Ndayipfukamiye, J.M., Tenkué, J.N., & Sezibera, V. (2020). Parenting and parent burnout in Africa. *New Directions for Child and Adolescent Development*, 2020(174):101-117.

https://doi.org/10.1002/cad.20386

Sorkkila, M., & Aunola, K. (2020). Risk factors for parent burnout among finnish parents: the role of socially prescribed perfectionism. *Journal of Child and Family Studies*, 29(3):648-659.

https://doi.org/10.1007/s10826-019-01607-1

Stoeber, J., & Yang, H. (2015). Physical appearance perfectionism explains variance in eating disorder symptoms above general perfectionism. *Personality and Individual Differences*, 86:303-307.

https://doi.org/10.1016/j.paid.2015.06.032

Sung, C.W., Chen, C.H., Fan, C.Y., Su, F.Y., Chang, J.H., Hung, C.C., & Lee, T.S. (2020). Burnout in medical staffs during a coronavirus disease (COVID-19) pandemic. Lancet. Available from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3594567 [Last accessed on 2022 Oct 03].

Swider, B.W., & Zimmerman, R.D. (2010). Born to burnout: A meta-analytic path model of personality, job burnout, and work outcomes. *Journal of Vocational Behavior*, 76(3):487-506.

https://doi.org/10.1016/j.jvb.2010.01.003

Swit, C.S., & Breen, R. (2022). Parenting during a pandemic: Predictors of parent burnout. *Journal of Family Issues*, 44(7): 1699-1968.

https://doi.org/10.1177/0192513X211064858

Turkish Republic of Ministry of Interior. (2020). New Restrictions and Measures Circulars in the Scope of Combating Coronavirus. Available from: https://www.icisleri.gov.tr/koronavirus-ile-mucadele-kapsaminda-sokaga-cikma-kisitlamalari---yeni-kisitlama-ve-tedbirler-genelgeleri [Last accessed on 2022 Oct 03].

Umutlu, S. (2021). Kadinlarda iş-Aile-Yaşam Dengesi ve Tükenmişlik. 1st ed. Ankara: Astana Yayinlari.

Yönel, A. (2021). 3-6 Yaş Arasi Çocuğa Sahip Ebeveynlerin, Öz-Yeterlikleri, Tükenmişlikleri ve Çocuklarıyla Olan Iletişimleri Arasindaki Ilişkinin Incelenmesi. [PhD Thesis] Turkey Digital Thesis database, Selçuk University. Available from: https://tez.yok.gov.tr/UlusalTezMerkezi/tezSorguSonucYeni.jsp [Last accessed on 2022 Oct 03].

Yöyen, E.G. (2016). Uluslararası Kişilik Envanteri (IPI) Kisa formu'nun Türkçe'ye Uyarlanmasi: Güvenilirlik ve Geçerlilik Analizi. *International Journal of Social Sciences and Education Research*, 2(4):1308-1315. [Article in Turkish]

Zhou, J., Liu, L., Xue, P., Yang, X., & Tang, X. (2020). Mental health response to the COVID-19 outbreak in China. *American Journal of Psychiatry*, 177(7):574-575.

https://doi.org/10.1176/appi.ajp.2020.20030304

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RESEARCH ARTICLE

Social contact with COVID-19 as a factor influencing corona anxiety in India

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Abstract

Coronavirus disease 2019 (COVID-19) pandemic is probably the worst in history, in terms of its impact on mental health. In this context, a number of possible moderators of mental health have been studied, but research on whether direct social contact with COVID-19 influences what has been referred to as "corona anxiety" is largely absent, especially in developing countries. This study attempted to examine the impact of demographics, risk perception, and social contact with COVID-19 on the levels of corona anxiety in India, based on a sample of 776 participants from both the general public ($n = 550$) and hospital nursing staff ($n = 226$), comprising 373 male (48.1%) and 403 female (51.9%) participants. Overall, nurses were found to exhibit higher level of corona anxiety than the general public. High-risk perception ($\beta = 0.268$, $p < 0.001$) was found to be positively associated with corona anxiety. Female participants ($\beta = 0.31$, $p < 0.001$) were found to exhibit higher level of corona anxiety compared to their male counterparts. Regression analyses indicated that social contact with COVID-19 significantly aggravated corona anxiety across the study sample. Older people showed higher level of corona anxiety compared to younger people. For men, the impact of social contact with COVID-19 on corona anxiety was mostly prevalent among the individuals in the oldest age group (41 years or older), whereas for women, the escalating impact of social contact with COVID-19 on corona anxiety was discernible throughout all age groups.

Keywords: COVID-19; Anxiety; Risk perception; Health care; Social contact

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1. Introduction

The coronavirus disease 2019 (COVID-19) pandemic is probably the most disruptive pandemic the world has ever witnessed, with the longest extended lockdowns in human history (Feehan & Apostolopoulos, 2021). Ever since the World Health Organization (WHO) declared the COVID-19 pandemic as a "public health emergency of global concern" on January 30, 2020, the psychological factors of public concern became apparent. Several studies during the pandemic indicated that the perceived risk associated with the virus created a climate of fear and anxiety among individuals affecting their mental and physical health. Public perception of risk during a pandemic, such as COVID-19, depends on the sociodemographic characteristics and on an individual's conceptual difference in how one perceives the risks associated with self and others (Ibuka *et al.*,

2010; van der Linden, 2015). It is important to understand the demographic impact of public risk perception and associated health anxiety during this period when the countries were witnessing an increase in the number of positive cases and deaths related to COVID-19.

Being complex and multidimensional, risk perception is a largely subjective psychological construct (Dryhurst *et al.*, 2020) and past studies have demonstrated that it is influenced by cognitive, experiential, emotional, sociodemographic, and sociocultural factors (van der Linden, 2015). The cognitive dimension of risk perception associated with the pandemic can be based on one's knowledge gained through social networks, which expand to social interactions with friends and relatives, social media postings (such as Twitter, Facebook, Reddit, and blogs), news, media channels, communications from health authorities, government announcements, *etc.* Based on the social network contagion theory (Scherer & Cho, 2003), the perception of risk about a pandemic may be influenced by the communication about the pandemic within individuals' social networks, which expands to create groups of similar thoughts, beliefs, communities, and organizations. Based on Slovic's (1987) psychometric paradigm (Leppin & Aro, 2009), COVID-19 pandemic risk can be categorized as a "*dreaded risk*" – characterized as uncontrollable, catastrophic, fatal, rather than an "*unknown risk*." Hence, the cognitive risk assessment of the threat or the fear of the pandemic may lead to anxiety and other mental health issues. The experiential factors of risk perception are based on one's *emotions* and *affect*. From a Health Belief Model (HBM) point of view, one's own experience with the hazards, based on the cognitive appraisal, may trigger higher emotions and, hence, affect risk perception. In the present study, therefore, we included "social contact with COVID-19" (SCC19) as one of the factors to assess risk and anxiety. SCC19 is a new term, which refers to "knowing some close relatives or friends infected with COVID-19" (Center for Medicare & Medicaid Services, 2022).

However, the judgment of the risk perception is based on several factors. Due to the dynamic nature of the spread of the pandemic, the risk perception, level of anxiety, and precautionary behavior differ based on sociodemographic and cultural characteristics. The sociocultural factor of risk perception is built on the "cultural theory of risk" (Douglas & Wildavsky, 1983) wherein it is argued that an individual's risk is influenced by the *group* (belongingness) and *grid* (control). Hence, we believe that the individuals belonging to an individualistic or collectivistic society may differ in their risk perception due to their relative position of social control and belongingness. Our study specifically focused on the collectivistic society of India, which was one of the top three countries severely affected by COVID-19. Several studies in the past indicated that the risk perception among women is comparatively higher than that among men (de Zwart *et al.*, 2009; Ibuka *et al.*, 2010; van der Linden, 2015). However, Ibuka *et al.* (2010) did not observe any significant correlation between age and perceived risk in the context of H1N1 influenza.

The implications of the COVID-19 pandemic are financial and physical loss but they can also have long-term consequences on the psychological and physical well-being and behaviors, along with other negative consequences (Restubog *et al.*, 2020). Several studies indicated that the COVID-19 pandemic has led to fear, anxiety, distress, and depression-related mental health (Harper *et al.*, 2020; Lee, 2020; Lee *et al.*, 2020; Ornell *et al.*, 2020; Roy *et al.*, 2020; Verma & Mishra, 2020; Wang *et al.*, 2020; Yang & Ma, 2020). While fear is the most common emotion during the onset of a pandemic, excessive fear can lead to anxiety disorders (Lee, 2020; Ornell *et al.*, 2020), which may subsequently affect long-term psychological and mental well-being. Behavioral changes can occur due to the spread of the pandemic, resulting in increased attention to personal hygiene, social distancing, isolation, and repeated check with medical professionals to determine if the symptoms are related to the COVID-19 (Restubog *et al.*, 2020). Harper *et al.* (2020) observed that fear is a normal and functional response phenomenon during the COVID-19 pandemic; it is highly related to anxiety, and drives behavioral changes. In a study conducted in China, Wang *et al.* (2020) observed that a higher perception of the likelihood of contracting COVID-19 is associated with higher level of anxiety and, further, observed that 28.8% of the sample reported moderate to severe anxiety and 16% of the sample moderate to severe depressive symptoms. The high mortality rate among elderly people may also increase anxiety and stress among these groups.

In a study with sample data collected in early March 2020 to develop a health screener for COVID-19, Lee (2020) observed that younger adults reported a higher level of corona anxiety (CA) than their counterparts. However, this study failed to establish any significant correlations between anxiety and gender. While examining depression, anxiety, and stress among the Indian population during the COVID-19 pandemic from April 4 to 14, 2020, Verma & Mishra (2020) observed that 25% of the population were moderately to severely "depressed," 28% of them moderately to severely "anxious," and 11.6% of them moderately to severely "stressed." The study indicated that a higher percentage of males as compared to females had anxiety and depression, whereas a higher percentage of females had stress. On the contrary, Das & Pal (2021) examined CA predictors in India and observed higher

level of anxiety among women as compared to men. The previous studies have reported that the younger population suffered from higher levels of anxiety during the COVID-19 pandemic (Das & Pal, 2021; Verma & Mishra, 2020). However, Nikčević & Spada (2020) observed no correlation of age and gender with COVID-19 anxiety syndrome. While these studies present mixed results, we believe sociodemographics play a key role in predicting CA during the pandemic. Moreover, the intervening effect of SCC19 on CA has not been explored in India.

Hence, the present study attempted to examine the CA within the context of sociodemographic characteristics (age and gender) and whether SCC19 has an intervening effect on the relationship between age, gender, and CA. Further, the study explored the similarities and/or differences in risk perception and CA among the general population and frontline hospital nurses.

2. Data and methods

2.1. Participants and procedures

We collected two sets of sample data – one sample was collected from the general public and the other one from among the frontline hospital nurses – to study their risk perception and CA. During the time of the pandemic, the health-care professionals, especially the nurses, were probably the most affected due to their working environment and closeness to COVID-19 patients. Hence, we included hospital nurses to compare their risk perception and CA with the general population. We employed convenience sampling-based online survey technique to recruit participants from the general public and among the hospital nurses based on voluntary and anonymous participation. The online survey was preferred over the paper-and-pencil format due to the prevailing pandemic. Moreover, the online survey has the advantages of efficiency and cost (Nayak & Narayan, 2019), which can hardly be achieved with the paper-and-pencil format. Using the online survey, we collected a total of 776 sample data of which 550 individuals were from the general public and 226 individuals from among the frontline hospital nurses. The data were collected on a pan-India basis in the 1st week of November 2020. The 776 participants included 373 males (48.1%) and 403 females (51.9%). All the participants were aged above 18 years. Aside from sociodemographic data such as age and gender, we also collected details regarding SCC19 for analyzing its impact on CA in the study participants.

2.2. Measures

A six-item scale developed by Dryhurst *et al.* (2020) to measure the risk perception during the COVID-19 pandemic was used to measure the coronavirus/COVID-19 risk perception. This self-assessment scale measured risk perception on a five-point Likert-type scale with 0 = "not at all worried" to 4 = "very worried." The scale measured the risk perception of own/self and risk perception associated with other individuals. Four items measured the risk associated with oneself and two items measured risk associated with other individuals. A sample question of risk associated with self includes, "How worried are you personally about the following issues at present? – Coronavirus/COVID-19" and an example of a question to assess the perceived risk associated with others include, "How likely do you think it is that your friends and family in the country you are currently living in will be directly affected by the following in the next 6 months? – Catching the coronavirus/COVID-19." The reliability of the scale (Cronbach's alpha) was 0.73.

Coronavirus anxiety was measured using a five-item Corona Anxiety Scale (CAS) developed by Lee (2020). The scale used a five-point scale ranging from 0 = "not at all" to 4 = "nearly every day over the past 2 weeks." A sample item, for example, includes "I had trouble falling or staying asleep because I was thinking about the coronavirus." The internal consistency of the scale was 0.85.

To measure the SCC19, we asked the participants to answer a specific question, "Has anyone from your family, relatives, or close friends been infected with COVID-19?" The response to the question was either a "Yes" or a "No."

For the demographics, we collected gender information: 1 = Male, 2 = Female, and 3 = Others. Because the data were collected from adults, the survey included four age groups: 1 = 25 years or younger, 2 = 26 – 40 years, 3 = 41 – 60 years, and 4 = 61 years or older.

3. Results

3.1. Descriptive statistics and independent sample *t*-test

Of the 776 individuals analyzed, 550 of them were from the general public and 226 of them were hospital nurses. The overall sample comprised 373 males (48.1%) and 403 females (51.9%). The general public included 346 male and 204 female participants. However, the nursing sample (n = 226) had a higher proportion of female participants (male = 27, female = 199). Of the total sample (n = 776), 266 individuals were aged 25 years or younger (34.3%), 281 individuals aged between 26 to 40 years (36.2%), 213 of them aged between 41 to 60 years (27.4%), and 16 of them aged 61 years or older (2.1%). Since only 2.1% of the sample were aged above 61 years, this minority age group was combined with the age group of 41 – 60 years, giving 229 individuals who were labeled 41 years or older (29.5%).

The mean risk perception (RP) for the total sample was 2.46 (*SD* = 0.89), while the mean RP for the nursing sample was 2.49 (*SD* = 1.03) and the mean RP for the general public sample was 2.45 (*SD* = 0.83). The mean CA for the total sample was 0.92 (*SD* = 1.24), while the mean CA for the nursing sample and for the general public sample was 1.90 (*SD* = 1.63) 0.52 (*SD* = 0.71), respectively. Detailed descriptive statistics of the samples are given in Table 1.

Independent sample *t*-test was conducted to compare the risk perception scores between the hospital nurses and the general public. No significant group differences in the risk perception scores between the hospital nurses (*M* = 2.49, *SD* = 1.03) and the general public (*M* = 2.45, *SD* = 0.83; *t* (774) = 0.572, *p* = 0.568, two-tailed) were observed. The magnitude of the differences in the means (mean difference = 0.04, 95% *CI*: −0.09 – 1.78) was very small (η^2 = 0.0004). Independent sample *t*-test revealed a statistically significant group difference following a comparison of the CA scores between the hospital nurses and the general public. Specifically, the hospital nurses exhibited significantly high level of CA (*M* = 1.90, *SD* = 1.63) as compared to the general public (*M* = 0.52, *SD* = 0.71; *t* [774] = 16.39, *p* = 0.001). The magnitude of the differences in the means of CA (mean difference = 1.38, 95% *CI*: 1.22 to 1.55) was very large (η^2 = 0.258).

3.2. Multiple-regression analysis

After screening the data, we found no issue with singularity, multicollinearity, the dependence of errors, normality, linearity, or homoscedasticity as suggested by Tabachnick *et al.* (2019). We computed multiple regression

Table 1. Mean score of corona anxiety by social contact with COVID-19, age group, sex, and type of participants

Social contact with COVID by age group and the type of participants	Mean corona anxiety (ranging from 0 to 4)					
	Males		Females		Both sexes	
	Mean	N	Mean	N	Mean	N
All samples						
No	0.44 (0.69)	205	0.61 (0.81)	202	0.52 (0.76)	407
Yes	0.55 (0.75)	168	2.03 (1.62)	201	1.36 (1.49)	369
Total	0.49 (0.72)	373	1.32 (1.46)	403	0.92 (1.24)	776
Age groups						
25 years or below						
No	0.60 (0.72)	61	0.63 (0.77)	109	0.62 (0.75)	170
Yes	0.66 (0.89)	36	0.95 (1.19)	60	0.84 (1.09)	96
Total	0.62 (0.78)	97	0.75 (0.95)	169	0.70 (0.89)	266
26 – 40 years						
No	0.57 (0.84)	55	0.74 (0.93)	64	0.66 (0.89)	119
Yes	0.52 (0.67)	53	2.57 (1.56)	109	1.90 (1.65)	162
Total	0.55 (0.76)	108	1.89 (1.62)	173	1.38 (1.51)	281
41 years or above						
No	0.24 (0.51)	89	0.21 (0.48)	29	0.24 (0.50)	118
Yes	0.52 (0.74)	79	2.23 (1.56)	32	1.01 (1.30)	111
Total	0.37 (0.64)	168	1.27 (1.55)	61	0.61 (1.05)	229
Type of participants						
General public						
No	0.42 (0.68)	186	0.56 (0.72)	129	0.48 (0.70)	315
Yes	0.49 (0.67)	160	0.70 (0.81)	75	0.56 (0.72)	235
Total	0.46 (0.68)	346	0.61 (0.76)	204	0.52 (0.71)	550
Hospital nurses						
No	0.57 (0.79)	19	0.67 (0.92)	73	0.65 (0.89)	92
Yes	1.60 (1.38)	8	2.82 (1.45)	126	2.75 (1.47)	134
Total	0.88 (1.08)	27	2.03 (1.64)	199	1.90 (1.63)	226

Note: Standard deviation given within parentheses.

to predict CA. To determine which variables would make a significant contribution in predicting CA, gender (1 = Male, 2 = Female, 3 = Others), age group (1 = 25 years or younger, 2 = 26 – 40 years, 3 = 41 years or older), risk perception, and SCC19 (1 = Yes, 2 = No) were entered simultaneously as predictors. The descriptive statistics of CA outcome on demographics of age and gender are given in Table 1. Younger males less than 25 years of age (M = 0.62, SD = 0.78) exhibited higher level of CA compared to older males. Males of age group 26 – 40 years exhibited higher level CA (M = 0.55, SD = 0.76) than males of age group 41 years and older (M = 0.37, SD = 0.64). A reverse trend was, however, manifested in the female group, with females of age 25 years or younger exhibiting lower level of CA (M = 0.75, SD = 0.95) than those in the age group 26 – 40 years (M = 1.89, SD = 1.62). However, older females aged 41 years and above showed slightly lower level of CA (M = 1.27, SD = 1.55) compared to the middle age group but higher level of CA than the younger ones.

For the multiple-regression analyses, the variables were entered into the model in two steps: Demographic factors were entered first followed by COVID-19-related risk perception in the second step. Demographic factors, namely, being female and being older, are major predictors of high level of CA. High level of CA was reported among people who knew someone they were close with had been infected with COVID-19 and who reported higher risk perception compared to others. Table 2 provides the details of the regression results and it can be seen that all the four variables significantly impacted the prediction of CA in the sample population. In the first step of the multiple-regression analysis, gender (β = 0.31, $p < 0.001$) emerged as a significant predictor of CA where females exhibited higher level of CA (M = 1.32, SD = 1.46) as compared to males (M = 0.49, SD = 0.72). Older age (β = 0.07, $p < 0.05$) was found to be slightly predictive of higher level of CA, and SCC19 (β = 0.22, $p < 0.001$) was found to be associated with higher level of CA. Finally, risk perception (β = 0.27, $p < 0.001$) was positively related to CA. The model fit of the regression was significant ($p < 0.001$) with R^2 = 0.28 (Table 2).

Table 2. Results of multiple-regression analyses predicting the level of corona anxiety

Predictors	Corona anxiety		
	Beta (β)	t	p
Gender	0.31	9.54	< 0.001
Age	0.07	2.26	0.024
Social contact with COVID-19	0.22	6.69	< 0.001
Risk perception	0.27	8.11	< 0.001

Notes: β: Standardized regression coefficients, t: t-test statistics, p: p value

3.3. Full factorial analysis of variance

A between-subjects analysis of variance was conducted to assess the impact of gender, age, and SCC19 on CA. No serious violations were noted in the preliminary assumption testing for normality, linearity, univariate and multivariate outliers, homogeneity of variance, covariance matrices, and multicollinearity. The impact of SCC19 across different age groups and genders is depicted in Table 1.

In the main effect analysis, a statistically significant difference in CA was observed (F [1,764] = 83.80, $p < 0.001$, partial η^2 = 0.10) between males and females. An inspection of the mean scores indicated that females reported higher levels of CA (M = 1.32, SD = 1.46) than males (M =.49, SD = 0.72) (Table 1). A statistically significant difference in the prediction of CA (F [2,764] = 10.54, $p < 0.001$, partial η^2 = 0.03) across different age groups was observed. The analyses demonstrated that SCC19 was associated with high level of CA (F [1,764] = 92.89, $p < 0.001$, partial η^2 = 0.11). For a detailed between-subjects analysis of variance please, refer to Table 3.

Two-way interactions analysis of gender with age, gender with SCC19, and age with SCC19 indicated all observations as statistically significant ($p < 0.001$). No statistically significant gender difference in CA was found in young people (25 years or younger), but a large gender difference in CA was observed in the middle-aged and older people (over 25 years of age), F [2,764] = 14.59, $p < 0.001$, partial η^2 = 0.04 (Table 3 and Figure 1). Analyses showed that SCC19 served to slightly increase CA in males, but to substantially increase CA in females (F [1,764] = 70.62, $p < 0.001$, partial η^2 = 0.09) (Table 3 and Figure 1).

The interplay between the age of study participants and the levels of CA was greatly enhanced by the SCC19; for instance, older people reported high level of CA if they knew someone who reported having infected with COVID-19 (F [2,764] = 13.51, $p < 0.001$, partial η^2 = 0.03) (Table 3 and Figure 2). A full factorial three-way interaction analysis among gender, age, and SCC19 indicated a statistically significant interaction ($p < 0.001$). For men, the impact of SCC19 on CA was seen mostly among the oldest age group (41 years or older); for women, the escalating impact of SCC19 on CA was discernible throughout all age groups (F [2,264] = 12.17, $p < 0.001$, partial η^2 = 0.03) (Table 3 and Figure 2).

4. Discussion

In this study, we set out to examine the difference in the COVID-19 risk perception between the general public and

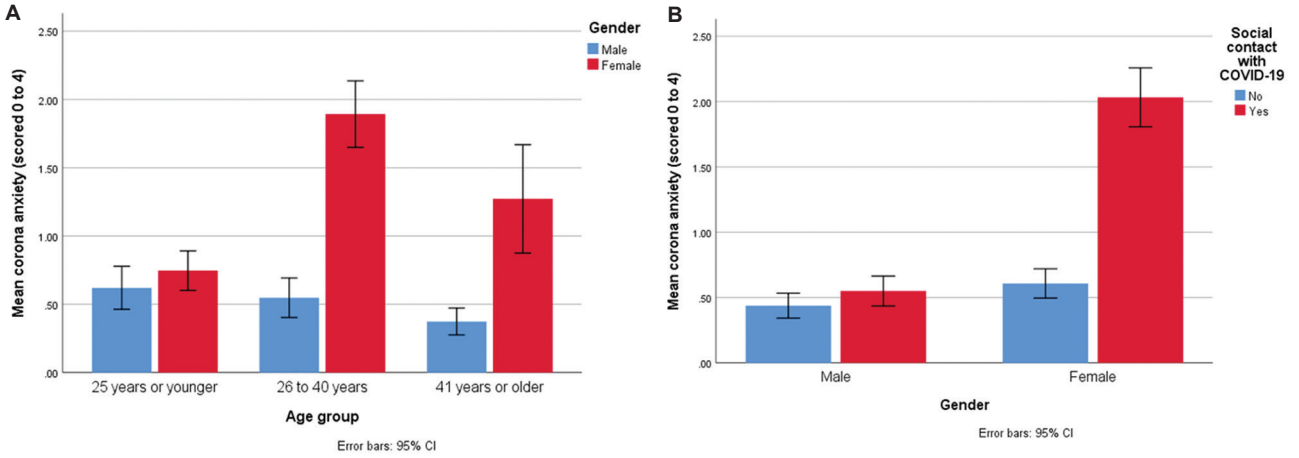

Figure 1. Impact of different predictor variables on corona anxiety. (A) Impact of gender and age, and (B) impact of gender and social contact with COVID-19.

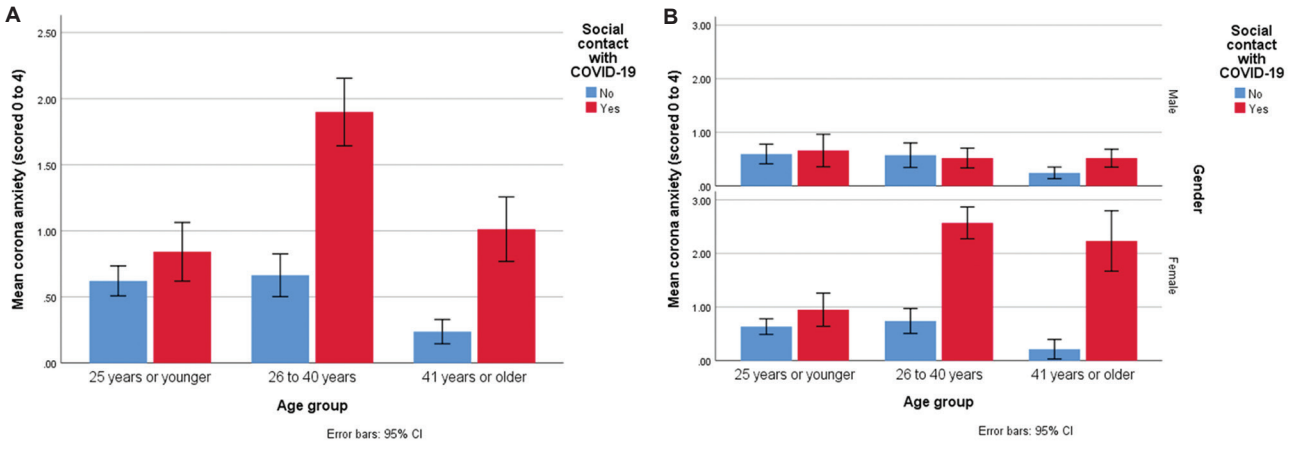

Figure 2. Impact of different predictor variables on corona anxiety. (A) Impact of age and social contact with COVID-19, and (B) impact of gender, age, and social contact with COVID-19.

Table 3. Tests of between-subjects effects

Source	Type III sum of squares	df	Mean square	F	*p*	Partial eta squared
Corrected model	453.84[a]	11	41.26	42.95	0.000	0.38
Intercept	493.64	1	493.64	513.91	0.000	0.40
Gender	80.49	1	80.49	83.80	0.000	0.10
age_group 3	20.26	2	10.13	10.54	0.000	0.03
COVID_social_contact	89.22	1	89.22	92.89	0.000	0.11
gender * age_group 3	28.02	2	14.01	14.59	0.000	0.04
gender * COVID_social_contact	67.83	1	67.83	70.62	0.000	0.09
age_group 3 * COVID_social_contact	25.96	2	12.98	13.51	0.000	0.03
gender * age_group 3 * COVID_social_contact	23.39	2	11.69	12.17	0.000	0.03
Error	733.87	764	0.96			
Total	1843.56	776				
Corrected total	1187.71	775				

Notes: [a]R squared=0.38 (adjusted R squared=0.37). Dependent variable: Corona anxiety (scored 0 – 4).

the frontline hospital nurses in India and to examine the CA within the context of sociodemographic characteristics (age and gender) and whether SCC19 intervenes in the relationship between age, gender, and CA. While CA is one of the most studied subjects during the COVID-19 pandemic, elucidating factors that contribute to CA may add value in understanding how people respond to large-scale, devasting pandemics. Hence, we extended our research to examine the extent of CA and its predictors during the COVID-19 pandemic in India. During the pandemic, the people in India were worried that someone that were close with had been infected with COVID-19, and it was probably one of the most discussed topics then. Hence, in addition to the demographic impact on CA, we specifically focused on the SCC19 as an intervening factor to predict CA. To the best of our knowledge, this is the first study examining the effect of SCC19 on CA when interaction with age and gender is considered.

Our findings that the hospital nurses exhibited high level of risk perception ($M = 2.49$, $SD = 1.03$) are congruent with the claim made by Kamberi *et al.* (2021), who predicted higher level of risk perception among healthcare workers. While we did not observe any significant differences in the risk perception between hospital nurses and general public ($M = 2.45$, $SD = 0.83$), we found that the overall sample ($n = 776$), when both the hospital nurses and general public were combined, manifested high level of risk perception ($M = 2.46$, $SD = 0.89$). Our study observed that high level of risk perception ($\beta = 0.268$, $p < 0.001$) is associated with high level of CA, a finding similar to the observations made by Malesza & Kaczmarek (2021) in a Polish sample, in which the respondents demonstrated high level of risk perception capable of predicting high level of CA.

Several studies examining the demographic impact on CA have indicated mixed results. While Verma & Mishra (2020) observed males demonstrating higher level of anxiety in a study on the COVID-19 impact in India, Lee (2020) did not observe any significant correlations between gender and anxiety but reported that young adults had a higher level of CA than older adults. Interestingly, Nikčević & Spada (2020) reported no correlation between age and gender in the context of CA but observed a positive association between high-risk perception and CA. Our study results concur with the findings of Malesza and Kaczmarek (2021) that higher CA level was more prevalent among the female participants as compared to the male participants. These observations, however, contradict the earlier findings (Lee, 2020; Nikčević & Spada, 2020; Verma & Mishra, 2020). We also observed that age could predict CA level; for example, the level of CA increases with the age. On the other hand, nursing professionals exhibited higher CA level than the general public, a finding in line with the general belief that the nurses would experience higher level of CA than other individuals. This can be explained by the frontline nursing professionals working closely with the infected patients during the COVID-19 pandemic.

Further, the present study indicated that SCC19 significantly exacerbated the CA among the study samples. It is not surprising that the anxiety level increased when one learns that someone he/she is close with had been infected with COVID-19. However, the anxiety among the females increased significantly as compared to the males when SCC19 was considered as an intervening factor. SCC19 greatly enhanced the effect of age on CA; for instance, older people were more susceptible to higher level of CA as compared to younger ones if they knew someone they were close with had been infected with COVID-19. Our full factorial three-way interaction analysis indicated a statistically significant interaction among gender, age, and SCC19. For men, the impact of SCC19 on CA was common among the oldest age group (41 years or above), whereas the escalating impact of SCC19 on CA was discernible throughout all age groups for women.

Some of the limitations of this study are described in the following: the cross-sectional nature of this study prevented us from examining the level of anxiety over a period of time as the pandemic progresses and inspecting the consequences of several measures undertaken to contain the pandemic. This study also limited us from drawing causal relationship between the predictor variables and CA. Besides, the survey was administered at a single point in time during the pandemic; therefore, stability of the responses over time is unknown. To address this limitation, a longitudinal study may be conducted to provide more valuable information to understand the direction of causality for these variables and other intervening factors impacting the level of anxiety over the span of the pandemic. Furthermore, a similar and corresponding study in other countries with similar and dissimilar cultures may cast new light on understanding anxiety during the pandemic. Our results showed that anxiety during the COVID-19 pandemic was significantly related to SCC19 and high level of anxiety is associated with high level of risk perception. Nevertheless, risk perception is also associated with compliance to preventive measures which may change during the pandemic period (Wheaton *et al.*, 2012). It is unknown how this factor could affect anxiety level over time as the risk perception changes over time based on the corrective and preventive measures. Time may also heal perceived pain as people tend to accept and adjust to the new circumstances. Hence, a longitudinal

study may overcome these limitations as it was not possible to evaluate the impact of these variables in the present study.

5. Conclusion

One of the impacts of COVID-19 pandemic on mental health is manifested by the increased level of anxiety. The level of anxiety is influenced by the perceived risk and demographics. Contrary to the general belief that healthcare workers perceived high risk due to their work environment, this study did not discern any significant difference in the risk perception levels between the general public and hospital nurses. However, our study revealed that hospital nurses exhibited higher level of anxiety compared to the general public. Hence, based on this result, the provision of mental health services to counter anxiety among health-care professionals, especially the hospital nurses, during a pandemic is highly essential. One of the key findings of the study is that knowing someone close infected with the virus has an escalating effect on the anxiety level, though it was more profound among women of all groups. While the pandemic has cost lives of many people, the fact that knowing close friends and relatives being infected with COVID-19 could adversely influence mental health of the people cannot be ignored. Thus, proper communication, counseling, and treatment should be performed to lessen the anxiety among the affected individuals. Since both gender and age were found to play a significant role in the level of CA, as evident by our observation that different age groups and gender exhibited different levels of anxiety during the pandemic, different mental health services catering to different age groups and gender may help in coping with the increased level of anxiety.

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Conflict of interest

The authors declare that they have no competing interests in carrying out this research.

Author contributions

Conceptualization: Debaraj Das, Suchitra Pal
Formal analysis: All authors
Methodology: Debaraj Das, Suchitra Pal
Writing – original draft: Debaraj Das, Suchitra Pal
Writing – review & editing: All authors

Ethics approval and consent to participate

A cover page was included in the online survey to inform all participants that participation in the survey is voluntary and anonymous and the survey data would be used for research only. Hence, no further ethical approval is required.

Consent for publication

Not applicable.

Availability of data

The data are not publicly available. Data are available from the corresponding author on reasonable request.

References

Center for Medicare and Medicaid Services. (2022). Toolkit on State Actions to Mitigate COVID-19 Prevalence in Nursing Homes. Version 26. Available from: https://www.cms.gov/files/document/covid-toolkit-states-mitigate-covid-19-nursing-homes.pdf [Last accessed on 2023 Sep 11].

Das, D., & Pal, S. (2021). Do socio-demographic and corona reassurance-seeking behaviour predict corona anxiety?-a study among Indian population. *Asia Pacific Journal of Health Management*, 16(2):86-93.

https://doi.org/10.24083/apjhm.v16i2.659

De Zwart, O., Veldhuijzen, I.K., Elam, G., Aro, A.R., Abraham, T., Bishop, G.D., *et al.* (2009). Perceived threat, risk perception, and efficacy beliefs related to SARS and other (Emerging) infectious diseases: Results of an international survey. *International Journal of Behavioral Medicine*, 16(1):30-40.

https://doi.org/10.1007/s12529-008-9008-2

Douglas, M., & Wildavsky, A. (1983). Risk and Culture: An Essay on the Selection of Technological and Environmental Dangers. United States: University of California Press.

https://doi.org/10.1525/9780520907393

Dryhurst, S., Schneider, C.R., Kerr, J., Freeman, A.L.J., Recchia, G., Van der Bles, A. M., *et al.* (2020). Risk perceptions of COVID-19 around the world. *Journal of Risk Research*, 23:1-13.

https://doi.org/10.1080/13669877.2020.1758193

Feehan, J., & Apostolopoulos, V. (2021). Is COVID-19 the worst pandemic? *Maturitas*, 149: 56–58.

https://doi.org/10.1016/j.maturitas.2021.02.001

Harper, C.A., Satchell, L.P., Fido, D., & Latzman, R.D. (2020). Functional fear predicts public health compliance in the

COVID-19 pandemic. *International Journal of Mental Health and Addiction*, 19:1875-1888.

https://doi.org/10.1007/s11469-020-00281-5

Ibuka, Y., Chapman, G.B., Meyers, L.A., Li, M., & Galvani, A.P. (2010). The dynamics of risk perceptions and precautionary behavior in response to 2009 (H1N1) pandemic influenza. *BMC Infectious Diseases*, 10(1):296.

https://doi.org/10.1186/1471-2334-10-296

Kamberi, F., Sinaj, E., Jaho, J., Subashi, B., Sinanaj, G., Jaupaj, K., *et al*. (2021). Impact of COVID-19 pandemic on mental health, risk perception and coping strategies among health care workers in Albania-Evidence that needs attention. *Clinical Epidemiology and Global Health*, 12:100824.

https://doi.org/10.1016/j.cegh.2021.100824

Lee, S.A. (2020). Coronavirus anxiety scale: A brief mental health screener for COVID-19 related anxiety. *Death Studies*, 44(7):393–401.

https://doi.org/10.1080/07481187.2020.1748481

Lee, S.A., Jobe, M.C., Mathis, A.A., & Gibbons, J.A. (2020). Incremental validity of coronaphobia: Coronavirus anxiety explains depression, generalized anxiety, and death anxiety. *Journal of Anxiety Disorders*, 74, 102268.

https://doi.org/10.1016/j.janxdis.2020.102268

Leppin, A., & Aro, A.R. (2009). Risk perceptions related to SARS and Avian Influenza: Theoretical foundations of current empirical research. *International Journal of Behavioral Medicine*, 16(1):7-29.

https://doi.org/10.1007/s12529-008-9002-8

Malesza, M., & Kaczmarek, M.C. (2021). Predictors of anxiety during the COVID-19 pandemic in Poland. *Personality and Individual Differences*, 170:110419.

https://doi.org/10.1016/j.paid.2020.110419

Nayak, M., & Narayan, K.A. (2019). Strengths and weakness of online surveys. *Journal of Humanities and Social Sciences*, 24:31-38.

https://doi.org/10.9790/0837-2405053138

Nikčević, A.V., & Spada, M.M. (2020). The COVID-19 anxiety syndrome scale: Development and psychometric properties. *Psychiatry Research*, 292:113322.

https://doi.org/10.1016/j.psychres.2020.113322

Ornell, F., Schuch, J.B., Sordi, A.O., & Kessler, F.H.P. (2020). "Pandemic fear" and COVID-19: Mental health burden and strategies. *Brazilian Journal of Psychiatry*, 42(3):232-235.

https://doi.org/10.1590/1516-4446-2020-0008

Restubog, S.L.D., Ocampo, A.C.G., & Wang, L. (2020). Taking control amidst the chaos: Emotion regulation during the COVID-19 pandemic. *Journal of Vocational Behavior*, 119:103440.

https://doi.org/10.1016/j.jvb.2020.103440

Roy, D., Tripathy, S., Kar, S.K., Sharma, N., Verma, S.K., & Kaushal, V. (2020). Study of knowledge, attitude, anxiety and perceived mental healthcare need in Indian population during COVID-19 pandemic. *Asian Journal of Psychiatry*, 51: 102083.

https://doi.org/10.1016/j.ajp.2020.102083

Scherer, C.W., & Cho, H. (2003). A social network contagion theory of risk perception. *Risk Analysis*, 23(2):261-267.

https://doi.org/10.1111/1539-6924.00306

Slovic, P. (1987). Perception of risk. *Science*, 236:280-285.

https://doi.org/10.1126/science.3563507

Tabachnick, B.G., Fidell, L.S., & Ullman, J.B. (2019). Using Multivariate Statistics. 7th ed. United Kingdom: Pearson.

Van der Linden, S. (2015). The social-psychological determinants of climate change risk perceptions: Towards a comprehensive model. *Journal of Environmental Psychology*, 41:112-124.

https://doi.org/10.1016/j.jenvp.2014.11.012

Verma, S., & Mishra, A. (2020). Depression, anxiety, and stress and socio-demographic correlates among general Indian public during COVID-19. *International Journal of Social Psychiatry*, 66(8):756-762.

https://doi.org/10.1177/0020764020934508

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., McIntyre, R.S., *et al*. (2020). A longitudinal study on the mental health of general population during the COVID-19 epidemic in China. *Brain, Behavior, and Immunity*, 87:40-48.

https://doi.org/10.1016/j.bbi.2020.04.028

Wheaton, M.G., Abramowitz, J.S., Berman, N.C., Fabricant, L.E., & Olatunji, B.O. (2012). Psychological predictors of anxiety in response to the H1N1 (Swine Flu) pandemic. *Cognitive Therapy and Research*, 36(3):210-218.

https://doi.org/10.1007/s10608-011-9353-3

Yang, H., & Ma, J. (2020). How an epidemic outbreak impacts happiness: Factors that worsen (vs. Protect) emotional well-being during the coronavirus pandemic. *Psychiatry Research*, 289:113045.

https://doi.org/10.1016/j.psychres.2020.113045

ACCSCIENCE PUBLISHING

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PERSPECTIVE ARTICLE

Human development, population, and environmental burden: Historical perspective and a peek into the future

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Abstract

The human species has continuously progressed in health, wealth, education, and population worldwide since industrialization. A measure of this advance, the Development Progress Index (DPI), is applied here to the world from 1770 to the present and then projected to the year 2100 for three shared socioeconomic pathways. Concurrently, our total environmental impact continues to grow with population and consumption. However, progress has been uneven across regions. While China is projected to outdistance the United States, India is projected to surpass both this century. The population keeps growing, and the average individual DPI-value has now grown enormously - by a factor of 17 since 1770. The environmental burden to sustain the human lifestyle is reflected by the world's gross domestic product that has meanwhile grown by a factor of 155. If such human progress is to continue apace, the gross world product will be more than 2000 times higher by 2100. Already now a concern, the environmental impact is projected to grow five times larger by 2100. Human environmental impact needs a measure and attention.

Keywords: Development Progress Index; Income; World population; Environment

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1. Introduction

Human development is of fundamental interest historically and for strategic policy. To define and measure it is a priority. How much have we advanced, especially since industrialization? The environmental burden of this progress together with population growth is a major concern, so we must also ask: What is the cost of this progress to our species? The aim here is to present the transparent Development Progress Index (DPI) (Lind, 2019) and apply it to the past and the future.

The authors of the 1990 Human Development Report (UNDP, 1990) defined *the essentials*: "*Human development is a process of enlarging people's choices, the three essentials are a long and healthy life, to acquire knowledge and to have access to resources.*" They assigned a proxy statistic to each essential: life expectancy at birth (L), years of education per person (E), and gross domestic product (GDP) per person (G). By the equal marginal utility of increments to L, E, and G, DPI synthesizes the world essentials of the past 250 years and is projected to the end of this century: a spectacular advance that is hard to fathom. The development is further detailed for five regions.

The (L, E, G) data are reliable. The United Nations Development Programme (UNDP) combined them into the well-known Human Development Index (HDI). HDI has faced significant critique (*e.g.*, Kovacevic, 2011; Ghislandi *et al.*, 2018) and has undergone multiple revisions over time. HDI ranks countries and regions on an annual basis but provides limited information about their progress. While HDI ranking is taken seriously each year, it does not necessarily indicate which country wins the race. For instance, if Norway has a value of 0.957 and Ireland has a value of 0.955 (or vice versa), it does not imply that one is superior to the other. It is important to note that HDI uses a dozen of arbitrary parameters that do not have a solid basis in data, which can significantly affect the rankings. Moreover, some researchers argued that the HDI rankings are biased and unreliable (*e.g.*, Ravallion, 2012).

Section 2 demonstrates that a natural indicator of development – DPI – for the world as a whole emerges from the democratic Human Time Equality Principle and the economic Principle of Equal Marginal Utility (EMU) of its three components. DPI is a simple and suitable measure for quantitatively comparing the past, the present, and the future. In Section 3, the necessary data are presented, and the two sets of time series of DPI and GDP for the world since 1770 are calculated, projected, and compared for the rest of this century under four plausible available development scenarios (Hooke & Alati 2022; Wittgenstein Centre, 2022). Section 4 presents the preliminary estimates of the environmental impact of total consumption, both past and future, which serves as a proxy measure of environmental burden.

2. The Development Progress Index (DPI)

DPI can be expressed as the weighted geometric mean of the three HDI time series, namely L, E, and G, that is, DPI = $L^aE^bG^c$ (Lind, 2019). The three subindices, L^a, E^b, and G^c, are averaged geometrically because they are independent dimensions of development. DPI_{2000} is set equal to 1.00 by dividing the respective values of L, E, and G in the year 2000. The parameters (a, b, c) are derived as follows from two axioms.

The first axiom is the *Human Time Equality Principle (TEP)*, which Rackwitz (2002) called the "Democratic Principle," positing that 1 h of a person's life in good health should be valued the same as any other hour of any human life spent in good health. This principle essentially makes (a unit of average) human time (*e.g.*, an hour or a life year) as the currency of all valuation, which includes DPI. In other words, DPI must increase by p% if L increases by p% and E and G remain constant. Hence, the exponent *a* in DPI equals unity.

The second axiom is the economic *Principle of equal marginal utility (EMU)*, which states that humanity collectively pursues development in health, education, and income. This pursuit involves continuously balancing efforts to maximize the utility as measured by DPI. Mathematically, this principle can be expressed as dL/L = b dE/E = c dG/G. The EMU principle is the empirical basis for observing the exponents (1, b, c) of the three subindices. For general international comparison, the World parameters are used.

The simultaneous growth of L, E, and G enables the determination of the exponents b and c by the EMU principle. For example, L, E, and G in the world as a whole over the period 2000 – 2019 grew by 7.79%, 11.83%, and 54.88%, respectively, so (a,b,c) = (1, 7.79/11.83, 7.79/54.88) = (1, 0.659, 0.142). These parameters are appropriate for a worldwide comparison across countries and regions. For a comparison of the entire world in particular, the need to determine the three parameters (a,b,c) can be avoided by applying the EMU principle, where people collectively maximize their utility. L, E^b, and G^c are each normalized to equal unity in 2000 and, by the calibration of b and c, they are projected to grow at the same rate. Hence, $DPI_{World} = L^3$.

There are good reasons to question these two axioms – many examples show that equality, justice, and rationality are often absent in human affairs. This and other caveats are considered further in Section 5.

3. The data sources of the DPI and projections

3.1. The world

World development data for 1770 – 1980 were derived from Roser *et al.* (2019) and van Zanden *et al.* (2014), and the data for 1990 – 2020 were from UNDP (2020) and IIASA (2022). Climate change is a most important component of our environmental impacts with its expected ubiquitous and serious influence on the quality of human life. The Intergovernmental Panel on Climate Change (IPCC) has therefore developed a set of five Shared Socioeconomic Pathway (SSP) scenarios (Keywan *et al.*, 2017), each of which is associated with a projection time series, including the global mean temperature rise. O'Neill *et al.* (2016) described the wide range of scenarios in detail. Four of these are extreme: *SSP1 Taking the Green Road*; *SSP3 Regional Rivalry* – resurgent nationalism; *SSP4 Inequality* – increasing disparities in economic opportunity and political power; and *SSP5 Fossil-fueled Development* – energy-intensive lifestyles around the world. The most likely scenario is *SSP2 Middle of the Road* when "The world follows a path in which social, economic, and technological trends do not shift markedly from historical patterns"

(Riahi et al., 2017). With SSP2, the world temperature should rise by 3.8 – 4.2°C.

The Wittgenstein Centre (2022) has published projections of L for *SSP1*, *SSP2,* and *SSP3*, which were used here to project the associated development of the DPI for the world (Figure 1), where the world DPI was normalized to the year 2000. DPI world progress has been slow at first, increasing by less than 43% over the 19th century, then growing by a factor of more than nine over the 20th century – an impressive collective achievement (despite two world wars). This growth is projected to slow down over our century: growth by some 40% if we collectively (and unlikely) take "the Green Road" of SSP1; doubling if we take *SSP2 Middle of the Road*; and by a factor of three for the *SSP3* "Rocky Road" of *Regional Rivalry.*

According to the World Bank and Maddison (2006, p. 638), the Gross World Product (GWP) in 1750–2020 (in 2011 International Dollars normalized to the year 2000) is shown in Figure 2 (OWID, 2023): growth from 1770 to 2000 by a factor of 65. Leimbach *et al.* (2017) projected that GWP will continue to grow and reach 32 by 2100 if it is normalized to 1.00 in the year 2000, rising from 0.015 in 1770 (Figure 2). The projection by Hooke & Alati (2022) also showed that the world GDP by 2100 will be normalized at 35.2, confirming that the growth of GWP will accelerate strongly by 2100, with the associated 4°C world temperature rise.

In summary, human production and consumption of goods and services, already a concern in the year 2000, can be expected to grow enormously over this century.

3.2. Regions

There appear to be no projections for individual regions, but Hooke & Alati (2022) have projected the GDP for the world's continents and Oceania. Together with the population projection by Roser & Rodés-Girao (2013) and HDI data (UNDP, 1990; 2020; 2023), it yields the GDP per capita G, as shown in Table 1.

Roser *et al.* (2013) provided projections of life expectancy L. Together with G, it yields the life quality index (LQI) LG^c, which is a component of DPI. Projections of the education component E are not available, but HDI data for all regions between 1990 and 2019 show that DPI for all HDI regions and the world equals to $LQI^{1.5}$ with a standard deviation of merely 6%. For the purpose of projection with a horizon of 40 – 80 years into the future, DPI surrogate in Table 2 should be adequate.

4. The environmental burden

Environmental impact of human development is an extremely complex concept. Agriculture and fishing activities result in the displacement of plant and animal habitats; fossil fuels and cattle produce greenhouse gases that lead to climate change, and so on. While the atmosphere releases greenhouse gases that contribute to the acidification of the oceans, it is difficult to measure individual and combined effects. However, the sum of these impacts can reasonably be considered proportional to the growth of the Primary and Secondary Sectors of the Economy: Agriculture and Industry (A&I).

The projections by Hooke & Alati (2022) broke down GWP by sector. Most of the growth is from the services and information sector, which likely has little environmental

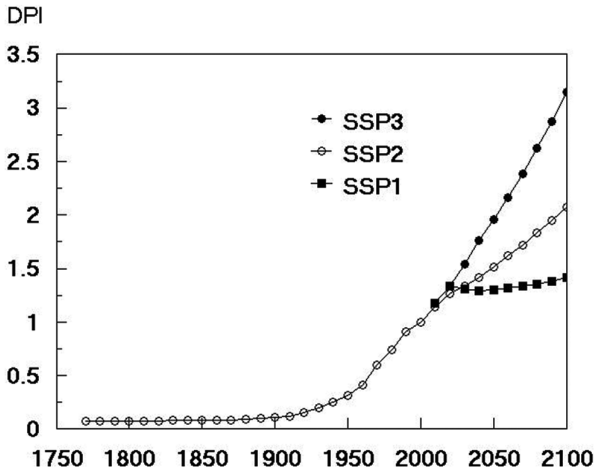

Figure 1. World Development Progress Index (DPI), 1770 – 2100.
Notes: The DPI value was normalized to 1.0 in 2000. The value was 0.077 in 1770. The values after 2020 are projections from the three Shared Socioeconomic Pathways (SSP) of climate change by IIASA (2022).

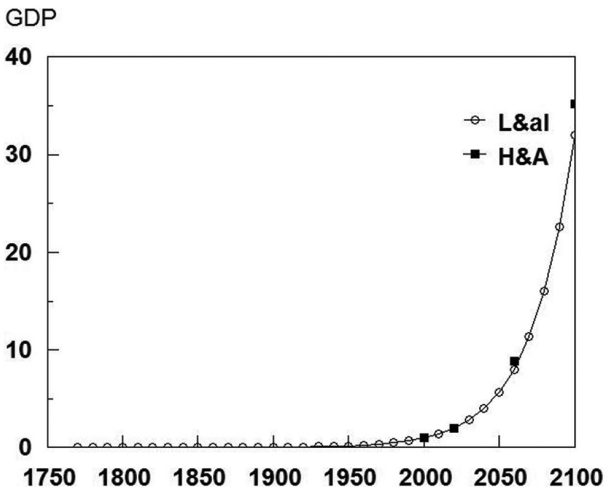

Figure 2. Gross World Product (GWP), 1770 – 2100.
Notes: GWP was normalized to year 2000. The GWP value in 1770 was 0.015 (Maddison, 2006, p. 638; OWID, 2023), 1.0 in 2000, and 32.0 in 2100 (Leimbach *et al.*, 2017, SSP2), or 35.2 in 2100 (Hooke & Alati, 2022).

Table 1. Projections of regional gross domestic product per capita for 2020 to 2100

	2020	2060	2100
Asia	13,638	58,157	220,850
Africa	5,002	32,870	232,722
Americas	32,503	89,813	231,962
Europe	39,227	112,908	230,820
Oceania	37,606	96,615	246,029
World	17,183	58,601	227,261

Notes: Numbers refer to the constant 2011 International Dollars PPP (UNDP, 2020).
Sources: Our World in Data (2023) for population; Hooke & Alati (2022) for GDP.

Table 2. Projections of development progress index for 2020 – 2100

	2020	2060	2100
Asia	1.24	2.1	3.3
Africa	0.73	1.5	2.8
Americas	1.61	2.5	3.6
Europe	1.80	2.8	3.6
Oceania	1.84	2.5	3.5
World	1.28	2.0	3.2

Sources: Our World in Data (2023) for life expectancy; Hooke & Alati (2022) for GDP.

impact. However, the agriculture and industry sectors together should grow about fivefold as the majority of countries develop, converging toward the economies of the highly developed countries. To get a first impression of that impact, it is of interest to see how the GWP influence is projected to grow. The annual impacts may be small, but they accumulate. Hooke & Alati (2022) showed A&I GWP growing at an annual average rate of 1.53% from 1770 to 2020, at 1.40% from 2020 to 2060, and then at 2.5% beyond 2060 until 2100. The sum of world environmental impact grows roughly exponentially; if we set the total impact to 1.00 in the year 2000 (well worth the current widespread worry), then it was negligible in the 1770s (0.0005), still very small in 1900 (0.19), but very disturbing in 2050 (2.2), and enormous by 2100 (5.2).

5. Discussion

The credibility of DPI rests upon three components. The first is the Human Time Equality Principle. Are all human lives really of equal value – are not the creative, the unselfish, and the powerful more valuable and should be given greater weight? Such thoughts have undergone historical testing and have been emphatically rejected, eventually leading to the establishment of modern democracies. The second is the HDI component data. These are solid statistics and widely used by academia and the international community. The third and more controversial is the Principle of EMU, which posits that as humans, we collectively and continually strive to maximize the benefits of reducing mortality, improving education accessibility, and bettering income levels, as reflected by DPI. Evidently, in some countries, people mostly seem to pursue better health, whereas in other countries, people do so for income. However, the overall growth of L, E, and G worldwide is a fair weighting of what we "best" can achieve with currently available resources. What is the meaning of the word "best" here? It is the collective idea of self-interest (which is widely thought to be short-sighted). But who is to judge if not the human collective? Just as it gradually became understood and is still being better understood, that it is better to teach children literacy than to send them to work, it is more and more seen to be important to protect the environment. In a mostly democratic world, there is no better measure of our collective utility than what is revealed (Samuelson, 1948).

The growth of world development and consumption to date, witnessed by the reliable measures of the three essentials, is an impressive collective accomplishment. In general speaking, the growth has continued at a quite steady rate over the past century (Figure 1). Can this be expected to continue? Yes, indeed, with less than half a dozen of exceptions, all countries have maintained growth at a good rate, and all have room to grow (UNDP, 2023).

All projections are uncertain and should rest on explicit assumptions to be believable. The one by Leimbach *et al.* (2017) uses the established welfare economics while the World Income Model by Hooke & Alati (2022) assumes "the UN's most-likely projections" for population and the constant percentage rate for technology, and the continuing process of convergence for economic growth. In other words, the growth of economy and business will be assumed as usual (over the past 100 years). Their projections may be "most likely" and were it not for the results that give grounds for skepticism. For example, it is hard to imagine that Africa's GDP per person would surpass that of all other continents by 2100 (Table 1). With declining dependence on oil, it will require enormous changes in lifestyles over just three generations. Common sense would also suggest that catastrophic world events, such as the two world wars, the 2007 – 2008 Global Financial Crisis, or the recent COVID-19 pandemic, would have led to noticeable and lasting reductions in DPI and GDP. However, this has not been the case. There remains plenty of room and incentives for the dissemination and expansion of technology.

Economic convergence – more income equality within and between countries – may become questionable, but one might question why it should not persist. The narrowing inequality between continents as shown in Tables 1 and 2 gives grounds for optimism, as long as local inequalities diminish accordingly.

Consider the enormous impact of the carbon-based economy on the world environment, with present and foreseeable catastrophes of flooding, wildfires, mass migrations, and so on. It is indeed possible to greatly reduce our dependence on carbon fuels by utilizing solar, wind, uranium, and thorium as alternative energy sources. There are strong reasons to suggest that this growth model should be seen as a *warning* rather than a projection, and as such, it should be acknowledged. Regardless of the accuracy and extent of these potential scenarios, it is imperative to thoroughly examine the consequence of such growth and for humanity to take decisive and concerted action. The environmental impact of human development is a growing concern. Just as the future development of different sectors of the economy is uncertain, the environmental impact they will have is also uncertain, regardless of how it is measured. There is a need for a measure that is better than GWP or its sector components. This is analogous to the need that in the 1980s led to the broader definition of human development and the first attempt to measure it, known as HDI.

Dire predictions have a long history, and many of them have proven to be false, resulting in ridicule. One example of such prediction is the theory of Malthus (1798), which highlighted a feedback effect loop believed to lead to overpopulation and famine. According to this theory, as more food is produced, it leads to improved well-being, which in turn leads to population growth that requires more food, creating a vicious circle and eventually causing a shortage of farmland. The expected consequence was the miserable outcome known as the "Malthusian Trap," i.e., global hunger. However, developments that could hardly have been foreseen by Malthus, such as the advent of artificial fertilizers, advancements in education, and the process of industrialization have rendered Malthus's prediction invalid.

Perhaps, the most recent relevant study is the Club of Rome's study conducted by Dixson-Declève & Ghosh (2022), which expands upon the groundbreaking work of Meadows *et al.* (1972), highlighting the alarming unsustainability of humanity's current trajectory. This latest study not only serves as an antidote to despair but also offers a comprehensive plan consisting of five steps to achieve prosperity for all.

6. Conclusion

The past 250 years have witnessed a remarkable and consistent growth in overall human well-being, as indicated by improvements in longevity, access to knowledge, and income through DPI. This growth by a factor of 16 has been truly impressive. Furthermore, it is highly likely that another doubling will occur well before the year 2100. While this projected growth alone will lead to significantly enhanced and widespread well-being, it is crucial for each country to take responsibility for furthering this progress by reducing inequality. In addition, the challenging task of balancing the requirements of human development with the preservation of our living environment must be addressed. Each country must effectively prepare for the local consequences of a 4°C rise in global temperature.

The concomitant growth in world production and consumption per capita together with the enormous population growth has imposed a substantial burden on natural environment. If we do not radically take collective action worldwide, the impact could grow by yet a factor of five or more. Therefore, it is imperative to establish a dependable indicator to quantify the escalating global environmental impact.

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References

Dixson-Declève, S., & Ghosh, J. (2022). Earth for All: A Survival Guide for Humanity. British Columbia, Canada: New Society Publishers.

Ghislandi, S., Sanderson, W.C., & Scherbov, S. (2018). A simple measure of human development: The human life indicator. *Population and Development Review*, 45(1):219-233.

https://doi.org/10.1111/padr.12205

Hooke, A., & Alati, L. (2022). What will the World Economy Look Like in 2100? Available from: https://www.ubss.edu.au/articles/2022/july/what-will-the-world-economy-look-like-in-2100 [Last accessed on 2023 Oct 24].

IIASA. (2022). Available from: https://tntcat.iiasa.ac.at/sspdb [Last accessed on 2022 Jul 18].

Kovacevic, M. (2011). Review of HDI Critiques and Potential Improvements. Human Development Research Paper 2010/33. New York: United Nations Development Programme. Available from: https://hdr.undp.org/system/files/documents/hdrp201033pdf.pdf [Last accessed on 2023 Oct 24]

Leimbach, M., Kriegler, E., Roming, N., & Schwanitz, J. (2017). Future growth patterns of world regions-a GDP scenario approach. *Global Environmental Change*, 42:215-225.

https://doi.org/10.1016/j.gloenvcha.2015.02.005

Lind, N. (2019). A development of the human development index. *Social Indicators Research*, 146(3):409-423.

https://doi.org/10.1007/s11205-019-02133-9

Maddison, A. (2006). The World Economy Volume 1: A Millennial Perspective and Volume 2: Historical Statistics. Table 8b. OECD Development Centre Studies, p.638. Available from: https://read.oecd-ilibrary.org/development/the-world-economy_9789264022621-en#page638 [Last accessed on 2023 Oct 16].

Malthus, T. (1798). An Essay on the Principle of Population. *London: J. Johnson in St Paul's Churchyard.*

Meadows, D.H., Meadows, D.L., Randers, J., & Behrens, W.W. (1972). The Limits to Growth. New York: Universe Books.

O'Neill, B.C., Kriegler, E., Ebi, K.L., Kemp-Benedict, E., Riahi, K., Rothman, D.S., *et al.* (2016). The roads ahead: Narratives for shared socioeconomic pathways describing world futures in the 21st century. *Global Environmental Change*, 42:169-180.

https://doi.org/10.1016/j.gloenvcha.2015.01.004

OWID, Our World in Data (2023). Available from: https://ourworldindata.org [Last accessed on 2023 Oct 24].

Rackwitz, R. (2002). Optimization and risk acceptability based on the life quality index. *Journal of Structural Safety*, 24(2-4):297-331.

https://doi.org/10.1016/S0167-4730(02)00029-2

Ravallion, M. (2012). Troubling tradeoffs in the human development index. *Journal of Development Economics*, 99(2):201-209.

https://doi.org/10.1016/j.jdeveco

Riahi, K., van Vuuren, D.P., Kriegler, E., Edmonds, J., O'Neill, B.C., Fujimori, S., *et al.* (2017). The shared socioeconomic pathways and their energy, land use, and greenhouse gas emissions implications: An overview. *Global Environmental Change, 42:153-168.*

https://doi.org/10.1016/j.gloenvcha.2016.05.009

Roser, M., & Rodés-Guirao, L. (2013). Future Population Growth. Our World in Data 2023. Available from: https://ourworldindata.org/future-population-growth [Last accessed on 2023 Jun 17].

Roser, M., Ortiz-Ospina, E., & Ritchie, H. (2019). Life Expectancy. Available from: https://ourworldindata.org/life-expectancy [Last accessed on 2023 Jun 10].

Samuelson, P.A. *(1948). Consumption theory in terms of revealed preference. Economica New Series, 15(60):243-253.*

https://doi.org/10.2307/2549561

UNDP. (1990). United Nations Development Programme. Human Development Report 1990. Available from: https://hdr.undp.org/en/data [Last accessed on 2023 Oct 24].

UNDP. (2023). United Nations Development Programme. Table 1. Human Development Index and its Components. Available from: https://hdr.undp.org/data-center/human-development-index#/indicies/hdI [Last accessed on 2023 Jun 04].

UNPD. (2023). United Nations Population Division. World Population Prospects. Available from: https://population.un.org/wpp [Last accessed on 2023 Jun 04].

Van Zanden, J.L., Baten, J., d'Ercole, M.M., Rijpma, A., Smith, C., & Timmer, M. (2014). How Was Life? Global Well-being Since 1820. Paris, France: OECD Publishing.

https://doi.org/10.1787/9789264214262-en

Wittgenstein Centre. (2022). Available from: https://dataexplorer.wittgensteincentre.org/wcde-v2 [Last accessed on 2022 Jul 20].

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PERSPECTIVE ARTICLE

Refugees and refugee applicants' voices in Brazilian cities

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Abstract

This paper provides an analysis of the struggles faced by refugees and refugee applicants as they seek recognition and the effectiveness of their rights within Brazilian cities, particularly focusing on full political participation at the municipal level. Employing juridical-sociological research methods, including theoretical bibliographical research and critical analysis, it is concluded that the formal recognition of the right to the city holds significant relevance, serving both as a catalyst for the concrete realization of these rights and as a means to affirm the identity of individuals involved. Although the law may result in the maintenance of injustices, the institutionalized means of participation should not be abandoned but reconstructed.

Keywords: Refugee; Citizenship; Right to the city; Political participation; Brazil

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1. Introduction

The selection of the subject for this paper stems from a concern regarding the phase that follows the arrival of individuals seeking refuge in Brazil. After studying and analyzing the content, interpretation, and application of the principle of *non-refoulement*, especially in the face of the imposition of border barriers by States that receive a constant flow of immigrants, the concern has shifted to the phase following the reception of refuge seekers in national territory. This transition brought about a sense of anguish regarding "what happens next?"

Given the dual nature of Brazilian policy for refugees and refugee applicants (Moreira, 2010), it should be noted that Brazil is internationally recognized for the receptiveness of its foreign policy. Data from the National Committee for Refugees (CONARE) reveals that between 2011 and 2021, a total of 297,712 migrants sought asylum in Brazil, resulting in 60,011 formally recognized refugees by the end of 2021. In 2021 alone, 29,107 immigrants applied for asylum in Brazil, marking an increase of 208 requests compared to 2020, when the country received 28,899 requests (Junger *et al.*, 2022). Despite this ease of access to Brazilian territory, a real "barrier" exists for those seeking refuge within the Brazilian State — considering the completeness of the services and opportunities offered — which would be the next phase, the reception of refugees. The structure of Brazilian domestic policy reveals deficiencies in effectively guaranteeing the human rights of these individuals, in general, and consequently, regarding their integration process (Moreira, 2010).

In this sense, considering that individuals seeking refuge are welcomed into a city upon their arrival, ensuring their integration and the realization of their human rights requires that they are assured the full enjoyment and exercise of the right to the city. It should be clarified that according to a systematic interpretation of articles 18, 29, and 30 of the Brazilian 1988 Federal Constitution (Brazil, 1988), the municipality is the smallest federal entity responsible for directly addressing the immediate basic needs of the population through urban management.

For conceptual purposes, the right to the city corresponds to the right of every inhabitant to participate fully (actively and passively) in urban life (Lefebvre, 2011). This includes being able to enjoy the advantages, opportunities, and services offered by the local urban system, such as housing, transport, work, culture, and leisure, and to participate in the elaboration of urban policies and the construction of the city itself (Lefebvre, 1968 Trindade, 2012).

Nevertheless, it should be noted that the effectiveness of urban public policy for integration often depends on collaboration with the intended group (Moreira, 2010), in this case, refugees and refugee applicants. Without their participation in its elaboration, government policy may prove to be superficial, inadequate, and ineffective in achieving its desired goals. Moreover, the very level of effectiveness of these urban policies can only be assessed by those who use and benefit from them.

Participation in the elaboration, implementation, and monitoring of public policies also requires the recognition of refugees and refugee applicants as (political) subjects of rights, citizens who shape their living environment, protagonists and narrators of their own history (Benjamin, 1994), and individuals who are not subordinate (Bidaseca, 2010). Without this recognition, the simple elaboration of government policies destined for the integration of such a group without any form of (influential) participation being opportune keeps them as objects, distant from the policymakers, which, in turn, distances the latter from the very reality they aim to regulate.

Thus, whether refugees and refugee applicants participate or not in the process of formulation and implementation of municipal public policies aimed at them may interfere, both positively and negatively, with their effective integration into the community. Consequently, ensuring the full realization of their right to the city may be compromised due to the potential inadequacy of government regulations and even their lack of correspondence with the intended reality.

This paper, therefore, delves into the struggles of these individuals for the recognition and effectiveness of their right to the city through full (or broader) political participation within the Brazilian State, specifically in the municipal sphere. It analyses the collective efforts aimed at securing recognition of the aforementioned rights for refugees and refugee applicants, granting them the right to "voice" in the city in which they live.

This study constitutes a legal-sociological investigation (Gustin, 2010) utilizing the theoretical research technique in the bibliographic form (Gil, 2002). It examines the legal aspects of citizenship, political participation, and the right to the city concerning refugees and refugee applicants. Furthermore, it analyzes the concrete realization of these rights and explores the legal phenomenon within the political and sociocultural environment, with a particular focus on the notion of effectiveness between law and society.

In this sense, this paper begins by defining and interconnecting the concepts of city, citizenship, political participation, and right to the city. It also outlines the rights guaranteed to the refugee population by the Brazilian legal system, demonstrating the qualification of this population as citizens. Subsequently, it addresses the question of whether the refugee and refugee applicant movement can be classified as a social movement and explores the search for recognition as individuals entitled to the right to the city. Finally, it analyzes the institutionalized law itself as a paradox of subordination and emancipation of these people within the Brazilian sociopolitical and legal system.

2. Contextualizing the city, citizenship, political participation, and the right to the city of refugees in Brazil

When individuals seeking refuge are received, they find welcome within a city, as municipalities are the lowest federative entities recognized by the 1988 Federal Constitution. Therefore, to ensure the effective reception of refugees and refugee applicants who have now become residents of these cities while also upholding their citizenship rights and dignity, it is imperative to secure their inherent right to inhabit urban spaces fully. This encompasses the right to actively engage in city life, with access to all essential services, opportunities, and advantages that are vital for a dignified existence within the urban environment. Moreover, they should have the opportunity to participate in the formulation, execution, and oversight of urban policies.

As Sister Milesi (2008) and Moreira (2014) accurately assert that the concept of welcoming goes beyond mere hospitality. It implies the assurance of equal opportunities and access to essential public services, housing, labor

space, and political rights. Seeking refuge, in essence, is an endeavor to attain the conditions necessary to realize fundamental rights while preserving one's dignity and humanity. Consequently, welcoming encompasses the crucial task of safeguarding the refugee population's effective right to the city.

To grasp the concept of the "right to the city," it is essential to underscore that the term "city" carries legal, political, and sociological significance (Filho, 2009). The city unveils itself as a structured framework encompassing various daily life activities, from basic existence to the intricate dynamics of human interaction. Within this urban milieu, individuals cultivate and sustain the material and psychosocial conditions necessary for their existence (Harvey, 2012; Instituto Paulo Freire and Prefeitura Municipal de São Paulo, 2015).

The city embodies a complex network of material, legal, social, and political interactions that coexist with diversity and sometimes conflict. It serves as a convergence point for a multitude of individuals, where actions and relationships intersect within territorial and administrative structures, commerce, the social division of labor, and even the urbanization process. These elements collectively shape urban life (Borja & Muxí, 2000; Instituto Paulo Freire and Prefeitura Municipal de São Paulo, 2015) and influence the practice of citizenship. This is because the very essence of citizenship finds its expression in the public space, which is intrinsically linked to the city itself (Borja & Muxí, 2000).

The city, in essence, serves as the arena for the practice of citizenship, as it facilitates the exercise of various aspects of citizenship rights. These encompass elements such as the ability to choose one's work and housing, access to education and basic services, self-governance, and fostering diverse interpersonal relationships (Borja & Muxí, 2000). Through our presence in the city, we engage in all the daily activities that ensure our existence and coexistence within the community. We work, study, and live together; in short, we live (De Oliveira & Carneiro, 2022). This notion of "inhabiting" extends to encompass all actions that involve the exercise of every facet of citizenship — civil, political, and social, as categorized by Marshall (1967) and De Carvalho (2015). This perspective transforms citizenship from being merely a status or qualification bestowed upon individuals into a tool for actively practicing and exercising rights (Isin, 2009).

This is because, as a phenomenon, citizenship proves to be complex and historically constructed (De Carvalho, 2015; Marshall, 1967). It has evolved within the context of the historical phenomenon of the construction of the Nation-State and has materialized through struggles for rights among various groups in a continuous process of formulation and reformulation, from which (new) actors, scales, and places of exercise emerge (Isin, 2009).

From the perspective of Holston (2009; 2015), historical and rooted injustices, often of a structural nature, initially contributed to the formation of a "differentiated citizenship," which he recognizes as the continuous use of a form of "selective disqualification" based on social distinctions and the conception of rights as privileges granted to specific types of subjects, thus dividing citizens into "classes." However, in his study on urban peripheries in the global era, including Brazil, the same author also points to the emergence of an "insurgent citizenship." This form of citizenship arises from the resignification of meanings by new — and different — social subjects who have come to inhabit the urban space. This insurgent citizenship has the potential to destabilize (or at least confront) the then-current differentiated citizenship (Holston, 2009; 2015).

In this sense, Papadopoulos & Tsianos (2013) perceive citizenship as a specific form of governance that regulates the relationship between rights and representation (understood as the qualification of individuals as national citizens). This axiom "rights-representation" represents the basis of modern politics: Rights are considered crucial to creating different segments of citizens and defining who qualifies for these rights, while representation defines who would be "entitled to have rights" and to what "type" of rights one is entitled to. However, these authors argue that cultural identity and collective affections of belonging emerge among mobile or marginalized populations. These factors can create a social subject that has the potential to become a true subject of rights.

In light of this expansive and insurgent perspective, as articulated by Santos (2014), citizenship can be understood as a compilation of board and abstract principles that manifest as a collection of specific and personalized rights. These rights are meant to be acknowledged and affirmed within the context of the prevailing societal norms. Citizenship, functioning as a source of rights, serves as a foundation for respecting each individual and functions akin to a societal "law." This "law" applies universally, without discrimination, empowering everyone with the necessary "strength" to demand and receive respect in the face of other "forces" (Santos, 2014), such as the infringement of their rights. Consequently, the concept of citizenship encapsulates a set of rights that enables any individual to actively engage in the affairs and governance of the community in which they participate (De Dallari, 2004), a concept often referred to as "citizenship rights."

Included within this set of rights is the right to political participation, as defined by De Dallari (1992). It is described as the "right-duty" to influence the establishment of rules

for coexistence and community governance decisions, aimed at achieving collective well-being and, at the municipal level, (re)building the city itself and its public policies. Political participation is not reduced to mere indirect and representative (that is, to electoral rights), nor is political manifestation exercised within institutional spaces (such as State councils or committees). Instead, it comprises direct and active forms of participation, often less formalized and external to legal mechanisms (Cantoni, 2016; De Carvalho, 2015; De Dallari, 1992).

Being a citizen, therefore, entails residing within the city and actively engaging with it — embracing the advantages and prospects, it provides while also playing a role in shaping its development. As a consequence, the act of inhabiting the diverse urban landscape connects refugee populations with the established community, granting them the ability to possess, exercise, and relish all the rights associated with urban citizenship (De Oliveira & Carneiro, 2022).

Conversely, the right to the city aligns with the right to dwell in urban spaces, which encompasses complete engagement with the city itself (Lefebvre, 2011). This right involves the ability to partake in and relish the benefits, opportunities, and essential services provided within the urban system, all of which are fundamental for a dignified life. These include access to housing, transportation, employment, culture, leisure, and more. Moreover, it extends to active involvement in the formulation of urban policies and the construction of the city itself (Santos, 2014; Trindade, 2012).

This right also entails the imperative of striking a balance between urban development and overall welfare, prioritizing the well-being of the entire community rather than merely benefitting isolated groups (Filho, 2009). It encompasses the right to effective democratic equality of opportunities and dignity within the urban landscape (Borja & Muxí, 2000; De Dallari, 2004). This includes considerations of spatial justice, ensuring democratic access to all areas and environments throughout the city's territory (Tsavdaroglou, 2020). Consequently, the essence of the right to the city undergoes a transformation with the advent of refugees and refugee applicants, who represent "new" political subjects with their "new" demands for urban rights. These demands are shaped by the unique circumstances of their social vulnerability and living conditions.

Viewed as a fundamental entitlement for all city residents, the right to the city encompasses a spectrum of citizenship rights that are essential for upholding a dignified life within urban environments. Its overarching objective is to ensure the well-being and development of individuals, irrespective of differences, collectively promoting the principles of social justice, full citizenship engagement, participatory democracy, equal dignity amid diversity, political and legal diversity, and ecological equilibrium. These principles align with the general guidelines of urban policy established in Article 2 of Law No. 10,257, dated July 10, 2001 (City Statute) (Brazil, 2001).

Concerning the rights of refugees, it should be noted that the current Brazilian policy for the reception of refugees and refugee applicants formally guarantees the human rights necessary for the preservation and maintenance of their dignified life in Brazilian territory (De Oliveira & Carneiro, 2022). While Law No. 9,474, dated July 22, 1997, defined the mechanisms for implementing the Geneva Convention of 1951 (UN Refugee Statute) in Brazil (1997), Law No. 13,445, dated May 24, 2017, lists the rights and guarantees provided to all migrants in the national territory (Brazil, 2017b), in accordance with the regulations set forth in Federal Decrees No. 9199/2017 (Brazil, 2017a) and No. 9277/2018 (Brazil, 2018), as well as the Normative Resolutions of the National Committee for Refugees (CONARE).

Law No. 9.474/1997 states that formally recognized refugees have the same rights and duties as migrants residing in Brazil, in addition to those stipulated in the 1951 Geneva Convention (Brazil, 1997). However, CONARE has extended the majority of rights guaranteed by Law No. 9.474/1997 to individuals who are still seeking refuge. In addition, Law No. 13,445/2017 establishes that the rights and guarantees provided by the immigration law will be exercised in compliance with the constitutional provisions, regardless of the person's immigration status. This includes not excluding other rights and guarantees arising from treaties to which Brazil is a signatory (Brazil, 2017a).

It is observed, therefore, that Brazilian legislation guarantees civil, social, cultural, and economic rights and freedoms to the migrant and refugee population, but it lacks express provisions regarding their political rights. However, despite the Federal Constitution of 1998 expressly prohibiting the electoral enlistment of migrants (Brazil, 1988), migratory legislation assures them the rights of assembly for peaceful purposes and of association for lawful purposes, including those of a trade union nature — which also encompasses the formation and composition of civil associations that engage in political participation (De Oliveira & Carneiro, 2022).

Hence, when we view citizenship as a collection of rights associated with full participation, it becomes evident that the concept of citizenship extends to refugees as well. This extension embraces and respects their differences,

while also recognizing their right to engage actively in the decision-making procedures related to the formulation of policies that concern them. In doing so, it acknowledges their role as significant political subjects. As individuals who interact within the Brazilian community, those in a state of refuge are also considered Brazilian citizens (De Oliveira & Carneiro, 2022).

For refugees, achieving effective social, economic, and cultural integration, as well as meaningful interaction, hinges on the elaboration of tailored reception policies. In addition, their incorporation into established public policies plays a pivotal role in fostering social balance in the context of varying degrees of social inequality within the city (Milesi, 2008; Milesi & Carlet, 2012).

However, when we perceive the urban environment as a diverse and dynamic public and political space, where an array of demands and interests converge, and conflict, the effective welcoming of its citizens and the realization of a genuinely democratic and civic city necessitate the active involvement of all individuals in shaping this space. This includes the refugee population (De Oliveira & Carneiro, 2022).

3. Social movement(s)

In her study on the categorization of social movements, Gohn (1997) presents the paradigm of new social movements, contrasting them with classical and contemporary theories. According to the author, the term "new" refers to a new classification of social movements in which it is possible to observe several subjects and actors (students, women, Black individuals, homosexuals, transgenders, immigrants, and more). Notable features of these movements include an emphasis on culture, ideology, daily social struggles, solidarity among members of a social group or movement, and the formation of identities without the "old" dispute for state domination — as opposed to the "old" traditional Marxist paradigm, by which social movements were guided by class struggle and the seizure of state power (Gohn, 1997).

This new approach to social movements analyzes culture and ideology without necessarily (and exclusively) linking them to class consciousness. It also eliminates the centrality of a specific, predetermined, and historical subject, viewing politics as part of daily life and even participants in collective actions as social actors, who are analyzed both through their collective actions and the collective identity formed during the process (Gohn, 1997). While collective action is defined as the union of various types of conflict based on the behavior of the actors within a social system, without presenting the factors of collective identity and organization (Melluci, 1995), social movements, on the other hand, are understood as collective action organizations, marked by an internal effort to build a collective identity to pursue a "common good."

According to Melluci (1995), social movements are comprised of systems of collective action, formed through complex networks connecting various levels and meanings of social action. These movements are often initiated by leaders who possess prior experience, placing more emphasis on the representation of images and ideas than on materialized organization. As a result, social movements produce organizational models similar to associations, which influence institutions and social actors, thereby institutionalizing social practices and changing the cultural language of a certain time (Melluci, 1995).

Thus, not every collective action would constitute a social movement. For instance, an isolated manifestation of people meeting on a specific date does not qualify as a social movement; rather, it represents only a collective action. According to Tilly (1993), to qualify as a social movement, collective action must possess a repertoire, that is, a set of actions, ideas, mechanisms, and strategies that enable confrontation and communication. Examples of such repertoire elements include the creation of associations, manifestations, pamphlets, and more.

Moreover, within the same sense of a social movement as a network or system, this very "network" may encompass groups or several other movements, each with varied repertoires, not necessarily pursuing the same ends, or presenting a single identity. It is in this sense of network that the struggle of refugees and refugee applicants for recognition and effectiveness of their right to the city can be classified as a social movement. This movement comprises an organization of collective actions, formed by connections between various groups and social actions at different levels, all aimed at securing that right.

Nevertheless, it should be noted that these (empathetic) connections with different groups demonstrate that the struggle of the mentioned group for the right to the city is not an isolated social movement. Instead, it represents an object of conflict and demand from several other groups and movements with distinct identities and repertoires, such as immigrants (in general) and the national population not belonging to the hegemonic social group.

For example, the struggle for the right to housing within the Municipality of São Paulo is led by movements with distinct collective identities but similar repertoires of collective action. These movements include the Housing Struggle Front (Frente de Luta por Moradia [FLM], available at: http://www.portalflm.com.br/) and the Group of Refugees and Homeless Immigrants (Grupo de

Refugiados e Imigrantes Sem Teto [GRIST], available at: https://gristbrasil.weebly.com/).

Thus, the struggle for the right to the city of refugees and refugee applicants is a social movement connected (and contained, even) to the same demand shared by most immigrants and other social groups in conflict with the hegemony of the current world-system — safeguarding the peculiar identity of each group.

However, the "categorization" of the pursuit for recognition and effectiveness of the right to the city for individuals in refuge as a social movement should not be considered indispensable for legitimizing this demand, as it could render the theory regarding new social movements, mentioned earlier, incomplete. According to Gohn (1997), the concepts that support such theory are not yet sufficiently explicit, as the (new) categories used to explain the forms of these movements would emerge from the outcomes of these social processes. Thus, one can only count on a mere diagnosis of the contemporary collective manifestations that generated social movements and the demarcation of their differences in relation to the past. This enables the analysis of the (significant) changes, they generated in civil and political society (Gohn, 1997).

Nevertheless, the right to political participation itself, which is considered in this paper, in principle, as a means of achieving the (human) right to the city, has also been the subject of demands made by collective actions. These demands are even pursued within the same block of social movements that fight for the recognition and realization of the right to the city. As an example, the first Municipal Conference on Immigrant Policies of the Municipality of São Paulo, organized by the São Paulo Municipal Department of Human Rights and Citizenship (Secretaria Municipal de Direitos Humanos e Cidadania de São Paulo [SMDHC]), through its Coordination of Policies for Migrants, took place from November 29 to December 1, 2013. The Conference was organized in collaboration with 13 other municipal secretariats and 14 civil society entities, aimed to foster debate and formulate proposals and guidelines that would subsidize public policies for the immigrant population, ultimately advancing the realization of the right to the city of such individuals, in addition to claiming their right to political participation (Comissão Organizadora Municipal, 2014).

4. The search for the recognition of the right to the city of refugees and refugee applicants: For the whole and for the few

As Fraser (1997) points out, the struggle for recognition of difference occurs within a context of pronounced (and flagrant) material inequalities in the current world-system. Various groups mobilize for issues related to ethnicity, gender, sexuality, nationality, and more, seeking a "recognition of difference." Struggling for recognition and respect for difference means seeking recognition of the individualities and peculiarities (basically cultural) of each social group, with an emphasis on equal dignity and respect for human rights (Fraser, 1997). This pursuit aims to foster the consolidation of their collective identities within a pluralistic and multicultural society, thereby demystifying the fallacious universalism applied to human rights (Santos, 2010; Taylor *et al*., 1998).

Fraser (1997) understands that with the overcoming of the socialist paradigm regarding class interests, economic exploitation, and wealth redistribution, post-socialist conflicts (ethnicity, gender, sexuality, nationality, etc.) present group identity as the main mechanism for sociopolitical mobilization. In this sense, this paper does not solely address the right to the city of all its inhabitants indistinctly, but (mainly) emphasizes the right to the city of each group comprising the urban population. Thus, it affirms the right to active and passive participation for refugees and refugee applicants in the city where they reside. This affirmation is based on two factors: (i) The human character ("generic") of said right and (ii) consideration of the specificities of said group of individuals.

The right to the city must be recognized and guaranteed to the collectivity that inhabits that space (the "whole"), as well as to each specific group that comprises that collectivity (the "few"). It is essential to consider the unique characteristics that differentiate these specific groups. This apparently controversial issue of recognizing the same right in both generic and specific contexts is also addressed by Fraser (1997) when she discusses the redistribution versus recognition dilemma.

The author addresses this dilemma without disregarding the intertwined and mutually supportive relationship between redistribution and recognition, differentiating between injustices concerning economic disadvantages (exploitation and economic marginalization, for example) and those concerning cultural disrespect (cultural and informational domination, for example) (Fraser, 1997). While recognizing the differences between these forms of injustice, Fraser (1997) considers that both socioeconomic and cultural injustices are widespread in contemporary societies and are rooted (and intersected) in the processes and practices that systematically disadvantage certain groups of people in comparison to others.

However, while the requirements for recognition demand attention to the (eventual) specificity of a certain group and, as a result, the affirmation of its value with

equal dignity, the requirements for redistribution demand the suppression of the economic arrangements that cause the groups' specificity. Thus, the former promotes the differentiation of groups, while the latter, on the contrary, encourages their non-differentiation (Fraser, 1997).

It is observed that promoting economic redistribution would promote the right to the city for the collectivity of its inhabitants, indistinctly (the "whole"), whereas promoting the recognition of cultural differences would ensure the right to the city of each group, specifically (the "few"). In this sense, Fraser (1997) concludes that the dilemma of redistribution versus recognition is insoluble because it demonstrates that individuals subjected to concomitant economic and cultural injustices require both redistribution and recognition. In other words, they need to deny and affirm their specificity at the same time. For this reason, the categories "recognition" and "redistribution" may not suffice for analyzing real demands, for example, those related to gender and race.

Nevertheless, the crucial question that can be extracted from the redistribution versus recognition dilemma presented by Fraser: Differentiate or not differentiate. It raises questions about when and how to proceed and the criteria underpinning such decisions. Undoubtedly, these are some of the most complex and debated aspects of the struggle for recognition and the realization of the right to the city, as well as human rights in general. These efforts aim to ensure that discrimination (negative differentiation) is eliminated and that equal dignity is upheld.

The ownership of this right for individuals in a situation of refuge must be recognized and guaranteed simply because all urban inhabitants — emphasizing the word "all" — have the right to participate actively and passively in the city where they live. In this context, the group of "refugees and seekers of refuge" should not be differentiated, as there is a risk of potentially violating their human rights through an unfair differentiation (one that causes negative effects).

However, the guarantee of any human right (precisely because of its "human" character) without considering the particularities of each specific group and recognizing the diversity within society can often compromise its effectiveness and even deviate from its intended purpose, potentially leading to discrimination. For example, ensuring the right to housing for all inhabitants of a given municipality through a public policy that promotes the lease or acquisition of property by refugees and seekers of refuge without considering that many of them do not speak Portuguese and would need an interpreter or that the contracts and other documents were translated. As a result, to ensure their rights, they would need an interpreter and translated contracts and other documents.

Thus, it is understood that the need to demarcate or not the differences that exist among the groups that make up a community should be analyzed on a case-by-case basis, using the occurrence of discrimination as the criterion. Discrimination, defined as a negative and unjust form of differentiation resulting in human rights violations, serves as a key indicator. However, the consequences of economic redistribution can "soften" and "mask" the negative impacts of the lack of recognition. For example, a refugee with a sufficient monthly income to cover their basic needs for housing, transportation, food, and more would already have their basic needs met. Consequently, they would have the effectiveness (practice) of their right to the city, potentially reducing the demand for specific recognition of this impaired right.

However, in cases where the right to the city is already effectively realized, even before it is formally recognized as a "right" itself, does the struggle for recognition still hold a purpose?

5. The effectiveness of the right, the recognition of identity, and the weapon of the enemy

As mentioned earlier, the concrete effectiveness of the right to the city for individuals in a situation of refuge could apparently render it unnecessary to pursue the recognition of such a right. According to Williams (1991), formal recognition of the right becomes dispensable when there is a real "guarantee" of its fulfillment, and informality can serve this group of individuals who (consciously or unconsciously) already possess social power within the context of a social hierarchy.

However, in light of the demands of the "new" social movements seeking recognition and affirmation of the identities of the diverse and distinct groups that compose society, the issue of formally recognizing the right to the city can be analyzed from two aspects: (i) The need for formal recognition when the law lacks concrete effectiveness; and (ii) formal recognition as a means of achieving sociopolitical emancipation and affirming identity.

In relation to the first aspect, formal recognition of the right to the city — where formal recognition is understood as the provision and legal guarantee of that right — serves as the means provided by the institutions of the democratic state of law to ensure the effectiveness of its content. Thus, institutional recognition of this right represents the pathway toward its concrete realization.

Nevertheless, the formal recognition of the right to the city for individuals in such situations also presents a function of identity affirmation. In other words, it provides

a means to garner respect (with equality and dignity) for their specificities and to construct an identity emancipated from the "universal subject" conceptualized by liberal legal theory (Brown, 1995). This "universal subject" is considered the binding axis that stresses the paradigm of universal equality. Thus, formal recognition remains essential in cases where the right to the city is already concretely effective for refugees and seekers of refuge.

It is important to point out that institutionalized human rights consist of multiform and irresolute manifestations of historical and cultural character, which vary not only through time and cultures but also along other vectors of power and their resulting intersections — such as class, race, ethnicity, gender, sexuality, age, and education (Brown, 1995). This characteristic demonstrates that apart from being constantly altered in time and space (Comparato, 2013; De Ramos, 2015), the application of law presents varied, inconsistent, and even contradictory interpretations and applications (Brown, 1995). These interpretations and applications depend on the geopolitical space in which they were developed and are applied.

According to Brown (1995), historically, rights have been claimed to ensure the formal sociopolitical emancipation of groups of individuals who have been stigmatized, victimized, and subordinated by particular social identities. This was done to grant these marginalized groups a place of speech in the humanist discourse of the "universal" personality that underlies positive law. This discourse, however, existed in an ahistorical language devoid of culture and outside a sociopolitical context.

However, when considering the historical-cultural character of (human) rights, Brown (1995) states that the "liberating or egalitarian" force of these rights has always been historically and culturally circumscribed. According to the history of the development of human rights, they emerged in modernity as a means of emancipation from political exclusion and institutionalized servitude. They also served as instruments for favoring the emerging bourgeois class under the guise of a discourse of formal equality and universal citizenship (Brown, 1995).

Rights initially emerged as a means of protection against arbitrary abuses of sovereign and social power, as well as a method for guaranteeing and naturalizing the socially dominant powers related to class, gender, ethnicity, and more (Brown, 1995). This was achieved through a liberal constitutionalism maneuver aimed at granting ("give someone, as it suits him," instead of conquering) freedom, equality, and representation to abstract subjects rather than concrete subjects (Marx, 1967 apud Brown, 1995).

In this sense, the replacement of real political subjects with abstract political subjects destroys the project of emancipation of the former and also subjugates them by emancipating their generic substitutes (Marx, 1967; Brown, 1995). By depoliticizing individuals, the liberal discourse of law masked the social power held by dominant institutions (and groups) (Brown, 1995), ultimately naturalizing the subordination of those who do not conform to the "universal standard."

In this context, law itself becomes an instrument for the reproduction and maintenance of the social, economic, and cultural inequalities characteristic of the current world-system, as it is a product of certain (hegemonic) forces and interests (Williams, 1991). It is then perceived as the abstraction of all the groups of individuals that make up this system, often referred to as the notorious "universal subject." The struggle for formal recognition of the right to the city for refugees and refugee applicants serves as an example denouncing the paradox of the discourse of law. It seeks to annihilate injustice and construct an identity using the same instrument that contributes to the perpetuation of inequalities and the abstraction of concrete individuals within a given community.

This paradox raises questions about the feasibility of utilizing the law by the movement of people in situations of refuge in seeking the realization of their right to the city and for the construction of their collective identity. In such circumstances, what would be the consequences of the use of the "enemy's weapon?" Should it still be used in these circumstances?

Williams (1991) understands that the language of rights should not be abandoned; instead, she suggests that a wide range of other languages should be analyzed when interpreting and applying it. The discourse of the law should not be ignored because, although it is permeated by power relations and is commonly used as an instrument for perpetuating injustices, it consists simultaneously in the space of dispute for the guarantee of rights and the language code for that purpose.

Similarly, Williams believes that the most effective way to amplify the voices of those whose voices are constantly suppressed is to assert that they have no voice at all. This involves dismantling the images of power and replacing them with images of impotence (Williams, 1991). Under this line of reasoning, Williams (1991) demonstrates that the "antidote" to the use of this legal and institutionalized machinery for producing and maintaining injustices is exactly the act of dressing up the law's flawed clothing and using it. By doing so, one can point out its own vices, using them as the reason for guaranteeing the rights of that victimized individual.

Paradoxically, the enunciation of the flaws within the legal system is absorbed by it, allowing for a certain "victory" for individuals or groups who were previously marginalized and silenced concerning the protection of their human rights. In the case of refugees and refugee applicants, the path to achieving their recognition and, consequently, the effectiveness of their right to participate in urban life lies in acknowledging the exclusionary character of the Brazilian legal system in relation to such individuals. This involves using the very "channel language" of the rights that is meant to defend the groups excluded from it.

Therefore, the struggle for the effectiveness of the right to the city and the affirmation of the identity of these individuals through formal recognition should involve both the use of the existing right and its reinterpretation to employ a new meaning. It represents a quest to reinterpret the law in another sense, based concretely, rather than merely perpetuating the positive norms that instrumentalize and sustain social, economic, and cultural inequalities disguised as universality.

6. Subalternity and the wearing of the mask: The struggle for voice in the city

In the context of masked social power and the domination of individuals who do not conform to the "universal standard," the group of refugees and refugee applicants can be categorized as one of the subordinate groups, as first listed by Gramsci (2002). According to the author, the term "subaltern" refers to any person who positions themselves at a lower level than another, and in cases involving relative denomination, it can be applied to situations of domination, not exclusively limited to questions of class, which differs from what the Marxist studies have pointed out (Bidaseca, 2010).

Therefore, the term describes diverse and heterogeneous groups that experience domination and exploitation within the current hegemonic system, often lacking a consciousness of class (Vega, 2003 Bidaseca, 2010) — consciousness of their identity, more precisely. Spivak, 2006 apud Bidaseca, 2010, Bidaseca (2010) considers that subalternity represents a situation where individuals are distant from any social mobility or inhabit a non-homogeneous space of difference, which cannot be generalized and does not configure a position of identity conducive to forming a basis for political action. In this paper, however, the term "subordinate" is used instead of "subaltern" since the former alludes to an imposition on these individuals, rather than a voluntary or conscious self-placement.

Similarly, ethnic and sexual minorities, migrants, and refugees are also considered subordinate subjects (Bidaseca, 2010) because they are represented as populations existing outside the idealized (and universal) community of a given nation (Anderson, 1983 apud Bidaseca, 2010). Their (political) presence and cultural differences are frequently denied (Bravo, 2000 apud Bidaseca, 2010; Bidaseca, 2010). According to the philosopher Todorov (1981) and Bidaseca (2010), individuals who are seen as the "other" (distinct from the "universal standard") are murdered or led to collective suicide, or even phagocytized in his cultural difference, in a constant process of depersonalization (Bhabha, 1970 apud Bidaseca, 2010).

However, considering that those in subordinate positions are denied political agency, they are silenced, and their subjectivity is blocked. One cannot recover the voices and conscience of such individuals from their memories, which are only records of the domination they have suffered. Moreover, even if their voices exist, they are denied a space of enunciation within the world-system (Spivak, 2006; Bidaseca, 2010).

In this sense, when the subalternized individuals speak, they merely express the voices of domination and the resulting "universalized" representation. This is because the liberal legal discourse mentioned earlier fosters a false notion of equality and representation, which deludes the subjugated individuals into the illusory idea that they are the "authors" of the State and, consequently, the creators and addressees of the city where they live (Brown, 1995).

However, as soon as these individuals acquire their own voice and begin to express their identity, they liberate themselves from this false representation and cease to be subalternized (Spivak, 2006; Bidaseca, 2010). Consequently, ceasing to be subalternized, the individual becomes the protagonist and narrator of their own life, narrating their daily experiences, as well as those of their group, and recording their authentic memory (Benjamin, 1994).

In this way, the right to the city for refugees and refugee applicants can only be effectively realized through their concrete (political) participation in shaping and contributing to the urban environment in which they reside. This participation extends to their effective involvement in the elaboration of public policies aimed at their integration into the community, with careful consideration of the specific identities within their group. The simple elaboration of government policies for the integration of this group of individuals, without affording them the opportunity for influential political participation, only keeps them as an object, distant from the policymakers and distant from the reality itself (experience) they seek to regulate.

It should be noted that the granting of rights to a certain group of impoverished and "vulnerable people,"

while aimed at guaranteeing their protection, does not promote their real participation as recognized political and rights subjects. On the contrary, these rights, within the prevailing social order, are interpreted as "small favors" granted to the "least favored," thereby depriving them of an authentic voice and relegating them to a world-system for which they were not idealized— they are visible but "mute."

Conversely, we should promote the direct participation of individuals in situations of refuge rather than relying exclusively on their indirect (representative) participation. The promotion of the current "universal" representation means the recognition that the aforementioned subalternized group, in fact, has no room for enunciation — even less a voice of their own. However, given that the subalternized individuals are often denied the opportunity to speak, and when they do, they tend to reproduce the dominant voice, it is necessary to consider the paradoxical nature of the discourse of the law in the sphere of the political participation of refugees and refugee applicants. Encouraging such participation within the institutionalized political system could inadvertently utilize the instrument of subalternization to grant them an authentic voice and the corresponding opportunity for enunciation.

In this sense, the struggle of social movements faced by refugees and refugee applicants for a space of participation in Councils and Municipal Committees, or for the right to vote itself, can be seen as the use of the "enemy's weapon" to position themselves within an "institutional box" and continue to reproduce the speech of the dominator, that is, "put on the mask" of that dominator (Habha, 2000; Bidaseca, 2010; Fanon, 1986 apud Bidaseca, 2010; Bidaseca, 2010; Pelúcio, 2012). As previously highlighted, in light of the right to political participation, it is worth noting that despite Article 14 of the 1988 Brazilian Federal Constitution expressly prohibiting the enlistment of foreigners and denying them the right to vote and stand for elected office, refugees and refugee applicants can still exercise their right to political participation through alternative means, such as participation in councils, committees, and forums.

However, similar to the discourse of law, institutionalized forms of political participation should not be abandoned, as they serve as the field of dispute and the "channel language" for the struggle to guarantee (human) rights. As Pelúcio (2012) presents, the practice of "wearing the mask" of the dominator can also be adopted as a strategic resource for resistance and survival. Through mimetic practices, subalternized individuals "camouflage" themselves (Bhabha, 2002; Bidaseca, 2010) and begin to destabilize, renege, and confront this domination (Bidaseca, 2010).

Therefore, individuals in refugee situations would seek participation in institutionalized bodies of popular consultation at the municipal level, aiming to secure their survival within the political system in force. They may imitate the dominant group simply to become "sympathetic to the dominant eyes" and avoid the complete annihilation of their identity and rights. In this case, it does not entail total depersonalization of the subject. In this "masked" state, such individuals constantly negotiate their alliances with the dominant social power, as well as with the other subalternized groups. They navigate numerous interstices and intersections of identities and differences, where intersubjective and collective expressions of cultural value and common interest are negotiated (Bhabha, 2002; Bidaseca, 2010). These intersections may involve ethnicity and gender, class and gender, class and ethnicity and gender, religion and ethnicity, and religion and gender. Consequently, they determine when to imitate the current system and when to confront it.

In the same sense, the precariousness and unequal distribution of urban space, conceived from the perspective of dominant groups, would be an obstacle to access by subalternized groups to the services, advantages, and facilities that the city has to offer. However, through their daily and embodied collective experiences, these same subalternized groups, serving as protagonists in their (our) history, end up developing processes of knowledge and affection that emerge as paradigms within the urban fabric. They transform these precarious spaces into substantial parts of the struggle for survival, resistance, and advancement in realizing their rights (Trimikliniotis *et al*., 2015).

7. Conclusions

The Brazilian legal system guarantees that individuals in refugee situations have access to the citizenship rights necessary for the preservation and maintenance of a dignified life within the national territory. These rights allow them to access and participate in the city. The right to the city, in essence, constitutes a full right of citizenship, consisting of a set of (human) rights indispensable to the integral participation of the city. This encompasses enjoying all the services, opportunities, and advantages offered by the urban space as well as contributing to the elaboration, execution, and oversight of public policies.

According to the senses of city and citizenship concepts adopted in the present paper, refugees who inhabit the urban space become an integral part of the community. They contribute to its (re)building through their presence and interactions with other members, all from a citizen's perspective. By being recognized as legitimate citizens, individuals in refugee situations possess the right to the city they inhabit. Through the enjoyment and exercise of

these full citizenship rights, their effective integration can be realized.

While the struggle of refugees and refugee applicants may not readily fit the criteria of a genuinely social movement — the present paper does not even dare to do so — it is connected to similar processes where collective identities, driven by empathy and material organization, aim for a common goal: The recognition and effectiveness of the right to the city. Whether or not the actions of people in a situation of refuge can be classified as a social movement based on the recognition and realization of their right to the city should not be considered an indispensable condition for the legitimacy of their demand. This is primarily an academic consideration, relevant for the purpose of scientifically and analytically studying this collective phenomenon.

The demand for the recognition and effectiveness of the right to the city by refugees and refugee applicants is rooted in both their status as members of the broader population and the recognition of the unique characteristics of their group. This recognition serves to enhance the practical realization of this right while preventing any form of discrimination. In this sense, one must always consider the differences between this group and other groups, as these differences play a pivotal role in determining the real effectiveness of their right to the city. Moreover, while addressing economic disadvantages through wealth redistribution may "mitigate" the negative impacts of the lack of recognition, it does not actually eliminate cultural injustice, which persists in a subtle and "concealed" way.

For this reason, formal recognition of the right to the city for refugees and refugee applicants is not only relevant for the concrete realization of the (human) rights that compose it but also indispensable for the affirmation of the identity of these individuals in the face of the false idea of an abstract and universal political subject. Nevertheless, even if the law configures an instrument for the reproduction and maintenance of the "universal standard" and its consequent social, economic, and cultural injustices, it should not be abandoned but rather denied under the conditions in which it is applied and reconstructed on a new semantic basis.

In the same sense, institutionalized means of political participation should be used to empower individuals in refugee situations to suppress subalternation and conquer space for the enunciation of their authentic voice, even if momentarily disguised under the "mask of the enemy." As protagonists and narrators of their own history, these individuals are better equipped to achieve the realization of their right to the city with respect to their specific identities. This guarantees their full participation in the formulation and implementation of municipal public policies aimed at them, thereby facilitating their effective integration into the community.

In this sense, the struggle for the recognition and realization of the right to the city for refugees and refugee applicants, achieved through full political participation in the municipal sphere, seeks the recognition of these individuals as real political subjects, becoming inhabitants with rights and responsibilities — essentially, citizens. It should be emphasized, however, that this paper has no pretension to exhaust the subject — nor could it, given its complexity — but rather risks in a first analysis in the expectation of inciting interest for further discussions.

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References

Benjamin, W. (1994). O narrador: Considerações sobre a obra de Nikolai Leskov [The narrator: Considerations on the work of Nikolai Leskov]. Magia e técnica, arte e política: Ensaios sobre literatura e história da cultura [Magic and technique, art and politics: Essays on literature and cultural history]. São Paulo: Brasiliense, p.197-221. [Article in Portuguese].

Bidaseca, K. (2010). Perturbando el Texto Colonial: Los Estudios (Pos)Coloniales en América Latina [Disturbing the Colonial

Text: (Post)Colonial Studies in Latin America]. Buenos Aires: Paradigma Indicial. (Serie Estudos Poscoloniales). [Article in Spanish].

Borja, J., & Muxí, Z. (2000). El Espacio Público: Ciudad e Ciudadanía [Public space: City and Citizenship]. Barcelona: Diputació Barcelona: Electa. Available from: https://www.researchgate.net/publication/44358990_El_espacio_publico_ciudad_y_ciudadania_jordi_borja_y_zaida_muxi [Last accessed on 2023 Apr 10] [Article in Spanish].

Brazil. (1988). Constituição da República Federativa do, Promulgada Em 05 de Outubro de 1988 Brasil [Constitution of the Federative Republic of Brazil, Enacted on October 5, 1988]. Available from: https://www.planalto.gov.br/ccivil_03/constituicao/constituicao.htm [Last accessed on 2023 Apr 01] [Law in Portuguese].

Brazil. (1997). Lei n 9.474, de 22 de Julho de 1997, que Define Mecanismos Para a Implementação do Estatuto dos Refugiados de 1951, e Determina Outras Providências [Law No. 9,474, of July 22, 1997, which Defines Mechanisms for the Implementation of the 1951 Refugee Statute, and determines other provisions.]. Available from: http://www.planalto.gov.br/ccivil_03/leis/l9474.htm [Last accessed on 2023 Apr 08] [Law in Portuguese].

Brazil. (2001). Lei n 10.527, de 10 de Julho de 2001, que Regulamenta os Artigos 182 e 183 da Constituição Federal, Estabelece Diretrizes Gerais da Política Urbana e dá Outras Providências [Law No. 10,527, of July 10, 2001, which Regulates Articles 182 and 183 of the Federal Constitution, Establishes General Guidelines for Urban policy and other Measures]. Available from: https://www.planalto.gov.br/ccivil_03/leis/leis_2001/l10257.htm [Last accessed on 2023 Apr 08] [Law in Portuguese].

Brazil. (2017). Decreto n 9.199, de 20 de novembro de 2017b, que Regulamenta a Lei n 13.445, de 24 de Maio de 2017, que Institui a Lei de Migração [Decree No. 9,199, of November 20, 2017b, which Regulates Law No. 13,445, of May 24, 2017, which Establishes the Migration Law]. Available from: https://www.planalto.gov.br/ccivil_03/_ato2015-2018/2017/decreto/d9199.htm [Last accessed on 2023 Apr 08] [Decree in Portuguese].

Brazil. (2017). Lei n 13.445, de 24 de Maio de 2017a, que Institui a Lei de Migração. [Law No. 13,445, of May 24, 2017a, Establishing the Migration Law]. Available from: https://www.planalto.gov.br/ccivil_03/_ato2015-2018/2017/lei/l13445.htm [Last accessed on 2023 Apr 08] [Law in Portuguese]

Brazil. (2018). Decreto n 9.277, de 05 de Fevereiro de 2018, que Dispõe Sobre a Identificação do Solicitante de Refúgio e Sobre o Documento Provisório de Registro Nacional Migratório [Decree No. 9.277, of February 5, 2018, which Provides for the Identification of the Asylum Seeker and the Provisional Document of National Migration Registration]. Available from: https://www.planalto.gov.br/ccivil_03/_ato2015-2018/2018/decreto/D9277.htm [Last accessed on 2023 Apr 08] [Decree in Portuguese].

Bringel, B. (2010). Ativismo transnacional, o estudo dos movimentos sociais e as novas geografias pós-coloniais [Transnational activism, the study of social movements and new postcolonial geographies] Estudos de sociologia [sociology studies]. *Revista do Programa de Pós-Graduação em Sociologia da,* 16:185-121 [Article in Portuguese].

Brown, W, (ed.). (1995). Lo que se pierde con los derechos [What is Lost with Rights]. In: States of Injury. Princeton: Princeton University Press, p.96-134. [Article in Spanish].

Cantoni, S.L. (2016). Participação Política não Eleitoral na Argentina e no Brasil: (o que) Mudou nas Últimas Décadas? [Non-Electoral Political Participation in Argentina and Brazil: (What) Has Changed in the Last Decades?] [Master Thesis]. Biblioteca Digital da USP, Faculdade de Filosofia, Letras e Ciências Humanas. São Paulo: Universidade de São Paulo. Available from: https://www.teses.usp.br/teses/disponiveis/8/8131/tde-13022017-122117/pt-br.php [Last accessed on 2023 Apr 10] [Thesis in Portuguese].

Comissão Organizadora Municipal, Sociedade Civil (2014). Documento Final da 1ª Conferência Municipal de Políticas para Imigrantes de São Paulo [Final Document of the 1st Municipal Conference on Policies for Immigrants in São Paulo]. Coordenação de Políticas para Migrantes, Secretaria Municipal de Direitos Humanos e Cidadania (SMDHC), Prefeitura de São Paulo [Coordination of Policies for Migrants, Municipal Secretary of Human Rights and Citizenship (SMDHC), City Hall of São Paulo], São Paulo. Available from: https://www.prefeitura.sp.gov.br/cidade/secretarias/upload/direitos_humanos/doc%20final_conf%20mun%20imigrantes%20de%20SP_2014.doc [Last accessed on 2023 Apr 10] [Report in Portuguese].

Comparato, F.K. (2013). A Afirmação Histórica dos Direitos Humanos [The Historical Affirmation of Human Rights]. 8th ed. São Paulo: Saraiva. [Book in Portuguese].

De Carvalho, J.M. (2015). Cidadania no Brasil: O Longo Caminho [Citizenship in Brazil: The Long Road]. 19th ed. Rio de Janeiro: Civilização Brasileira. [Book in Portuguese].

De Dallari, D.A. (1992). O que é Participação Política [What is Political Participation]. 11th ed. São Paulo: Editora Brasiliense. [Book in Portuguese].

De Dallari, D.A. (2004). Direitos Humanos e Cidadania [Human Rights and Citizenship]. 2nd ed. Reform. São Paulo: Moderna. (Coleção Polêmica). [Book in Portuguese].

De Oliveira, L.G., & Carneiro, C.S. (2022). O acolhimento de pessoas em busca de refúgio no Brasil: Cidadania e direito à cidade [The welcoming of people in search of refuge in Brazil: citizenship and the right to the city]. *Revista de Direito da Cidade*, 14(1):91-112.

https://doi.org/10.12957/rdc.2022.52969. [Article in Portuguese].

De Ramos, A.C. (2015). Teoria Geral dos Direitos Humanos na Ordem Internacional [General Theory of Human Rights in the International Order]. 5th ed. São Paulo: Saraiva. [Book in Portuguese].

Filho, J.D.S. (2009). Comentários ao Estatuto da Cidade [Comments to the City Statute]. 3rd ed. Rio de Janeiro: Lumen Juris. [Book in Portuguese].

Fraser, N. (1997). Iustitia Interrupta: Reflexiones Críticas Desde la Posición "Postsocialista" [Iustitia Interrupta: Critical Reflections from the "Post-Socialist" Position]. Translation by Magdalena Holguín, Isabel Cristina Jaramillo. Santafé de Bogotá: Siglo del Hombre Editores, Universidad de los Andes. Facultad de Derecho. (Coleção Nuevo Pensamiento Jurídico) [New Legal Thinking Collection] [Book in Spanish].

Gil, A.C. (2002). Como Elaborar Projetos de Pesquisa [How to Design Research Projects]. 4th ed. São Paulo: Atlas. [Book in Portuguese].

Gohn, M.G. (1997). Teoria dos Movimentos Sociais: Paradigmas Clássicos e Contemporâneos [Theory of Social Movements: Classic and Contemporary paradigms]. São Paulo: Edições Loyola. [Book in Portuguese].

Gramsci, A. (2002). Cadernos do Cárcere [Prison Notebooks]. Translation by Carlos Nelson Coutinho with the Collaboration of Luiz Sergio Henriques and Marco Aurélio Nogueira. Vol. 5. Rio de Janeiro: Editora Civilização Brasileira. [Book in Portuguese].

Gustin, M.B.D.S. (2010). (Re)Pensando a Pesquisa Jurídica: Teoria e Prática [(Re) Thinking Legal Research: Theory and Practice]. 3rd ed. Belo Horizonte: Del Rey. [Book in Portuguese].

Harvey, D. (2012). O Direito à Cidade [The right to the city]. Translation by Jair Pinheiro. Vol. 29. São Paulo: Lutas Sociais, p.73-89. Available from: https://edisciplinas.usp.br/pluginfile.php/272071/mod_resource/content/1/david-harvey%20direito%20a%20cidade%20.pdf. [Last accessed on 2023 Apr 10] [Article in Portuguese].

Holston, J. (2009). Insurgent citizenship in an era of global urban peripheries. *Cities and Society*, 21(2):254-277.

https://doi.org/10.1111/j.1548-744X.2009.01024.x

Holston, J. (2015). Insurgent Citizenship: Disjunctions of Democracy and Modernity in Brazil. Translation by Claudio Carina. 1st ed. São Paulo: Companhia das Letras, 2013. [Book in Portuguese].

Instituto Paulo Freire, Prefeitura Municipal de São Paulo. (2015). Direito à Cidade [Right to the City]. São Paulo: Instituto Paulo Freire. (Cadernos de Formação [Training Notebooks]). Available from: https://www.paulofreire.org/images/pdfs/livros/cadernos_formacao_direito_cidade.pdf. [Last accessed on 2023 Apr 10] [Book in Portuguese].

Isin, E.F. (2009). Citizenship in flux: The figure of the activist citizen. *Subjectivity*, 29(1):367-388.

https://doi.org/10.1057/sub.2009.25

Junger, G., Cavalcanti, L., De Oliveira, T., & Silva, B.G. (2022). Refúgio em Números [Refuge in Numbers]. 7th ed. Série Migrações. Observatório das Migrações Internacionais; Ministério da Justiça e Segurança Pública/Conselho Nacional de Imigração e Coordenação Geral de Imigração Laboral [Migration Series. International Migration Observatory; Ministry of Justice and Public Security/National Immigration Council and General Coordination of Labor Immigration]. Brasília, DF: OBMigra. Available from: https://chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.gov.br/mj/pt-br/assuntos/seus-direitos/refugio/refugio-em-numeros-e-publicacoes/anexos/ResumoExecutivoRefugio.pdf. [Last accessed on 2023 Apr 08] [Report in Portuguese].

Lefebvre, H. (2011). O Direito à Cidade [The Right to the City]. Translation by Rubens Eduardo Frias. 5th ed. São Paulo: Centauro. [Book in Portuguese].

Marshall, T.H. (1967). Cidadania, Classe Social e Status [Citizenship, Social Class and status]. Translation by Meton Porto Gadelha. Rio de Janeiro: Zahar Editores. [Book in Portuguese].

Melluci, A. (1995). The process of collective identity. In: Klandermans, B., Johnston, H.,(eds.). Social Movements and Culture. New Edition., Vol. 4. Minnesota: University of Minnesota Press, p.41-63.

Milesi, I.R. (2008). Dia Mundial do Refugiado 2008: O Desafio das Políticas Públicas [World Refugee Day 2008: The Public Policy Challenge]. Available from: https://www.csem.org.br/2008/dia_do_refugiado2008_o_desafio_das_politicas_publicas_rosita_milesi.pdf [Last accessed on 2018 May 29] [Article in Portuguese].

Milesi, I.R., & Carlet, F. (2012). Refugiados e Políticas Públicas [Refugees and Public Policy]. In: Da Silva, C.A.S., (org.). Direitos Humanos e Refugiados [Human Rights and Refugees]. Dourados: Ed. UFGD. [Article in Portuguese].

Moreira, J.B. (2010). Redemocratização e direitos humanos: A política para refugiados no Brasil [Redemocratization and human rights: The policy for refugees in Brazil]. *Revista Brasileira de Política Internacional*, 53(1):111-129.

https://doi.org/10.1590/S0034-73292010000100006 [Article in Portuguese].

Moreira, J.B. (2014). Refugiados no Brasil: Reflexões acerca do processo de integração local [Refugees in Brazil: Reflections on the local integration process]. *Revista Interdisciplinar de Mobilidade Humana (REMHU)*, Brasília, 22(43):85-98.

https://doi.org/10.1590/1980-85852503880004306 [Article in Portuguese].

Papadopoulos, D., & Tsianos, V.S. (2013). After citizenship: Autonomy of migration, organisational ontology and mobile commons. *Citizenship Studies*, 17(2):178-196.

https://doi.org/10.1080/13621025.2013.780736

Pelúcio, L. (2012). Subalterno quem, cara pálida? Apontamentos às margens sobre pós-colonialismos, feminismos e estudos queer [Subaltern who, pale face? Marginal notes on postcolonialisms, feminisms and queer studies]. *Contemporânea,* 2(2):395-418. [Article in Portuguese].

Santos, B.D.S. (Org.) (2010). Reconhecer Para Libertar: Os Caminhos do Cosmopolitismo Multicultural [Recognize to Liberate: The Paths of Multicultural Cosmopolitanism]. 2nd ed. Rio de Janeiro: Civilização Brasileira. [Book in Portuguese].

Santos, M. (2014). O Espaço do Cidadão [Citizen's Space]. 7th ed. São Paulo: Editora da Universidade de São Paulo. [Book in Portuguese].

Taylor, C., Appiah, K.A., Habermas, J., Rockefeller, S.C., Walzer, M., & Wolf, S. (1998). Multiculturalismo: Examinando a política de reconhecimento [Multiculturalism: Examining the Politics of Recognition]. Tradução de Marta Machado. Lisboa: Instituo Piaget. [Book in Portuguese].

Tilly, C. (1993-4). Social movements as historically specific clusters of political performances. Berkeley J Soc, 38:1-30.

Trimikliniotis, N., Parsanoglou, D., & Tsianos, V.S. (2015). Mobile commons and/in precarious spaces: Mapping migrant struggles and social resistance. *Critical Sociology,* 42:1-15.

https://doi.org/10.1177/0896920515614983

Trindade, T.A. (2012). Direitos e Cidadanias: Reflexões sobre o direito à cidade [Rights and Citizenship: Reflections on the right to the city]. Vol. 87. Lua Nova, São Paulo, p139-165. Available from: https://www.scielo.br/pdf/ln/n87/07.pdf. [Last accessed 2023 Apr 10] [Article in Portuguese]

Tsavdaroglou, C. (2020). The refugees' right to the center of the city and Spatial: Gentrification vs commoning practices in Tarlabaşi-Istanbul. *Urban Planning*, 5(3):230-240.

https://doi.org/10.17645/up.v5i3.3098

Williams, P. (1991). La Dolorosa Prisión del Lenguaje de los Derechos [The Painful Prison of the Language of Rights]. In: Williams, P., (ed.). The Alchemy of Race and Rights. Cambridge: Harvard University Press, p. 146-165. [Article in Spanish].

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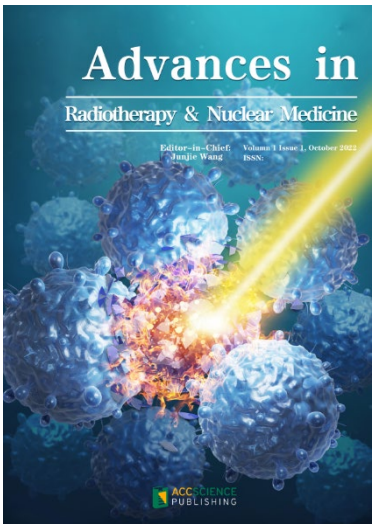

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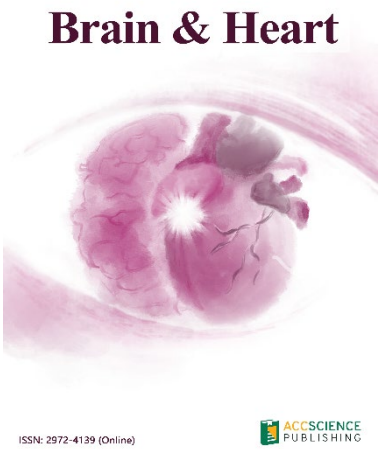

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