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SAGGIO

Social Capital and Geriatric Depression during Ageing: could this association be mediated by Perceived Social Support and Perceived Social Cohesion among Neighbors?

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Abstract

The main aim of the present study is to examine the link between social capital and the geriatric depression symptoms during ageing, in addition to analysis of the role of the perceived social support and social cohesion in the aforementioned relationship. It was hypothesized that older adults who can have access to a larger social capital than others experience less geriatric depression symptoms. Furthermore, it is hypothesized that the effect of social capital on the symptoms of geriatric depression is due to perceived social support and social cohesion among neighbors. A sample of 588 older adults (50-90 years old), filled out self-reported measures. Geriatric depression symptoms were measured using the Geriatric Depression Scale (GDS). The Functional Social Support (FSSQ) and the Social Cohesion and Trust Scale were used to assess perceived social support and perceived social cohesion, respectively. These results showed that the social capital may be a protective factor against geriatric depression as long as the scores of perceived social support. Moreover, these findings may provide relevant insights for developing age-friendly urban communities improving social contact opportunities and social policies to promote well-being during ageing.

Kewords: social capital, geriatric depression, ageing, social cohesion, neighborhood

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The proportion of older adults is worldwide increasing because of the declining birth rates and increased life expectancy. A rapid growth of studies focused on the challenges due to the ageing of population arose, including research on age-related physical and mental health diseases. Among these, geriatric depression is a common mental health disease that may affect older adults, and understanding its related factors may be useful for preventing strategies. For instance, several studies have suggested that social factors may affect geriatric depression. The social capital is recognized as the most important social factors that may protect against depression during ageing, and it took several conceptualizations over the time. One of the most recognized described it as a relational network of social connections which may provide benefits for those who belong to it. Some studies also identified social support and social cohesion as potential mechanisms through which social capital impacts geriatric depression. Social support was defined as the perception of being in a relational network that may care of us. Whereas social cohesion referred to the connectedness and solidarity among members of a community, such as the neighborhood. Although social capital, social support and social cohesion were related to geriatric depression, few studies have explored these three variables together. The main aim of the present study was to examine the linkage between the social capital (i.e., measured as the relational network largeness) and the geriatric depression symptoms during ageing. This study also attempts to examine the role of the perceived social support and of the perceived social cohesion in the aforementioned relationship. It was hypothesized that older adults who can have access to a larger social capital than others, experience less geriatric depression symptoms. Besides, it was hypothesized that the effect of social capital on geriatric depression symptoms is accounted for by perceived social support and perceived social cohesion among neighbors. A sample of 588 older adults, ranged age between 50 and 90 years, filled out self-reported measures. A checklist to measure the relational network largeness was employed to assess social capital. Geriatric depression symptoms were measured using the Geriatric Depression Scale (GDS). The Functional Social Support (FSSQ) and the Social Cohesion and Trust Scale were used to assess perceived social support, and perceived social cohesion, respectively. Multiple regression and path analysis models were performed to test hypotheses. Results indicated that there is not a direct association between social capital and geriatric depression. Nevertheless, it was showed an indirect association between social capital and geriatric depression accounted by for perceived social support but not for by perceived social cohesion. These results showed that the social capital may be a protective factor against geriatric depression as long as the scores of perceived social support were high. These findings highlighted the role of social capital and social support for older adults and were in line with previous studies on the beneficial role of social factors on mental health outcomes. Furthermore, these findings may provide relevant insights for developing age-friendly urban communities improving social contact opportunities and social policies to promote well-being during ageing.

Introduction

In the recent decades, there has been a significant global increase in the aging population. The proportion of individuals aged over 65 years is expected to continue raising (United Nations, 2020). The demographic expansion of the elderly population raises various questions regarding social policies and welfare. As a potential policy response to address to the aging society, policymakers and experts in the field have advocated for active and healthy aging. The World Health Organization (WHO, 2002) defines this concept as a process aimed at optimizing health opportunities to enhance the quality of life for older people. Besides, the promotion of active and healthy ageing pertains older people, but it is also essential to focus on mature adults. For an active and healthy ageing, a wide range of determinants has been identified, including economic factors, health and social services, behavioral factors, personal characteristics, and social factors, all of which can significantly impact the well-being of older individuals. Among these social determinants, social capital plays a pivotal role.

Within the realm of social sciences, the concept of social capital has undergone various conceptualizations and transformations over time. Primarily, in 1916, Hanifan published a story of achievement in the Annals of the American Academy of Political and Social Science, regarding a development of social capital in a rural West Virginia community. He, at first, did not conceptualize social capital as personal property but as a set of advantages encompassing shared experiences, empathy, and interpersonal relationships that have the potential to enhance the overall well-being of communities in which individuals are deeply integrated. Hanifan (1916) asserted that those devoid of social connections lacked valuable resources, while those with strong social ties could fulfill their needs and enhance their quality of life within the community. From that moment on the meaning of social capital has been a subject of ongoing debate, with a particular focus on determining whether it primarily benefits individuals or collectivities. The main theories of social capital can be attributed to neo-capitalist theories (Lin, 1999, 2000), as noted by Julien (2015). On one hand, in accordance with Marx's theories, social capital is viewed as possessions linked to social classes, serving as an additional means to perpetuate exclusion and protect resources. On the other hand, social capital is conceptualized as a public good, aligning with the Durkheimian perspective on social

relations. Moreover, the debate surrounding social capital is focused on distinct conceptualizations. For example, Fulkerson and Thompson (2008) summarized the conceptualizations of social capital in two categories. The first category is the resource social capital, which is connected to Granovetter and Bourdieu and is associated with the interactionist tradition. For example, for Bourdieu (1986) and Schulman and Anderson (1999), widely recognized as resource-oriented social capitalist, social capital pertains to the investments individuals make in their networks of relationships with the expectation of some future returns. Specifically, Bordieu (1986) defined social capital as a relational network that fosters better mutual understanding among its members. The second category is the normative social capital, closely linked to Putnam, Coleman, and Hanifan, and is more aligned with the Durkheimian tradition. Specifically, Loury (1977) shed light on the role of one's social background in the development of social capital. He depicted social capital as a tool centered around familiar relationship that facilitate both social and cognitive growth in individuals. The Loury's work paved the way for Coleman. He during 1990 drew specific attention to social capital as a form of social organization from which individuals can derive various benefits. After the aforementioned conceptualizations, several theoretical analyses of social capital have been proposed. For instance, De Blasio and Sestino (2011) designed the social capital as range od social connections that can be harnessed to achieve personal objectives. The social capital has been also studied by Brunie (2009), which defined it as a set of resources accessible through direct or indirect personal relationships, often referred to as relational capital.

In recent decades, the idea that the social capital may affect human health has gained prominence. For example, Cohen and Syme (1985) conducted a study that highlighted that larger network size and greater frequency of social contact was related to a decrease in mortality. Similar results were found by Kawachi et al. (1997) with their study that recognized the mediation role of social capital in the relation between income inequality and mortality. Narrowing the focus on research that investigated the role of social capital on ageing, several studies have highlighted the importance of social capital in health promotion among older adults (Chipps and Jarvis, 2016; Nygvist et al., 2013, 2015; Sun and Lu, 2020). Suggestive results were showed related to the role of social capital in promoting healthy ageing, physical health, and mental health among older

adults. For example, compelling findings were pointed out by Cao and Rammohan (2016). In their study social capital was found to be positive associated with independence, mental health, and physical health. These findings align with the results of Boerio et al. (2021), who discovered that a larger social network was correlated with the maintenance of daily life activities. As previously mentioned, the effect of social capital on mental well-being among older adults was explored by several studies. A systematic review conducted by Nyqvis et al. (2013) showed that social capital is beneficial for mental well-being in older people. Among the examined studies, most of them explored life satisfaction, quality of life, and happiness as outcome, and only one study (Young, 2004) considered mental health as outcome. Recent studies (Bai et al., 2020; Cao et al., 2015; Han et al., 2018; Kim et al., 2013) have examined the influence of social capital on specific geriatric depression symptoms. Among these, Cao et al. (2015) have highlighted a positive impact of social capital on geriatric depression, as evidenced in their study involving 929 older adults. Similar findings were found by Bai et al. (2020), Han et al. (2018), and Kim et al. (2013), which found evidence concern the linking between increase in social capital and decrease in geriatric depressive symptoms, in older samples from different countries (i.e., China and Korea).

Undoubtedly, social capital is also related to others social determinants, including perceived social support and perceived social cohesion, that may influence mental health among older adults. In this regard, studies have focused their investigation on examining the role of perceived social support and perceived social cohesion on geriatric depressive symptoms. Gariepy et al. (2016), in their systematic review, emphasized the protective function of social support in mitigating depressive symptoms. They pointed out that support from friends, family, and spouses becomes increasingly crucial as individuals age and is associated with a lower incidence of depression symptoms. Conversely, not clear findings were found by Choi et al. (2015) on the relationship between perceived social cohesion and geriatric depressive symptoms in their longitudinal study. To our knowledge, only few studies (e.g., Hamano et al., 2011; Cramm et al., 2012) considered perceived social support and perceived social cohesion in examining the relationship between social capital and mental health among elderly. Specifically, few of these have involved geriatric depressive symptoms as outcome.

According to what it has been stated in previous lines, social capital may be recognized as a resource for older adults and provides a great opportunity to focus on the social determinants involved in promotion of mental health among older adults. A better understanding about the role of social capital on mental health among older adults may lead to healthier age-friendly communities where older adults can ageing active and healthy. In order to contribute to this knowledge, the present study was carried out. The main aim of this study was to examine the impact of social capital on symptoms of geriatric depression in a sample of mature adults and older adults. Additionally, this study aimed to investigate whether the relationship between social capital and geriatric depression symptoms could be explained by considering perceived social support and perceived social cohesion as potential intervening factors. It is expected that mature adults and older people with a larger social capital will experience fewer symptoms of geriatric depression. Additionally, it is expected that mature adults and older individuals with a larger social capital will also have higher levels of perceived social support and perceived social cohesion, resulting in reduction of geriatric depression symptoms.

Methods and Materials

Participants and Procedure

A sample of 588 (52.4% female; 47.6% male) mature and older adults, ranging age between 52 and 90 (mean= 68.6; ds= 9.72) was involved in the present study. All participants were voluntaries. The inclusion criteria for the study were: a) aged between 50 and 90, b) no history of neurological of psychiatric disease, d) no visual or hearing loss. Each participant had filled out the informed consent and the study was approved by the local ethical committee and was carried out in accordance with the Helsinki declaration and its later amendments. The administration comprised a socio-demographic questionnaires and self-reported questionnaires.

Materials

Socio-demographic data were collected using an ad hoc self-reported questionnaire. To carried out the aim of the study the following materials were used.

Social capital. The relational network index was built as indicator of the social capital (Clemente, 2019). Each participant indicated which kind of workers were in their

relational network and if they were friends, relatives, or a familiar person. The total score was calculated ascribing one point for familiar person, two points for friends and three points for relatives.

Perceived social support. The Duke-UNC Functional Social Support Questionnaire (FSSQ) was used to assess perceived social support (Broadhead et al., 1988). Its score ranges between 0 and 40, and a high score indicated high levels of perceived social support.

Perceived social cohesion. The Social Cohesion and Trust Scale (Sampson et al, 1997). was used to assess perceived social cohesion. Its score ranges between 0 and 25. A higher score indicated higher levels of perceived social cohesion.

Geriatric depression. The 15 Item Version of Geriatric Depression Scale (GDS-15) was used to assess geriatric depression symptoms (Brick et al., 1982; Pamelee et al., 1989; Greenberg, 2017). Its score ranges between 0 and 15, and a high score indicates high levels of geriatric depression symptoms.

Statistical analyses

Collected data were analyzed using Jamovi 2.3 (The Jamovi Project, 2022). A correlation matrix, with Pearson's correlations, was calculated to investigate the correlation between the considered variable. Lastly, to test our hypotheses a mediation model, adjusted for age and education was performed. Social capital, measured with the relational network was employed as predictor. The perceived social cohesion, measured with the social cohesion and trust scale, and the perceived social support, measured with the FSSQ were employed as mediators. Geriatric depression symptoms, measured with the GDS, were employed as outcome. Covariances between predictor and covariates and between mediators was estimated.

Results

Table 1 reports Pearson's correlation for selected variables. Age was found to be positively correlated with GDS ($r=0.233$; $p<0.001$), and negatively correlated with education ($r= -0.471$; $p<0.001$) and relational network ($r= -0.238$; $p<0.001$). Significant positive correlation were found between education and relational network, and education and GDS (respectively, $r= 0.259$; $p<0.001$; $r= -0.257$). Relational network was found to

be positively correlated with social cohesion and trust scale ($r=0.154$; $p<0.001$) and FSSQ ($r=0.178$; $p<0.001$). Social cohesion and trust scale was found to be positively associated with FSSQ ($r=0.188$; $p<0.001$) and negatively with GDS ($r=-0.133$; $p<0.001$). Also, FSSQ was found to be negatively correlated with GDS ($r=-0.311$; $p<0.001$).

Figure 2 shows the graphical representation of model tested, adjusted for age and education. Table 2 shows completely standardized coefficient of paths of the model tested, adjusted for age and education. The relational network was positively associated with the social cohesion and trust scale ($\beta=0.154$; $p<0.001$) and FSSQ ($\beta=0.178$; $p<0.00$). The social cohesion and trust scale was found not to be associated with GDS. Conversely, the FSSQ was found to be negatively associated with GDS ($\beta=-0.303$; $p<0.001$). Age and Education were found to be positively associated with GDS (respectively, $\beta=0.153$; $p<0.001$; $\beta=-0.186$; $p<0.001$).

Table 3 shows completely standardized coefficient of direct, indirect, and total effect. The direct effect between the relational network on GDS, and the first indirect effect of relation network on GDS through the social cohesion and trust scale were not significant. The second indirect effect of relation network on GDS through FSSQ was found to be significant ($\beta=-0.053$; $p<0.001$). The total effect was not significant.

Discussion and Conclusion

The present study aimed to explore the influence of social capital on geriatric depressive symptoms. Besides, this study aimed to investigate whether perceived social support and perceived social cohesion may mediate the relationship between social capital and geriatric depression symptoms.

These findings indicated that higher levels of social capital contributed to increase perceived social support, resulting in a reduction of geriatric depression symptoms. Therefore, the perceived social support explained the positive effect of social capital on the reduction of geriatric depression symptoms. It is conceivable that greater social capital corresponds to a higher number of interactions, thereby enhancing the perception of receiving social support from those with whom we are connected. Besides, in these findings also the role of perceived social support in reducing geriatric depression symptoms is highlighted, consistently with previous studies. Azman et al. (2022) found

that perceived social support positively affects depression symptoms among institutionalized elderly people. In addition, other studies pointed out that perceived social support was related to geriatric depression in older adults (Hosseini et al., 2021; Patil et al., 2014).

Conversely, the beneficial role of social capital on geriatric depression symptoms is not explain by the perceived social cohesion, and people who reported higher levels of perceived social cohesion did not experience less geriatric depression symptoms. Choi et al. (2015) reported similar findings in their longitudinal analysis. In their study perceived social cohesion was not found to be a predictor of symptoms of geriatric depression. Perceived social cohesion is a feeling that individuals can experience within their neighborhood or district. While people residing in the same neighborhood or district may consider themselves important to each other, they often remain mere acquaintances, which may not suffice to impact the well-being of older individuals.

Overall, these findings underscore the relevance of social capital as resource (Bourdieu 1986; Schulman and Anderson, 1999) and the importance of social relationships and social needs in the context of aging. Prior research conducted by Holt-Lundstad et al. (2015) and Ten Bruggencate et al. (2018) emphasized the potential adverse impact of unmet social needs on the mental well-being of older individuals. A scarcity of social contacts and limited social interactions can contribute to social isolation, a factor closely associated with increased mortality and susceptibility to illness, as highlighted by Holt-Lundstad et al. in 2021. Furthermore, Ashida and Heaney (2008) highlighted that maintaining regular interactions with members of one's own social network can foster social connectedness and enhance overall health.

Certainly, bringing social determinants into the discussion of active ageing is particularly pertinent, especially in recent times. For the last twenty years the economic issues were engaged in the policy agendas as first. This was based on the idea that for what concern public health, economy is the first worry. Conversely, in recent years has been spread the idea that human health and well-being involve several aspects of society, including social determinants, and not only economical factors. In this discussion, social capital become relevant. To advocate the Bourdieu's definition of social capital it is a resource for the society, its highly related to the human health and well-being, and the

policy agenda should consider it as useful for promoting public health. This study shed light on the relevance of social capital for ageing, especially for mental health (i.e., geriatric depression) among older adults. Furthermore, based on our findings, enhancing interventions that promote the social determinants of active and healthy aging should be a focal point of social policies. These interventions should aim to empower older adults to enhance their social participation, encourage greater social interaction aiming to expand the social capital. Additionally, efforts should be geared towards enhancing social support for older individuals. Our findings may contribute to the knowledge about ageing, considering that is still a lack of awareness on this topic, especially in Italy. As suggested by Barbaranella et al. (2022), whitin the context of international policy frameworks addressing active ageing and ageing populations, the Madrid International Plan of Action on Ageing (MIPAA), aa outlined by Unies N. (2003), holds the distinction of being the first global document to underscore the significance of aging-related issues within an aging society. It places particular emphasis on the social roles and social participation of older adults. Instead, on the national policy front, a systematic review by Barbaranella et al. (2022) revealed a notable absence of a comprehensive national framework law for active and healthy aging in Italy. This gap aligns with a welfare model that does not adopt a life-course approach. While specific policies and programs have been instituted to support active aging, there remains a general lack of awareness on this topic. For these reasons, policy makers should sustain community-based interventions to support social determinants of active and healthy ageing and this study could provide new knowledge on active and healthy ageing.

It needs to highlight some limitations of the present study: a) a cross-section study design was used for this study, and it is not possible determine causal links among the selected variables, and b) self-reported questionnaire were used to measure some variables. Future directions should provide longitudinal studies that could help policy makers in planning and implementing interventions for active and healthy ageing.

Table 1. Mean, Standard Deviation, and Pearson's Coefficient of selected variables

N=588 47.6% Female 52.4% Male	Mean	Standard deviation	Age	Education	Relational Network	Social Cohesion and Trust Scale	FSSQ	GDS
Age	68.6	9.72	—					
Education	9.81	4.76	-0.470***	—				
Relational Network	24.1	13.4	-0.238***	0.259***	—			
Social Cohesion and Trust Scale	15.2	3.48	0.068	0.034	0.154***	—		
FSSQ	30.7	6.67	0.009	-0.007	0.178***	0.188***	—	
GDS	4.05	3.04	0.233***	-0.257***	-0.143***	-0.113**	-0.311***	—

Note: FSSQ= Functional Social Support Questionnaire; GDS= Geriatric Depression Scale

*p<0.05; **p<0.01; ***p<0.001

Table 2. Standardized effects, standard errors, and *p* values for each mediation path, direct, indirect, and total effect of mediation model.

	β	SE	P
Effect on Social Cohesion and Trust Scale			
Of Relational network	0.154	0.0106	< 0.001
Effect on FSSQ			

Of Relational network	0.178	0.0203	< 0.001
Effect on GDS			
Of Relational Network	0.00557	0.00916	0.890
Of Social Cohesion and Trust Scale	-0.06130	0.03377	0.113
Of FSSQ	-0.30318	0.01762	< 0.001
Of Age	0.15368	0.01350	< 0.001
Of Education	-0.18666	0.02760	< 0.001

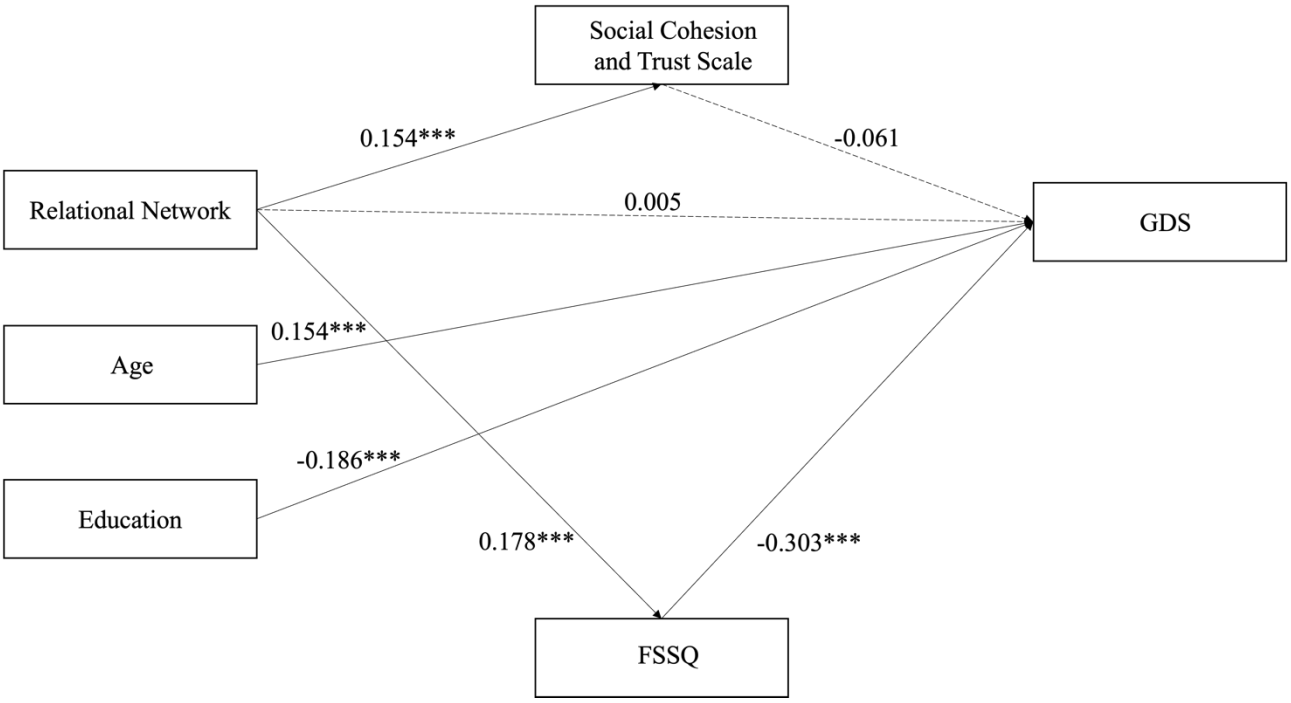
Note: FSSQ= Functional Social Support Questionnaire; GDS= Geriatric Depression Scale

Table 3. Standardized effects, standard errors, z scores, and *p* values for direct, indirect, and total effect of the mediation model.

	β	SE	z	p
Direct	0.00553	0.00906	0.140	0.140
Indirect 1	-0.00940	0.00146	-1.477	< 0.001
Indirect 2	-0.05370	0.00321	-3.839	0.889
Total	-0.06491	0.00939	-1.574	0.115

Note: FSSQ= Functional Social Support Questionnaire; GDS= Geriatric Depression Scale

Figure 1. Graphical representation of model tested and standardized coefficients, adjusted for age and education.



Note: FSSQ= Functional Social Support Questionnaire; GDS= Geriatric Depression Scale

*p<0.05; **p<0.01; ***p<0.001

Bibliography

Ashida, S., & Heaney, C. A. (2008). Differential associations of social support and social connectedness with structural features of social networks and the health status of older adults. *Journal of aging and health*, *20*(7), 872-893.

Bai, Z., Xu, Z., Xu, X., Qin, X., Hu, W., & Hu, Z. (2020). Association between social capital and depression among older people: evidence from Anhui Province, China. *BMC public health*, *20*, 1-11.

Barbabella, F., Cela, E., Socci, M., Lucantoni, D., Zannella, M., & Principi, A. (2022). Active ageing in Italy: A systematic review of national and regional policies. *International journal of environmental research and public health*, *19*(1), 600.

Boerio, P., Garavaglia, E., & Gaia, A. (2021). Active ageing in Europe: are changes in social capital associated with engagement, initiation and maintenance of activity in later life?. *Ageing & Society*, 1-19.

Bordieu, P. (1986). The Forms of Capital'In: Richardson. *Handbook of Theory and*.

Brink, T. L., Yesavage, J. A., Lum, O., Heersema, P. H., Adey, M., & Rose, T. L. (1982). Screening tests for geriatric depression. *Clinical gerontologist*, *1*(1), 37-43.

Brunie, A. (2009). Meaningful distinctions within a concept: Relational, collective, and generalized social capital. *Social science research*, *38*(2), 251-265.

Cao, J., & Rammohan, A. (2016). Social capital and healthy ageing in Indonesia. *BMC Public Health*, *16*(1), 1-14.

Cao, W., Li, L., Zhou, X., & Zhou, C. (2015). Social capital and depression: evidence from urban elderly in China. *Aging & mental health*, *19*(5), 418-429.

Chipps, J., & Jarvis, M. A. (2016). Social capital and mental well-being of older people residing in a residential care facility in Durban, South Africa. *Aging & mental health*, *20*(12), 1264-1270.

Choi, N. G., Kim, J., DiNitto, D. M., & Marti, C. N. (2015). Perceived social cohesion, frequency of going out, and depressive symptoms in older adults: examination of longitudinal relationships. *Gerontology and Geriatric Medicine*, *1*, 2333721415615478.

Cohen, S. E., & Syme, S. I. (1985). *Social support and health*. Academic press.

Coleman, J. S. (1994). *Foundations of social theory*. Harvard university press.

Cramm, J. M., Van Dijk, H. M., & Nieboer, A. P. (2013). The importance of neighborhood social cohesion and social capital for the well being of older adults in the community. *The Gerontologist*, *53*(1), 142-152.

De Blasio G., Sestino P. (eds.) (2011), Il capitale sociale, Donzelli, Roma.

Fulkerson, G. M., & Thompson, G. H. (2008). The evolution of a contested concept: A meta-analysis of social capital definitions and trends (1988–2006). *Sociological Inquiry*, *78*(4), 536-557.

Galeoto, G., Sansoni, J., Scuccimarri, M., Bruni, V., De Santis, R., Colucci, M., ... & Tofani, M. (2018). A psychometric properties evaluation of the Italian version of the geriatric depression scale. *Depression research and treatment*, *2018*.

Gariepy, G., Honkaniemi, H., & Quesnel-Vallee, A. (2016). Social support and protection from depression: systematic review of current findings in Western countries. *The British Journal of Psychiatry*, *209*(4), 284-293.

Greenberg, S. A. (2007). How To try this: The Geriatric Depression ScaleShort Form. *AJN The American Journal of Nursing*, *107*(10), 60-69.

Hamano, T., Yamasaki, M., Fujisawa, Y., Ito, K., Nabika, T., & Shiwaku, K. (2011). Social capital and psychological distress of elderly in Japanese rural communities. *Stress and Health*, *27*(2), 163-169.

Han, K. M., Han, C., Shin, C., Jee, H. J., An, H., Yoon, H. K., ... & Kim, S. H. (2018). Social capital, socioeconomic status, and depression in community-living elderly. *Journal of psychiatric research*, *98*, 133-140.

Hanifan, L. J. (1916). The rural school community center. *The Annals of the American Academy of Political and Social Science*, *67*(1), 130-138.

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: a meta-analytic review. *Perspectives on psychological science*, *10*(2), 227-237.

Holt-Lunstad, J. (2021). Loneliness and social isolation as risk factors: The power of social connection in prevention. *American Journal of Lifestyle Medicine*, *15*(5), 567-573.

Hosseini, F. S., Sharifi, N., & Jamali, S. (2021). Correlation anxiety, stress, and depression with perceived social support among the elderly: a cross-sectional study in Iran. *Ageing International*, *46*(1), 108-114.

Julien, C. (2015). Bourdieu, social capital and online interaction. *Sociology*, *49*(2), 356-373.

Kawachi, I., Kennedy, B. P., Lochner, K., & Prothrow-Stith, D. (1997). Social capital, income inequality, and mortality. *American journal of public health*, *87*(9), 1491-1498.

Kim, B. J., Auh, E., Lee, Y. J., & Ahn, J. (2013). The impact of social capital on depression among older Chinese and Korean immigrants: similarities and differences. *Aging & mental health*, *17*(7), 844-852.

Lin N. (1999) Building a network theory of social capital. *Connections* 22(1): 28–51.

Id. (2001) *Social Capital: A Theory of Social Structure and Action*. New York: Cambridge University Press.

Loury, G. C. (1977). A dynamic theory of racial income differences. Women, minorities, and employment discrimination. PA Wallace and AM La Mond. Lexington, MA.

Nyqvist, F., & Forsman, A. K. (Eds.). (2015). *Social capital as a health resource in later life: the relevance of context* (Vol. 11). Springer.

Nyqvist, F., Forsman, A. K., Giuntoli, G., & Cattan, M. (2013). Social capital as a resource for mental well-being in older people: A systematic review. *Aging & mental health*, *17*(4), 394-410.

Parmelee, P. A., Lawton, M. P., & Katz, I. R. (1989). Psychometric properties of the Geriatric Depression Scale among the institutionalized aged. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, *1*(4), 331.

Patil, B., Shetty, N., Subramanyam, A., Shah, H., Kamath, R., & Pinto, C. (2014). Study of perceived and received social support in elderly depressed patients. *Journal of Geriatric Mental Health*, *1*(1), 28.

Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *science*, *277*(5328), 918-924.

Schulman, M. D., & Anderson, C. (1999). The dark side of the force: a case study of restructuring and social Capital 1. *Rural sociology*, *64*(3), 351-372.

Sun, Q., & Lu, N. (2020). Social capital and mental health among older adults living in urban China in the context of COVID-19 pandemic. *International journal of environmental research and public health*, *17*(21), 7947.

Ten Bruggencate, T. I. N. A., Luijkx, K. G., & Sturm, J. (2018). Social needs of older people: A systematic literature review. *Ageing & Society*, *38*(9), 1745-1770.

The Jamovi Project (2023). *jamovi* (Version 2.3) [Computer Software]. Retrieved from https://www.jamovi.org

Unies, N. (Ed.). (2003). *Political declaration and Madrid international plan of action on ageing*. UN.

United Nations. (2020). World population ageing 2020 highlights: Living arrangements of older persons.

World Health Organization. (2002). *Active ageing: A policy framework* (No. WHO/NMH/NPH/02.8). World Health Organization.

Young, A. F., Russell, A., & Powers, J. R. (2004). The sense of belonging to a neighbourhood: can it be measured and is it related to health and well being in older women?. *Social science & medicine*, *59*(12), 2627-2637.