

Creativity and Healthy Ageing: Future Research Directions

Inkeri Aula¹ · Masood Masoodian¹

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Abstract

The fact that the world population is ageing brings about societal challenges, but at the same time creates new opportunities for more creative and meaningful lives at older age. In this article, we investigate existing gaps in several fields of research that aim to better understand the role of creativity in later life and its effects on healthy ageing. We present an overview of the diverse definitions of creativity and culture, review current approaches to wellbeing, and summarise findings from research on the effects of creative activities on wellbeing and healthy ageing. In addition, we discuss recent research on the impact of environmental contexts and relations on creative wellbeing. Through identifying the definitions and scope of research on creativity and wellbeing in the lives of older adults, we aim to provide promising future research directions. Our review shows that current research on the impact of artistic and creative activities on wellbeing in later life generally does not consider older adults' own subjective and relational experiences, and too often ignores elements of the complex environmental conditions in healthy ageing. Therefore, we conclude that there is a sustained need for holistic and relational approaches that address the entanglement of social and natural environments with healthy ageing and creative wellbeing.

Keywords Creativity \cdot Healthy ageing \cdot Creative wellbeing \cdot Environmental relations \cdot Older adults

Inkeri Aula inkeri.aula@aalto.fi

Masood Masoodian masood.masoodian@aalto.fi

¹ School of Arts, Design and Architecture, Aalto University, Espoo, Finland

Introduction

In an ethnographic interview encounter, a 70-year-old artist participating in a research project in Finland, stated that "our society only worships novelty". According to this interviewee's experience, contemporary society does not appreciate anything old, "not historical buildings, not ancient trees, nor old people"¹. It is well evidenced by studies in different fields that older people are indeed discriminated against and stereotyped because of their age in many different situations (Nelson, 2009, 2017; Molina-Luque & et al. 2022; Comincioli & et al. 2021). Yet, as the world population is rapidly ageing it brings about a need for societal transformation at many levels, including public policies on health, retirement, migration and social services, as well as arts and cultural offerings (Lee et al., 2023), and consideration for service, communication, spatial, material and many other forms of design (Comincioli & et al. 2021, 2022; Nelson, 2017). Sadly however, societies are not prepared enough for sustainable changes the ageing demography requires, as addressed in the measures recommended by the United Nations in proclaiming the current decade as the "decade of healthy ageing" (UN 2019).

At the same time, environmental and climate crises, and their consequent economic, social and political challenges are also transforming our societies at a rapid pace. Since the ecological emergency is changing human living conditions in many parts of the world, societies need to be restructured in ways that economic growth alone cannot address (BIOS 2019). In addition, the growing global inequality and failure to mitigate climate change is bringing about existential crises, where questions on meaning, sense, and belonging arise in a new context (Latour 2017). Amidst these changes, the ageing population should not be seen as another challenge or threat to consumerist economies, but rather as a largely forgotten human wealth, and a diversity of people with valuable life-long experiences and knowledge to learn from for the future. The fact that people are increasingly living longer is an important achievement, that, amongst other things, opens space for transgenerational creativity through sharing experiences, and promotes possibilities for more meaningful life in older age, specially through artistic and cultural activities.

There is a growing body of research across different fields focusing on the social, mental and physical health benefits of artistic, cultural, and creative activities and experiences, as well as on the promotion of healthy ageing through creativity. Over the past two decades, there has been a major increase in research into the effects of the arts on health and wellbeing (for research reviews see, Chacur & et al. 2022; Warran et al., 2022; O'Neill, 2019; Fancourt & Finn, 2019; Fraser et al., 2015; Gallistl, 2018; and Price & Tinker, 2014). Similarly, there is a lot of evidence on the arts having a major role to play in the promotion of health and prevention of ill health, as well as management and treatment of illness across all ages (Warran et al., 2022; Fancourt & Finn, 2019). However, since research on wellbeing and health effects of creativity in later life have so far mostly focused on older adults in institutional care settings, or

¹ From SENSOTRA research project archives, sensobiographic walk 2 (2018), see Järviluoma & Murray, 2023.

in the context of specific health problems, new approaches to how creativity affects healthy ageing are urgently needed.

Despite increasing knowledge, many fundamental concepts such as "art", "creativity", "health", and "wellbeing" are still not defined consistently across different fields of research, and therefore, require context-sensitive interpretation and communication to different stakeholders. This in turn makes it rather difficult to share, understand, compare, and fully utilise research findings emerging from all the related fields, ranging from medical sciences to arts and social sciences. Here, we address this challenge by examining the ways in which contextual relations are accounted for in terms of late-life creativity and wellbeing. The main objective of our article is **to identify any existing gaps in research on creativity and healthy ageing by discussing related recent research thematically through a narrative review in order to identify priorities and promising directions for future research. To that end, we examine the questions and areas for which future research is needed to help better understand how creativity affects the wellbeing of healthy older adults in order to improve the lives of ageing populations.**

In this article, we first examine the main research areas concerned with creativity, and discuss their specific definitions of creativity. We then explicate how the concepts of health and wellbeing are approached across different fields of study, and are linked to creativity. This leads to our narrative review of existing research on creativity and wellbeing in the context of *"healthy ageing"*. Based on this, we argue that artistic, cultural, and creative activities and experiences can fulfil deep human needs and foster better wellbeing and health. Finally, we conclude by identifying future research directions that take into account environmental, cultural and more-than-human contexts, and consider their interrelationships and impact on late-life creativity.

Creativity: Definitions and Research Areas

The world is constantly in flux and totally mixed and compounded. Nothing is really new. Creativity itself is a matter of seeing afresh what is already there -- (Gary Snyder, 1995, 175)

The world of market capitalism and business values innovation. Creativity, as a means to innovation, is increasingly seen as something that professionals from different fields need to study through courses and books, such as the ever-popular "Artist's Way", by Cameron (2016). Regardless of its growing popularity, however, there is no widely accepted definition of what is exactly meant by the versatile concept of "creativity". Most often, creativity is understood as the ability to create new ideas and innovative solutions, that are appropriate within a context – as defined by Klimczuk (2015, 32) – that makes them meaningful. Psychologists largely follow a similar definition, in which not only new ideas or solutions are important, but also their applicability in an appropriate context (Moran, 2010, 74). Following the poet Gary Snyder's words noted above, creativity is not only about creating something new, but rather, taking a fresh perspective at the unfolding complexity "already there". Along the same lines, anthropologists have argued that creativity is as much a process of

selection and recombination, as one of thinking anew, with creativity emerging from past traditions, but moving beyond them (Lavie et al., 1993).

Despite its importance in diverse fields, creativity is often understood almost synonymously with "artistic" creation. However, artistic creativity is only a specific form of creativity, one that leads to unconventional points of view, or brings surprising observations to attention, and by doing so, make its audience perceive the reality and themselves in alternate ways. Art and adult education scholar Laura Formenti has noted that artists question us, and the very definition of art, by provoking us to see differently, to feel our own (dis)orientation as part of the human experience (Formenti, 2017, 71). The metaphorical nature of art replicates linguistic expressions, stories, and ways of knowing in new and undetermined ways, connecting the past with the present and the future. Yet, these qualities of art as novel and transformative compositions are also kin to other more boarder forms of creativity in general.

In creativity research, a focus on the individual capacity of recognized creative professionals is commonly noted as the "Big-C", in contrast to the broader everyday creativity or the "little-c". The way in which professional creativity (Big-C) can be equalled with artistic genius resembles the way in which another related concept, that of culture, can be used as synonymous to artistic and cultural production. In contrast to "culture as art", the so-called anthropological concept of culture is a broader notion which includes ways of life and systems of meaning (e.g., Hall, 1997), comprehending both material and symbolic cultures of different groups. This type of definition is used also by UNESCO in defining culture as "the set of distinctive spiritual, material, intellectual and emotional features of society or a social group, that encompasses, not only art and literature, but lifestyles, ways of living together, value systems, traditions, and beliefs" (UNESCO, 2001, 3). By juxtaposing the concept of creativity to this broader framework of culture, creativity can be understood as a socially and culturally constituted process, surpassing the divisions between exceptionally creative individuals' (artistic) works and creativity in everyday life. The invention of the creatively "new" takes place within a field of culturally available possibilities, where improvisation is inevitable, and people, as creative beings, go along responding to life's contingencies (Lavie et al., 1993; Hallam & Ingold, 2007). Everyday innovation and improvisation is a form of creativity available to everyone regardless of their relationship with professional art-making (Richards, 2010). In this regard, even pure aesthetic experiences can be considered as creative experiences, and can in fact contribute to one's creative wellbeing (Mastandrea et al., 2019).

Due to its increasing importance, and broader scope, these days research on creativity is conducted across a wide range of areas, from neuropsychology to art and design, anthropology to economy and philosophy of science. In a few of these fields, however, common dichotomies between general and domain-specific creativity – as with the Big-C and little-c differentiation – have generated criticism. There have also been several proposals for a general theory of creativity. Arthur Koestler (1964) in "Act of creation" formulates a non-reductive, synthetic approach to how creativity in science, humour and art could be understood. Koestler defines a process – calling it "bisociation" – in which elements from distinct matrices are brought together to form a new matrix of meaning through, for instance, comparison and analogies. Koestler's theory recognizes, that besides arts and sciences – i.e., the cultural achievements of human civilization at large – creativity can be found in the simplest of daily activities. This form of everyday creativity happens when people tap into different forms of knowledge with the help of both creative products and creative processes (see Richards, 2010).

Despite this broader relevance of creativity, a major part of creativity research seems to arise from attempts towards increasing economic growth by using creativity ity in business and organizational management, with its focus mostly on innovation. In a recent review of over 38 000 highly-cited academic articles, Mejia et al. (2021) have classified the topics of creativity research into 12 clusters, of which the largest four explore: (1) organizational creativity and team creativity, (2) social psychology of creativity, (3) the creative industries and creative cities, and (4) idea generation. While research falling into these four categories are at different levels and scales, they all pertain mainly to business management and innovation. The remaining eight smaller clusters include other facets of creativity research such as neuroscience, healing, identity, and cultural expertise (Mejia et al., 2021).

In sociological research, on the other hand, it has been pointed out that both creativity and innovation in late modern societies are often taken instrumentally, as components to an aesthetic economy (Gallistl, 2018). Reckwitz (2017) argues that creativity has been invented as a driver for the aestheticization of modern society, in a way that values aesthetic novelty for novelty's sake. Besides their criticism of economy-centred conceptualizations, societal research approaches look beyond the commodification of creativity into social practices. In sociology of art, for instance, creativity can be traced in trajectories of artistic production, by even including the agency of art objects themselves, as proposed by Gell (1998). In a further proposal, Fox (2015) has applied an affective object-oriented ontology to analyse creativity as a social practice emerging from human and nonhuman assemblages. The primary insight from different sociological approaches is that artistic or creative expression, self-realization through art-making, or making sense of life and creating meaning through aesthetic experience, are all inevitably embedded in social and cultural environments and relations (for other sociological approaches, see Lebuda & Glăveanu, 2019).

The aforementioned concept of culture has been understood yet in a third sense, as a universal human property, one in which all the different local variations of culture share the same trait, typical to human species – of necessarily having a culture. In the same vein, creativity can be understood as encompassing the human experience at large. From a humanist perspective, creativity can be found at the heart of human societies. In his seminal book "The Invention of Culture", anthropologist Roy Wagner (2016) places "people-as-inventors" at the centre of the process that creates culture, in a dialogic dance between invention and convention, innovation and control, and meaning and context.

As these demonstrative cases from different fields show, the challenge of a comprehensive definition of creativity research results from its diversity and spread across many diverging disciplines. To reach beyond the diversified definitions, creativity can be considered as something even more fundamental than a crucial component of the human experience. Philosopher Whitehead (1929) formulated a broader definition, according to which creativity is not a particular quality of human beings or human consciousness, but "a principle of novelty" that animates all events, experiences, feelings, and relations in the universe. In deed anthropological research, inspired by post-human and relational approaches, takes this further by including more-thanhuman participants in the formulation of cultures and societies, and claiming that culture is not exclusively human either (Kohn, 2013; Holbraad & Pedersen, 2017). Similarly, findings from research into communication systems of animals and plants, contemporary animism, and cultural properties found amongst some animals – all taken as evidence of human interdependency on the non-human world – reinforce criticisms towards the Western tradition of human exceptionalism as the sole creator of civilization and culture, and thus creativity itself.

Therefore, these relational and post-human approaches are also emerging in creativity research. A special issue of Qualitative Inquiry (2022) has recently addressed a range of post-human ecological approaches to the study and theorization of creativity, and their potential to transform understandings of the 21st century learning events and environments, including cities, schools, museums, parklands, digital environments and wild places. The "manifesto for posthuman creativity studies" highlights the emergent, collective, and ecological aspects of creativity (Harris & Jones 2022). Many of these relational and ecological perspectives are also present in the continuous development of "research-creation", a practice and theory that incorporates artistic practices and insights into research methodologies (Manning, 2016; Loveless, 2015).

In summary, recent research recognizes that creativity is a pluriversal phenomenon that needs to be researched from a variety of angles (see Kaufman & Sternberg, 2010). Furthermore, while creativity is "intrinsic to the very processes of social and cultural life" (Hallam & Ingold 2007, 19), in the context of this article it is necessary to investigate how to support, fortify and promote all the different kinds of creativity that aid in maintaining health and wellbeing of ageing people, while also not neglecting the role of non-human elements in human creativity, in particular that of surrounding nature, and including the totality of our life-supporting planetary systems.

Health, Wellbeing, and Quality of Life

The Oxford English Dictionary² traces the word "wellness" centuries back to being the opposite of the word "illness". In contemporary public discourses, wellness, welfare, and wellbeing in both mental and physical sense are considered more broadly than just the absence of illness, and more generally refer to one's overall prosperity. In a similar vein, drawing on its 1948 constitution, the World Health Organization (WHO) has defined health as "[the] state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity" (see e.g., Rudnicka et al., 2020). In human historical and cultural milieu, the clinical approach to health as something primarily physical has not been a prevailing principle, but instead something rather exceptional. In fact, throughout most of human history, healing and med-

²www.oed.com.

icine have been connected with spirituality, social structure, art and ritual in many complex ways (see Fancourt, 2017, 3–22).

In the late modern societies, health problems in physical and mental spheres are often taken as distinct, thus separating "mental wellbeing" from "health". Increasingly, however, mental health problems have become a major challenge to overall health and general wellbeing, and according to WHO (2017) they are currently leading causes of disability. Mental health is crucial in the definition of general wellbeing, which – following the definition by WHO – is inseparable from being healthy. Mental wellbeing is a dynamic state, in which the individual is able to "develop their potential, work productively and creatively, build strong and positive relationships with others, and contribute to their community" (Foresight Mental Capital and Wellbeing Project, 2008). While the more recent dichotomous separation of physical and mental wellbeing is deeply rooted in modern medical science, it is also well evidenced that attitudes, imagination, and cultural and social expectations can have physically measurable effects on health, as occurs with the placebo effect (Wager & Atlas, 2015).

Following on from the complex interconnectedness of physical and mental health, research on wellbeing should not therefore be reduced to understanding the effects of merely psychological, economic, social or any other separate aspects alone. Research in this area needs to consider the complex cultural and social networks that are always at play in the experiences and manifestations of wellbeing and health. This becomes especially distinct in cross-cultural comparisons that have shown how differently health can be understood in different cultural contexts (Honkasalo, 2017; Kottow, 2018; Scharoun et al., 2020). Consequently, artistic and cultural inventions that aim to promote communal cohesion and older adults' wellbeing take place in different sociocultural contexts and institutional structures that require local, ethnographic understanding to identify benefits and necessities of improvement (Lee et al., 2023).

Experiences of wellbeing that happen in the context of social relations and cultural capacities can be investigated from the perspective of "relational wellbeing". This approach has been defined as an emergent construct grounded in the interpretivist tradition in social sciences (White, 2017). It aims to understand how people as subjects experience and see the world in relation to others, in contrast to the positivist approach to wellbeing taken in psychology and economics which emphasize objective measurable outcomes. A nonreductive example for defining wellbeing in a way that considers people's diversity and their own agency from the standpoint of human dignity is the "capabilities approach". This approach suggests that the focus should be on people's functional capabilities instead of just their illness or health (Nussbaum, 2011). In the capabilities approach, Quality of Life (QoL) is assessed in terms of whether people have the capabilities they need "to do and to be" freely according to their values. Nussbaum defines these capabilities as those "freedoms or opportunities created by a combination of personal abilities and the political, social and economic environment" (2011, 20). The concept of QoL therefore considers an even broader notion of health than general wellbeing. According to WHO³, QoL of an individual is related to "[their] perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals,

³ See the updated toolkit on WHOQoL at the official website: https://www.who.int/toolkits/whoqol.

expectations, standards and concerns." This type of relational approach continues to recognize creative expression as a factor contributing to wellbeing – and as such, to QoL as well – in accordance with personal and spiritual values, that again relate to cultural and social structures in which they take place.

However, these relational and context-sensitive approaches to wellbeing across cultural and societal contexts need to be further complemented with the ecological perspective of the environmental context in which they are located. For example, a growing body of research is evidencing the crucial health and wellbeing effects of green spaces and natural environments (see e.g., Simkin et al., 2020; Hartig et al. 2014). In terms of public health, the measurable benefits of green spaces for the broadest segments of the population are clearly shown in four major areas of improved air quality, increased physical activity, increased social contact, and the reduction of stress (Hartig et al. 2014). Similarly, spending time in biodiverse spaces such as old growth forests has been shown to reduce depression (Lee et al., 2017), and access to urban green spaces promotes physical, social and mental wellbeing (Hansen et al., 2017; Roe et al., 2013). Yet it is necessary to remain mindful that wellbeing effects of the environment are variable according to the local, community, and personal level.

While relational approaches to wellbeing, such as the capabilities approach, seem most appropriate in the context of research presented in this article, as noted above, we propose that such approaches should be broadened even further to also include the human relations with the more-than-human elements and natural environments as an entangled context of experienced wellbeing and health.

Critical Views on Creativity and Wellbeing

The multifaceted relationship between creativity and wellbeing requires research across a range of disciplinary contexts (Kiernan et al., 2020). Participation in creative outputs resulting from processes involving recognized professionals, as well as processes of improvisation and innovation in everyday situations, are both important for improving wellbeing and Quality of Life (Richards, 2010). According to creativity research from different fields of study, intentional creativity builds a better world (Runco, 2007). Furthermore, aesthetic experiences, such as enjoyment of art, also promote wellbeing and health (Froggett, 2017). In addition, there is evidence that engaging in cultural activities can even prolong life (Väänänen et al., 2009; Martín-María 2017).

White (2017) has argued that the basis of anxiety about wellbeing lies in the erosion of social and relational networks that has occurred with the development of late capitalist, globalized modernity. Furthermore, in such socio-economic transformations, creativity itself has become an asset to wellbeing. According to Hallam and Ingold (2007), creativity has come to be seen as a major driver of economic prosperity and social wellbeing due to a global commodity market, in which every aspect of life is convertible into an object of fascination, to be appropriated and consumed. Innovation and creativity can, actually, be fulfilling as a form of self-realization for the individual, when it takes place in a culturally and socially acceptable context (Cohen, 2009). Although this satisfactory wellbeing function of creativity is most often associated with professional artists and art-making hobbies, it can as well apply to individual economic and career aspirations (see Miyazaki, 2006) that can contribute to a sense of meaning.

Over the past two decades, there has been a significant increase in research on the role of the arts on health and wellbeing. A scoping review of over 3000 studies by Fancourt and Finn (2019) demonstrated that the arts play a major role in the prevention of ill health, in the promotion of health, and in management and treatment of illness. Creative and artistic activities are also shown to improve people's sense of self-worth and to promote their social interactions, which are important factors contributing to better health (Price & Tinker, 2014). Furthermore, there is a wide array of research evidencing the related neurological health benefits of music for a range of health conditions and illnesses (Fancourt, 2017, 294–296; Sacks, 2007). Besides measurable physical health, significant stress markers and mental health factors are shown to improve with different creative and artistic activities, not only music (Fancourt & Finn 2019; Corbin et al., 2021; McCrary et al., 2021; Davies et al., 2014). Similarly, community-based artistic activities have been effectively used as a means of preventing social exclusion, and research on these practices has shown broader wellbeing effects of art-based interventions (Fancourt, 2017, 281-320; see also Archibald & Kitson, 2020; Adams et al., 2011; Rossi et al., 2014). Collaboration with professional artists, high quality of facilitation and sensitivity to participants' perspectives are some of the important factors contributing to the success of such participatory interventions (Stickley & Clift, 2017; Cho & Chang, 2022).

However, it is often difficult to provide conclusive evidence for direct and measurable effects of art-based interventions on health. It has, therefore, been noted that the shifting and contested subject domains of "arts" and "health" need to be assessed critically and framed in theoretical discussions (Parr, 2017). In UK-based research, for instance, there has been a preoccupation with the possibility of arts and health research becoming a "remedial plaster" solution for social justice issues, if such research focuses on the biopolitical measures of wellbeing effects (Parr, 2017, also Miessen, 2011). According to Bishop (2012), social inclusion policies are rooted in a neoliberal agenda that seeks to "enable all members of society to be self-administering, fully functioning consumers who do not rely on the welfare state and who can cope with a deregulated, privatized world" (Bishop, 2012, 12; see also Sansi & Strathern, 2016). These critical perspectives are considered to be important because, to their proponents, if creativity is presented as an individual ability to counter structural disadvantages, participatory art-based interventions can become unintended devices of neoliberal governmentality (Bishop, 2012; Miessen, 2011).

Finally, creativity and artistic and cultural activities can also be approached as means of promoting resilience against adversities on both individual and community levels. In the following section, we focus on this aspect of creativity and further examine the entanglement of health, wellbeing, and creativity in the context of societal challenges associated with ageing.

Research on Creativity and Healthy Ageing

Healthy ageing is a matter that deserves much more attention in our rapidly ageing societies. As the number of older people is increasing, cultures of ageing are also changing (Higgs, 2016). Yet, at the same time negative images of later life stages are becoming even more prevalent (Higgs & Gilleard, 2015; Gallistl, 2018). In contrast, it is also increasingly argued that instead of being treated as a challenge to a productive society – in terms of economy – the growing number of older adults should be celebrated as an achievement in terms of better human health (Irving, 2014).

Human life course can be divided into different stages such as infancy, youth, working years and old age (for a critical overview of life course approaches see Alwin, 2012). An intriguing comparison with a more respectful relationship to later stages of life is offered by the ancient Vedic tradition (Banerjee, 2021), which also divides life into four stages, or ashrama. The first phase, brahmacharva, refers to youth and adolescence spent in studying. This is followed by the second ashrama of leading a family and working for the benefit of society. In later adulthood, it is time to move to retirement, as it were, or the third life stage of *vanaprashtha*, which literally means "living in the forest". This stage marks the beginning of the second half of life, when people can enjoy the fruits of their previous work and advise younger generations, gradually moving away from material concerns towards more spiritual values. Still later, this period is followed by the fourth stage of sannvasa, which is traditionally associated with spiritual exercises and giving up on mundane possessions. (Banerjee, 2021) Here, late life refers to the second half of life, one full of meaning. Contemporary ageing studies in the West have also proposed new categorizations focusing on later life stages. Psychiatrist Gene Cohen, for instance, has identified four stages in the second half of life. Cohen's research clearly demonstrates that creative thinking improves health in older age. Furthermore, interest in the arts, reflection, and quests for a deeper meaning are characteristic of, and necessary to, mid-life - particularly the later stages - where creativity plays a crucial role in maintaining health and quality of life (Cohen, 2006, 2009).

Such positive approaches to later life and increased longevity include diverse takes on "positive ageing" (Bar-Tur & Malkinson, 2014), "active ageing" (e.g., Parry & McCarthy, 2017), and "successful ageing" (Rowe & Kahn, 1997; Rubinstein & Medeiros, 2015). These provide multiple definitions of ageing, and recommend policy advice intended to maintain, or even increase, the productive later stages of life, despite any health and capability challenges (see e.g., Urtamo et al., 2019). The equally multi-faceted notions of "creative ageing" often emphasize the creative potential and productivity of professionals in later stages of life (Gallistl, 2021). All of these approaches to ageing can be useful in various ways within different disciplines and areas of research. However, in investigating the interrelatedness of creativity and wellbeing in later life, we find the concept of "healthy ageing", as defined by the World Health Organization, to be the most inclusive, and one that does not imply perfect health. WHO (2020) defines healthy ageing as "the process of developing and maintaining functional abilities that enable wellbeing in older age". In this definition, functional ability entails not only a person's physical and mental capacities, but also the "environments they inhabit and the ways in which people interact with their environment" (WHO, 2020, 8; Rudnicka et al., 2020, see also Sadana & Michel, 2019). While social and physical environments can encourage creativity in later life, more research is needed to identify the mechanisms by which this could be accomplished and encouraged (O'Neill, 2019; Chacur et al., 2022; Comincioli et al., 2022). At present, the relationship between, for instance, art and aesthetics, environmental factors, and health and wellbeing remain generally unknown.

Without a clear understanding of the underlying factors that explain effects or outcomes, both science and society remain doubtful and dismissive of any reported findings of the wellbeing benefits of creativity and the arts (Cohen, 2009). Fortunately, however, research in this area is gaining new interest. Over the last decade, research on older adults' participation in artistic activities has progressively increased (Chacur et al., 2022, 9). Involvement in creative and artistic activities, and participation in cultural and artistic performances in later life have been shown to reduce stress, depression, anxiety, loneliness, and diverse conditions related to mental illnesses, such as those affecting memory (Fancourt, 2017). These types of activities also seem to have measurable effects on common physical conditions, such as reducing high blood pressure, or helping to mitigate both mental and physical health problems related to lack of movement, social activities, and exercise (Fancourt, 2017; Fancourt & Finn, 2019). The potential for improving not only public health but also the quality of life for vast numbers of people does, therefore, seem immense.

To the present day, the growing body of research on creativity in later life has largely been dominated by biomedical research targeting mental health, and generally focusing on professionally-led art-based interventions. In their scoping review, Fraser et al. (2015) point out that gerontological research has for too long focused on biomedical outcomes of late-life creativity, primarily concentrating on its benefits in clinical and therapeutic settings, particularly institutional care. Based on this, they argue for continuous programmes of research to build a better understanding of how the arts contribute to the quality of life, while also taking into account the diversity of older adults. Intersectional differences relate to the identification with, and access to, different forms of arts and creative activities, as well as to the experience of ageing. These vary across societal contexts, however, there are also new initiatives for crosscultural definition of the conditions for healthy ageing (Scharoun et al., 2020).

While some forms of the arts, and creative, artistic and cultural activities have so far been used more than others to promote health and wellbeing of older adults, comprehensive research is still lacking in identifying any differences between them or their effectiveness. There is, however, considerable evidence on the beneficial effects of making and listening to music (Fancourt & Warran, 2020; Cohen, 2009; Chacur et al., 2022), the visual arts (see Chacur et al., 2022), as well as dance and other performing arts (Clifford et al., 2022). In various research cited in this article, a wide range of creative, artistic and cultural activities have been the focus of the individual studies. These have, for instance, focused on creative writing, painting, and different crafts, as well as a range of cultural activities that could potentially be beneficial to health and wellbeing, and have not yet been investigated from the perspective of promoting creative healthy ageing. These may, for example, include activities in different creative fields and artistic practices, as well as self-initiated community and

group activities, or individual practices of the arts, crafts, games, or other engaging creative activities.

This observation for future research directions is in no way meant to undermine the importance of institutionally-organized and/or professionally-led creative and artistic activities and cultural programmes. Professional facilitation has indeed been identified as a factor in increasing the benefits of arts-based interventions for healthy ageing (Cho & Chang, 2022). Evidence already exists on the positive impact of socially motivated and professionally-led arts interventions on people's health, especially in institutional healthcare settings (e.g., Stickley & Clift, 2017). Nevertheless, further research is called for to identify key factors in patterns of improved health and well-being, as well as to explore ways of improving access to such services for heterogenous groups of older adults (Price & Tinker, 2014). For instance, in their important work on evidencing the relationship between the arts and health, Fancourt and Finn (2019) argue that the beneficial impact of the arts could be furthered by promoting arts engagement at the individual, local, and national levels, as well as through supporting cross-sectoral collaboration (see also Lee et al., 2023).

It should also be noted that despite the increasing positive evidence from medically-oriented research, much less has been done to investigate the effects of creative and artistic activities on the lives of "healthy" older adults, or those who do not live with significant negative medical conditions. While research from a biomedical perspective is extremely valuable in demonstrating – or negating – the significant health benefits of creative and artistic activities (Fancourt, 2017; Fancourt & Warran, 2020; Stickley & Clift, 2017), a wider focus is also required. According to a review by neurologist O'Neill (2019), cultural and aesthetic experiences in a broader sense are largely missing from the creativity and healthy ageing research. Based on this, O'Neill proposes that creativity should be promoted as a method of maintaining good health across the entire age spectrum, but particularly in older age.

Furthermore, we would argue here that creativity should be fostered through a broader range of approaches, and not just participatory arts-based interventions, which tend to be the most common form of such initiatives. Currently, outside institutional healthcare settings and social interventions, research has predominantly focused on professional artists, especially in terms of qualitative inquiries (see e.g., Gallistl, 2018; Cohen, 2009; cf. Heikkinen, 2004). Yet, it is becoming evident that many different types of nonprofessional social and leisure activities can also impact wellbeing (Adams et al., 2011). For instance, social pursuits have been identified as a crucial component leading to positive health effects in creative activities (e.g., Bruggencate et al., 2018, Corbin et al., 2021; Groot et al., 2021).

It is also important to point out that creativity is not just limited to exceptionally artistic individuals or creative professional practitioners. As discussed earlier, in its broader definition, creativity can be understood as an intrinsic quality of life that has significant effects on human wellbeing, one which continues well into older age. In fact, the previously described later stages of life have been noted for increased freedom, productivity, and creativity (Gallistl, 2018; Cohen, 2006, 2009). Gallistl (2018), having analysed research conducted on late-life creativity since 2010, concludes that, following a broader cultural turn in gerontology (Twigg & Martin, 2015), a considerable number of recent studies have convincingly demonstrated the well-

being effects of creativity in achieving healthy ageing. Findings from these studies, however, focus on self-realization and subjective achievements, in accordance with individualist economical innovation and creativity ideals (Gallistl, 2018). In the same vein, Reckwitz argues that late-life creativity should not be studied only by its measurable effects, but as a more general model for ageing in late-modern societies (Reckwitz, 2017, viii).

Despite these studies, there is currently a gap in research into creative experiences of healthy older adults who are not themselves professional artists. As with any other age group, it is easy to understand how different groups of older adults may have radically different conceptions of what art, creativity, artistic activities, aesthetic experiences, and healthy ageing entails for them. Only when the research focus from ageing professional artists is broadened to so called ordinary older people, it would be possible to more fully understand the role of creativity in healthy ageing for the general population. Qualitative approaches are, therefore, needed for understanding how older people make sense of their experiences of later life and how meaningful lives do emerge. For example, to address the challenge of understanding the kinds of environments, contexts, and activities that promote creativity and healthy ageing, it is necessary to develop multidimensional research that can take into account the experiences of older people and their relationships with their social and physical environments through a range of, for instance, multisensory, narrative, ethnographic and relational approaches. Similarly, creativity-based research methodologies that combine artistic approaches and expressions, and participatory research methods with diverse older adults participants as co-researchers, should also be developed and utilised.

Finally, it should be pointed out that the prevailing societal focus on the artistic agency in later life and the productivity of ageing artists, as noted by Gallistl (2018), fosters a view of creativity as productive innovation – i.e., a commodification of creativity – that in fact entails an ageist attitude in general. Sadly, this attitude is so engrained in our modern societies that it is even embraced by older adults themselves, who wish to remain youthful and in denial of the inevitable process of ageing (see e.g., Comincioli et al., 2022; Comincioli et al., 2021). This reflects societal values in which natural processes, long-term temporal cycles, decay and old age are all dismissed – a form of implicit ageism (Comincioli et al., 2022) that research in many fields of study should challenge. Therefore, we would instead argue that the wellbeing benefits of creativity, both as creative processes and creative outcomes, are temporal in relation to normal human ageing, and they also create an arena in which age relations should be negotiated.

In summary, research on late-life creativity needs to recognize the existing ageist societal biases and stereotypes that affect this broad multidisciplinary field of study. It is also necessary to analyse the extent to which Western biomedical approaches, that only emphasize measurable medical health outcomes, have become internationally more hegemonic (Lamb, 2015), at least in official policy contexts. Transdisciplinary approaches involving gerontology and anthropology are much needed to enrich societal perceptions of late-life creativity that are important in overcoming the existing widespread ageist attitudes towards older people. In addition, within most participatory arts-based intervention settings, the experiences of the diverse older adults from

different backgrounds are not considered sufficiently enough within late-life creativity research (Chacur et al., 2022). It is only when we adopt a broader understanding of creativity as an intrinsic part of the human life experience – part of quality of life and wellbeing, as discussed earlier – that it can be recognized as an element of normal healthy living, and therefore, as a condition of healthy ageing in our temporal lives.

The Environmental Context to Creative Wellbeing

All forms of environments clearly play important roles in fostering healthy ageing. The significance of natural environments, in particular, has perhaps never been more obvious than in this period in human history during which our planetary life-support systems are degrading rapidly. For this reason, it is crucial to better understand how our everyday environment – including the natural world – affects late-life creativity, and what kind of approaches would be necessary to maintain and promote environmental relationships that support such creativity in a sustainable way. This call for a transdisciplinary knowledge, that includes our understanding of our natural environment, resonates well with the objectives of the World Health Organization, which has named 2020–2030 the decade of healthy ageing. In their definition, the environmental context is crucial:

"Creating age-friendly environments and communities requires collaboration and coordination across multiple sectors and with diverse stakeholders, including older people. Age-friendly environments promote health and support for people experiencing capacity loss. Such environments ensure that older people age safely, continue to develop personally and contribute to their communities while retaining autonomy and health." (WHO, 2020, 8).

Although the impact of the environment on both creativity and healthy ageing has not been sufficiently studied yet, it is gaining increasing interest across different fields of research (Chacur et al., 2022) attending to social, material, cultural and sensorial aspects of older adults' living environments. However, in research into environmental factors, the significance of green and natural environments for ageing people's creative wellbeing have received surprisingly little attention, despite a growing body of evidence which suggests that green spaces positively influence both physical health and psychological wellbeing (Lahdenperä et al., 2023; García-Llorente et al., 2018; Mitchell & Popham, 2008). In the quest for promoting age-friendly environments, a wider relational approach should take into account not only ageing people, but also the multispecies, biodiverse and creativity-enhancing qualities of accessible, local, green environments and their spatial designs. Recent research further suggests that the relationships which ageing people maintain with natural environments can sustain their wellbeing in later life (Author 1 2023). As such, relational approaches to ageing and space must be used in aid of designing age-friendly environments (Murray, 2015).

The relationships people maintain with nature often resemble how they relate to the arts (e.g., Synnevåg et al. 2020), both of which can involve personal interpre-

tations, emotional affects, and a sense of deeper meaning. Thus, relating to green environments could be also approached as a field of creativity in later life. As well as the holistic experiences associated with being in nature, the arts, and aesthetics more generally, can contribute to an understanding of creativity as fundamentally constituted in situated relations (Fox 2015; Qualitative Inquiry 2022). The arts can also help us to understand creativity as a human experience, in a way that can be relevant to studies in cultural gerontology, ecocritical sociology, and economy of creativity, among other fields. In this approach, the concept of creativity can in fact be broadened to include relationships with natural and cultural environments, spaces, communities, and other material and more-than-human elements (Harris & Jones 2022). Connections with, and access to, natural environments and green spaces is a factor in healthy ageing that calls for more research. In particular, creative relationships with natural environments, including urban green spaces, should be investigated in the context of healthy ageing in future research.

More broadly speaking, developments in new materialist, post-humanist, and anthropological research indicate that various creative methodologies such as artistic collaboration, walking ethnographies, and sensory studies can in fact aid in understanding and fortifying creative environmental relationships (Järviluoma & Murray, 2023; Hallam & Ingold 2007; Harris & Jones 2022). Such methods can also be used in design and provision of services for ageing people, by recognising their creativity and efforts as resources that can be utilised for empowering service design (Johansson et al., 2009).

Furthermore, relational studies can tackle the social and family contexts in which older people can live more meaningful lives (Rossi et al., 2014). Social relations are, however, also influenced by environmental, technological, and other more-thanhuman contexts. It is not surprising therefore that research into the interrelatedness of ageing and social, technological, material, and environmental factors is gaining momentum following from posthumanist theories. In an extensive review of the ongoing posthuman era in gerontology, Andrews and Duff (2019) propose opportunities for studying vitality in ageing. Their posthumanist approach introduces an imagination for the material composition and process of ageing contexts and events, and "an imagination for the energy and movement of these contexts and events in spacetime", that can be applied, for instance, to the study of transformative experiences of movement and exercise or art and creativity. These new relational approaches to ageing, inspired by such theoretical frameworks as new materialisms, science and technology studies, assemblage and affect theory, and art and sensory studies, enable a more-than-human research perspective on ageing in our increasingly digitalized social environments with transforming material and ecological conditions (Andrews & Duff, 2019).

Finally, environmental and material transformations can be experienced, and attended to, in a variety of ways. Research on local and cross-cultural views can, for instance, enrich local and national level policy perspectives, so that they take into account the creative experiences of diverse older adults in their experienced environments before imposing creative and arts-based initiatives on them (Wood et al., 2021; Cho & Chang, 2022).

Discussion and Conclusions

Our narrative review, as presented here, has shown that there has been significant progress in recent years in better understanding the positive relationships between creativity and health and wellbeing, including in later stages of life. Despite these advances, more research is still urgently needed to identify all the various factors that better foster creativity and healthy ageing. Drawing from several systematic research reviews on creativity in later life, and artistic activities and healthy ageing (e.g., Chacur et al., 2022, Fancourt & Finn 2019; O'Neill, 2019; Urtamo et al., 2019; Fraser et al., 2015; Price & Tinker, 2014), we have highlighted existing gaps in current research in several related fields. In particular, we have pointed out that, as noted by Chacur et al. (2022), the predominance of studies on the benefits of ageing people's participation in artistic activities overshadows a general lack of research about the late-life creative experiences of older adults, and different environmental and contextual elements and conditions that contribute to their overall creative wellbeing.

Furthermore, as we have discussed, the capacity of ageing people to be creative is influenced by the environments in which they live and the social contexts that surround their daily lives, including the prevalent societal ageist stereotypes and biases, as well as how late-life creativity is understood by, presented to, spoken of, and experienced by older adults themselves. In a similar vein, creative relations with natural environments and the health and wellbeing benefits of relating with morethan-human nature in artistic, aesthetic, and creative ways lack research. Following the observations made in the previous section about the importance of environmental relations, we would argue that to tackle the entangled research challenges of understanding late-life creativity, healthy ageing, and health and wellbeing, there is a need for more holistic approaches and methodologies that bring the context of both social and natural environment into creative healthy ageing research.

Different social and cultural approaches to creativity in later life (e.g., Lebuda & Glăveanu, 2019; Kottow, 2018) are able to take into consideration the environmental and social context of ageing and creativity. Broader relational approaches afford some of the most promising directions in tackling the interconnected issues discussed here. Deriving from many theoretical advancements in new materialist and processual theory, relational research approaches can accommodate the co-constitution of different spheres of knowledge and practice in relation to other actors, as well as the shifting human and more-than-human contexts influencing late-life creativity (White, 2017; Andrews & Duff, 2019).

As regards the need for qualitative research on experiences of creativity in later life, approaches based on cultural studies already have a long tradition of sustainable research designs that incorporate ethical consideration for their study participants' rights, interests, and wellbeing (e.g., Grenier & Valois-Nadeau, 2020). Narrative inquiry methods can, for instance, be applied to investigate how various forms of creative and arts-based engagements and interventions may promote late-life creative wellbeing of older adults by changing their perspectives on the nature of ageing in a positive way (Medeiros, 2014). Similarly, multisensory methodologies (e.g., Järviluoma & Murray, 2023) could be applied in a relational framework to investigate

the creative environmental experiences in later life and their impact on older adults' wellbeing and their healthy ageing.

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References

- Adams, K. B., Leibbrandt, S., & Moon, H. (2011). A critical review of the literature on social and leisure activity and wellbeing in later life. *Ageing and Society*, 31(4), 683–712. https://doi.org/10.1017/ S0144686X10001091.
- Alwin, D. F. (2012). Integrating varieties of Life Course Concepts. *The Journals of Gerontology*, 67B(2), 206–220. https://doi.org/10.1093/geronb/gbr146.
- Andrews, G., & Duff, C. (2019). Understanding the vital emergence and expression of aging: How matter comes to matter in gerontology's posthumanist turn. *Journal of Aging Studies*, 49, 46–55. https://doi. org/10.1016/j.jaging.2019.04.002.
- Archibald, M. M., & Kitson, A. L. (2020). Using the arts for awareness, communication and knowledge translation in older adulthood: A scoping review. Arts & Health, 12(2), 99–115. https://doi.org/10.1 080/17533015.2019.1608567.
- Banerjee, D. (2021). Loneliness in older people: Spiritual practices as an alternative pathway to action, a treatise from India. *Journal of Geriatric Mental Health*, 8, 63–69.
- Bar-Tur, L., & Malkinson, R. (2014). Positive ageing: New horizons for older adults. In N. A. Pachana, & K. Laidlaw (Eds.), *The Oxford handbook of clinical geropsychology* (pp. 927–948). Oxford University Press.
- BIOS Research Unit (2019). Ecological Reconstruction. Program document built on initial background report for the UN Global Sustainable Development Report 2019. Available at: https://eco.bios.fi/ (Accessed December 1, 2022).
- Bishop, C. (2012). Artificial hells. Verso.
- Bruggencate, T., Luijkx, K., & Sturm, J. (2018). Social needs of older people: A systematic literature review. Ageing & Society, 38(9), 1745–1770. https://doi.org/10.1017/S0144686X17000150.
- Cameron, J. (2016). The Artist's Way: A spiritual path to higher creativity. 25th ed. New York: TarcherPerigree.
- Chacur, K., Serrat, R., & Villar, F. (2022). Older adults' participation in artistic activities: A scoping review. *European Journal of Ageing*, *19*, 931–944. https://doi.org/10.1007/s10433-022-00708-z.
- Cho, E., & Chang, W. (2022). Facilitating arts participation for creative ageing: An action research in South Korea. Ageing and Society, 1–20. https://doi.org/10.1017/S0144686X22000551.
- Clifford, A. M., Shanahan, J., McKee, J., Cleary, T., O'Neill, A., O'Gorman, M., Louw, & Q & Ní Bhriain; O. (2022). The effect of dance on physical health and cognition in community dwelling older adults: A systematic review and metaanalysis. *Arts & Health*. https://doi.org/10.1080/17533015.2022.2093 929.
- Cohen, G. D. (2006). Research on Creativity and Aging: The positive impact of the Arts on Health and Illness. *Generations: Journal of the American Society on Aging*, *30*(1), 7–15.
- Cohen, G. (2009). New theories and research findings on the positive influence of music and art on health with ageing. *Arts & Health*, *1*(1), 48–62. https://doi.org/10.1080/17533010802528033.

- Comincioli, E., Chirico, A., & Masoodian, M. (2021). Improving the Language of Designing for Ageing. *Human-Computer Interaction – INTERACT*. Cham: Springer International Publishing 2021, 405–425.
- Comincioli, E., Hakoköngäs, E., & Masoodian, M. (2022). Identifying and addressing implicit ageism in the co-design of services for aging people. *International Journal of Environmental Research and Public Health*, 19, 7667.
- Corbin, J. H., Sanmartino, M., Hennessy, E. A., & Urke, H. B. (2021). Arts and Health Promotion: Tools and Bridges for Practice, Research, and Social Transformation. Springer International Publishing.
- Davies, C., Knuiman, M., Wright, P., & Rosenberg, M. (2014). The art of being healthy: A qualitative study to develop a thematic framework for understanding the relationship between health and the arts. *British Medical Journal Open*, 4(4), e004790–e004790. https://doi.org/10.1136/bmjopen-2014-004790.
- European Commission (2021). The 2021 Ageing Report: Economic and Budgetary Projections for the EU Member States (2019–2070); European Commission: Brussels, Belgium. Directorate-General for Economic and Financial Affairs. Institutional Paper 148.
- Fancourt, D. (2017). Arts in Health: Designing and researching interventions. Oxford University Press.
- Fancourt, D., & Finn, S. (2019). What is the evidence on the role of the arts in improving health and wellbeing? A scoping review. *Health Evidence Network synthesis report 67* Copenhagen: WHO Regional Office for Europe. Available at: https://www.ncbi.nlm.nih.gov/books/NBK553773/.
- Fancourt, D., & Warran, K. (2020). Singing for cancer: Implications from psychoneuroimmunology. In R. Heydon, D. Fancourt, & A. J. Cohen (Eds.), *The Routledge companion to interdisciplinary studies in singing, volume III: Wellbeing* (pp. 74–85). Routledge.
- Foresight Mental Capital and Wellbeing Project. (2008). *Final project report*. The Government Office for Science.
- Formenti, L. (2017). Learning from Aesthetic Experience: Complexity and Biography. INSEA (International Society for Education through Art) 2017 Conference Proceedings, Keynote Lecture, 61–72.
- Fox, N. (2015). Creativity, anti-humanism and the 'new sociology of art.' Journal of Sociology, 51(3), 522–536.
- Fraser, K. D., O'Rourke, H. M., Wiens, H., Lai, J., Howell, C., & Brett-MacLean, P. (2015). A scoping review of research on the arts, aging, and quality of life. *The Gerontologist*, 55(4), 719–729. https:// doi.org/10.1093/geront/gnv027.
- Froggett, L. (2017). Aesthetic experience and arts and Health Research Analysis. In T. Stickley, & S. Clift (Eds.), Arts, Health and Wellbeing: A Theoretical Inquiry for Practice (pp. 64–84). Cambridge Scholars Publisher.
- Gallistl, V. (2018). The emergence of the creative ager on subject cultures of late-life creativity. *Journal* of Aging Studies, 46, 93–99. https://doi.org/10.1016/j.jaging.2018.07.002.
- Gallistl, V. (2021). What's it worth? Value and valuation of late-life creativity. *Ageing and Society*, *41*, 2599–2614. https://doi.org/10.1017/S0144686X20000495.
- García-Llorente, M., Rubio-Olivar, R., & Gutierrez-Briceño, I. (2018). Farming for Life Quality and sustainability: A literature review of Green Care Research Trends in Europe. *International Journal of Environmental Research and Public Health*, 15(6), 1282–1300. https://doi.org/10.3390/ ijerph15061282.
- Gell, A. (1998). Art and Agency: An anthropological theory. Oxford University Press.
- Grenier, L., & Valois-Nadeau, F. (Eds.). (2020). A senior moment: Cultural Mediations of Memory and Ageing. Transcript Verlag.
- Groot, B., de Kock, L., Yosheng, L., Dedding, C., Schrijver, J., Teunissen, T., van Hartingsveldt, M., Menderink, J., Lengams, Y., Lindenberg, J., & Abma, T. (2021). The value of active Arts Engagement on Health and Well-Being of older adults: A nation-wide participatory study. *International Journal of Environmental Research and Public Health*, 18(15), 8222. https://doi.org/10.3390/ijerph18158222.
- Hall, S. (1997). Representation: Cultural representations and signifying practices. SAGE.
- Hallam, E., & Ingold, T. (Eds.). (2007). Creativity and Cultural Improvisation. Berg.
- Hansen, M. M., Jones, R., & Tocchini, K. (2017). Shinrin-yoku (forest bathing) and nature therapy: A state-of-the-art review. *International Journal of Environmental Research and Public Health*, 14(8), 851. https://doi.org/10.3390/ijerph14080851.
- Harris, D., & Holman Jones, S. (2022). A Manifesto for Posthuman Creativity Studies. *Qualitative Inquiry*, 28(5), 522–530.
- Hartig, T., Mitchell, R., de Vries, S., Frumkin, H. (2014). Nature and Health. Annual Review of Public Health 35(1), 207–228.

- Heikkinen, R. (2004). The experience of ageing and advanced old age: A ten-year follow-up. Ageing and Society, 24, 567–582. https://doi.org/10.1017/S0144686X04001837.
- Higgs, P. (2016). New cultures of ageing. In M. Johnson, & J. Walker (Eds.), Spiritual dimensions of ageing (pp. 214–230). Cambridge University Press.
- Higgs, P., & Gilleard, C. (2015). Rethinking old age: Theorising the fourth age. Red Globe Press.
- Holbraad, M., & Pedersen, M. A. (2017). The ontological turn. An anthropological exposition. Cambridge University Press.
- Honkasalo, M. L. (2017). After sacrifice: Deeds and words for protection and cure. Suomen Antropologi: Journal of the Finnish Anthropological Society, 41(4), 29–45.
- Irving, P. H. (Ed.). (2014). The Upside of Aging: How long life is changing the World of Health, Work, Innovation, Policy, and purpose. Wiley.
- Järviluoma, H., & Murray, L. (Eds.). (2023). Sensory transformations: Environments, Technologies, Sensolographies. Routledge.
- Johansson, K., Josephsson, S., & Lilja, M. (2009). Creating possibilities for action in the presence of environmental barriers in the process of 'ageing in place'. Ageing & Society, 29(1), 49–70. https:// doi.org/10.1017/S0144686X08007538.
- Kaufman, J. C., & Sternberg, R. J. (Eds.). (2010). The Cambridge Handbook of Creativity. Cambridge University Press.
- Kiernan, F., Davidson, J. W., & Oades, L. G. (2020). Researching creativity and wellbeing: Interdisciplinary perspectives. *International Journal of Wellbeing*, 10(5), 1–5. https://doi.org/10.5502/ijw. v10i5.1523.
- Klimczuk, A. (2015). Economic Foundations for Creative Ageing Policy. Palgrave Macmillan.
- Koestler, A. (1964). The act of creation. New York: Macmillan.
- Kohn, E. (2013). *How forests think. Toward an Anthropology beyond the human*. University of California Press.
- Kottow, M. (2018). Towards a medical anthropology of ageing. Cambridge Scholars Publishing.
- Lahdenperä, M., Galante, L., Gonzales-Inca, C., et al. (2023). Residential green environments are associated with human milk oligosaccharide diversity and composition. *Scientific Reports*, 13(216), https://doi.org/10.1038/s41598-022-27317-1.
- Lamb, S. (2015). Beyond the view of the West: Ageing and anthropology. In Twigg, & Martin (Eds.), Routledge Handbook of Cultural Gerontology. Routledge.
- Latour, B. (2017). Où atterrir? Comment s'orienter en politique. Paris: Éditions La Découverte.
- Lavie, S., Narayan, K., & Rosaldo, R. (Eds.). (1993). Creativity/Anthropology. Cornell University Press.
- Lebuda, I., & Glăveanu, V. P. (Eds.). (2019). *The Palgrave Handbook of Social Creativity Research*. Springer International Publishing.
- Lee, I., Choi, H., Bang, K. S., Kim, S., Song, M., & Lee, B. (2017). Effects of Forest Therapy on depressive symptoms among adults: A systematic review. *International Journal of Environmental Research* and Public Health, 14(3), 321. https://doi.org/10.3390/ijerph14030321.
- Lee, D., Aula, I., & Masoodian, M. (2023). Perspectives on creative well-being of older adults. *Journal of Aging Studies*, 66(101159), 1–8. https://doi.org/10.1016/j.jaging.2023.101159. [101159].
- Loveless, N. S. (2015). Towards a Manifesto on Research-Creation. RACAR: Revue D'art Canadianne / Canadian Art Review, 40(1), 52–54.
- Manning, E. (2016). Ten propositions for Research-Creation. In N. Colin, & S. Sachsenmaier (Eds.), Collaboration in performance practice. Palgrave Macmillan.
- Martín-María, N., Miret, M., Caballero, F. F., Rico-Uribe, L. A., Steptoe, A., Chatterji, S., & Ayuso-Mateos, J. L. (2017). The impact of Subjective Well-being on mortality: A Meta-analysis of Longitudinal Studies in the General Population. *Psychosomatic Medicine*, 79(5), 565–575. https://doi. org/10.1097/PSY.00000000000444.
- Mastandrea, S., Fagioli, S., & Biasi, V. (2019). Art and Psychological Well-Being: Linking the brain to the aesthetic emotion. *Frontiers in Psychology*, 10, 739. https://doi.org/10.3389/fpsyg.2019.00739.
- McCrary, J. M., Redding, E., & Altenmüller, E. (2021). Performing arts as a health resource? An umbrella review of the health impacts of music and dance participation. *PloS One*, 16(6), e0252956. https:// doi.org/10.1371/journal.pone.0252956.
- Medeiros, K. (2014). Narrative gerontology in Research and Practice. Springer Publishing Company.
- Mejia, C., D'Ippolito, B., & Kajikawa, Y. (2021). Major and recent trends in creativity research: An overview of the field with the aid of computational methods. *Creativity and Innovation Management*, 30(3), 475–497.
- Miessen, M. (2011). The nightmare of participation. Sternberg Press.

- Mitchell, R., & Popham, F. (2008). Effect of exposure to natural environment on health inequalities: An observational population study. *The Lancet*, 372, 1655–1660.
- Miyazaki, H. (2006). Economy of dreams: Hope in global capitalism and its critiques. Cultural Anthropology, 21(2), 147–172.
- Molina-Luque, F., Stončikaitė, I., Torres-González, T., & Sanvicen-Torné, P. (2022). Profiguration, active ageing, and Creativity: Keys for Quality of Life and Overcoming Ageism. *International Journal of Environmental Research and Public Health*, 19(3), 1564. https://www.mdpi. com/1660-4601/19/3/1564.
- Moran, S. (2010). The Roles of creativity in society. In: Kaufman, James C., and Robert J. Sternberg. *The Cambridge Handbook of Creativity*. Cambridge: Cambridge University Press.
- Murray, L. (2015). Age-friendly mobilities: A transdisciplinary and intergenerational perspective. *Journal of Transport & Health*, 2(2), 302–307. https://doi.org/10.1016/j.jth.2015.02.004.
- Nelson, T. D. (2009). Ageism. Handbook of Prejudice, Stereotyping, and Discrimination., 431 40. Psychology Press.
- Nelson, T. D. (2017). In (Eds.), Ageism. Stereotyping and prejudice against older persons (2nd Edition.). MIT Press.
- Nussbaum, M. (2011). Creating capabilities: The Human Development Approach. Harvard University Press.
- O'Neill, D. (2019). Creativity and healthy ageing. In P. Coll (Ed.), Healthy aging. Springer.
- Parr, H. (2017). Health and Arts: Critical perspectives. In T. Stickley, & S. Clift (Eds.), Arts, Health and Wellbeing. A theoretical Inquiry for Practice. Cambridge Scholars Publishing.
- Parry, & McCarthy, J. (2017). The Palgrave Handbook of Age Diversity and Work. Palgrave Macmillan.
- Price, K. A., & Tinker, A. M. (2014). Creativity in later life. *Maturitas*, 78(4), 281–286. https://doi. org/10.1016/j.maturitas.2014.05.025.
- Qualitative, I. (2022). Special issue: Posthuman Creativities: Pluralist ecologies and the question of how (28 vol.). (5). Daniel Harris and David Rousell.
- Reckwitz, A. (2017). The invention of Creativity: Modern Society and the culture of the New. Polity Press.
- Richards, R. (2010). Everyday Creativity: Process and way of life four Key issues. In J. Kaufman, & R. Sternberg (Eds.), *The Cambridge Handbook of Creativity* (pp. 189–215). Cambridge University Press.
- Roe, J. J., Thompson, C. W., Aspinall, P. A., Brewer, M. J., Duff, E. I., Miller, D., Mitchell, R., & Clow, A. (2013). Green Space and stress: Evidence from Cortisol Measures in Deprived Urban Communities. *International Journal of Environmental Research and Public Health*, 10(9), 4086–4103.
- Rossi, G., Boccacin, L., Bramanti, D., & Meda, S. G. (2014). Active ageing: Intergenerational Relationships and Social Generativity. *Studies in Health Technology and Informatics*, 203, 57–68. https://doi. org/10.3233/978-1-61499-425-1-57.
- Rowe, J. W., & Kahn, R. L. (1997). Successful aging. The Gerontologist, 37, 433-440.
- Rubinstein, R. L., & de Medeiros, K. (2015). Successful aging, gerontological theory and neoliberalism: A qualitative critique. *The Gerontologist*, 55(1), 34–42. https://doi.org/10.1093/geront/gnu080.
- Rudnicka, E., Napierała, P., Podfigurna, A., Męczekalski, B., Smolarczyk, R., & Grymowicz, M. (2020). The World Health Organization (WHO) approach to healthy ageing. *Maturitas*, 139, 6–11.
- Runco, M. A. (2007). Creativity Theories and Themes: Research, Development, and practice. Elsevier Academic Press.
- Sacks, O. (2007). Musicophilia: Tales of music and the brain. Knopf Canada.
- Sadana, R., & Michel, J. P. (2019). Healthy ageing: What is it and how to describe it? In J. P. Michel (Ed.), Prevention of Chronic Diseases and Age-Related disability. Practical issues in Geriatrics. Springer.
- Sansi, R., & Strathern, M. (2016). Forum: Art and anthropology after relations. HAU: Journal of Ethnographic Theory, 6(2), 425–439.
- Scharoun, L., Hills, D., Montana Hoyos, C. A., Peng, F., Sung, V., Dzhashi, M., Greulich-Smith, T., Li, H., Heng, D., & Liu, J. H. (2020). Cross-cultural design for healthy ageing. Intellect.
- Simkin, J., Ojala, A., & Tyrväinen, L. (2020). Restorative effects of mature and young commercial forests, pristine old-growth forest and urban recreation forest – a field experiment. Urban Forestry & Urban Greening, 48, https://doi.org/10.1016/j.ufug.2019.126567.
- Snyder, G. (1995). A place in space: Ethics, Aesthetics, and Watersheds. New and selected prose. Counterpoint.
- Stickley, T., & Clift, S. (Eds.). (2017). Arts, Health and Wellbeing: A Theoretical Inquiry for Practice. Cambridge Scholars Publisher.

- Synnevåg Løvoll, H., Sæther, K. W., & Graves, M. (2020). Feeling at Home in the wilderness: Environmental conditions, well-being and aesthetic experience. *Frontiers of Psychology*, 11, 402. https://doi. org/10.3389/fpsyg.2020.00402.
- Twigg, J., & Martin, W. (Eds.). (2015). Routledge Handbook of Cultural Gerontology. Routledge.
- UN. (2019). World population ageing, 2019: Highlights. United Nations Population Division.
- UNESCO. (2001). UNESCO Universal Declaration on Cultural Diversity. UNESCO. www.unesco.org/ new/fileadmin/MULTIMEDIA/HQ/CLT/pdf/5 Cultural Diversity EN.pdf.
- Urtamo, A., Jyväkorpi, S. K., & Strandberg, T. E. (2019). Definitions of successful ageing: A brief review of a multidimensional concept. *Acta bio-medica: Atenei Parmensis*, 90(2), 359–363. https://doi. org/10.23750/abm.v90i2.8376.
- Väänänen, A., Murray, M., Koskinen, A., Vahtera, J., Kouvonen, A., & Kivimäki, M. (2009). Engagement in cultural activities and cause-specific mortality: Prospective cohort study. *Preventive Medicine*, 49(2-3), 142–147. https://doi.org/10.1016/j.ypmed.2009.06.026.
- Wager, T., & Atlas, L. (2015). The neuroscience of placebo effects: connecting context, learning and health. Nat Rev Neurosci 16, 403–418 (2015). https://doi.org/10.1038/nrn3976.
- Wagner, R. (1975/2016). The invention of culture. The University of Chicago Press.
- Warran, K., Burton, A., & Fancourt, D. (2022). What are the active ingredients of 'arts in health' activities? Development of the INgredients iN ArTs in hEalth (INNATE) Framework. Wellcome Open Research 2022; 7:10. https://doi.org/10.12688/wellcomeopenres.17414.2.
- White, S. C. (2017). Relational wellbeing: Re-centring the politics of happiness, policy and the self. Policy & Politics, 45(2), 121–136. https://doi.org/10.1332/030557317X1486657626597.
- Whitehead, A. N. (1929). Process and reality. An essay in Cosmology. Gifford Lectures Delivered in the University of Edinburgh during the Session 1927–1928. Macmillan.
- WHO. (2017). Depression and other Common Mental Disorders: Global Health estimates. World Health Organization.
- WHO (2020). Decade of healthy ageing: baseline report. Geneva: World Health Organization. Available at: https://www.who.int/publications/i/item/9789240017900.
- Wood, E., Jepson, A., & Stadler, R. (2021). Doing and feeling together in older age: Self-worth and belonging through social creative activities. *Ageing and Society First View*, 1–21. https://doi.org/10.1017/ S0144686X21001628.

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