UNIVERSITÄT AUGSBURG
Universitätsbibliothek

OPEN ACCESS
OPUS AUGSBURG

How can we foster solidarity in a culturally diverse society? Taking dementia prevention through technology as an example

Shingo Segawa, Zümrüt Alpinar-Segawa

Angaben zur Veröffentlichung / Publication details:

Segawa, Shingo, and Zümrüt Alpinar-Segawa. 2026. "How can we foster solidarity in a culturally diverse society? Taking dementia prevention through technology as an example." *Monash Bioethics Review* 44 (2): 315–29. https://doi.org/10.1007/s40592-026-00283-4.

Nutzungsbedingungen / Terms of use:

CC BY 4.0

Dieses Dokument wird unter folgenden Bedingungen zur Verfügung gestellt: / This document is made available under these conditions:
CC-BY 4.0: Creative Commons: Namensnennung
Weitere Informationen finden Sie unter: / For more information see:
https://creativecommons.org/licenses/by/4.0/deed.de

Monash Bioethics Review (2026) 44:315–329
https://doi.org/10.1007/s40592-026-00283-4

ORIGINAL ARTICLE

How can we foster solidarity in a culturally diverse society? Taking dementia prevention through technology as an example

Shingo Segawa[1] · **Zümrüt Alpinar-Segawa**[2]

Received: 16 July 2025 / Accepted: 1 February 2026 / Published online: 10 February 2026
© The Author(s) 2026

Abstract

In an ageing society, reducing the number of people with dementia is one of the most important health policies. In the recent years, many studies have focused on dementia prevention, with technologies, such as smartphone apps, attracting considerable attention. These apps help people to manage their lifestyle habits and support them in maintaining an optimal lifestyle to prevent dementia. However, people with migration backgrounds are often excluded from these technologies for various reasons, including digital literacy, language proficiency, socio-economic situation, and educational attainment. To successfully implement health policies, it is essential to address the social structures that prevent people with migration backgrounds from accessing these technologies. Fostering solidarity could be an effective way in achieving this goal given its significant role in movements such as the women's liberation movement, the Black liberation movement and the disability rights movement. However, the problem is that people with and without migration backgrounds often find it difficult to recognize their similarities. People with a migration background have experienced various forms of discrimination because of their migration experience. Those without a migration background have not had such experiences. This makes it difficult to form solidarity because, by definition, solidarity requires a shared sense of similarity between the sender and receiver. This paper aims to demonstrate how people with and without migration backgrounds can identify these similarities in order to foster a sense of solidarity.

Keywords Dementia prevention · Technology · Culturally diverse society · Solidarity · Identity

Extended author information available on the last page of the article

1 Introduction

Europe's population is significantly getting older, which will put more burden on the health care in the coming years (European Commission 2018). Dementia[1] poses a public health challenge, affecting not only the individual and their caregivers and families, but also society as a whole, including the economy. The number of people with dementia is increasing globally, with almost 10 million new cases being diagnosed each year (WHO 2025). Society bears significant financial burden when it comes to dementia. The costs encompass not only the direct expenses related to medical care, but also the costs associated with informal care, long-term care, and hospice care (Derby 2020). As reported by Alzheimer's Association (2026), in 2024, the cost of caring for people with dementia in the US was estimated at $384 billion, a figure which is expected to reach nearly $1 trillion by 2050. In ageing societies, reducing the number of people with dementia is one of the most important health policy challenges, as ageing is a major risk factor for the development of dementia (Guerreiro and Bras 2015).

Dementia prevention through technology became the focus of many studies. In recent years, there has been a surge in the use of technology, such as apps that can be downloaded from Google Play or the Apple App Store, to help prevent dementia by supporting people in maintaining an optimal lifestyle and managing their lifestyle habits. Lumosity, for example, is an app consisting of games designed to train memory, speed, flexibility and problem-solving skills. It has been used by over 100 million people worldwide.[2] With dementia prevention apps being developed and researched around the world (Hafdi et al. 2021), it is expected that dementia prevention technology will become increasingly important in the future.

In an ageing and culturally diverse society, implementation of prevention strategies and technologies is challenging, as people from an immigrant background are structurally excluded from using dementia prevention technology. The experience of migration is stressful and can affect a person's health (Seven et al. 2015). The negative effects of the stressful living and working conditions, income level and unemployment, are considered to be a triggering factor for the decline in cognitive function (Seven et al. 2015; Alpinar-Sencan 2023). Compared to people without migration background, people with migration background have a higher risk of developing dementia (Parlevliet et al. 2016). The focus on migrants highlights the social, economic and political determinants of health and how health is linked with other social and economic factors such as residential status, employment and housing conditions, gender and so on (Kajikhina et al. 2023; Kuehlmeyer et al. 2019). But, how can we promote dementia prevention through technology in a culturally diverse society? The answer lies in fostering solidarity. To enable a wide range of people to

[1] Dementia is a progressive and irreversible neurodegenerative brain disease that affects cognitive functions such as memory, orientation, planning, understanding, language, and judgement (Hampel et al. 2011; WHO 2025).

[2] See https://play.google.com/store/apps/details/Lumosity_Brain_Training?id=com.lumoslabs.lumosity&hl=gsw.

engage in dementia prevention, social injustice caused by structural exclusion must be addressed.

Correcting social injustice is the aim of social movements, and solidarity is a key concept in this. Examples of this include the black liberation movement, the women's movement and the disability movement. Solidarity typically refers to the acts of individuals with shared characteristics joining forces to address common issues (Prainsack and Buyx 2017; Sangiovanni 2023). Efforts by people with migration backgrounds alone are insufficient to address the unjust exclusion from dementia prevention technologies. Therefore, people from migrant backgrounds must join forces with those from non-migrant backgrounds to address this issue. However, a key challenge is finding similarities between the two groups' identities. One group has experienced various injustices arising from their migration experience and status, whereas the other has not.

The aim of this paper is to identify an approach that can reveal the similarities in identity that are necessary for solidarity. This will lay the groundwork for groups that appear to have no similarities to unite and confront social injustice. First, we will look at dementia prevention in a culturally diverse society, and then we will consider why people with migration backgrounds have limited access to it. Then, we will explain the concept of solidarity in terms of personal identity and equality. Finally, we address the question of how people with and without migration backgrounds can share the similarities in terms of identity, which is necessary for solidarity.

2 Dementia prevention through technology in a culturally diverse society

Dementia prevention is divided into three stages (Whitehouse 2019; Schürmann and Trachsel 2023). Primary prevention aims to prevent dementia from developing in the first place. To this end, primary prevention apps are being developed around the world. Secondary prevention refers to the early detection of dementia symptoms and delaying the onset of the disease. Tertiary prevention is concerned with the rehabilitation and care of people who have already developed dementia. In this article, we will focus mainly on primary prevention of dementia using technology in a culturally diverse society, but this does not mean that we underestimate the importance of secondary and tertiary prevention. There is a growing recognition of the need to provide appropriate care and accurate information to people from different cultural backgrounds (Alpinar-Segawa and Salloch 2025). Mobile apps are currently available for people with dementia to help mitigate some of the effects of cognitive decline (e.g., MindMate) or to support them with their daily routines (e.g., Ella AI) and also for those at risk of developing dementia. A recent study showed that a mobile app can be used to identify people at risk of developing dementia (Thabtah et al. 2020; Marquardt et al. 2024). In 2017, the renowned journal *The Lancet* revealed that dementia is not an inevitable disease and that it can be avoided by properly addressing the 9 (12 in the revised 2020 edition) risk factors for dementia (Gill et al. 2017, 2020). These risk factors include inadequate education in childhood, hearing loss in middle age, traumatic brain injury, high blood pressure, excessive alcohol consumption, obesity,

smoking, depression, social isolation, physical inactivity, air pollution and type 2 diabetes. The PRODEMOS (Prevention of Dementia using Mobile phone Applications) project, which focuses on dementia prevention using mobile apps, conducted a multinational, prospective, randomized, open-label endpoint trial involving an 18month intervention and follow-up period (Moll van Charante et al., 2024). This project evaluated whether a coach-supported mHealth intervention could reduce the risk of developing dementia by addressing the seven key risk factors, which overlap with the ones identified by The Lancet, as mentioned above: obesity, an unhealthy diet, physical inactivity, smoking, hypertension, dyslipidemia, and diabetes. The results of the PRODEMOS project suggest that an intervention involving a mobile app supported by a coach and aimed at the self-management of lifestyle-related dementia risk factors could reduce the risk of developing dementia.

There are two approaches to preventing dementia: the individual approach and the social approach. The individual approach focuses on what individuals can do to prevent dementia (Daly 2023; Walsch et al. 2023). For example, it focuses on exercise and diet, which can help prevent dementia. One useful feature of dementia prevention apps is that they can help individuals to manage their lifestyle habits. This approach is currently receiving increasing attention for preventing dementia. Large-scale studies are underway to assess the effectiveness of lifestyle risk reduction in preventing dementia. The Finnish Geriatric Intervention Study on Dementia and Aging (FINGER) is a large-scale, long-term, randomized controlled trial that shows that multidomain lifestyle interventions can improve cognitive function in older people at high risk of developing dementia (Ngand et al. 2015; Kivipelto et al. 2020). The cognitive function of older people, who received interventions such as dietary advice, exercise and cognitive training for two years, improved more than that of older people who did not receive such interventions. The internet, newspapers and magazines are therefore spreading information about lifestyles that are effective in the prevention of dementia (O'Connor and Joffe 2015). The individual approach assumes that if individuals have access to such information, they will be able to take appropriate steps to prevent dementia. This approach is therefore based on the philosophical premise that humans are autonomous beings (Daly 2023).

However, in recent years there has been a gradual shift towards the idea that a social approach, focusing on reducing socio-economic inequalities, is more effective in preventing dementia than an individual approach, focusing on an individual's lifestyle (Daly 2023; Walsch et al. 2023). Dementia prevention is known to be closely linked to socio-economic status (Eggink et al. 2021). People who are socio-economically disadvantaged are at least three times more likely to develop dementia at a young age than those who are socio-economically advantaged (Li et al. 2023). In addition, people from lower socio-economic backgrounds have less access to the resources needed to lead healthy lives, leading to the reproduction of unhealthy lifestyles. For example, poverty and unemployment have already been shown to affect health behaviors (Buchanan et al. 2018). People from lower socio-economic backgrounds are only half as likely to quit smoking as those from higher socio-economic backgrounds (Kotz and West 2009). These examples show how difficult it is for individuals to change their own lifestyle habits that have been developed over many years

in a particular social environment. One group whose access to dementia prevention is limited by these socio-economic structures is people with migration backgrounds.

It is reported that the use of technologies that require internet access in the first place is generally lower among older adults with migration backgrounds than among the native population in the US (Ramos and Chavira 2022; Diamaggio et al. 2004). Digital literacy, socio-economic status, language knowledge, educational level, security concerns are among the factors that contribute to the digital exclusion of the older adults with migration backgrounds (Chen et al. 2020; Kouvonen et al. 2022). In an empirical study conducted with older adults with migration backgrounds raised concerns concerning safety of using assistant technologies and internet in general (van Leersum et al. 2023). Additionally, due to limited financial resources among older adults with migration backgrounds, the purchase of technology was also considered as an issue (ibid.). As the older adults with migration background and with poor health hesitate to use technology and particular applications, a discrepancy that has the potential to engender disparities in health outcomes can be caused, which must be avoided (ibid.; Mitchell et al. 2019). Furthermore, access to such apps is restricted if the language used is not the user's native language (Ye et al. 2023). Lumosity, for example, is a dementia prevention app with over 100 million users worldwide. However, it is only available in English, Spanish, French, Portuguese, German, Japanese and Korean. During the development of the Dutch app MindPro, interviews were conducted with people with migration backgrounds. These interviews highlighted that the lifestyle changes it suggested for dementia prevention were often unfamiliar to them (van der Endt et al. 2025). This makes it difficult to them to incorporate these lifestyle changes into daily life.

The individual approach is the result of the social approach. Individuals do not become autonomous beings by themselves, but grow into autonomous beings through their relationships with others in society (Gilligan 1982; Mackenzie and Stoljar 2000). The individual approach is suitable for people who are already able to take autonomous action to prevent dementia. These individuals can use dementia prevention apps to choose the dementia prevention approach that is best for them. However, as mentioned above, people from certain cultural backgrounds are excluded from technology-based dementia prevention for a variety of reasons. Therefore, to promote dementia prevention through technology in a culturally diverse society, it is necessary to change the social structures that enable such exclusion.

3 Solidarity based on personal identity and equality

When Covid-19 was raging, the word solidarity was used a lot in the media. In particular, European politicians urged their citizens to show solidarity as the key to overcoming the threat of Covid-19. Former German Chancellor Angela Merkel called for a further deepening of solidarity and unity between the generations (Ärzteblatt 2020). This phenomenon shows that solidarity is a central value in Europe (Prainsack and Buyx 2012). Indeed, solidarity is seen as the foundation of the European welfare state (Hechter 1987). However, as many have pointed out, the concept of solidarity is not easy to understand (Scholz 2008; Bayertz 2019; Sangiovanni 2023). Nevertheless,

it is widely accepted that there are similarities between those who give and receive solidarity (Prainsack and Buyx 2017; Sangiovanni 2023). For this reason, solidarity has an exclusionary function towards those with whom no similarities can be identified. Solidarity is most effective when directed towards those who are recognized as us (Rorty 1989). Therefore, actions taken in the name of solidarity cannot be justified by the concept of solidarity alone.

Assisting or supporting someone who shares similarities with oneself in a particular matter is considered an act of solidarity (Prainsack and Buyx 2017: Bayertz 2019). Whether and to what extent the sender of solidarity feels a sense of similarity with the recipient depends on the context of each case. For example, Prainsack and Buyx (2017) cite the case of two people delayed at an airport, one of whom lent the other her or his mobile phone, as an example of a solidarity act. The two find similarities between themselves in that they are both stuck at the airport. The solidarity based on similarities in this case lacks lasting power because the similarities they found in each other are superficial. Setting a low threshold for solidarity seems useful in enabling solidarity to be taken on a wide scale. However, this paper aims to identify similarities in identity between people with and without migration backgrounds. This will lay the groundwork for addressing the social injustice against people with migration backgrounds being excluded from dementia prevention technologies by fostering solidarity. Therefore, solidarity based on no lasting similarities is insufficient for this purpose. This is because deep-rooted social inequalities cannot be corrected in a short period of time. Racial discrimination, gender discrimination, discrimination against disabled people and older people, and the fight for gay and lesbian liberation are all long-term struggles for justice (Young 1990). The socially unequal structures faced by people with migration backgrounds are also part of these struggles. Therefore, what is needed is sustainable, not temporary, solidarity based on similarity. We argue that such similarity can be found in personal identity and equality.

Personal identity is understood as a bundle of characteristics that distinguish an individual from other individuals (Quante 2017). Personal identity is the quality that makes me who I am. Therefore, personal identity is consistent to a certain degree. A person's constantly changing nature is not considered to be personal identity. People form their personal identity from a variety of influences. As Georg Wilhelm Hegel describes in his *Phenomenology of Spirit*, the human subject is an entity that is formed in relation to others, and the human subject cannot exist without others (Hegel 2025). So how is personal identity actually formed? Sangiovanni points out that personal identity "in turn, can be grounded in a shared cause, role, condition, set of experiences, or way of life" (Sangiovanni 2024, p. 97). This means that personal identity is strongly influenced by social structures. People develop their identity through the influence of the history, customs, institutions and culture of the particular social environment in which they are raised. However, it is important to note that similar personal identities do not presuppose similar social environments. Otherwise, people raised in similar environments would inevitably develop similar identities. Taking the relationship between personal identity and social environment too rigidly can lead to an inaccurate understanding of personal identity.

Furthermore, a rigid understanding of this relationship is criticized as essentialism. This criticism is often raised in debates about multiculturalism. For example, African

Americans are not limited to constructing identities that resemble characteristics typically associated with the African American community. As Kwame Anthony Appiah rightly points out, African Americans do not all develop their identities in the same way (Appiah 1994). Just because individuals develop their identities under the influence of the social environment in which they were born and raised, does not mean they cannot develop identities that differ from those typically associated with that environment. Individuals cannot escape the influence of society because it existed before they were born (Young 1990). However, although individuals are assigned to a specific identity group, they can modify their personal identity by adopting a reflective attitude towards it (Quante 2017).

Solidarity requires an individual to recognize similarities between their own identity and that of others (identifying with others), implying that the relationship between the two is equal. For example, it has been pointed out that the achievements in alleviating poverty obtained through social movements led by the poor themselves are limited. Therefore, solidarity between people in different social backgrounds is essential for eradicating poverty (Deveaux 2021). It is crucial to position the poor as agents in the process of eradicating poverty, rather than as passive recipients of support. Otherwise, those affected by the problem will be excluded cognitively. Furthermore, even if the poor and non-poor share the goal of eliminating poverty, they will not develop similar personal identities unless they are in an equal relationship (Lu 2023). Socio-economic disparities hinder identifying with others. If the relationship is deemed not equal, any support provided by one party to the other is considered charitable (Prainsack and Buyx 2017).

Another problem with severe socio-economic disparities is that they prevent people from recognizing whether they share a sense personal identity. If certain environments are only accessible to people from specific social backgrounds (e.g., the wealthy), those who have access to these environments and those who do not will struggle to identify any similarities in their identities. Michael Sandel uses educational, housing and transport disparities between the wealthy and the poor as examples of such cases (Sandel 2009). The wealthy send their children to private schools and live in exclusive residential areas that cannot be accessed by public transport. Consequently, places where people from different backgrounds can meet are disappearing at an increasing rate.

In recent years, digital platforms have attracted attention as a way of increasing opportunities for interaction (Aichner et al. 2021). It is expected that digital platforms will foster connections between people who would otherwise have little opportunity to interact. However, it is questionable whether online interaction effectively promotes engagement between people from different cultural and socio-economic backgrounds. Firstly, the lack of physical presence online tends to lead to more discourteous behavior than in face-to-face interactions (Dutton 1996). Rude language can influence how people form opinions, and among groups with different values, cultural backgrounds and socio-economic statuses, this can lead to polarized views (Anderson et al. 2014). Indeed, online users tend to agree with information that aligns with their existing values. This behavior can result in the creation of echo chambers, where like-minded individuals gather and reinforce each other's shared narratives (Del Vicario et al. 2016). Furthermore, even if digital platforms enabled interaction

across socio-economic and cultural divides, the relationships formed on them would still be unequal. As mentioned above, such injustice prevents people from sharing their experiences, circumstances, destinies and ways of life. In such circumstances, people who are marginalized on the basis of their socio-economic and cultural background cannot find a similar personal identity among those who are not.

We have explained the components of solidarity from two perspectives: personal identity and equality. According to our understanding, supporting someone is an act of solidarity when an individual recognizes similarities between their own identity and that of the person they are supporting, and when the relationship between the two individuals is equal. Next, we will address the issue of recognizing the similarities necessary for solidarity between people with and without migration backgrounds. We will consider this in the context of dementia prevention through technology in culturally diverse societies.

4 Solidarity and dementia prevention through technology in culturally diverse societies

In order to change the socially unequal structures in question through the concept of solidarity, people must recognize their similarities of identity with those affected by these structures who have a migration background. The more this circle of similarity grows, the greater is the potential for solidarity to address social inequality. However, one of the challenges of fostering a sense of solidarity in a culturally diverse society is that people from different social backgrounds may struggle to identify similarities in each other's identities (Kymlicka 2013). A shared identity is shaped by common history, culture, gender, language and lifestyles. Therefore, people with migration backgrounds often lack the prerequisites for developing a shared identity with those without a migration background. Furthermore, the decreasing interaction between people with migration backgrounds and those without makes it increasingly difficult for the two groups to identify with one another (Sandel 2020). Policies such as providing different education to different ethnic groups, for example, are exacerbating this phenomenon (Fukuyama 2018). In fact, people with migration backgrounds in the United States tend to be excluded from mainstream culture, for example in terms of access to quality education (Young 1990).

Those who oppose migration are not the only ones who contribute to the structural social inequalities faced by people with migration backgrounds. Rather, these structures are reinforced and maintained by the unconscious actions of the dominant cultural group. This is because people belonging to the dominant cultural group treat their own experiences and values as representative of humanity as a whole without realizing it. Consequently, those who do not share these experiences and values are treated as deviant others. The challenge is how to enable people with and without migration backgrounds to recognize similarities based on equality. We would like to explore communitarian and affinity approaches to identify similarities with others.

4.1 The communalistic approach

Communitarians believe that people can recognize their similarities by discovering the common good in society. They emphasize the importance of community as an alternative to liberal individualism (MacIntyre 1981; Sandel 1982). This is because communitarians think that liberal individualism results in a breakdown of solidarity (Sandel 1982, 2020). According to liberal individualism, which views the individual as an abstract concept disconnected from society, people will come to believe that their success is entirely down to their own efforts alone. Sandel criticizes this as a meritocracy. As mentioned above, for example, it has been shown that maintaining certain lifestyle habits, such as exercising appropriately and not smoking, has a positive effect on dementia prevention. According to liberal individualism, good health is understood as the result of individual effort. Those who fall ill are seen as failures who have not fulfilled their responsibilities, and society is not obliged to take on the responsibilities of such people. Sandel points out that the reason the United States does not have a comprehensive social security system like European countries is because of a social culture that places excessive emphasis on individual responsibility based on meritocracy. In such a society, people stop caring about each other and fail to contribute to cultivating the common good that is necessary for solidarity (Sandel 2020). Therefore, Sandel and MacIntyre argue that individuals should not be understood as abstract beings, but rather as individuals embedded in specific communities. MacIntyre states that.

> we all approach our own circumstances as bearers of a particular social identity. I am someone's son or daughter, someone else's cousin or uncle; … Hence what is good for me has to be the good for one who inhabits these roles. As such, I inherit from the past of my family, my city, my tribe, my nation, a variety of debts, inheritances, rightful expectations and obligations. These constitute the given of my life, my moral starting point. This is in pan what gives my life its own moral particularity (MacIntyre 1981, p. 220).

According to MacIntyre and Sandel, community is the source of identity. For this reason, when thinking about how to live a good life, one must also consider the good of the community. Therefore, since what is good for one alone is not necessarily good for the community, this cannot be considered good for that person. Sandel argues that among members of a community bound by a common vocabulary and customs, individual subjectivity is no longer clearly delineated, but emerges as a shared subjectivity. As a community grows closer, its members no longer view each other as distinct individuals or opaque others (Sandel 1982). In such a society, people do not assert their desires and aspirations in opposition to one another; rather, they adjust them so that they can be shared by all. This fosters a sense of community, which is essential for solidarity.

Undoubtedly, communitarianism has appealing features that are lacking in liberal individualism. However, the fundamental criticism of communitarianism is that there are instances in which the community's overarching goal (the common good) conflicts with individual free will. This criticism is certainly valid. Even if the vast majority of a society considers a particular good to be the common good, it is impossible for all its members to continue sharing that good indefinitely. Furthermore, it

is possible that certain groups within the community could exploit their privileged and dominant position to influence the direction of the community in their own favor. However, this does not mean that can simply return to the position of liberal individualism. This is because the criticism of liberal individualism by communitarianism is also valid. Therefore, we would like to explore an approach that differs from both communitarianism and liberal individualism.

4.2 The affinity approach

Marion Young highlights the reason why communitarianism is criticized for creating a conflict between the common good and free will: the logic of identity inherent in communitarianism (Young 1990). Society is made up of different groups, including white people, black people, people with or without a migration background, elderly people, disabled people, gay people, etc. Society is both homogeneous and heterogeneous. The ideal of communitarianism is that these differences and heterogeneities should ultimately be unified. In a communitarian society, the distinction between the self and others becomes blurred, and people understand others as they understand themselves, and vice versa. However, others are different precisely because they are heterogeneous beings that cannot be reduced to the self. People can only exist in relation to others who cannot be reduced to the self, meaning that conflict is inevitable. The impartiality afforded by the logic of identity can only be realized by eliminating particularities. However, the particularities removed in the process are meaningful to the oppressed groups whose privileged positions have silenced them, such as language and lifestyle. Therefore, rather than attempting to integrate differences and heterogeneity within social groups, it is important to recognize that these differences and diversity exist while identifying similarities in identity. Young employs the concept of affinity (Young 1990). She describes it as follows.

My "affinity group" in a given social situation comprises those people with whom I feel the most comfortable, who are more familiar. Affinity names the manner of sharing assumptions, affective bonding, and networking that recognizably differentiates groups from one another, but not according to some common nature. The salience of a particular person's group affinities may shift according to the social situation or according to changes in her or his life (Young 1990, p. 172).

The core elements of the affinity approach are, first, to understand identity not as a unified singularity but as plurality; and second, to emphasize openness. In a pluralistic society, a person may have multiple identities, such as being German, Muslim, male, and a father. Understanding the plurality of identity fluidifies differences based on identity. In the context of sports, for example, groups of wheelchair users are significantly different from other groups. In many other respects, however, there are no differences between wheelchair users and other groups. Wheelchair users can have identities such as being female and a mother, and they can share goals with people who are not wheelchair users. It is important to recognize that differences between groups do not mean they are unrelated. Young states the following: "Different groups are always similar in some ways and potentially share attributes, experiences and goals" (Young 1990, p. 171). Therefore, two groups based on identities that do not share similarities in one context may share similarities in another context.

According to this view, identity-based groups can find similarities with one another by crossing their differences, rather than unifying them. Therefore, openness is important for the affinity approach. Two meanings are attributed to openness. First, openness is used in the sense of revealing what differences exist within a group. People with migrant backgrounds have a migrant identity, as well as other identities, such as being a child, an elderly person, a woman or a man, or having a disability. By discovering the identities hidden behind the concept of migration, people without migration backgrounds can find similarity with those who do, despite not sharing an immigrant identity. Secondly, openness means that groups are accessible to each other. As Young points out (Young 1990), social movements are at their most powerful when they are joined by groups with a variety of different perspectives and orientations rather than by groups with only one perspective. Furthermore, since the groups, to which people feel affinity, may change depending on their life circumstances, movement between groups must be open.

The affinity approach recognizes that there are differences within a group, views identity as pluralistic and emphasizes openness. This approach should help people without a migration background to identify similarities with those who do. Rather than denying differences within a group, affirming them can address the issues that communitarianism encounters. If identity were considered to be fixed and unchanging, it would be difficult to identify similarities between people who have a migration background and those who have not. However, recognizing that identity is plural makes it possible to find similarities among people within a group that cannot be seen as similar from one particular perspective. Furthermore, ensuring openness creates the possibility of solidarity across groups. This will fulfil the prerequisites for fostering solidarity between people with and without migration backgrounds, and address the social injustice by including people with migration backgrounds in dementia prevention technologies. For example, people with and without a migration background who are caring for their parents with dementia could come together to challenge the exclusionary structures that prevent people with a migration background from accessing dementia prevention technologies. Alternatively, people with and without a migration background living in the same country could jointly confront such exclusionary structures to alleviate the financial strain on the state caused by rising social insurance costs due to an increasing number of people with dementia. The affinity approach emphasizes a pluralistic understanding of identity and openness, enabling people with and without a migration background to recognize their similarities. This paves the way for a crucial step in addressing the structural injustice of being excluded from dementia prevention technologies due to having a migration background.

5 Conclusion

Empirical studies in recent years, such as PRODEMOS, have shown that the use of technology to prevent dementia is helpful, as was mentioned earlier. If the general idea that it's better not to get ill than to get ill is correct, then these technologies should be promoted. However, people with migration backgrounds are structurally

excluded from dementia prevention technologies. In order to prevent the widening gap in health outcomes between people with and without migration backgrounds, exclusionary structures must be addressed. To achieve this, people with and without migration backgrounds must act in solidarity. However, a key challenge lies in finding similarities in identity between these two groups.

As this paper has demonstrated, groups that appear to have entirely different identities can still find similarities with one another. However, social injustice cannot be resolved by those directly affected alone, as it is influenced by complex, interrelated factors that permeate every corner of society. Solidarity among people with diverse identities is the key to overcoming many issues. This paper is a step towards overcoming the obstacles to creating the conditions necessary for such solidarity.

Author contributions Both authors equally contributed to the writing of the manuscript. Shingo Segawa developed the idea and wrote the first draft. Both authors performed the literature research. Zümrüt Alpinar-Segawa critically revised the work and further improved the manuscript. Both authors read and approved the final manuscript.

Funding Open Access funding enabled and organized by Projekt DEAL. This work was supported by a grant from the German Research Foundation (Deutsche Forschungsgemeinschaft – DFG) under Grant No: AL 2651/2-1 to Zümrüt Alpinar-Segawa. The funding body did not play a role in the study design, analysis, development and writing the manuscript.

Data availability No datasets were generated or analysed during the current study.

Declarations

Competing interests The authors declare no competing interests.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

References

Aichner, Thomas et al. 2021. Twenty-Five years of social media: A review of social media applications and definitions from 1994 to 2019. *Cyberpsychology Behavior and Social Networking* 24(4):215–222. https://doi.org/10.1089/cyber.2020.0134

Alpinar-Segawa, Zümrüt, and Sabine Salloch. 2025. Considering culturally sensitive dementia care as a prerequisite for Person-Centered care: The Turkish community in Germany as an example. *Health Care Analysis*. https://doi.org/10.1007/s10728-025-00529-y

Alpinar-Sencan, Zümrüt. 2023. Provision of Healthcare for Culturally Diverse Populations: Insights from a Qualitative Study on Dementia Care with the Turkish Immigrant Community in Germany. In *Equal Access to Healthcare in Socially Diverse Societies*, eds Florian Steger, Mojca Ramšak, Pawel Łuków and Amir Muzur, 155–177. Freiburg: Karl Alber.

Alzheimer's Association. 2026. Public Health Approach to Alzheimer's. https://www.alz.org/professionals/public-health/public-health-approach. Accessed 26 January 2026.

Anderson, Ashley A et al. 2014. The nasty effect: Online incivility and risk perceptions of emerging technologies. *Journal of Computer-Mediated Communication* 19(3):373–387. https://doi.org/10.1111/jcc4.12009

Appiah, Kwame Anthony Appiah. 1994. Identity, Authenticity, survival: Multicultural societies and social reproduction. In *Multiculturalism, ed amy Gutmann, 149–64*, New Jersey: Princeton University Press.

Bayertz, Kurt. 2019. Begriff und problem der Solidarität. In *Solidarität. Begriff und problem*, ed. Kurt Bayertz. 11–53. Frankfurt am Main: Suhrkamp.

Buchanan, David et al. 2018. The cascade of social determinants in producing chronic disease in low-income African-American men. *International Journal of Qualitative Studies on Health and Well-being* 13(1):1549920. https://doi.org/10.1080/17482631.2018.1549920

Chen, Xin., Britt Östlund, and Susanne Frennert. 2020. Digital Inclusion or Digital Divide for Older Immigrants? A Scoping Review. In *Human Aspects of IT for the Aged Population. Technology and Society*, eds. Qin Gao and Jia Zhou, 176–190. Cham: Springer International Publishing.

Daly, Timothy. 2023. The iceberg of dementia risk: Empirical and conceptual arguments in favor of structural interventions for brain health. *Cerebral Circulation – Cognition & Behavior* 6:100193. https://doi.org/10.1016/j.cccb.2023.100193

Del Vicario, Michaela et al. 2016. Echo chambers: Emotional contagion and group polarization on Facebook. *Scientific Reports* 1:6:37825. https://doi.org/10.1038/srep37825

Derby Carol, A. 2020. Trends in the public health significance, definitions of disease, and implications for prevention of alzheimer's disease. *Current Epidemiology Reports* 7(2):68–76. https://doi.org/10.1007/s40471-020-00231-8

Deveaux, Monique. 2021. *Poverty, Solidarity, and Poor- led social movements*. New York: Oxford University Press.

Diamaggio, Paul, Eszter Hargittai, and Coral Celeste, Steven Shafer. 2004. Digital inequality: From unequal access to differentiated use. In *Social inequality*, ed. Kathryn Neckerman. 355–400. New York: Russell Sage Foundation.

Dutton, William H. 1996. Network rules of order: Regulating speech in public electronic fora. *Media Culture & Society* 18(2):269–290. https://doi.org/10.1177/016344396018002006

Eggink, Esmé et al. 2021. Prevention of dementia using mobile phone applications (PRODEMOS): Protocol for an international randomised controlled trial. *British Medical Journal Open* 11(6):e049762. https://doi.org/10.1136/bmjopen-2021-049762

European Commission. 2018. The 2018 Ageing Report. Economic and Budgetary Projections for the 28 EU Member States (2016–2070). *Institutional Paper 079*. Luxembourg: Publications Office of the European Union. https://economy-finance.ec.europa.eu/publications/2018-ageing-report-economic-and-budgetary-projections-eu-member-states-2016-2070_en. Accessed 14 July 2025.

Fukuyama, Francis. 2018. *Identity: The demand for dignity and the politics of resentment*. New York: Farrar, Straus and Giroux.

Gilligan, Carol. 1982. *A different voice: Psychological theory and women's development*. Cambridge: Harvard University Press.

Gill, Livingstone et al. 2020. Dementia prevention, intervention, and care: 2020 report of the lancet commission. *Lancet* 396(10248):413–446. https://doi.org/10.1016/S0140-6736(20)30367-6

Gill, Livingston et al. 2017. Dementia prevention, intervention, and care. *Lancet* 390(10113):2673–2734. https://doi.org/10.1016/S0140-6736(17)31363-6

Guerreiro, Rita, and Jose Bras. 2015. The age factor in alzheimer's disease. *Genome Medicine* 7:106. https://doi.org/10.1186/s13073-015-0232-5

Hafdi, Melanie et al. 2021. Design and development of a mobile health (mHealth) platform for dementia prevention in the prevention of dementia by mobile phone applications (PRODEMOS) project. *Frontier in Neurology* 12:733878. https://doi.org/10.3389/fneur.2021.733878

Hampel Harald, et al. 2011. The future of Alzheimer's disease: the next 10 years. *Progress in Neurobiology*. 95(4):718-28. https://doi.org/10.1016/j.pneurobio.2011.11.008

Hechter, Michael. 1987. *Principles of group solidarity*. Berkeley and Los Angeles: University of California Press.

Hegel, Georg Wilhelm Friedrich. 2025. *Phänomenologie des geistes*. Hamburg: Felix Meiner.

Kajikhina, Katja et al. 2023. Rassismus und diskriminierung Im kontext gesundheitlicher Ungleichheit – ein narratives review. *Bundesgesundheitsblatt - Gesundheitsforschung - Gesundheitsschutz* 66(10):1099–1108. https://doi.org/10.1007/s00103-023-03764-7

Kivipelto, Miia et al. 2020. World-Wide FINGERS network: A global approach to risk reduction and prevention of dementia. *Alzheimer's & Dementia* 16(7):1078–1094. https://doi.org/10.1002/alz.12123

Kotz, Daniel, and Robert West. 2009. Explaining the social gradient in smoking cessation: It's not in the trying, but in the succeeding. *Tobacco Control* 18(1):43–46. https://doi.org/10.1136/tc.2008.025981

Kouvonen, Anne et al. 2022. Health and self-perceived barriers to internet use among older migrants: A population-based study. *Bmc Public Health* 22(1):574. https://doi.org/10.1186/s12889-022-12874-x

Kuehlmeyer, Katja, Corinna Klingler, and Richard Huxtable. 2019. eds. *Ethical, legal and social aspects of healthcare for migrants perspectives from the UK and Germany*. Oxon: Routledge.

Kymlicka, Will. 2013. *Multicultural citizenship: A Liberal theory of minority rights*. Oxford: Oxford University Press.

Li, Rui et al. 2023. Associations of socioeconomic status and healthy lifestyle with incident early-onset and late-onset dementia: A prospective cohort study. *Lancet Healthy Longevity* 4(12):e693–e702. https://doi.org/10.1016/S2666-7568(23)00211-8

Lu, Catherina. 2023. Solidarity and structural injustice. In *Solidarity: Its Nature, Grounds, and Value – Andrea sangiovanni in dialogue*, ed. David Owen. 222 – 37: Manchester: Manchester University.

MacIntyre, Alasdair. 1981. *After virtue: A study in moral theory*. Indiana. University of Notre Dame.

Mackenzie, Catriona, and Natalie Stoljar. 2000. *Relational autonomy: Feminist perspectives on Autonomy, Agency, and the social self*. New York: Oxford University Press.

Marquardt, Jonas et al. 2024. Identifying older adults at risk for dementia based on smartphone data obtained during a wayfinding task in the real world. *PLOS Digital Health* 3(10):e0000613. https://doi.org/10.1371/journal.pdig.0000613

Mitchell, Uechechi A et al. 2019. The digital divide in Health-Related technology use: The significance of Race/Ethnicity. *The Gerontologist* 59(1):6–14. https://doi.org/10.1093/geront/gny138

Ngand, Tiia et al. 2015. A 2 year multidomain intervention of diet, exercise, cognitive training, and vascular risk monitoring versus control to prevent cognitive decline in at-risk elderly people (FINGER): A randomised controlled trial. *Lancet* 385(9984):2255–2263. https://doi.org/10.1016/S0140-6736(15)60461-5

O'connor, Cliodhna, and Helene Joffe. 2015. How the public engages with brain optimization: The Mediamind relationship. *Science Technology & Human Values* 40(5):712–743. https://doi.org/10.1177/0162243915576374

Parlevliet, Juliette et al. 2016. Prevalence of mild cognitive impairment and dementia in older non-western immigrants in the netherlands: A cross-sectional study. *International Journal of Geriatric Psychiatry* 31(9):1040–1049. https://doi.org/10.1002/gps.4417

Prainsack, Barbara, and Alena Buyx. 2012. Solidarity in contemporary bioethics–towards a new approach. *Bioethics* 26(7):343–350. https://doi.org/10.1111/j.1467-8519.2012.01987.x

Prainsack, Barbara, and Alena Buyx. 2017. *Solidarity in biomedicine and beyond*. Cambridge: Cambridge University Press.

Quante, Michael. 2017. *Personal identity as a principle of biomedical ethics*. Cham: Springer.

Ramos, Giovanni, and Denise A. Chavira. 2022. Use of technology to provide mental health care for Racial and ethnic minorities: Evidence, Promise, and challenges. *Cognitive and Behavioral Practice* 29(1):15–40. https://doi.org/10.1016/j.cbpra.2019.10.004

Rorty, Rrichard. 1989. *Contingency, irony, and solidarity*. Cambridge: Cambridge University Press.

Ärzteblatt. 2020. Merkel Ruft zu Solidarität der Generationen in Coronakrise auf. https://www.aerzteblatt.de/nachrichten/118526/Merkel-ruft-zu-Solidaritaet-der-Generationen-in-Coronakrise-auf. Accessed 10 July 2025.

Sandel, Michael. 1982. *Liberalism and the limits of justice*. Cambridge: Cambridge University Press.

Sandel, Michael. 2009. *Justice: What's the right thing to do?*. New York: Farrar Straus & Giroux.

Sandel, Michael. 2020. *The tyranny of merit: What's become of the common good?*. New York: Farrar Straus & Giroux.

Sangiovanni, Andrea. 2023. Solidarity. Nature, grounds, and value. In *Solidarity: Nature, grounds, and value*, eds. Antony Simon Laden, Peter Niesen and David Owen, 3-134. Manchester: Manchester University Press. https://doi.org/10.7765/9781526172693.00007

Sangiovanni, Andrea. 2024. Challenges to solidarity. In *The virtue of solidarity*, ed. Andrea Sangiovanni, and Juri Viehoff. 84–111. New York: Oxford University Press. https://doi.org/10.1093/oso/9780197612743.003.0004

Scholz, Sally J. 2008. *Political solidarity*. University Park: Penn State University.
Schürmann, Jan, and Manuel Trachsel. 2023. Ethical issues of primary and secondary dementia Prevention. A narrative literature review. *The Journal of Gerontopsychology and Geriatric Psychiatry* 36(4):177–187. https://doi.org/10.1024/1662-9647/a000321
Seven, Ümran Sema et al. 2015. Demenzdiagnostik bei Menschen türkischer Herkunft – TRAKULA. In *Lebenswelten von Menschen mit Migrationserfahrung und Demenz*, eds Olivia Dibelius, Erika Feldhaus-Plumin, and Gudrun Piechotta-Henze, 51–87. Bern: Hogrefe Verlag.
Thabtah, Fadi et al. 2020. Dementia medical screening using mobile applications: A systematic review with a new mapping model. *Journal of Biomedical Informatics* 111:103573. https://doi.org/10.1016/j.jbi.2020.103573
van Charante Moll, Eric P et al. 2024. PRODEMOS study group. Prevention of dementia using mobile phone applications (PRODEMOS): A multinational, randomised, controlled effectiveness-implementation trial. *The Lancet Healthy Longevity* 5(6):e431–e442.
van der Endt, Anne Roos et al. 2025. A Coach-Supported mHealth lifestyle intervention to reduce dementia risk in persons with low socioeconomic status or a migration background: Qualitative Co-Design study. *Journal of Participatory Medicine* 17:e76094. https://doi.org/10.2196/76094
van Leersum, Cathraina M et al. 2023. Engaging older adults with a migration background to explore the usage of digital technologies in coping with dementia. Frontiers in Public Health 11:1125834. https://doi.org/10.3389/fpubh.2023.1125834
Walsh, Sebastian et al. 2023. Population-level interventions for the primary prevention of dementia: A complex evidence review. *Lancet* 1:13. https://doi.org/10.1016/S0140-6736(23)02068-8
Whitehouse Peter. 2019. Ethical issues in early diagnosis and prevention of alzheimer disease. *Dialogues in Clinical Neuroscience* 21(1):101–108. https://doi.org/10.31887/DCNS.2019.21.1/pwhitehouse
World Health Organization (WHO). 2025. Dementia. https://www.who.int/news-room/fact-sheets/detail/dementia. Accessed 26 January 2025.
Ye, Bing et al. 2023. Researched apps used in dementia care for people living with dementia and their informal caregivers: Systematic review on app Features, Security, and usability. *Journal of Medical Internet Research* 25:e46188. https://doi.org/10.2196/46188
Young, Iris Marion. 1990. *Justice and the politics of difference*. New Jersey: Princeton University Press.

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Authors and Affiliations

Shingo Segawa[1] · Zümrüt Alpinar-Segawa[2]

✉ Zümrüt Alpinar-Segawa
AlpinarSegawa.Zuemruet@mh-hannover.de

Shingo Segawa
s.shingo1116@gmail.com

[1] Faculty of History, Philosophy and Theology, Department of Philosophy, Working Group on Medical Ethics, Bielefeld University, Bielefeld, Germany

[2] Institute for Ethics, History and Philosophy of Medicine, Hannover Medical School, Hanover, Germany