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Review

Healthy Ageing and its Communal Nemesis Social Frailty

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Abstract

Across the globe, countries are facing an ageing boom, with the proportion of the older adult population growing compared to younger age groups because of increased life expectancy and declining birth rates. Along with the ageing boom, there is increased interest in the wellbeing of older adults. Healthy ageing and social frailty are two constructs that have emerged in studying older adults and their quality of life. In this paper, we critically review salient literature defining and describing healthy ageing and social frailty, and in doing so develop an argument that shows how these two constructs are intertwined. Our aim is to develop a model showing how the two constructs deplete, annul, or augment each other. We propose that this theoretical treatise could inform future research in the field by highlighting

and classifying the complex array of factors that influence and underpin the manifestation and function of the two phenomena.

Keywords
Ageing; social frailty; older adults; theoretical model

1. Introduction

Currently most countries are facing an ageing boom, with the older adult population segment growing faster compared to younger age groups because of increased life expectancy and declining birth rates [1]. This trend is worldwide with some countries indicating a greater proportionality, such as Japan where 29.1% of their total population are over 65 years of age [2]. In 2024, the World Health Organization (WHO) stated that "The number and proportion of people aged 60 years and older in the population is increasing. In 2019, the number of people aged 60 years and older was 1 billion. This number will increase to 1.4 billion by 2030 and 2.1 billion by 2050. This increase is occurring at an unprecedented pace and will accelerate in coming decades, particularly in developing countries" [3]. These statistics clearly indicate that considering the welfare and researching the experiences of our older adults is of paramount importance. Commensurate with this increase in the older adult population, two constructs have gained exposure, namely healthy ageing and social frailty.

The current state of research outlining the notion of healthy ageing has been exhaustively reviewed in a paper by Menassa et al. [4]. In their paper they put forward a compelling argument to indicate that healthy ageing is a term that "has been recurrently and heterogeneously conceptualized in the literature, mostly from developed countries." The notion of heterogeneity is commonly cited in the literature. For example, "The process of ageing is profoundly heterogeneous, with great variations in the lived experiences of individuals' physical, social and psychological functioning domains across the life course" [5]. This narrative indicates that published research in this area needs to go beyond homogenized westernized concepts and explanations regarding the healthy ageing process. In this paper, we have further developed this argument. In addition, our intention was to develop a framework that could be informative for evaluative purposes and, thus, useful for empirical testing purposes. More specifically, our deliberated and emergent framework will likely have utility in creating a culturally responsive modular approach to empirically investigating this area. Therefore, divergent perspectives from countries, such as Aotearoa New Zealand, that embrace heterogenous viewpoints are likely valuable for context-specific development and empirical purposes [6].

A comparable argument can be made when the literature discusses the concept of social frailty. As with healthy ageing, we explore this construct in more depth in a subsequent section; nevertheless, a key scoping review written by Bunt et al. [7] indicates that the Social Production Function theory dominates the way in which social scientists evaluate the construct of social frailty by looking at need in terms of levels of affection, behavioral confirmation, and status. In this paper, we attempt to further this model by presenting a more integrated perspective of social frailty, and its mediators, in relation to healthy ageing.

We recognize the reciprocally influential impact of physical frailty on social frailty. Consequently, we are cognizant of the multidimensional concept of frailty, which has been defined as a clinical state of vulnerability to external stressors [8], a concept that underpins the biomedical model. Several measurements indicating clinical application in certain cultural contexts illustrate how the various aspects of frailty are interconnected, for example, the Tilburg Frailty Indicator evaluates life-course determinants of frailty in conjunction with the physical, psychological, and social frailty domains [9]. Moreover, the Edmonton Frailty Scale evaluates aspects of cognition, general health status, functional independence, social support, medication use, nutrition, mood, continence, and functional performance [10].

Nonetheless, our focus is on social frailty due to our interest in how social networks influence the state of healthy ageing. We have, thus, considered both social frailty and healthy ageing from a holistic perspective by considering groups that may often be excluded from this discourse. In addition, we explore the notion of mediation between healthy ageing and social frailty, for example, the role resilience plays in mediating the adverse impact of social frailty and conversely promoting healthy ageing. Resilience can be viewed as an individual construct as well as a community-based construct, whereby communities embark on social resilience to overcome adverse situations [11-14].

In summary, in this paper we consider the interaction between healthy ageing and social frailty. In doing so, we argue the two constructs are antagonists and when in balance create a health outcome defined as stasis (Figure 1), neither thriving nor waning. Stasis is a point at which frailty neither exists nor ceases to exist. It represents a state of inactivity or equilibrium. Unlike general frailty, which implies the presence of a weakened health condition, the state of stasis suggests a suspension of such definitions altogether. To shift this balance mediators can either enhance or deplete the process of health ageing, by either fortifying the state of social frailty, influencing its impact, or in an ideal setting eliminating its presence. We have used Grant and Booth's [15] approach in developing this critical literature review, which aims to demonstrate that we (as experts in the field) have considered the situation and topic according to our own experience of the ageing research and critically evaluated our own ideas in conjunction with extensive reading on the topic. This critical approach reflects on the contextual variables underlying the constructs and the way they interact with the intent of delivering a conceptual model that can advance the discourse in this area.

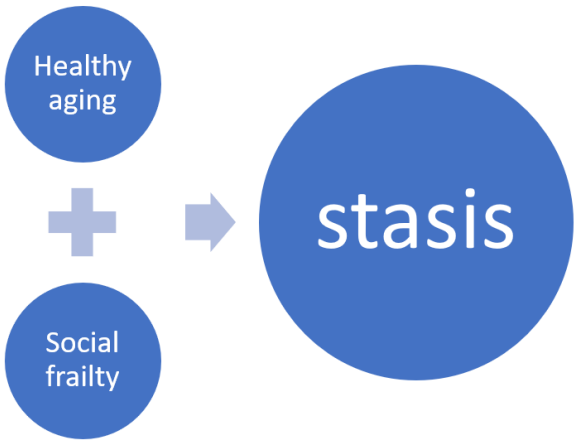

Figure 1 Balancing the various components of social frailty and healthy ageing.

As such this paper does not include systematic processes such as those employed by scoping or narrative reviews, nor does it develop its argument according to a defined empirical research question. Therefore, the purpose of this paper is to extend the discourse on this topic to be more inclusive of cultures that consider healthy ageing and social frailty from a holistic perspective. In doing so, the paper can then inform inclusive methods of evaluation that have the flexibility to include differing cultural perspectives, alongside appraising healthy ageing and social frailty and their mediating forces. This means future measurement instruments can be more inclusive and context-specific thereby meeting the needs of all who reside in often neglected regions. In the following sections, we unpack the notions of healthy ageing and social frailty in more depth and propose a framework that interconnects the two constructs.

2. Healthy Ageing

In their 2004 review article, Peel et al. [16] indicated the process of healthy ageing refers to multidimensional facets. Ageing is clearly a complex, dynamic, and non-linear process influenced by biological, psychological, and social factors. The process of ageing is impacted by developmental factors, genetic predisposition, and environmental exposure [17]. Healthy ageing is influenced by physiological facets, biopsychosocial variables, and the notion of functional independence [16]. With these components in mind, we claim that measuring healthy ageing needs to consider physical, cognitive, environmental, cultural, and social influences.

The WHO [18] defines healthy ageing in functional terms and emphasizes the need to create an optimal environment to enable healthy outcomes. The WHO states healthy ageing can be defined as, "the process of developing and maintaining the functional ability that enables wellbeing in older age." In essence, this means a person is able to meet their fundamental needs, to continue to develop as a human being, be able to move between social and physical domains, to continue to cultivate social relationships, and to feel they are still contributing to their community [18, 19]. The notion of healthy ageing is not fixed and in 2020 the WHO [20] generated a vision for how health professionals could enable healthy ageing [21]. From this perspective, enablement of healthy ageing requires meaningful engagement with older communities, creating age-friendly environments, combating ageism, creating access to quality long-term care, reducing inequity, connecting with key stakeholders, and strengthening an evidence-based approach [21].

Healthy ageing has also been linked to the idea of successful ageing [20, 22], which is related to aspects of economic wellbeing, employment history, and acquired assets. However, the concept of successful ageing has been an evolving idea. The notion of need and emotional bonding with material items suggests it is important that researchers consider the physicality of meaningful possessions and how this impacts social networks [23]. Hence, the idea focuses more on the meaning of the relationship between material and social needs and how to navigate the inevitable everchanging landscape as one gets older.

Rowe and Kahn [24] initiated and developed the concept described as successful ageing emphasizing normative outcomes related to the advent of disease, physical and cognitive health and other social markers. This emphasis on success is based on defined outcomes that certain societies perceive as positive and, therefore, may be considered elitist and exclusive [25]. For example, hunger versus purposeful fasting may indicate similar outcomes but the notion of healthy ageing would be dissimilar depending on culture and society [26]. The WHO definition tends to be

less laden with bias and focusses on function and capability, which removes the notion of achievement instead of concentrating on individuals' capacities and their interactions with external resource development [26].

As aforementioned, healthy ageing is clearly a multidimensional and complex phenomenon [4, 27]. In their systematic review, Menassa et al. [4] considered the dimensions of subjectivity, objectivity, cognition, culture, demographic characteristics, physical health, politics, psychological welfare, social wellbeing, and spiritual facets. Each domain affects the way the notion of healthy ageing is defined, developed and promoted. Menassa et al. have also created a temporal map focusing on attributes, antecedents, consequences and outcomes (or lifestyle approaches). This approach suggests the definition is not only constrained by context but is likely to be dynamic and constantly changing. Menassa et al. have attempted to build a framework that best explains the dynamic temporal properties of the definition alongside the contexts in which the definition is embedded. Accordingly, the antecedents promoting healthy ageing are aligned with social-demography, and physical and psychological capacity, which are inevitably moderated by socio-political and cultural factors. Culture underpins and influences how people access resources and attain and maintain connections. The values that form the foundation of cultural perspectives and behaviours are predicated on individualistic or collective beliefs. For example, cultures where individualistic ideologies predominate place significant value on the importance of personal aspirations and responsibilities whereas collectivist cultures privilege family or community over self [28]. Cultural environments play a role in determining how societies view and treat their older aged citizens [29, 30].

Often embedded in some cultural communities, and thus working alongside the issue of cultural variability is the impact of ageism. Ageism can energize the belief and myth that ageing is a negative phenomenon [31]. Ageism can be viewed as the promulgation of stereotypes generating prejudice and discrimination towards people on the basis of their age [32]. This can affect not only people who are perceived as elderly but also societal mechanisms that can be put in place to promote health ageing. It is purported that communities in the past, likely more agrarian, considered older adults as wise and were respected and valued contributors to their communities [31, 32]. However, evidence now points to societies becoming more youth-oriented and defining ageing in negative terms [31]. Attributes and the way people label attributes are clearly linked to individual dimensions embedded within societies and are connected with wellbeing and the impact this has on one's life course. The variables that describe this intersection and impact are often complex and intertwined.

The perception of healthy ageing can also be influenced by role transitions. For example, after retirement people are faced with new roles which can have an impact on the perception and experience of wellbeing. For example, Matthews and Nazroo [33] explored how different types of retirement scenarios impacted wellbeing and built on research that linked redundancy (or unplanned retirement) to a higher incidence of poor mental health alongside the experience of loss of income [34]. Matthews and Nazroo reported that people who retired voluntarily (or planned retirement) tended to experience better optimal mental health outcomes which were associated with higher rates of social engagement. They further alluded to the numerous covariates that confounded these associations, such as access to financial resources and gender of the retiree.

Moreover, Menassa et al. [4] introduced an intriguing avenue of research and debate. Their key premises are centered on how psychosocial and contextual factors interact and how this interaction affects healthy ageing. The inclusive meaning of this complex interaction involves understanding

the etiology, progress, or mediating (and moderating) dimensions of healthy ageing. Investigating this relationship is crucial not only for advancing theoretical consensus on healthy ageing but also for its practical and operational implications. Menassa et al. [4] also highlighted the problems associated with developing a uniformly accepted notion of heathy ageing mainly because the variables that underline the conceptual understanding of this term are multilayered. First, there is a complex array of biological differences between individuals including epigenetic modifications that influence the ageing process. Second, there is the issue of differences across populations and contexts, and the idea of healthy ageing is often defined by societies that have the most power and the most influential voice in the literature.

Nonetheless, temporal reasoning arguments have limits in terms of seeing healthy ageing as a purely linear process, although we propose that this argument creates an ongoing debate regarding what health is and how well-being is defined. One useful way to develop this argument is to consider ecological and holistic views of healthy ageing. These perspectives recognize various elements that impact the way in which societies define healthy ageing and have the potential to enhance certain facets, such as the use of clarity to reason through adversity. Calder et al. [35] have expanded the argument that healthy ageing can be defined according to intrinsic capacity and functional ability to include variables influencing the description of healthy ageing. For example, intrinsic capacity suggests that individuals who have good access to vast resources are more able to maintain a healthy status (physical and mental). There are biological features underpinning this argument but also include interactions one has with the environment (nature and nurture). The ecological perspective further implies mediation between the individual, society, and the notion of healthy ageing. Holistic arguments suggest that there are numerous interconnecting variables that have an impact on a person's health status, some within the reach of individuals and some outside their reach or ability to control, such as financial support systems and access to acceptable health systems. In the next section, we consider the second construct under scrutiny, namely social frailty.

3. Social Frailty

Social frailty, clearly a subset of frailty, has been defined as "a state of increased vulnerability to the interactive back-and-forth of community including general resources, social resources, social behaviors, and needs." [1]. Social frailty has been linked to physical frailty and this interaction is crucial to understanding the construct. For example, Souza et al. [36] state that many older adults see frailty as an inevitable state linked to the ageing process and is composed of physical elements alongside mental and psychological considerations. In addition, Doi et al. [37] demonstrated that the acquisition of physical and psychological disabilities were consistent with the increasing presence of social frailty. Therefore, while in this article we focus on social frailty, we are cognizant of the role physical frailty plays in contributing to social frailty and vice versa.

One of the key components of social frailty is the experience of social isolation [1]. Social isolation has been connected to cognitive decline, depression, problems with sleeping, and reduced physical activity [1, 38]. Linked to the idea of social isolation is the notion of subjective loneliness [39] indicating there is the likelihood of wide variation in terms of the experience of loneliness across individuals and across communities. Moreover, loneliness is distinct from social isolation due to aspects of perceived value, rather than focusing on the level of contact. Social isolation and the experience of loneliness often occur in indigenous societies when people feel disconnected from

their families and communities, and this experience of disconnection can manifest in terms of greater risk of physical and psychological frailty [40].

Bunt et al. [7] conducted a scoping review to understand and explore the state of social frailty. Their starting point was to regard social frailty as a "a lack of resources to fulfil one's basic social needs" [7]. Additionally, some relevant theories that could shed light on the manifestation of this phenomenon, include self-determination theory, loneliness theories, and the theory of social production (aligning social recognition and physical wellness) [41]. Self-determination theory is useful when understanding the loss of autonomy and control one has over their lives and how this affects a person's level of both intrinsic and extrinsic motivation [42]. Loneliness theories explain the impact of the loss of social networks, and also how social networks diminish amongst the elderly [42]. As mentioned earlier, social production theories raise the issue of resource depletion and the effect this has on social functionality, resilience, and coping [42].

Social relationships are developed in formal and informal contexts [7]. The way people interact with each other is important for their mental health and can play an integral part in helping them to age well [43]. Examples of this include having balanced social exchanges and being actively involved in family and community life. Older people can experience diminished social relationships as 'significant' others begin to either move away or cease to physically exist. In addition, Ferraro and Su [44] state that financial strain creates anxiety about subsistence and being able to control one's life, leading to psychological stress, which has a flow on effect in creating a less-than-optimal social environment. These social and environmental changes often coincide with declining physical function and health. This personalized attrition and pragmatic reduction of physical entities impact a person's social environment potentially culminating in reduced social networks and less access to resources that could develop and support one's social position [7]. This ebb and flow of social relationships is linked to the agentic perspective, whereby people can utilize their capacity to promote personal competence, through the development of personal and social systems, which likely cultivates greater self-efficacy [41].

In their discussion, Bunt et al. [7] suggest that social frailty, much like healthy ageing, is a multidimensional concept. Examples of common dimensions include: a) resources and social needs [7, 42, 45] alongside contextual factors [46], b) social behaviors/activities and self-management skills [7, 45], and c) social fulfilment [42]. Some of the dimensions relate to a depletion of social resources, reduction in social behaviors and activities, and a decline in self-management abilities. All components will adversely impact one's sense of need fulfilment.

The cited authors above appear to propose that social frailty is not only linked to a current sense of loss of social resources, but the impending loss of future relationships. This suggests an increased sense of uncertainty and disempowerment. Disempowerment also manifests when power relations are damaged and significant others start to make decisions for older adults, often without their expressed permission [47]. This diminishes the ability of older adults to make autonomous decisions they feel will maximize their level of wellbeing. Therefore, the key features of social frailty can be communally referenced and related to social need fulfilment, access to social resources, and essential physical resources [7].

One problem that has emerged following our critical review of the literature pertains to the ability to accurately measure or evaluate social frailty in a culturally inclusive manner [48]. One aim of the current paper is to develop a model that could measure social frailty in a more culturally responsive and safe manner. We suggest the ideas and interconnections in this paper will be useful

when creating questions for expert groups around the issue of social frailty and healthy ageing. These ideas are a means to understanding how we can create an empirical approach to more inclusively understand social frailty, its link with healthy ageing, and how this information can be used to engage with key stakeholders. This will assist in developing more robust content validity around ideas underlying this discourse. It is also crucial to consider mediational variables that may impact this relationship.

4. Healthy Ageing and its Communal Nemesis Social Frailty

In this regard, we affirm that exploring the relationship between healthy ageing and social frailty is particularly critical, given the shared multidimensionality and interdependence exhibited by both constructs. Theoretically, they are grounded in development frameworks such as the ecological model [46], the holistic model of health [49] Social Production Function Theory [7, 45] and social capital theories [50]. Additionally, both constructs are characterized by a sense of social utility. Ecological and holistic modeling emphasizes the multi-layered nature of impact, beginning at the intrapersonal level and extending through interpersonal relationships to broader community contexts [51, 52]. This approach also incorporates assessments of social frailty and healthy ageing from diverse perspectives, including social, psychological, functional, and medical viewpoints [53]. However, these perspectives may require greater adaptability to account for the religious and spiritual dimensions that many authors have introduced to enrich the understanding of healthy ageing and social frailty [6].

Using the temporal healthy ageing model proposed by Menassa et al. [4] together with the social frailty model developed by Bunt et al. [7], and reading further afield, we have constructed an integrated argument surrounding the interlinkages between the two constructs (Figure 2). In addition, the authors of this article engaged in considerable debate, which was further informally shaped by individuals from both community and academic circles who were interested in the topic. In Figure 1 we have simply postulated that an outcome approaching stasis will occur when social frailty balances out the positives associated with healthy ageing. However, in our developed model (Figure 2), we have considered how social frailty could be an antecedent when explaining healthy ageing. For clarity, we have considered three sub-categories of social frailty. First, social frailty can be viewed in terms of dysfunction, whereby accessing social needs and resources are challenging and linked to the idea of social vulnerability [54]. Second, as more interventions become available to address the experience of social frailty, social networking becomes more manageable, such as through the development of community systems [55]. Moving from manageability to flourishing is the third subcategory whereby social frailty fades into the background because thriving is foregrounded; this occurs when older people actively contribute to their communities and engender a high level of meaning in their lives [56]. These classifications are similar to the categories developed by Ko and Lee [57], who posed three similar classifications, namely robust, pre-frailty state, and social frailty.

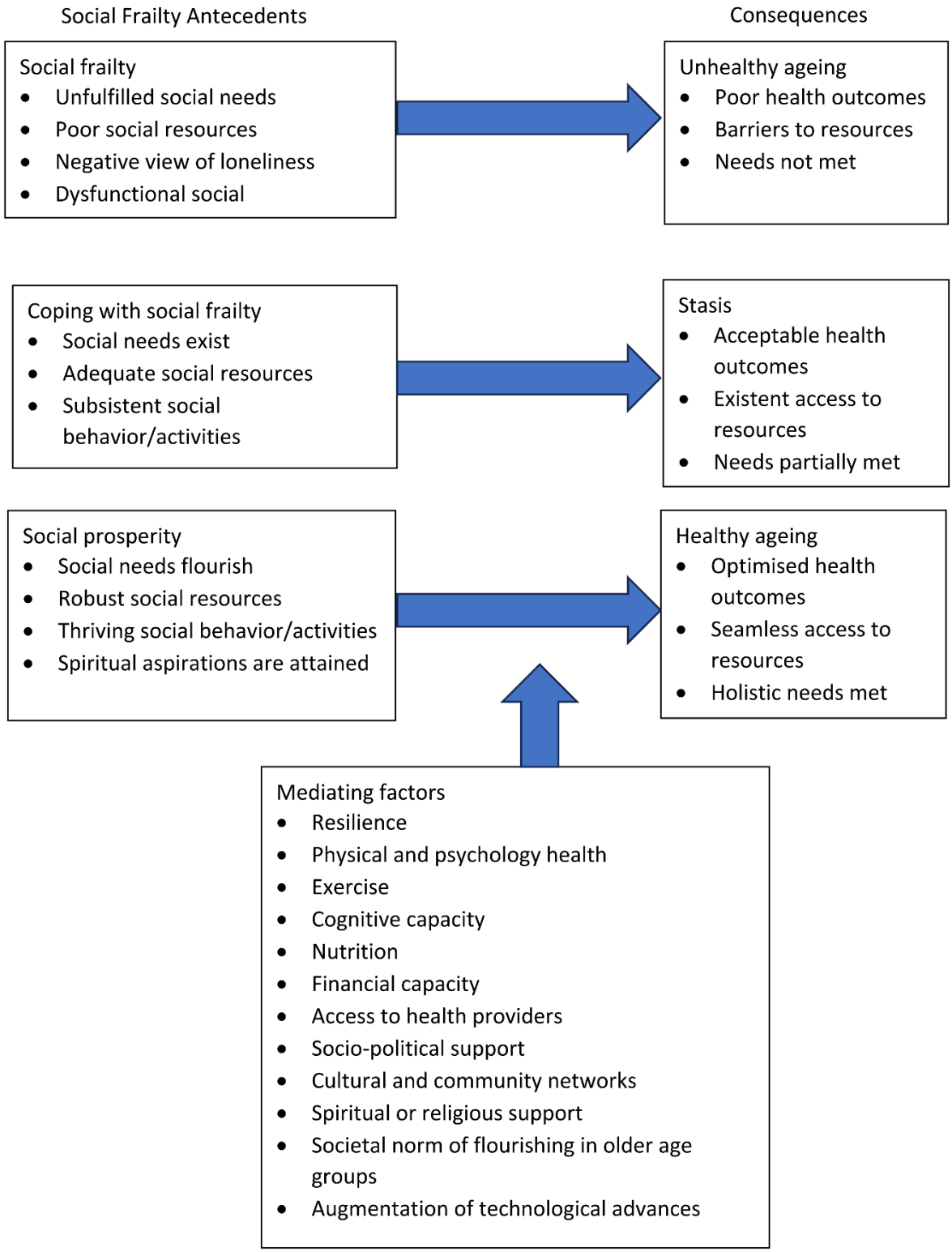

Figure 2 Integrating Social Frailty Antecedents and considering healthy ageing possibilities.

To ensure clarity and focus, we have created a model that relies on a categorization of three dimensions. Nonetheless, we are cognizant that this classification may be criticized given that ageing trajectories are dynamic, marked by transitions, bifurcations, partial reversibility, and the cumulative effects of social inequalities over the life course. George [58] creates a useful

observation that has a commonsense appeal and alludes to the complexity of following age in a normative manner. She describes a lifespan as having temporal properties which include duration and complexity. One area of complexity is that the experience of age is largely invariant across time and context. However, life course arguments can further examine this idea of complexity by taking into account the intersection of numerous variables that impact the experience of ageing, such as the intersection of social and historical factors alongside personal narratives. Life course patterns are likely to differ at an individual level, and across time, space, and communities. George also creates a useful distinction between transitions and trajectories, with transitions accounting for discrete changes in status, and this is the position we have taken. Trajectories, on the other hand include long-term consideration involving innumerable possibilities across multiple transitions. These are important factors and provide scope for a further article on this topic. In this paper, we recognize the complexity of the narrative but have attempted to develop a targeted model that could be empirically tested, after suitable evaluative measurement instruments have been developed. These instruments would likely need to be modular and have the flexibility to adapt to different contexts and cultural settings.

In the current model, once we generated a list of potential antecedents, our next step was to consider the consequences of each subcategory in terms of wellbeing. First, when social frailty is at its dysfunctional zenith, i.e., if no intervention is implemented, negative health outcomes and social disintegration, such as a higher incidence of disability and physical frailty, are likely and will adversely impact cognitive and mental health [59]. Ko and Lee [57] found that social frailty had an adverse impact on engagement in social outings, resulting in people being alone and isolated, not feeling useful and not communicating. Lack of mobility and poor access to social resources is also associated with the manifestation of social frailty. Doi et al. [37] conducted a longitudinal study and found the state of social frailty was more pronounced in those who had limited transportation options. Therefore, having access to autonomous transport options is a likely facilitator in maintaining social participation, and arguably would have more impact in societies where public transportation is not easily accessible, such as in Australasia [60-62].

Second, when coping with social frailty, the outcome is neither a zenith nor a nadir but simply stasis. Even though, no literature to date explicitly attests to this possible scenario, it is well documented that being frail (psychologically, physically, and socially) has a negative impact on health-related quality of life outcomes [63-66]. In their study, Vanleerberghe et al. [65] reported there was an inverse correlation between frailty (assessed by the Comprehensive Frailty Assessment Instrument) and quality of life, and, moreover, when allocating frailty to three subgroups (low, mild and severe), the “higher the degree of frailty, the lower the mean scores are in quality of life”. This suggests the mild frailty group hovers near a tipping point, experiencing neither high nor low levels of quality of life and functional status, but potentially poised to shift in either direction depending on future changes in health or support. In addition, Ko and Lee [57] found associations between social frailty and health-related quality of life. More specifically, they reported those indicating robust social frailty (and thus not socially frail) generated higher quality of life scores than those in a pre-frailty state, who generated higher scores compared to those classified as frail. Therefore, as people become more socially frail their quality of life diminishes.

Third, if the optimal outcome is encountered then it is likely social frailty is low and quality of life is high [65]. In this case, social frailty becomes social prosperity and leads to definitive examples of healthy ageing [67]. In a general sense, psychosocial factors such as maintaining independence [68],

meaningful participation [69], coping with adverse stress [70], or social integration [71] can impact quality of life. Moreover, the process leading to the state of flourishing or thriving often requires the process of resilience. Resilience, conceptualized as 'anti-fragility', plays a fundamental role in the process of healthy ageing [70]. This theoretical framework posits older adults can exhibit resilience in the face of adversity, alongside a capacity for positive adaptation, thereby enhancing their wellbeing in the face of challenges and stress.

Kim et al. [67] suggested thriving requires a multidimensional adherence to ensuring that many facets of living are being enacted. These include the development of cultural and social contexts, ensuring basic needs are catered for, and human networks are functional. It is also crucial to acknowledge the diversity of context in ameliorating the advent of social frailty, such as intergenerational living arrangements in Asian cultures, and indigenous cultures valuing and respecting their elders' contributions [72, 73]. In the next section, we additionally consider the various mediators that often impact on whether a person experiences social frailty or social prosperity as they age.

5. The Mediators of Interactions between Social Frailty and Healthy Ageing

In Figure 2, we have proposed a list of mediators often present in the literature. We argue that if social frailty occurs at the same rate as healthy ageing, then a knife-edge position (tipping one way or the other), is a plausible outcome. Individuals and society are two broad categories that are inextricably intertwined. For example, it is difficult to create health at an individual level if society is unhealthy and to create a healthy society requires healthy individuals. Which comes first is debatable, i.e., humans within society or society within humans? This question provided impetus for a holistic perspective which motivated the generation of the mediators shown in Figure 2 above.

We recognise these mediators can be positioned from various perspectives, in terms of how resilient a person is coping with life experiences. Resilience in reference to ageing suggest that older individuals can navigate adversity and continue to demonstrate high levels of functioning [5]. One way to illustrate the mechanism underlying resilience is to consider the notion of reserve that is supported by conceptual arguments and neurobiological evidence. We suggest that conceptually it is likely that individuals will accrue resources over time to navigate and meet the challenges that life inevitably brings. The accrual of resources creates a protective mechanism and can be accorded in various ways, such as the development of knowledge and utilization of strategic responses to challenging events. In this way the experience of quality of life can be optimized and the experience of morbidity compressed [5]. As such, if a person is cognitively and environmentally well-positioned then they may be in a position to self-regulate effectively, perceive and solve daily stressors, be able to actualize their goals, and make suitable adjustments to ensure their quality of life is optimized [67].

There is considerable evidence to suggest health-related and lifestyle factors impact levels of social frailty. These external correlates, if managed, can ameliorate the deleterious condition of social frailty, i.e., the extent to which social frailty co-exists with unhealthy ageing. First, resilience appears as a core construct relating to the enhancement and preservation of healthy adaptation [67]. Resilience when enabled allows individuals to recover from adversity and to embrace possible, optimal futures. The enablement of resilience can occur at multiple levels, such as experiencing positive life course experiences, and engaging effective management systems to deal with current

circumstances [67]. Therefore, it may be reasonable to assume that if resilience is not built into the way a person responds to adversity this can increase the manifestation of unhealthy ageing and more profoundly if resilience is enacted then more positive health outcomes are likely.

Second, physical health and exercise are often correlated with social frailty. Ma et al. [66] reported social frailty was often observed in individuals who experienced high levels of physical ill-health. They further stated low levels of physical activity were often seen in people experiencing social frailty. Moreover, they found psychological issues, such as depression and cognitive decline were frequently observed in people experiencing social frailty. The findings reported by Wang et al. [74] corroborated the findings of the study by Han et al. [75] and further add a new twist to the narrative. They found social frailty could be offset by creating meaningful social activities. This implies social frailty and physical frailty could be more effectively managed if older adult groups could be encouraged to be more engaged in social activities [42]. Social influences are also often associated with dietary optimization and when both conditions are in place this can have an ameliorative impact on social frailty [75]. Group-based nutrition and exercise programmes are showed to be effective in reversing physical pre-frailty and require intentional effort to ensure sustained effect [76]. A final influential factor often appearing in the literature is associated with financial capacity [77, 78] and the more nefarious experience of financial exploitation, which is likely linked to reduced sensory and cognitive capacity [79] and thus reduces access to up-to-date information. It is clear that people need pathways to resources and services. To access these essential societal elements, such as adequate health care [56], they must have reasonable financial means [75, 80]. If these factors can be effectively managed, healthy ageing can be optimized. Furthermore, the interaction between social frailty and healthy ageing is mediated by stress buffering mechanisms [43], where adaptive capacity and resilience contribute to maintaining a balance between social relationships and overall wellbeing. One author [81] emphasizes this adaptive capacity is demonstrated through active participation in different social, economic, and cultural spheres, which is fundamental to counteracting social frailty while promoting healthy ageing. Adaptive capacity is promoted within environments that are supportive of resilience and social engagement.

The remaining part of the holistic equation is the consideration of more widely defined mediating factors, that require societal consensus and political will to be activated. Dlima et al. [56] have highlighted differences occurring among regions, cultures and political systems. They suggest development of healthy ageing outcomes need to be aligned with distinctive societal contexts, availability of supportive health care systems, an environment ensuring inclusivity within populations, and attention to cultural nuances. In short, political motivation is required to ensure healthy ageing at an exclusive level means no group will feel marginalized. Exclusivity entails promoting and ensuring healthy ageing is achievable for all, rather than being the purview of people in high-socioeconomic groups. In Aotearoa New Zealand, there is a growing understanding of the interconnected and holistic nature of addressing ageing, especially from an indigenous perspective [82]. From this worldview, the key factors that need to be integrated include harnessing the interconnections between the individual and their family, facilitating the synthesis of the physical, psychological and environmental facets impacting ageing, acknowledging the impact of historical context (e.g., colonization), and promoting a strengths-based model to frame the ageing process (rather than a deficits-based approach) [82].

To ensure healthy ageing can be attained within the current healthcare climate, there needs to be political will along with the means to attain political and financial buy-in and investment. Given the major technological advances in recent times, one cost-effective possibility is to harness the use of technology. This is a pertinent issue to consider given the emerging value and influence of artificial intelligence and the likelihood of its impact on the ageing workforce and the key stakeholders involved in aged care [83]. In a recent magazine article, Muyskens [84] suggested coping with ageing can be augmented via the utilization of Carebots that could support healthy ageing and mitigate frailty. In Singapore, increased longevity and shrinking families are two issues motivating the usage of robotic health care systems which offer a pragmatic solution. In the cultural context of Singapore, family was often seen as the first line of care for their older adults, however with fewer children in the coming generation the weight of responsibility can be overwhelming. Muyskens [85] describes how the emergence of robots is assisting with many tasks such as helping people out of a chair or bed, preparing meals, dispensing medication, and undertaking bathroom chores. Carebots are slowly being developed, and they can offer emotional as well physical support to older adults, thus providing more inclusive assistance with the help of artificial intelligence systems. Coin and Veljiko [86] suggested Carebots are filling a gap by supporting older adults who are sometimes reliant on an industry often poorly staffed and ill-funded. Despite the positive potential of Carebots, some ethical concerns remain related to anthropomorphic deception leading to distorted social interactions and possible isolation from human contact. As with healthcare generally, access to technology is likely to be unequally distributed; programmes used to drive technology may also have hidden biases that could unfairly impact certain groups within society. The time and place of drawing on technology to facilitate healthy ageing requires strategic development, ensuring that utilization of technology supports reablement of function and does not impede social prosperity [87].

6. Limitations

We recognize that our approach may invite criticism at several levels. First, although the reciprocal relationship between physical and social frailty is acknowledged, we have chosen to foreground social frailty. As stated above, this decision reflects our commitment to amplifying the voices of communities that prioritize social networks and deeply embedded support systems. Second, we employed a critical review methodology to examine the interactions between social frailty and healthy ageing, and to explore potential mediators of this relationship. While this approach may be viewed as less systematic and thorough, it was nonetheless carefully considered and deemed appropriate as an initial step toward informing future research as detailed below.

7. Conclusions and Future Directions

This paper has presented a critical review informed by multidisciplinary dialogue among researchers, clinicians, and educators, with a focus on developing a multicultural lens, particularly from the Global South, to examine the intersection of healthy ageing and social frailty and the mediators that can affect this intersection. By foregrounding social frailty, we aim to amplify the voices of communities that prioritize social networks and embedded support systems, recognizing that these dimensions are often underrepresented in dominant ageing discourses.

This groundwork represents a first step in re-examining the interaction between social frailty and healthy ageing from a holistic perspective. The next phase involves conducting in-depth focus groups with key stakeholders from diverse communities. The model can guide the development of culturally adaptable questions, particularly for communities historically underrepresented in this research, such as Indigenous populations. Each community holds distinct belief systems, values, and understandings of healthy ageing and social frailty. These must be explored alongside potential mediating forces in a culturally responsive and inclusive manner by culturally safe researchers.

Subsequently, modular evaluative instruments could be developed for responsible and pragmatic application across communities. There is not a one-size-fits-all solution. These instruments must be culturally safe and responsive to avoid marginalizing community voices. Our ultimate aspiration is to create tools that engage community health workers, clinicians, allied health professionals, educators, and researchers. Although the transitions approach, we adopted has limitations compared to a trajectory-based life course model, it can be valuable for supporting mathematical modelling of complex, multilayered interactions. These findings may also be further enriched through complementary qualitative methodologies.

Healthy ageing is a universal aspiration, yet its realization is deeply shaped by cultural, social, and economic contexts. We advocate for a shift from viewing social frailty as a deficit to embracing the concept of social prosperity, an orientation that fosters resilience, inclusion, and wellbeing. Establishing common ground around these principles is essential but must be followed by political will and economic investment to translate aspirations into actionable policy and practice. By integrating technological innovation with community engagement, we can move toward a more equitable and empowering vision of healthy ageing, one that respects the lived experiences of all older adults. Ultimately, the path forward requires culturally safe research practices, inclusive methodologies, and modular tools that reflect the diverse realities of ageing across communities.

Author Contributions

Three authors (MAH, PM, and RT) contributed to the conception of the paper. All authors (MAH, PM, MGL, GC, FS, and RT) were involved in the deliberation of the papers used in the review. All six authors engaged in the final write-up of the paper (editing, providing feedback and final approval). MGL interpreted and provided access to prominent and relevant Spanish-related articles in this area. All authors contributed to revising the paper critically for important intellectual content. All authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Competing Interests

The authors have declared that no competing interests exist.

AI-Assisted Technologies Statement

In this manuscript, Generative Artificial Intelligence Technologies were not used to produce the ideas and the subsequent script embodying these ideas. Microsoft Copilot was consulted to check grammar usage in some sentences. Nonetheless, the authors thoroughly reviewed and edited any text generated by Microsoft Copilot to ensure its accuracy and accept full responsibility for the content of the manuscript.

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